General (TA 03)

Los Alamos
NATIONAL LABORATORY
EST. 1943
Environmental Programs
LANL Water Stewardship Program
P.O. Box 1663, Mailstop M992
Los Alamos, New Mexico 87545
505) 667-0469/FAX (505) 665-4747

National Nuclear Security Administration
Los Alamos Site Office, MS A316
Environmental Restoration Program
Los Alamos, New Mexico 87544
(505) 667-7203/FAX (505) 665-4504

Date: June 28, 2006
Refer to: EP2006-0612

Mr. James Bearzi
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

RECEIVED
JUN 2006
Hazardous Waste Bureau

SUBJECT: REQUEST FOR THE USE OF EPA METHOD 6020 FOR ANALYSIS OF FILTERED TOTAL CHROMIUM AS A SUBSTITUTE FOR USING EPA METHOD 7199 FOR HEXAVALENT CHROMIUM

Dear Mr. Bearzi:

This letter is to request the use of the U.S. Environmental Protection Agency (EPA) Method 6020 for analyzing filtered total chromium instead of using EPA Method 7199 for hexavalent chromium. The Laboratory conducted a pilot study in April 2006 to evaluate the comparison of the two methods. Table 1 below provides a summary of the results, and the complete data set is attached on the CD. The relative percent difference (RPD) calculations in the table indicate very low variance (<3%) in the results of the two methods. The New Mexico Environment Department's (NMED's) approval of this approach would significantly increase our field efficiency since the hexavalant chromium method requires that we complete our sampling each day by approximately 1:00 pm to meet the EPA Method 7199 24-hour holding-time requirement. It also makes it more feasible to meet the 21-day watershed sampling requirement in the Consent Order.

For the pilot study, analyses of filtered samples for total chromium and hexavalent chromium were conducted at three locations: well R-1, well R-11, and well R-28. These three wells were selected because they are known to represent the range of chromium concentrations expected within Mortandad and Sandia Canyons. Concentrations at R-1 are at the low end of the range and are believed to represent background in the regional aquifer. Concentrations at R-28 are the highest known from any regional well, and concentrations at R-11 are approximately 28 µL.

Filtered sample total chromium results by EPA Method SW:846 Method 6020 inductively coupled plasma mass spectrometry (ICPMS) analyzed at General Engineering Laboratories (GEL) were compared to hexavalent chromium filtered sample results analyzed at Severn Trent, Los Angeles, by EPA SW-846 Method 7199 (ion chromatography [IC]).

The main difference between these two methods is that EPA SW-846 Method 6020 is a multianalyte method routinely used to determine the concentrations of numerous metals. This method yields data that are considered robust and comparable between laboratories. EPA SW-846 Method 7199 is specifically designed to determine the concentration of hexavalent chromium in samples and the preservative, and the 24-hour holding time requirement is specifically designed to stabilize this analyte.

The data and the RPDs between the GEL total chromium result and its corresponding Severn Trent hexavalent chromium result for R-1, R-11, and R-28 are summarized in Table 1.

Table 1

Location	Sample ID	Sample Date	Sample Type	Methods	Result (µg/L)	RPD to Cr(VI) (%)
R-1 (Port Depth 1031 feet)	GF06040G01R01	19-Apr-06	Filtered (total) - GEL	ICPMS - 6020	4.5	0.00
	SF06040G01R01		Cr(VI) Severn Trent - LA	IC - 7199	4.5	
R-11 (Port Depth 855 feet)	GF06040G11R01	20-Apr-06	Filtered (total) - GEL	ICPMS - 6020	28.1	2.89
	SF06040G11R01		Cr(VI) Severn Trent - LA	IC - 7199	27.3	
R-28 (Port Depth 946.2 feet)	GF06040G28R90	19-Apr-06	Filtered (field dup)	ICPMS - 6020	405.0	2.92
	GF06040G28R01		Filtered (total)	ICPMS - 6020	413.0	0.96
	SF06040G28R01		Cr(VI) Severn Trent - LA	IC - 7199	417.0	

The RPD provides a measure of precision and is calculated as follows:

$$RPD\ \% = [X1 - X2]/X_{average} \times 100$$

Where:

X_1 = concentration observed using ICPMS - 6020

X_2 = concentration observed using IC - 7199

$X_{average}$ = average concentration = [(X1 + X2) / 2]

The RPD acceptance criteria for inorganic duplicate samples are listed on page 93 of the "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review Final": "A control limit of 20% for the Relative Percent Difference (RPD) shall be used for original and duplicate sample values five times (5x) the Contract Required Quantitation Limit (CRQL)."
(http://www.epa.gov/superfund/programs/clp/download/inorgfg10-08-04.pdf)

Since the RPDs between the corresponding filtered total chromium results and the filtered hexavalent chromium results are less than 20% at all three wells (R-1, low chromium concentration; R-11, medium chromium concentration; and R-28, high chromium concentration), it is recommended that the Laboratory use the filtered total chromium data

as a substitute for hexavalent chromium. The Laboratory also proposes including some analyses for hexavalent chromium in each sampling round. This sampling would be conducted at new wells where hexavalent chromium has not been measured, at R-28 and R-11, and at a location historically representative of background concentrations.

Thank you for your consideration in this matter. If you have any questions, please feel free to contact Danny Katzman at 667-6333 (katzman@lanl.gov) or Armand Groffman at 667-2682 (groffman@lanl.gov).

Sincerely,

Andrew Phelps, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

David Gregory, Federal Project Director
Department of Energy
Los Alamos Site Office

AP/DG/DK/KB/ew

Enclosure: CD of complete data set

Cy: (w/enc)
K. Birdsall, EP-WSP, MS M992
M. Everett, EP-WSP, MS M992
A. Groffman, EP-WSP, MS M992
M. Johansen, DOE LASO, MS A316
D. Katzman, EP-WSP, MS M992
L. King, EPA Region 6
A. Simmons, EP-WSP, MS M992
N. Weber, San Ildefonso Pueblo
T. Whitacre, DOE LASO, MS A316
S. Yanicak, DOE OB, MS J993
EP-WSP File, MS M992
RPF, MS M707

Cy: (w/o enc)
T. Behr-Andres, EP-WSP, MS M992
J. Dewart, EP-WSP, MS M992
A. Dorries, EP-ERSS, MS M992
D. Gregory, DOE LASO, MS316
E. Louderbough, LC-ESH, MS A187
C. Mangeng, ADEP, MS J591
P. Reneau, ENVP-RCRA, MS M992
M. Riggs, EP-WSP, MS M992
IRM-RMMSO, MS A150

Case Narrative for
Los Alamos National Laboratory (17809)
ENV-WQH Groundwater
COC #: WG-03717-GE, WG-03718-GE and WG-03719-GE
SDG: 161214

May 18, 2006

Laboratory Identification:

General Engineering Laboratories, LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt The samples arrived at General Engineering Laboratories, LLC, Charleston, South Carolina on April 21, 2006 for analysis. Shipping container temperatures were checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. Shipping container temperature was within specification (4 +/- 2C).

Sample Identification The laboratory received the following samples:

Laboratory ID	Client ID
161214001	GF06040G01R01
161214002	GF06040G11R01
161214003	GF06040G28R01
161214004	GF06040G28R90
161214005	GU06040G01R01
161214006	GU06040G11R01
161214007	GU06040G28R01
161214008	GU06040G28R90

Case Narrative

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Metals.

Valerie Davis

Project Manager

GENERAL ENGINEERING LABORATORIES, LLC
a Member of THE GEL GROUP, INC.
P.O. Box 30712 • Charleston, SC 29417 • 2040 Savage Road (29407)
Phone (843) 556-8171 • Fax (843) 766-1178 • www.gel.com

CHAIN OF CUSTODY

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03717-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/ Time: 4/19/06 0904	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178	WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545 Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov Sampler Initials: DB Date: 4/19/06

161214 % 162512

Analysis Request

Sample Id: **GF06040G01R01** Field Prep: **F**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
9008	WG: Cr(VI) 40 ml w/MS	40 ml amber glass	2	HN03	0	pH<2 (+ IC-H cartridge	
Total Containers:	3						

Sample Id: **GU06040G01R01** Field Prep: **UF**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
Total Containers:	1						

Grand Total: 4

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03717-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/ Time: 4/19/06 0900	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178
WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545	Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov	
Sampler Initials: AG	Date: 4/19/06	

Analysis Request

Technique: Submersible pump

Comments: NA

Chain of Custody

Sampling Team: A. Beam, J. Jordan

Relinquished By:	Date	Time	Received By	Date	Time	Reason for Transfer
A. Beam (sampler)	4/19/06	1527	[illegible]	4/19/06	1527	
			[illegible]	4-21-06	1030	

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03718-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/Time: 4/20/06 0932	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178
WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545	Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov	
Sampler Initials: AB	Date: 4/20/06	

161214 ✓

Analysis Request

Sample Id: **GF06040G11R01** Field Prep: **F**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
9008	WG: Cr(VI) 40 ml w/MS	40 ml amber glass	2	HN03	0	pH<2 (+ IC/H cartridge)	
Total Containers:	3						

Sample Id: **GU06040G11R01** Field Prep: **UF**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
Total Containers:	1						

Grand Total: 4

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03718-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/ Time: 4/20/06 0932	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178
WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545	Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov	
Sampler Initials: AB	Date: 4/20/06	

Analysis Request

Technique: Submersible Pump

Comments: NA

Chain of Custody

Sampling Team: A Baner, J. Jordan, A Martinez

Relinquished By:	Date	Time	Received By	Date	Time	Reason for Transfer
A Baner (sampler)	4/20/06	1112	[illegible]	4/20/06	11:12	
			Mike Parker	4-21-06	1050	

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03719-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/ Time: 4/19/06 1255	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178	WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545 Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov Sampler Initials: B Date: 4/19/06

161214%

Analysis Request

Sample Id: **GF06040G28R01** Field Prep: **F**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
9008	WG: Cr(VI) 40 ml w/MS	40 ml amber glass	2	HN03	0	pH<2 (+ IC-H cartridge)	

Total Containers: 3

Sample Id: **GF06040G28R90** Field Prep: **F**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
9008	WG: Cr(VI) 40 ml w/MS	40 ml amber glass	2	HN03	0	pH<2 (+ IC-H cartridge)	

Total Containers: 3

Sample Id: **GU06040G28R01** Field Prep: **UF**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	

Total Containers: 1

Sample Id: **GU06040G28R90** Field Prep: **UF**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	

Total Containers: 1

Grand Total: 8

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03719-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/Time: 4/19/06 1255	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178	WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545 Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov Sampler Initials: AB Date: 4/19/06

Analysis Request

Technique: Submersible pump

Comments: NA

Chain of Custody

Sampling Team: A. Baker, J. Jordan

Relinquished By:	Date	Time	Received By	Date	Time	Reason for Transfer
A Baker (sampler)	4/19/06	1530	[illegible]	4-19-06	1530	
			[illegible]	4-20-06	1030	

COOLER RECEIPT CHECKLIST

SAMPLE RECEIPT & REVIEW FORM

GENERAL ENGINEERING LABORATORIES, LLC

PM use only

Client: ESH2	SDG/ARCOC/Work Order: 161214
Date Received: 4-21-06	PM(A) Review (ensure non-conforming items are resolved prior to signing): Valen Davis
Received By: MK	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.	✓			Circle Coolant # ice bags blue ice dry ice none other describe) 2c 3c 4c 21c
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6	VOA vials free of headspace (defined as < 6mm bubble)?	✓			Sample ID's and containers affected:
7	Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			✓	
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Sample ID's affected: NO DATE OR TIME ON CONTAINERS
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			
14	Air Bill ,Tracking #'s, & Additional Comments	FED ex#'s 7209 7838 1900-4c 1873-4c 1862-3c 1884-3c 1895-2c 1851-4c 1910-21c NO ICE			

	Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt # _____ *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A	Radiological Classification?	✓			Maximum Counts Observed*: CPM 30
B	PCB Regulated?	✓			Comments:
C	Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	✓			Hazard Class Shipped: UN#:

PM (or PMA) review of Hazard classification: USO Initials 4/21/06 Date:

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

Ship Date: 20APR06
ActWgt: 41.0 LB MAN
System#: 0014176/CAFE2307
Account: S *********

(843) 556-8171

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

FedEx
Express

CLS022306/16/19

REF: 7h20mr0a00ac5v00
PO:
Inv:
Dept:

Delivery Address
Barcode

21.

BILL SENDER

no

FRI
Deliver By:
21APR06

PRIORITY OVERNIGHT

TRK# 7209 7838 1910

Form
0201

CHS A1

29407 -SC-US

XX CHSA

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

REF: 7h20mr0a00ec5v00
PO:
Inv:
Dept:

Ship Date: 20APR06
ActWgt: 52.0 LB MAN
System#: 0014176/CAFE2307
Account: S *********

(843) 556-8171

FedEx Express

Delivery Address Barcode

BILL SENDER

PRIORITY OVERNIGHT

TRK# 7209 7838 1862 Form 0201

FRI
Deliver By:
21APR06

CHS A1

29407 -SC-US XX CHSA

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

REF: 7h20mr0a00ec5v00
PO:
Inv:
Dept:

Ship Date: 20APR06
ActWgt: 53.0 LB MAN
System#: 0014176/CAFE2307
Account: S *********

(843) 556-8171

FedEx Express

Delivery Address Barcode

BILL SENDER

PRIORITY OVERNIGHT

TRK# 7209 7838 1873 Form 0201

FRI
Deliver By:
21APR06

CHS A1

29407 -SC-US XX CHSA

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

REF: 7h20mr0a00ec5v00
PO:
Inv:
Dept:

Ship Date: [illegible]
ActWgt: 42.0 LB MAN
System#: 0014176/CAFE2307
Account: S *********

(843) 556-8171

FedEx Express

Delivery Address Barcode

BILL SENDER

PRIORITY OVERNIGHT

TRK# 7209 7838 1900 Form 0201

FRI
Deliver By:
21APR06

CHS A1

29407 -SC-US XX CHSA

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

Dept:

REF: 7h20mr0a00ec5v00
PO:
Inv:

ActWgt: 48.0 LB MAN
System#: 0014176/CAFE2307
Account: S *********

(843) 556-8171

FedEx Express

CLS022306/16/19

E

Delivery Address Barcode

BILL SENDER

FRI
Deliver By:
21APR06

CHS A1

PRIORITY OVERNIGHT

TRK# 7209 7838 1851 Form 0201

29407 -SC-US

XX CHSA

Part # 156148-434 NRT 10-04

ID: SAFA (505) 665-9968
E VALDEZ
AMOS NATL LAB.
LDG 1237 DPU 03

AMOS, NM 87545
STATES US

RIE DAVIS
RAL ENGINEERING LAB
SAVAGE RD

LESTON, SC 29407

mr0a00ec5v00

Dept:

Ship Date: 20APR06
ActWgt: 51.0 LB MAN
System#: 0014176/CAFE2307
Account: S *********

(843) 556-8171

FedEx Express

CLS022306/16/19

E

Delivery Address Barcode

2C

BILL SENDER

ORITY OVERNIGHT

7209 7838 1895 Form 0201

407 -SC-US

FRI
Deliver By:
21APR06

CHS A1

XX CHSA

ORIGIN ID:
JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

REF: 7h20mr0a00ec5v00
PO:
Inv:

Dept:

(843) 556-8171

FedEx Express

CLS022306/16/19

E

Delivery Address Barcode

3C

BILL SENDER

PRIORITY OVERNIGHT

TRK# 7209 7838 1884 Form 0201

29407 -SC-US

FRI
Deliver By:
21APR06

CHS A1

XX CHSA

Part # 156148-434 NRT 10-04

DATA REVIEW QUALIFIER FLAG DEFINITION SHEET

General Engineering Laboratories, LLC.

DATA QUALIFIERS FOR INORGANIC ANALYSES

Data Qualifiers used on Form 1s or Certificates of Analysis (COA) follow the specifications set forth in the technical specifications of the most current CLP Statement of Work and are defined as follows:

Section	Explanation	Location
E	The qualifier that is used when the percent difference between the parent sample and its serial dilution's concentration exceeds 10%. The sample's concentration must be greater than 50 times the IDL/MDL for ICP or 100 times the absolute value of the preparation blank's concentration for ICP-MS. However, if analyzing ILMO 4.0 (ICP-MS), the parent sample's concentration must be 20 times the CRDL before the "E" flag is applied.	Form 1 and EDD
*	The qualifier that is used to indicate the duplicate sample analysis for an analyte is out of control.	Form 1 and EDD
J	The qualifier is used to indicate that the reported result fell above the IDL/MDL but below the CRDL.	Form 1 and EDD
N	This qualifier is used to indicate that the matrix or pre-digested spike sample recovery for an analyte is not within the specified control limit.	Form 1 and EDD
U	Analyte analyzed for but not detected above the PQL/CRDL.	COA, Form 1, and EDD
X	Other reporting flag as defined in report narrative.	Form 1 and EDD
**	Laboratory Control Sample (LCS) recovery for an analyte is outside of specified acceptance limit.	QC Summary Report

All surrogate recoveries and acceptance ranges are reported at the bottom of Form 2 or COA.
Any recoveries falling outside the acceptance range will be flagged with a **.
All flags do not apply to QC Summary and Certificate of Analysis packages.

Metals Analysis

Case Narrative

Metals Fractional Narrative
Los Alamos National Laboratory (ESHL)
SDG 161214

Method/Analysis Information

Analytical Batch:	523147
Prep Batch:	523146
Standard Operating Procedures:	GL-MA-E-014 REV# 10, GL-MA-E-006 REV# 9
Analytical Method:	SW846 6020
Prep Method:	SW846 3005A

Sample Analysis

Sample ID	Client ID
161214001	GF06040G01R01
161214002	GF06040G11R01
161214003	GF06040G28R01
161214004	GF06040G28R90
161214005	GU06040G01R01
161214006	GU06040G11R01
161214007	GU06040G28R01
161214008	GU06040G28R90
1201076749	Method Blank (MB) **ICP-MS**
1201076750	Laboratory Control Sample (LCS)
1201076753	161220001(GF06040G32L01L) Serial Dilution (SD)
1201076751	161220001(GF06040G32L01D) Sample Duplicate (DUP)
1201076752	161220001(GF06040G32L01S) Matrix Spike (MS)

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by General Engineering Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

System Configuration

The ICP-MS analysis was performed on a Perkin Elmer Elan 6100E inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, and tantalum were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 3607 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

Calibration Information

Instrument Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

CRDL Requirements
All CRDL standard(s) met the referenced advisory control limits.

ICSA/ICSAB statement
All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

Continuing Calibration Blank (CCB) Requirements
All continuing calibration blanks (CCB) bracketing this batch met the established acceptance criteria.

Continuing Calibration Verification (CCV) Requirements
All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Quality Control (QC) Sample Statement
The following sample was selected as the quality control (QC) sample for this SDG: 161220001 (GF06040G32L01) from ESHL SDG 161220.

Matrix Spike (MS) Recovery Statement
The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. All applicable elements met the acceptance criteria.

Duplicate Relative Percent Difference (RPD) Statement
The RPD obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is >5X the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control of RL is used to evaluate the DUP results. All applicable analytes met these requirements.

Serial Dilution % Difference Statement
The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations that are 25X the IDL for CVAA, 50X the IDL for ICP, and 100X the IDL for ICP-MS analyses are applicable for serial dilution assessment. All applicable analytes met the acceptance criteria of less than 10% difference (%D).

Technical Information

Holding Time Specifications
GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification
All procedures were performed as stated in the SOP.

Sample Dilutions
Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations present in solid samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. The samples in this SDG did not require dilutions.

Preparation Information
The samples in this SDG were prepared exactly according to the cited SOP.

Miscellaneous Information

Nonconformance Documentation
Nonconformance reports (NCRs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not required for this SDG.

Additional Comments

Additional comments were not required for this SDG.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Kristan M. Murray **Date:** 5-15-06

Sample Data Summary

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 161214 **METHOD TYPE:** SW846

SAMPLE ID: 161214001 **CLIENT ID:** GF06040G01R01

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21-APR-06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440-47-3	Chromium	4.5	ug/L			MS	1	1	ICPMS3	060510

Comments:

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 161214 **METHOD TYPE:** SW846

SAMPLE ID: 161214002 **CLIENT ID:** GF06040G11R01

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21–APR–06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440–47–3	Chromium	28.1	ug/L			MS	1	1	ICPMS3	060510

Comments:

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 161214 **METHOD TYPE:** SW846

SAMPLE ID: 161214003 **CLIENT ID:** GF06040G28R01

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21–APR–06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440–47–3	Chromium	413	ug/L			MS	1	1	ICPMS3	060510

Comments:

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 161214 **METHOD TYPE:** SW846

SAMPLE ID: 161214004 **CLIENT ID:** GF06040G28R90

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21-APR-06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440-47-3	Chromium	405	ug/L			MS	1	1	ICPMS3	060510

Comments:

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 161214 **METHOD TYPE:** SW846

SAMPLE ID: 161214005 **CLIENT ID:** GU06040G01R01

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21–APR–06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440–47–3	Chromium	5.3	ug/L			MS	1	1	ICPMS3	060510

Comments:

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 161214 **METHOD TYPE:** SW846

SAMPLE ID: 161214006 **CLIENT ID:** GU06040G11R01

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21–APR–06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440–47–3	Chromium	25.2	ug/L			MS	1	1	ICPMS3	060510

Comments:

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 161214 **METHOD TYPE:** SW846

SAMPLE ID: 161214007 **CLIENT ID:** GU06040G28R01

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21–APR–06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440–47–3	Chromium	398	ug/L			MS	1	1	ICPMS3	060510

Comments:

METALS
–1–
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 161214 **METHOD TYPE:** SW846

SAMPLE ID: 161214008 **CLIENT ID:** GU06040G28R90

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21–APR–06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440–47–3	Chromium	392	ug/L			MS	1	1	ICPMS3	060510

Comments:

Quality Control Summary

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 161214

Contract: ESHL00701 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
ICV01										
	Chromium	52.57	ug/L	50	ug/L	105.1	90.0 – 110.0	MS	10–MAY–06 23:23	060510–1
CCV01										
	Chromium	52.74	ug/L	50	ug/L	105.5	90.0 – 110.0	MS	10–MAY–06 23:45	060510–1
CCV02										
	Chromium	52.58	ug/L	50	ug/L	105.2	90.0 – 110.0	MS	10–MAY–06 23:58	060510–1
CCV03										
	Chromium	51.45	ug/L	50	ug/L	102.9	90.0 – 110.0	MS	11–MAY–06 00:41	060510–1
CCV04										
	Chromium	49.25	ug/L	50	ug/L	98.5	90.0 – 110.0	MS	11–MAY–06 01:20	060510–1

METALS
–2b–
CRDL Standard for AA & ICP

SDG No: 161214

Contract: ESHL00701 **Lab Code:** GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: ICPMS3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Advisory Limits (%R)	M	Analysis Date/Time	Run Number
CRDL01										
	Chromium	3.02	ug/L	3	ug/L	100.63	70.0 – 130.0	MS	10–MAY–06 23:32	060510–1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 161214

Contract: ESHL00701 **Lab Code: GEL**

Sample ID	Analyte	Result	Acceptance ug/L	Conc Qual	MDL	RDL	M	Analysis Date/Time	Run
ICB01	Chromium	1.0	+/–3	U	1.0	3.0	MS	10–MAY–06 23:28	060510–1
CCB01	Chromium	1.0	+/–3	U	1.0	3.0	MS	10–MAY–06 23:49	060510–1
CCB02	Chromium	1.0	+/–3	U	1.0	3.0	MS	11–MAY–06 00:02	060510–1
CCB03	Chromium	1.0	+/–3	U	1.0	3.0	MS	11–MAY–06 00:45	060510–1
CCB04	Chromium	1.0	+/–3	U	1.0	3.0	MS	11–MAY–06 01:24	060510–1

METALS
–3b–
PREPARATION BLANK SUMMARY

SDG NO. 161214

Contract: ESHL00701

Matrix: GROUND WATER

Sample ID	Analyte	Result	Units	Acceptance Window	Conc Qual	M	MDL	RDL
1201076749	Chromium	1	ug/L	+/–3.0	U	MS	1	3

METALS
–4–
Interference Check Sample

SDG No: 161214

Contract: ESHL00701 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Chromium	0.294	ug/L					10–MAY–06 23:36	060510–1
ICSAB01									
	Chromium	20.21	ug/L	22.2	ug/L	91	80.0 – 120.0	10–MAY–06 23:41	060510–1

METALS
–5a–
Matrix Spike Summary

SDG NO. 161214 **Client ID** GF06040G32L01S

Contract: ESHL00701 **Level:** Low

Matrix: GROUND WATER **% Solids:**

Sample ID: 161220001 **Spike ID:** 1201076752

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Chromium	ug/L	75–125	45.2		1	U	50	89.8		MS

Metals
–6–
Duplicate Sample Summary

SDG No.: 161214

Contract: ESHL00701 **Lab Code:** GEL

Matrix: LIQUID **Level:** Low **Client ID:** GF06040G32L01D

Sample ID: 161220001 **Duplicate ID:** 1201076751 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Chromium	ug/L		1	U	1	U			MS

METALS
-7-
Laboratory Control Sample Summary

SDG NO. 161214

Contract: ESHL00701

Aqueous LCS Source: o2si **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1201076750								
	Chromium	ug/L	50	52.4		105	80–120	MS

METALS
–9–
Serial Dilution Sample Summary

SDG NO. 161214 **Client ID** GF06040G32L01L

Contract: ESHL00701

Matrix: LIQUID **Level:** Low

Sample ID: 161220001 **Serial Dilution ID:** 1201076753

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Chromium	1	U	5	U				MS

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 161214 **Method Type:** MS

Contract: ESHL00701 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number	523146						
1201076749	MB for batch 523146	MB	GROUND WATER	09-MAY-06	50mL	50mL	
1201076750	LCS for batch 523146	LCS	GROUND WATER	09-MAY-06	50mL	50mL	
1201076752	GF06040G32L01S	MS	GROUND WATER	09-MAY-06	50mL	50mL	
1201076751	GF06040G32L01D	DUP	GROUND WATER	09-MAY-06	50mL	50mL	
161214001	GF06040G01R01	SAMPLE	GROUND WATER	09-MAY-06	50mL	50mL	
161214002	GF06040G11R01	SAMPLE	GROUND WATER	09-MAY-06	50mL	50mL	
161214003	GF06040G28R01	SAMPLE	GROUND WATER	09-MAY-06	50mL	50mL	
161214004	GF06040G28R90	SAMPLE	GROUND WATER	09-MAY-06	50mL	50mL	
161214005	GU06040G01R01	SAMPLE	GROUND WATER	09-MAY-06	50mL	50mL	
161214006	GU06040G11R01	SAMPLE	GROUND WATER	09-MAY-06	50mL	50mL	
161214007	GU06040G28R01	SAMPLE	GROUND WATER	09-MAY-06	50mL	50mL	
161214008	GU06040G28R90	SAMPLE	GROUND WATER	09-MAY-06	50mL	50mL	

Metals
–14–
Analysis Run Log

Contract: ESHL00701
Lab Code: GEL
Inst Name: ICPMS3
Start Date: 10–MAY–06
End Date: 11–MAY–06

Client Sdg: 161214
Method MS
Data File: 060510–1

Samp No.	D/F	Run Time	Cr
Blank	1	23:11:00	X
Standard 1	1	23:15:00	X
Standard 2	1	23:19:00	X
ICV01	1	23:23:00	X
ICB01	1	23:28:00	X
CRDL01	1	23:32:00	X
ICSA01	1	23:36:00	X
ICSAB01	1	23:41:00	X
CCV01	1	23:45:00	X
CCB01	1	23:49:00	X
ZZZZZZ	1	23:53:00	
CCV02	1	23:58:00	X
CCB02	1	00:02:00	X
1201076749	1	00:06:00	X
1201076750	1	00:11:00	X
161214001	1	00:15:00	X
161214002	1	00:19:00	X
161214003	1	00:24:00	X
161214004	1	00:28:00	X
161214005	1	00:32:00	X
161214006	1	00:37:00	X
CCV03	1	00:41:00	X
CCB03	1	00:45:00	X
161214007	1	00:50:00	X
161214008	1	00:54:00	X
ZZZZZZ	1	00:58:00	
1201076751	1	01:03:00	X
1201076752	1	01:07:00	X
1201076753	5	01:11:00	X
ZZZZZZ	1	01:16:00	
CCV04	1	01:20:00	X
CCB04	1	01:24:00	X

Standards

METALS
–10–
Instrument Detection Limits

SDG NO. 161214

Contract: ESHL00701 **Lab Code: GEL** **MDL Effective Date:** 01–APR–05

	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
ICP/MS	Chromium		1.0	3

METALS
–12–
Linear Ranges

SDG NO. 161214

Contract: ESHL00701 **Lab Code: GEL**

Instrument ID ICPMS3

Analyte	Integration Time	LDR	Units	Effective Date
Chromium		1000	ug/L	01–MAY–06

Raw Data

ICPMS #5 Instrument Tuning Report

File Name: default2.tun
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	590	2070	0.620
Be	9.0	9.0	2041	2100	0.562
Mg	24.0	23.9	5660	2090	0.568
Mg	25.0	25.0	5940	2100	0.550
Mg	26.0	25.9	6152	2100	0.577
Co	58.9	58.9	14165	2100	0.642
Rh	102.9	102.9	24870	2175	0.578
In	114.9	114.9	27789	2200	0.566
Ce	139.9	139.9	33858	2210	0.606
Pb	206.0	206.0	49936	2300	0.580
Pb	207.0	207.0	50171	2290	0.583
Pb	208.0	208.0	50427	2300	0.589
U	238.1	238.1	57734	2330	0.593

✓ CAQ 5/10/06

Report Date/Time: Wednesday, May 10, 2006 10:21:37
Page 1

ICPMS #5 Daily Performance Report

Sample ID: Sample
Sample Date/Time: Wednesday, May 10, 2006 10:22:22
Sample Description:
Method File: c:\elandata\Method\Daily2.mth
Dataset File: c:\elandata\Dataset\default\Sample.1699
Tuning File: c:\elandata\Tuning\default2.tun
Optimization File: c:\elandata\Optimize\default.dac
Dual Detector Mode: Pulse
Acq. Dead Time(ns): 35
Current Dead Time (ns): 35
Number of Replicates: 5

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	4926.8	4926.849	43.587	0.9
	Mg	24.0	65098.4	65098.401	739.155	1.1
	Co	58.9	115917.1	115917.057	1602.042	1.4
	Rh	102.9	195718.7	195718.704	2113.242	1.1
	In	114.9	224826.2	224826.170	2985.620	1.3
	Pb	208.0	163897.9	163897.890	1533.348	0.9
>	Ba	137.9	224977.1	224977.108	2620.616	1.2
	Ba++	69.0	6026.5	0.027	0.000	1.7
>	Ce	139.9	291498.4	291498.394	1107.994	0.4
	CeO	155.9	4876.8	0.017	0.000	2.7
	Bkgd	220.0	13.1	13.100	1.557	11.9

Current Optimization File Data

Current Value	Description
0.90	Nebulizer Gas Flow
8.75	Lens Voltage
1400.00	ICP RF Power
-1625.00	Analog Stage Voltage
1200.00	Pulse Stage Voltage
250.00	Discriminator Threshold
-6.00	AC Rod Offset

✓ EAG 5/10/06

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	21	8.0	8290.7
Co	59	21	9.3	115304.1
In	115	21	10.5	299190.9

ICPMS#3 - Summary Report

Sample ID: Blank
Sample Date/Time: Wednesday, May 10, 2006 23:11:08
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\Blank.258

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7		ug/L		103	
	Be	9		ug/L		21	
	B	11		ug/L		658	
	Na	23		ug/L		9337	
	Mg	24		ug/L		5334	
	Al	27		ug/L		9670	
	P	31		ug/L		8540	
	K	39		ug/L		973772	
	Ca	43		ug/L		525	
>	Sc	45		ug/L		888629	
	Ti	47		ug/L		239	
	V	51		ug/L		8613	
	Cr	52		ug/L		24	
	Cr	53		ug/L		196464	
	Mn	55		ug/L		2081	
	Fe	57		ug/L		12594	
	Co	59		ug/L		123	
	Ni	60		ug/L		76	
	Cu	63		ug/L		171	
	Cu	65		ug/L		103	
	Zn	66		ug/L		307	
	Zn	67		ug/L		14187	
	Zn	68		ug/L		1705	
>	Ge	74		ug/L		380249	
	As	75		ug/L		525	
	Se	77		ug/L		7192	
	Se	82		ug/L		-24	
	Kr	83		ug/L		202	
	Sr	88		ug/L		459	
	Y	89		ug/L		152	
	Zr	90		ug/L		2492	
	Mo	98		ug/L		150	
	Ag	107		ug/L		81	
	Cd	111		ug/L		24	
	Cd	114		ug/L		63	
>	In	115		ug/L		261292	
	Sn	120		ug/L		356	
	Sb	121		ug/L		702	
	Sb	123		ug/L		554	
	Ba	135		ug/L		77	
	Ba	137		ug/L		124	
	Ho	165		ug/L		20	
>	Ta	181		ug/L		333806	
	Tl	205		ug/L		614	
	Pb	208		ug/L		615	
	Bi	209		ug/L		46	
	Th	232		ug/L		2833	
	U	238		ug/L		535	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Simple Linear	
Be	9	Linear Thru Zero	1.0000
B	11	Simple Linear	
Na	23	Simple Linear	
Mg	24	Simple Linear	
Al	27	Simple Linear	
P	31	Simple Linear	
K	39	Simple Linear	
Ca	43	Simple Linear	
Sc	45	Linear Thru Zero	
Ti	47	Simple Linear	
V	51	Simple Linear	
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Simple Linear	
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Simple Linear	
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Simple Linear	
Sr	88	Simple Linear	
Y	89	Simple Linear	
Zr	90	Simple Linear	
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Simple Linear	
Sb	121	Simple Linear	
Sb	123	Simple Linear	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Simple Linear	
Ta	181	Linear Thru Zero	
Tl	205	Simple Linear	
Pb	208	Linear Thru Zero	1.0000
Bi	209	Simple Linear	
Th	232	Simple Linear	
U	238	Simple Linear	

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
Ta	181					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Wednesday, May 10, 2006 23:15:24
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\Standard 1.259

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	10.000	ug/L	1.423	8399	0.009
	Be	9	10.000	ug/L	3.166	2825	0.003
	B	11	20.000	ug/L	3.289	4688	0.005
	Na	23	1000.000	ug/L	10.703	1949123	2.182
	Mg	24	1000.000	ug/L	5.774	1682859	1.887
	Al	27	1000.000	ug/L	2.927	2416423	2.708
	P	31	1000.000	ug/L	1.507	174244	0.186
	K	39	1000.000	ug/L	5.370	5361395	4.938
	Ca	43	1000.000	ug/L	1.454	9398	0.010
>	Sc	45		ug/L		888705	888705.137
	Ti	47	10.000	ug/L	1.451	4776	0.005
	V	51	10.000	ug/L	8.882	49822	0.046
	Cr	52	10.000	ug/L	1.487	42481	0.048
	Cr	53		ug/L		194998	-0.002
	Mn	55	10.000	ug/L	0.815	73164	0.080
	Fe	57	1000.000	ug/L	0.982	154188	0.159
	Co	59	10.000	ug/L	0.695	54036	0.061
	Ni	60	10.000	ug/L	1.560	11597	0.013
	Cu	63		ug/L		27859	0.031
	Cu	65	10.000	ug/L	0.528	13264	0.015
	Zn	66	10.000	ug/L	2.290	9891	0.025
	Zn	67		ug/L		14942	0.002
	Zn	68		ug/L		8433	0.017
>	Ge	74		ug/L		384340	384340.119
	As	75	10.000	ug/L	4.682	11487	0.029
	Se	77		ug/L		7471	0.001
	Se	82	10.000	ug/L	0.089	909	0.002
	Kr	83		ug/L		197	-0.000
	Sr	88	10.000	ug/L	0.540	123973	0.458
	Y	89		ug/L		203	0.000
	Zr	90	10.000	ug/L	4.197	75443	0.270
	Mo	98	10.000	ug/L	1.493	31734	0.117
	Ag	107	10.000	ug/L	1.176	54785	0.203
	Cd	111	10.000	ug/L	0.646	12809	0.047
	Cd	114		ug/L		31494	0.117
>	In	115		ug/L		269581	269580.693
	Sn	120	10.000	ug/L	1.763	53199	0.196
	Sb	121	10.000	ug/L	1.865	50095	0.183
	Sb	123		ug/L		38188	0.140
	Ba	135		ug/L		12696	0.037
	Ba	137	10.000	ug/L	0.656	22297	0.065
	Ho	165		ug/L		19	-0.000
>	Ta	181		ug/L		341544	341544.066
	Tl	205	10.000	ug/L	1.073	140186	0.409
	Pb	208	10.000	ug/L	1.079	154495	0.451
	Bi	209		ug/L		62	0.000
	Th	232	10.000	ug/L	3.126	153393	0.441
	U	238	10.000	ug/L	1.098	153352	0.447

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Wednesday, May 10, 2006 23:19:38
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\Standard 2.260

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**99.955**	**ug/L**	1.936	82437	0.089
	Be	9	**99.959**	**ug/L**	1.158	27958	0.030
	B	11	**199.981**	**ug/L**	1.724	42105	0.045
	Na	23	**9990.177**	**ug/L**	5.238	18313362	19.850
	Mg	24	**9996.590**	**ug/L**	3.190	16828085	18.240
	Al	27	**10003.068**	**ug/L**	7.248	25805472	27.944
	P	31	**9997.646**	**ug/L**	1.039	1688720	1.821
	K	39	**9992.142**	**ug/L**	3.339	43221451	45.746
	Ca	43	**9996.390**	**ug/L**	0.304	89407	0.096
>	Sc	45		**ug/L**		922462	922462.257
	Ti	47	**99.970**	**ug/L**	1.129	45965	0.050
	V	51	**100.019**	**ug/L**	3.481	444753	0.473
	Cr	52	**99.980**	**ug/L**	2.169	431812	0.468
	Cr	53		**ug/L**		235184	0.034
	Mn	55	**99.956**	**ug/L**	2.318	708553	0.766
	Fe	57	**9994.677**	**ug/L**	2.588	1407687	1.512
	Co	59	**99.956**	**ug/L**	1.742	536085	0.581
	Ni	60	**99.946**	**ug/L**	0.998	113421	0.123
	Cu	63		**ug/L**		278547	0.302
	Cu	65	**99.969**	**ug/L**	1.535	132590	0.144
	Zn	66	**99.967**	**ug/L**	2.783	95393	0.241
	Zn	67		**ug/L**		27808	0.033
	Zn	68		**ug/L**		69135	0.171
>	Ge	74		**ug/L**		394149	394148.921
	As	75	**100.008**	**ug/L**	1.375	113798	0.287
	Se	77		**ug/L**		13382	0.015
	Se	82	**99.974**	**ug/L**	1.257	9303	0.024
	Kr	83		**ug/L**		201	-0.000
	Sr	88	**99.988**	**ug/L**	1.394	1221916	4.526
	Y	89		**ug/L**		706	0.002
	Zr	90	**99.941**	**ug/L**	1.066	690976	2.551
	Mo	98	**100.013**	**ug/L**	1.501	320498	1.187
	Ag	107	**99.976**	**ug/L**	1.309	534682	1.981
	Cd	111	**100.013**	**ug/L**	1.051	129693	0.480
	Cd	114		**ug/L**		311468	1.154
>	In	115		**ug/L**		269859	269859.230
	Sn	120	**99.998**	**ug/L**	0.278	528196	1.956
	Sb	121	**100.017**	**ug/L**	0.404	503720	1.864
	Sb	123		**ug/L**		383427	1.419
	Ba	135		**ug/L**		127973	0.357
	Ba	137	**99.958**	**ug/L**	0.523	223290	0.623
	Ho	165		**ug/L**		26	0.000
>	Ta	181		**ug/L**		358443	358443.116
	Tl	205	**99.925**	**ug/L**	1.471	1361541	3.797
	Pb	208	**99.936**	**ug/L**	1.143	1517724	4.233
	Bi	209		**ug/L**		236	0.001
	Th	232	**99.986**	**ug/L**	2.983	1558957	4.342
	U	238	**99.946**	**ug/L**	2.253	1520811	4.242

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Ta	181					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Wednesday, May 10, 2006 23:23:54
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 1.261

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**52.422**	**ug/L**	0.548	43230	0.047
	Be	9	**51.773**	**ug/L**	0.348	14471	0.016
	B	11	**117.511**	**ug/L**	1.943	24982	0.026
	Na	23	**5720.403**	**ug/L**	1.502	10478315	11.366
	Mg	24	**5609.332**	**ug/L**	2.386	9434210	10.235
	Al	27	**5281.349**	**ug/L**	6.830	13598416	14.753
	P	31	**5279.246**	**ug/L**	2.678	894524	0.962
	K	39	**5624.054**	**ug/L**	1.490	24724935	25.748
	Ca	43	**5253.143**	**ug/L**	1.326	47171	0.051
>	Sc	45		**ug/L**		921110	921109.939
	Ti	47	**51.476**	**ug/L**	1.205	23751	0.026
	V	51	**53.652**	**ug/L**	2.386	242377	0.253
	Cr	52	**52.569**	**ug/L**	2.170	226741	0.246
	Cr	53		**ug/L**		209339	0.006
	Mn	55	**53.489**	**ug/L**	1.289	379641	0.410
	Fe	57	**5386.499**	**ug/L**	2.774	763507	0.815
	Co	59	**52.343**	**ug/L**	2.085	280365	0.304
	Ni	60	**52.656**	**ug/L**	1.033	59706	0.065
	Cu	63		**ug/L**		142567	0.155
	Cu	65	**51.769**	**ug/L**	0.283	68612	0.074
	Zn	66	**53.629**	**ug/L**	1.827	51103	0.129
	Zn	67		**ug/L**		20730	0.016
	Zn	68		**ug/L**		37299	0.091
>	Ge	74		**ug/L**		392427	392427.381
	As	75	**51.069**	**ug/L**	0.950	58128	0.147
	Se	77		**ug/L**		10207	0.007
	Se	82	**52.480**	**ug/L**	2.560	4849	0.012
	Kr	83		**ug/L**		207	-0.000
	Sr	88	**52.205**	**ug/L**	1.682	640537	2.363
	Y	89		**ug/L**		186	0.000
	Zr	90	**49.424**	**ug/L**	2.386	344263	1.262
	Mo	98	**51.090**	**ug/L**	0.812	164390	0.606
	Ag	107	**52.806**	**ug/L**	1.389	283486	1.046
	Cd	111	**51.058**	**ug/L**	2.102	66463	0.245
	Cd	114		**ug/L**		161213	0.595
>	In	115		**ug/L**		270850	270850.310
	Sn	120	**52.025**	**ug/L**	1.323	275989	1.018
	Sb	121	**52.615**	**ug/L**	1.872	266306	0.981
	Sb	123		**ug/L**		202281	0.745
	Ba	135		**ug/L**		65990	0.192
	Ba	137	**54.147**	**ug/L**	0.924	115863	0.337
	Ho	165		**ug/L**		24	0.000
>	Ta	181		**ug/L**		343159	343158.559
	Tl	205	**52.750**	**ug/L**	0.851	688460	2.004
	Pb	208	**54.612**	**ug/L**	0.504	794417	2.313
	Bi	209		**ug/L**		68	0.000
	Th	232	**52.993**	**ug/L**	0.372	792617	2.301
	U	238	**54.571**	**ug/L**	0.949	795351	2.316

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	104.843				
	Be	9	103.545				
	B	11	117.511				
	Na	23	114.408				
	Mg	24	112.187				
	Al	27	104.581				
	P	31	105.585				
	K	39	112.481				
	Ca	43	105.063				
>	Sc	45		103.7			
	Ti	47	102.953				
	V	51	107.303				
	Cr	52	105.139				
	Cr	53					
	Mn	55	106.979				
	Fe	57	107.730				
	Co	59	104.686				
	Ni	60	105.313				
	Cu	63					
	Cu	65	103.538				
	Zn	66	107.258				
	Zn	67					
	Zn	68					
>	Ge	74		103.2			
	As	75	102.139				
	Se	77					
	Se	82	104.961				
	Kr	83					
	Sr	88	104.410				
	Y	89					
	Zr	90	98.848				
	Mo	98	102.181				
	Ag	107	105.613				
	Cd	111	102.116				
	Cd	114					
>	In	115		103.7			
	Sn	120	104.051				
	Sb	121	105.230				
	Sb	123					
	Ba	135					
	Ba	137	108.294				
	Ho	165					
>	Ta	181		102.8			
	Tl	205	105.500				
	Pb	208	109.223				
	Bi	209					
	Th	232	105.987				
	U	238	109.141				

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 1	B	11ICV is out of limits (+/- 10%)
QC Std 1	Na	23ICV is out of limits (+/- 10%)
QC Std 1	Mg	24ICV is out of limits (+/- 10%)
QC Std 1	K	39ICV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#3 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Wednesday, May 10, 2006 23:28:12
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 2.262

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.015**	**ug/L**	100.826	117	0.000
	Be	9	**-0.006**	**ug/L**	234.923	20	-0.000
	B	11	**7.256**	**ug/L**	23.727	2134	0.002
	Na	23	**2.543**	**ug/L**	115.258	14007	0.005
	Mg	24	**-1.878**	**ug/L**	81.032	2334	-0.003
	Al	27	**0.875**	**ug/L**	81.207	12005	0.002
	P	31	**-0.501**	**ug/L**	226.679	8579	-0.000
	K	39	**-2.782**	**ug/L**	297.229	976297	-0.013
	Ca	43	**0.151**	**ug/L**	1608.825	533	0.000
>	Sc	45		**ug/L**		901223	901223.323
	Ti	47	**0.029**	**ug/L**	291.031	255	0.000
	V	51	**0.287**	**ug/L**	461.199	9951	0.001
	Cr	52	**-0.029**	**ug/L**	204.908	-99	-0.000
	Cr	53		**ug/L**		187502	-0.013
	Mn	55	**-0.010**	**ug/L**	87.370	2037	-0.000
	Fe	57	**-6.067**	**ug/L**	13.105	11945	-0.001
	Co	59	**0.013**	**ug/L**	18.538	195	0.000
	Ni	60	**-0.003**	**ug/L**	448.812	74	-0.000
	Cu	63		**ug/L**		185	0.000
	Cu	65	**0.003**	**ug/L**	17.189	109	0.000
	Zn	66	**0.033**	**ug/L**	48.373	339	0.000
	Zn	67		**ug/L**		13193	-0.003
	Zn	68		**ug/L**		1598	-0.000
>	Ge	74		**ug/L**		381634	381634.403
	As	75	**0.028**	**ug/L**	1070.167	558	0.000
	Se	77		**ug/L**		6927	-0.001
	Se	82	**-0.051**	**ug/L**	74.426	-28	-0.000
	Kr	83		**ug/L**		202	-0.000
	Sr	88	**0.003**	**ug/L**	77.137	502	0.000
	Y	89		**ug/L**		135	-0.000
	Zr	90	**0.231**	**ug/L**	32.233	4052	0.006
	Mo	98	**0.045**	**ug/L**	45.888	290	0.001
	Ag	107	**0.007**	**ug/L**	10.684	117	0.000
	Cd	111	**0.008**	**ug/L**	199.410	34	0.000
	Cd	114		**ug/L**		79	0.000
>	In	115		**ug/L**		262920	262920.024
	Sn	120	**0.097**	**ug/L**	21.787	858	0.002
	Sb	121	**0.820**	**ug/L**	40.619	4714	0.015
	Sb	123		**ug/L**		3622	0.012
	Ba	135		**ug/L**		87	0.000
	Ba	137	**0.000**	**ug/L**	1877.725	124	0.000
	Ho	165		**ug/L**		16	-0.000
>	Ta	181		**ug/L**		332702	332702.033
	Tl	205	**0.121**	**ug/L**	43.087	2142	0.005
	Pb	208	**0.006**	**ug/L**	29.326	696	0.000
	Bi	209		**ug/L**		41	-0.000
	Th	232	**0.898**	**ug/L**	49.793	15771	0.039
	U	238	**0.014**	**ug/L**	26.383	729	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		101.4			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		100.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		100.6			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		99.7			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Wednesday, May 10, 2006 23:32:29
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 3.263

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**10.467**	**ug/L**	2.905	8443	0.009
	Be	9	**0.494**	**ug/L**	7.063	155	0.000
	B	11	**18.233**	**ug/L**	3.219	4313	0.004
	Na	23	**284.012**	**ug/L**	11.221	513130	0.564
	Mg	24	**17.433**	**ug/L**	12.839	33707	0.032
	Al	27	**11.938**	**ug/L**	25.467	39389	0.033
	P	31	**40.197**	**ug/L**	1.005	15112	0.007
	K	39	**323.929**	**ug/L**	7.438	2300268	1.483
	Ca	43	**100.946**	**ug/L**	4.826	1395	0.001
>	Sc	45		**ug/L**		892481	892481.072
	Ti	47	**8.476**	**ug/L**	2.764	3988	0.004
	V	51	**11.240**	**ug/L**	7.807	55996	0.053
	Cr	52	**3.019**	**ug/L**	2.798	12639	0.014
	Cr	53		**ug/L**		190687	-0.007
	Mn	55	**5.187**	**ug/L**	1.394	37554	0.040
	Fe	57	**20.667**	**ug/L**	13.448	15435	0.003
	Co	59	**1.048**	**ug/L**	2.167	5559	0.006
	Ni	60	**2.091**	**ug/L**	2.352	2371	0.003
	Cu	63		**ug/L**		2971	0.003
	Cu	65	**1.084**	**ug/L**	4.306	1492	0.002
	Zn	66	**10.478**	**ug/L**	1.101	9889	0.025
	Zn	67		**ug/L**		14850	0.002
	Zn	68		**ug/L**		8201	0.017
>	Ge	74		**ug/L**		378915	378915.102
	As	75	**4.927**	**ug/L**	2.122	5889	0.014
	Se	77		**ug/L**		7115	-0.000
	Se	82	**5.156**	**ug/L**	4.426	439	0.001
	Kr	83		**ug/L**		199	-0.000
	Sr	88	**10.324**	**ug/L**	0.860	123973	0.467
	Y	89		**ug/L**		137	-0.000
	Zr	90	**2.275**	**ug/L**	6.675	17862	0.058
	Mo	98	**0.477**	**ug/L**	1.975	1647	0.006
	Ag	107	**1.061**	**ug/L**	0.945	5636	0.021
	Cd	111	**1.004**	**ug/L**	4.910	1299	0.005
	Cd	114		**ug/L**		3184	0.012
>	In	115		**ug/L**		264271	264270.938
	Sn	120	**5.147**	**ug/L**	1.359	26966	0.101
	Sb	121	**2.086**	**ug/L**	3.163	10983	0.039
	Sb	123		**ug/L**		8388	0.030
	Ba	135		**ug/L**		2609	0.008
	Ba	137	**2.154**	**ug/L**	0.550	4566	0.013
	Ho	165		**ug/L**		21	0.000
>	Ta	181		**ug/L**		331193	331193.152
	Tl	205	**1.076**	**ug/L**	0.875	14144	0.041
	Pb	208	**2.168**	**ug/L**	0.559	31029	0.092
	Bi	209		**ug/L**		38	-0.000
	Th	232	**1.049**	**ug/L**	2.432	17891	0.046
	U	238	**0.187**	**ug/L**	2.763	3163	0.008

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	104.669				
	Be	9	98.716				
	B	11	121.551				
	Na	23	113.605				
	Mg	24	116.221				
	Al	27	79.587				
	P	31	80.393				
	K	39	107.976				
	Ca	43	100.946				
>	Sc	45		100.4			
	Ti	47	84.756				
	V	51	112.404				
	Cr	52	100.647				
	Cr	53					
	Mn	55	103.732				
	Fe	57	82.668				
	Co	59	104.786				
	Ni	60	104.566				
	Cu	63					
	Cu	65	108.391				
	Zn	66	104.782				
	Zn	67					
	Zn	68					
>	Ge	74		99.6			
	As	75	98.542				
	Se	77					
	Se	82	103.124				
	Kr	83					
	Sr	88	103.243				
	Y	89					
	Zr	90	113.732				
	Mo	98	95.376				
	Ag	107	106.059				
	Cd	111	100.403				
	Cd	114					
>	In	115		101.1			
	Sn	120	102.945				
	Sb	121	104.310				
	Sb	123					
	Ba	135					
	Ba	137	107.688				
	Ho	165					
>	Ta	181		99.2			
	Tl	205	107.551				
	Pb	208	108.424				
	Bi	209					
	Th	232	104.855				
	U	238	93.609				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Wednesday, May 10, 2006 23:36:45
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 4.264

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.490**	**ug/L**	5.553	505	0.000
	Be	9	**-0.001**	**ug/L**	1962.212	21	-0.000
	B	11	**3.215**	**ug/L**	8.825	1333	0.001
	Na	23	**100579.818**	**ug/L**	2.173	182255855	199.847
	Mg	24	**105210.506**	**ug/L**	4.068	175078401	191.973
	Al	27	**97306.993**	**ug/L**	1.326	247877910	271.827
	P	31	**108646.882**	**ug/L**	1.181	18058118	19.792
	K	39	**107134.188**	**ug/L**	3.360	448257410	490.483
	Ca	43	**99233.381**	**ug/L**	0.871	872609	0.956
>	Sc	45		**ug/L**		911906	911906.163
	Ti	47	**1787.710**	**ug/L**	1.420	808370	0.886
	V	51	**0.032**	**ug/L**	1149.563	8976	0.000
	Cr	52	**0.294**	**ug/L**	16.486	1281	0.001
	Cr	53		**ug/L**		179231	-0.025
	Mn	55	**2.804**	**ug/L**	1.939	21726	0.021
	Fe	57	**115239.791**	**ug/L**	3.064	15911083	17.434
	Co	59	**0.314**	**ug/L**	6.072	1792	0.002
	Ni	60	**1.646**	**ug/L**	2.298	1923	0.002
	Cu	63		**ug/L**		4658	0.005
	Cu	65	**2.525**	**ug/L**	2.103	3414	0.004
	Zn	66	**5.952**	**ug/L**	2.112	5876	0.014
	Zn	67		**ug/L**		13382	-0.003
	Zn	68		**ug/L**		3796	0.005
>	Ge	74		**ug/L**		387327	387327.492
	As	75	**0.280**	**ug/L**	124.859	843	0.001
	Se	77		**ug/L**		8990	0.004
	Se	82	**-0.794**	**ug/L**	18.700	-97	-0.000
	Kr	83		**ug/L**		299	0.000
	Sr	88	**1.576**	**ug/L**	2.009	19140	0.071
	Y	89		**ug/L**		706	0.002
	Zr	90	**0.284**	**ug/L**	24.711	4395	0.007
	Mo	98	**2069.854**	**ug/L**	3.025	6432152	24.566
	Ag	107	**0.051**	**ug/L**	2.349	347	0.001
	Cd	111	**-0.044**	**ug/L**	101.190	-32	-0.000
	Cd	114		**ug/L**		6248	0.024
>	In	115		**ug/L**		261966	261966.476
	Sn	120	**0.110**	**ug/L**	2.070	921	0.002
	Sb	121	**0.634**	**ug/L**	7.460	3795	0.012
	Sb	123		**ug/L**		2851	0.009
	Ba	135		**ug/L**		552	0.001
	Ba	137	**0.382**	**ug/L**	2.668	936	0.002
	Ho	165		**ug/L**		49	0.000
>	Ta	181		**ug/L**		340304	340303.782
	Tl	205	**0.012**	**ug/L**	21.434	787	0.000
	Pb	208	**0.341**	**ug/L**	0.979	5538	0.014
	Bi	209		**ug/L**		2466	0.007
	Th	232	**0.121**	**ug/L**	74.329	4665	0.005
	U	238	**-0.021**	**ug/L**	2.464	242	-0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23	100.580				
	Mg	24	105.232				
	Al	27	97.307				
	P	31	108.658				
	K	39	107.134				
	Ca	43	99.233				
>	Sc	45		102.6			
	Ti	47	89.385				
	V	51					
	Cr	52	13.381				
	Cr	53					
	Mn	55	103.843				
	Fe	57	115.240				
	Co	59	78.579				
	Ni	60	68.569				
	Cu	63					
	Cu	65	74.278				
	Zn	66	85.023				
	Zn	67					
	Zn	68					
>	Ge	74		101.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98	103.493				
	Ag	107					
	Cd	111	-22.069				
	Cd	114					
>	In	115		100.3			
	Sn	120					
	Sb	121	126.726				
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		101.9			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Wednesday, May 10, 2006 23:41:01
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 5.265

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**19.546**	ug/L	1.154	16008	0.017
	Be	9	**18.991**	ug/L	2.053	5263	0.006
	B	11	**22.011**	ug/L	1.615	5176	0.005
	Na	23	**105874.389**	ug/L	3.304	191671876	210.367
	Mg	24	**97717.207**	ug/L	1.827	162413883	178.301
	Al	27	**98906.779**	ug/L	2.794	251694212	276.296
	P	31	**107175.628**	ug/L	0.653	17793743	19.524
	K	39	**97044.128**	ug/L	3.817	405790919	444.289
	Ca	43	**98683.360**	ug/L	1.021	866841	0.951
>	Sc	45		ug/L		910951	910950.526
	Ti	47	**1775.356**	ug/L	0.789	801953	0.880
	V	51	**20.940**	ug/L	3.326	98936	0.099
	Cr	52	**20.209**	ug/L	0.856	86230	0.095
	Cr	53		ug/L		183196	-0.020
	Mn	55	**22.481**	ug/L	1.657	159032	0.172
	Fe	57	**112993.674**	ug/L	1.870	15583306	17.094
	Co	59	**19.767**	ug/L	1.324	104800	0.115
	Ni	60	**21.375**	ug/L	1.251	24018	0.026
	Cu	63		ug/L		57141	0.063
	Cu	65	**21.415**	ug/L	2.083	28128	0.031
	Zn	66	**25.976**	ug/L	1.343	24591	0.063
	Zn	67		ug/L		15745	0.003
	Zn	68		ug/L		16785	0.039
>	Ge	74		ug/L		387210	387209.761
	As	75	**20.505**	ug/L	2.155	23350	0.059
	Se	77		ug/L		10292	0.008
	Se	82	**19.416**	ug/L	2.794	1756	0.005
	Kr	83		ug/L		291	0.000
	Sr	88	**21.913**	ug/L	1.209	263432	0.992
	Y	89		ug/L		727	0.002
	Zr	90	**18.542**	ug/L	4.590	127993	0.473
	Mo	98	**2043.417**	ug/L	1.953	6428792	24.252
	Ag	107	**20.009**	ug/L	0.924	105185	0.396
	Cd	111	**19.613**	ug/L	1.804	25002	0.094
	Cd	114		ug/L		67022	0.253
>	In	115		ug/L		265105	265105.039
	Sn	120	**20.422**	ug/L	0.892	106255	0.399
	Sb	121	**22.283**	ug/L	1.740	110789	0.415
	Sb	123		ug/L		84673	0.317
	Ba	135		ug/L		25591	0.075
	Ba	137	**21.081**	ug/L	1.548	44950	0.131
	Ho	165		ug/L		41	0.000
>	Ta	181		ug/L		341384	341384.167
	Tl	205	**18.943**	ug/L	0.891	246360	0.720
	Pb	208	**20.097**	ug/L	0.681	291220	0.851
	Bi	209		ug/L		2437	0.007
	Th	232	**20.202**	ug/L	0.770	302381	0.877
	U	238	**19.795**	ug/L	0.893	287359	0.840

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	97.729				
	Be	9	94.957				
	B	11	110.054				
	Na	23	105.874				
	Mg	24	97.737				
	Al	27	98.907				
	P	31	107.186				
	K	39	97.044				
	Ca	43	98.683				
>	Sc	45		102.5			
	Ti	47	88.768				
	V	51	104.701				
	Cr	52	91.033				
	Cr	53					
	Mn	55	99.034				
	Fe	57	112.994				
	Co	59	96.899				
	Ni	60	95.425				
	Cu	63					
	Cu	65	91.516				
	Zn	66	96.207				
	Zn	67					
	Zn	68					
>	Ge	74		101.8			
	As	75	102.526				
	Se	77					
	Se	82	97.082				
	Kr	83					
	Sr	88	109.566				
	Y	89					
	Zr	90	92.712				
	Mo	98	102.171				
	Ag	107	100.045				
	Cd	111	97.095				
	Cd	114					
>	In	115		101.5			
	Sn	120	102.112				
	Sb	121	108.697				
	Sb	123					
	Ba	135					
	Ba	137	105.404				
	Ho	165					
>	Ta	181		102.3			
	Tl	205	94.713				
	Pb	208	100.486				
	Bi	209					
	Th	232	101.010				
	U	238	98.973				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Wednesday, May 10, 2006 23:45:18
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 6.266

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**52.353**	**ug/L**	1.727	43172	0.047
	Be	9	**50.965**	**ug/L**	2.018	14247	0.015
	B	11	**105.715**	**ug/L**	3.278	22550	0.024
	Na	23	**5684.687**	**ug/L**	6.242	10415974	11.295
	Mg	24	**5262.526**	**ug/L**	0.271	8851257	9.602
	Al	27	**4936.570**	**ug/L**	5.657	12709649	13.790
	P	31	**5197.253**	**ug/L**	1.230	881076	0.947
	K	39	**5397.097**	**ug/L**	7.766	23781235	24.709
	Ca	43	**5187.111**	**ug/L**	1.067	46591	0.050
>	Sc	45		**ug/L**		921193	921192.895
	Ti	47	**52.953**	**ug/L**	1.078	24428	0.026
	V	51	**53.696**	**ug/L**	0.942	242620	0.254
	Cr	52	**52.741**	**ug/L**	1.444	227537	0.247
	Cr	53		**ug/L**		210355	0.007
	Mn	55	**53.580**	**ug/L**	0.717	380325	0.411
	Fe	57	**5360.103**	**ug/L**	0.926	760017	0.811
	Co	59	**51.930**	**ug/L**	1.508	278223	0.302
	Ni	60	**53.439**	**ug/L**	1.639	60600	0.066
	Cu	63		**ug/L**		144831	0.157
	Cu	65	**52.027**	**ug/L**	2.039	68952	0.075
	Zn	66	**54.024**	**ug/L**	1.988	51568	0.130
	Zn	67		**ug/L**		20581	0.015
	Zn	68		**ug/L**		37207	0.090
>	Ge	74		**ug/L**		393065	393065.491
	As	75	**52.112**	**ug/L**	1.322	59406	0.150
	Se	77		**ug/L**		10341	0.007
	Se	82	**52.916**	**ug/L**	0.238	4900	0.013
	Kr	83		**ug/L**		196	-0.000
	Sr	88	**52.177**	**ug/L**	1.016	643706	2.362
	Y	89		**ug/L**		181	0.000
	Zr	90	**50.687**	**ug/L**	0.218	354941	1.294
	Mo	98	**52.358**	**ug/L**	0.471	169390	0.621
	Ag	107	**52.773**	**ug/L**	0.898	284873	1.046
	Cd	111	**50.681**	**ug/L**	0.426	66335	0.243
	Cd	114		**ug/L**		161564	0.593
>	In	115		**ug/L**		272341	272341.105
	Sn	120	**51.508**	**ug/L**	0.706	274750	1.007
	Sb	121	**51.059**	**ug/L**	1.028	259877	0.952
	Sb	123		**ug/L**		198940	0.728
	Ba	135		**ug/L**		65740	0.195
	Ba	137	**54.494**	**ug/L**	1.317	114682	0.339
	Ho	165		**ug/L**		21	0.000
>	Ta	181		**ug/L**		337494	337494.171
	Tl	205	**52.924**	**ug/L**	0.267	679321	2.011
	Pb	208	**54.385**	**ug/L**	1.247	778024	2.304
	Bi	209		**ug/L**		59	0.000
	Th	232	**52.919**	**ug/L**	0.114	778445	2.298
	U	238	**54.276**	**ug/L**	1.436	778034	2.304

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	104.706				
	Be	9	101.930				
	B	11	105.715				
	Na	23	113.694				
	Mg	24	105.251				
	Al	27	97.754				
	P	31	103.945				
	K	39	107.942				
	Ca	43	103.742				
>	Sc	45		103.7			
	Ti	47	105.905				
	V	51	107.392				
	Cr	52	105.482				
	Cr	53					
	Mn	55	107.160				
	Fe	57	107.202				
	Co	59	103.859				
	Ni	60	106.878				
	Cu	63					
	Cu	65	104.054				
	Zn	66	108.047				
	Zn	67					
	Zn	68					
>	Ge	74		103.4			
	As	75	104.225				
	Se	77					
	Se	82	105.833				
	Kr	83					
	Sr	88	104.354				
	Y	89					
	Zr	90	101.373				
	Mo	98	104.716				
	Ag	107	105.546				
	Cd	111	101.361				
	Cd	114					
>	In	115		104.2			
	Sn	120	103.016				
	Sb	121	102.119				
	Sb	123					
	Ba	135					
	Ba	137	108.989				
	Ho	165					
>	Ta	181		101.1			
	Tl	205	105.849				
	Pb	208	108.771				
	Bi	209					
	Th	232	105.837				
	U	238	108.552				

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 6	Na	23CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#3 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Wednesday, May 10, 2006 23:49:36
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 7.267

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.067**	**ug/L**	11.810	158	0.000
	Be	9	**0.008**	**ug/L**	171.590	23	0.000
	B	11	**4.191**	**ug/L**	27.137	1502	0.001
	Na	23	**6.177**	**ug/L**	19.274	20348	0.012
	Mg	24	**1.617**	**ug/L**	136.240	8003	0.003
	Al	27	**1.046**	**ug/L**	217.178	12339	0.003
	P	31	**-0.908**	**ug/L**	251.875	8438	-0.000
	K	39	**-2.908**	**ug/L**	188.237	966999	-0.013
	Ca	43	**16.644**	**ug/L**	26.287	671	0.000
>	Sc	45		**ug/L**		893330	893329.550
	Ti	47	**0.405**	**ug/L**	36.651	419	0.000
	V	51	**-0.094**	**ug/L**	753.772	8262	-0.000
	Cr	52	**-0.048**	**ug/L**	179.673	-177	-0.000
	Cr	53		**ug/L**		187712	-0.011
	Mn	55	**-0.017**	**ug/L**	14.543	1977	-0.000
	Fe	57	**-3.029**	**ug/L**	78.125	12251	-0.000
	Co	59	**0.011**	**ug/L**	30.055	183	0.000
	Ni	60	**0.015**	**ug/L**	22.270	94	0.000
	Cu	63		**ug/L**		193	0.000
	Cu	65	**0.020**	**ug/L**	58.670	129	0.000
	Zn	66	**0.011**	**ug/L**	285.354	324	0.000
	Zn	67		**ug/L**		13247	-0.003
	Zn	68		**ug/L**		1487	-0.001
>	Ge	74		**ug/L**		388824	388823.516
	As	75	**-0.018**	**ug/L**	1695.319	520	-0.000
	Se	77		**ug/L**		6822	-0.001
	Se	82	**0.129**	**ug/L**	180.093	-13	0.000
	Kr	83		**ug/L**		212	0.000
	Sr	88	**0.005**	**ug/L**	46.512	530	0.000
	Y	89		**ug/L**		139	-0.000
	Zr	90	**0.251**	**ug/L**	27.259	4227	0.006
	Mo	98	**0.366**	**ug/L**	21.841	1304	0.004
	Ag	107	**0.010**	**ug/L**	28.529	133	0.000
	Cd	111	**0.008**	**ug/L**	95.425	34	0.000
	Cd	114		**ug/L**		77	0.000
>	In	115		**ug/L**		265545	265545.068
	Sn	120	**0.081**	**ug/L**	30.092	782	0.002
	Sb	121	**0.594**	**ug/L**	47.951	3646	0.011
	Sb	123		**ug/L**		2835	0.009
	Ba	135		**ug/L**		78	0.000
	Ba	137	**-0.002**	**ug/L**	93.457	119	-0.000
	Ho	165		**ug/L**		19	-0.000
>	Ta	181		**ug/L**		331919	331918.650
	Tl	205	**0.147**	**ug/L**	35.095	2464	0.006
	Pb	208	**0.004**	**ug/L**	70.125	662	0.000
	Bi	209		**ug/L**		50	0.000
	Th	232	**0.601**	**ug/L**	61.070	11489	0.026
	U	238	**0.008**	**ug/L**	43.708	641	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		100.5			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		102.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		101.6			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		99.4			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: QC Std 11
Sample Date/Time: Wednesday, May 10, 2006 23:58:12
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 11.269

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**51.999**	**ug/L**	0.553	42539	0.046
	Be	9	**51.420**	**ug/L**	1.785	14257	0.016
	B	11	**107.201**	**ug/L**	3.648	22672	0.024
	Na	23	**5347.197**	**ug/L**	4.749	9715258	10.625
	Mg	24	**5274.270**	**ug/L**	5.503	8797775	9.624
	Al	27	**5355.845**	**ug/L**	9.345	13675083	14.962
	P	31	**5241.119**	**ug/L**	1.781	881128	0.955
	K	39	**5444.707**	**ug/L**	1.525	23781235	24.927
	Ca	43	**5233.429**	**ug/L**	0.880	46623	0.050
>	Sc	45		**ug/L**		913792	913791.937
	Ti	47	**51.192**	**ug/L**	0.333	23435	0.025
	V	51	**53.436**	**ug/L**	2.500	239515	0.252
	Cr	52	**52.584**	**ug/L**	0.890	225009	0.246
	Cr	53		**ug/L**		209330	0.008
	Mn	55	**52.916**	**ug/L**	0.912	372613	0.405
	Fe	57	**5286.974**	**ug/L**	1.301	743755	0.800
	Co	59	**51.759**	**ug/L**	1.202	275062	0.301
	Ni	60	**53.557**	**ug/L**	0.738	60247	0.066
	Cu	63		**ug/L**		143485	0.157
	Cu	65	**51.548**	**ug/L**	0.725	67776	0.074
	Zn	66	**53.072**	**ug/L**	0.445	50573	0.128
	Zn	67		**ug/L**		20739	0.016
	Zn	68		**ug/L**		37116	0.090
>	Ge	74		**ug/L**		392300	392300.292
	As	75	**51.808**	**ug/L**	1.171	58947	0.149
	Se	77		**ug/L**		10211	0.007
	Se	82	**52.584**	**ug/L**	2.051	4859	0.012
	Kr	83		**ug/L**		207	-0.000
	Sr	88	**52.729**	**ug/L**	0.333	639467	2.387
	Y	89		**ug/L**		173	0.000
	Zr	90	**53.404**	**ug/L**	2.764	367441	1.363
	Mo	98	**51.808**	**ug/L**	0.328	164764	0.615
	Ag	107	**52.729**	**ug/L**	1.858	279798	1.045
	Cd	111	**51.441**	**ug/L**	0.413	66185	0.247
	Cd	114		**ug/L**		160717	0.600
>	In	115		**ug/L**		267711	267710.812
	Sn	120	**53.137**	**ug/L**	1.802	278602	1.039
	Sb	121	**54.385**	**ug/L**	2.571	272026	1.014
	Sb	123		**ug/L**		207948	0.775
	Ba	135		**ug/L**		65114	0.194
	Ba	137	**54.679**	**ug/L**	2.555	114289	0.341
	Ho	165		**ug/L**		25	0.000
>	Ta	181		**ug/L**		335250	335250.278
	Tl	205	**52.306**	**ug/L**	1.423	666904	1.988
	Pb	208	**54.586**	**ug/L**	1.295	775683	2.312
	Bi	209		**ug/L**		56	0.000
	Th	232	**57.122**	**ug/L**	3.701	834360	2.481
	U	238	**54.484**	**ug/L**	1.892	775751	2.313

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	103.999				
	Be	9	102.840				
	B	11	107.201				
	Na	23	106.944				
	Mg	24	105.485				
	Al	27	106.056				
	P	31	104.822				
	K	39	108.894				
	Ca	43	104.669				
>	Sc	45		102.8			
	Ti	47	102.384				
	V	51	106.872				
	Cr	52	105.168				
	Cr	53					
	Mn	55	105.833				
	Fe	57	105.739				
	Co	59	103.519				
	Ni	60	107.113				
	Cu	63					
	Cu	65	103.096				
	Zn	66	106.144				
	Zn	67					
	Zn	68					
>	Ge	74		103.2			
	As	75	103.617				
	Se	77					
	Se	82	105.168				
	Kr	83					
	Sr	88	105.458				
	Y	89					
	Zr	90	106.807				
	Mo	98	103.615				
	Ag	107	105.458				
	Cd	111	102.881				
	Cd	114					
>	In	115		102.5			
	Sn	120	106.274				
	Sb	121	108.770				
	Sb	123					
	Ba	135					
	Ba	137	109.357				
	Ho	165					
>	Ta	181		100.4			
	Tl	205	104.613				
	Pb	208	109.173				
	Bi	209					
	Th	232	114.244				
	U	238	108.967				

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 11	Th	232CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#3 - Summary Report

Sample ID: QC Std 12
Sample Date/Time: Thursday, May 11, 2006 00:02:30
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 12.270

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.149**	**ug/L**	26.325	224	0.000
	Be	9	**0.029**	**ug/L**	79.615	29	0.000
	B	11	**4.078**	**ug/L**	36.455	1486	0.001
	Na	23	**0.687**	**ug/L**	136.941	10671	0.001
	Mg	24	**0.364**	**ug/L**	290.475	6001	0.001
	Al	27	**0.244**	**ug/L**	803.542	10338	0.001
	P	31	**-2.718**	**ug/L**	123.258	8200	-0.000
	K	39	**-7.012**	**ug/L**	112.566	957380	-0.032
	Ca	43	**10.348**	**ug/L**	66.302	621	0.000
>	Sc	45		**ug/L**		900455	900455.261
	Ti	47	**0.042**	**ug/L**	152.259	260	0.000
	V	51	**-0.288**	**ug/L**	101.387	7508	-0.001
	Cr	52	**-0.049**	**ug/L**	38.060	-182	-0.000
	Cr	53		**ug/L**		185974	-0.014
	Mn	55	**0.006**	**ug/L**	365.387	2145	0.000
	Fe	57	**-7.494**	**ug/L**	38.317	11735	-0.001
	Co	59	**0.044**	**ug/L**	22.781	352	0.000
	Ni	60	**0.027**	**ug/L**	20.520	107	0.000
	Cu	63		**ug/L**		327	0.000
	Cu	65	**0.051**	**ug/L**	24.367	171	0.000
	Zn	66	**0.089**	**ug/L**	28.964	398	0.000
	Zn	67		**ug/L**		13308	-0.003
	Zn	68		**ug/L**		1551	-0.001
>	Ge	74		**ug/L**		389237	389237.235
	As	75	**0.239**	**ug/L**	110.002	807	0.001
	Se	77		**ug/L**		6723	-0.002
	Se	82	**0.130**	**ug/L**	287.930	-12	0.000
	Kr	83		**ug/L**		198	-0.000
	Sr	88	**0.023**	**ug/L**	22.874	730	0.001
	Y	89		**ug/L**		141	-0.000
	Zr	90	**0.380**	**ug/L**	20.174	5031	0.010
	Mo	98	**0.237**	**ug/L**	20.703	887	0.003
	Ag	107	**0.012**	**ug/L**	8.611	145	0.000
	Cd	111	**0.022**	**ug/L**	34.136	52	0.000
	Cd	114		**ug/L**		139	0.000
>	In	115		**ug/L**		261608	261608.055
	Sn	120	**0.543**	**ug/L**	14.268	3132	0.011
	Sb	121	**1.440**	**ug/L**	32.576	7713	0.027
	Sb	123		**ug/L**		5869	0.020
	Ba	135		**ug/L**		211	0.000
	Ba	137	**0.115**	**ug/L**	14.482	360	0.001
	Ho	165		**ug/L**		17	-0.000
>	Ta	181		**ug/L**		331276	331276.416
	Tl	205	**0.241**	**ug/L**	28.804	3641	0.009
	Pb	208	**0.080**	**ug/L**	36.707	1735	0.003
	Bi	209		**ug/L**		38	-0.000
	Th	232	**1.332**	**ug/L**	37.676	21933	0.058
	U	238	**0.109**	**ug/L**	35.010	2055	0.005

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		101.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		102.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		100.1			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		99.2			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 12	Th	232CCB is out of limits (+/- PQL)

QC Action

QC Action Line: Continue

ICPMS#3 - Summary Report

Sample ID: 1201076749
Sample Date/Time: Thursday, May 11, 2006 00:06:49
Sample Type:
Sample Description: ESHL 6020 MB
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\1201076749.271

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.328**	ug/L	3.942	369	0.000
	Be	9	**0.001**	ug/L	209.383	22	0.000
	B	11	**0.723**	ug/L	43.189	815	0.000
	Na	23	**3.637**	ug/L	41.839	16009	0.007
	Mg	24	**-2.278**	ug/L	15.487	1667	-0.004
	Al	27	**-0.463**	ug/L	124.950	8669	-0.001
	P	31	**-23.640**	ug/L	5.864	4790	-0.004
	K	39	**14.124**	ug/L	37.417	1048089	0.065
	Ca	43	**52.224**	ug/L	3.666	988	0.001
>	Sc	45		ug/L		903286	903286.034
	Ti	47	**0.290**	ug/L	21.761	372	0.000
	V	51	**-3.693**	ug/L	15.233	-7017	-0.017
	Cr	52	**-0.329**	ug/L	8.382	-1367	-0.002
	Cr	53		ug/L		402778	0.225
	Mn	55	**0.074**	ug/L	18.045	2626	0.001
	Fe	57	**-0.802**	ug/L	101.906	12692	-0.000
	Co	59	**0.027**	ug/L	16.377	265	0.000
	Ni	60	**0.007**	ug/L	64.688	86	0.000
	Cu	63		ug/L		356	0.000
	Cu	65	**0.079**	ug/L	12.876	207	0.000
	Zn	66	**2.169**	ug/L	2.266	2350	0.005
	Zn	67		ug/L		38337	0.061
	Zn	68		ug/L		4461	0.007
>	Ge	74		ug/L		388937	388936.704
	As	75	**1.147**	ug/L	71.741	1817	0.003
	Se	77		ug/L		19278	0.031
	Se	82	**-0.034**	ug/L	334.515	-27	-0.000
	Kr	83		ug/L		210	0.000
	Sr	88	**0.055**	ug/L	0.665	1115	0.002
	Y	89		ug/L		213	0.000
	Zr	90	**0.223**	ug/L	35.679	3997	0.006
	Mo	98	**0.079**	ug/L	17.543	398	0.001
	Ag	107	**-0.005**	ug/L	6.070	54	-0.000
	Cd	111	**-0.012**	ug/L	13.498	9	-0.000
	Cd	114		ug/L		34	-0.000
>	In	115		ug/L		262887	262886.915
	Sn	120	**0.517**	ug/L	28.224	3004	0.010
	Sb	121	**0.662**	ug/L	23.364	3938	0.012
	Sb	123		ug/L		3070	0.010
	Ba	135		ug/L		394	0.001
	Ba	137	**0.284**	ug/L	12.503	708	0.002
	Ho	165		ug/L		23	0.000
>	Ta	181		ug/L		330541	330541.366
	Tl	205	**0.055**	ug/L	5.685	1300	0.002
	Pb	208	**0.013**	ug/L	10.610	790	0.001
	Bi	209		ug/L		65	0.000
	Th	232	**0.256**	ug/L	10.283	6472	0.011
	U	238	**-0.008**	ug/L	32.202	418	-0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		101.6			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		102.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		100.6			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		99.0			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: 1201076750
Sample Date/Time: Thursday, May 11, 2006 00:11:07
Sample Type:
Sample Description: ESHL 6020 LCS
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\1201076750.272

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**53.899**	**ug/L**	1.174	43832	0.048
	Be	9	**53.138**	**ug/L**	0.939	14648	0.016
	B	11	**109.992**	**ug/L**	4.198	23109	0.025
	Na	23	**2115.555**	**ug/L**	6.655	3827752	4.203
	Mg	24	**2045.378**	**ug/L**	2.652	3396102	3.732
	Al	27	**2031.421**	**ug/L**	1.154	5165070	5.675
	P	31	**2093.368**	**ug/L**	0.416	355145	0.381
	K	39	**2195.554**	**ug/L**	6.747	10130028	10.052
	Ca	43	**2163.868**	**ug/L**	0.574	19480	0.021
>	Sc	45		**ug/L**		908425	908424.941
	Ti	47	**45.997**	**ug/L**	2.982	20957	0.023
	V	51	**47.837**	**ug/L**	6.365	214038	0.226
	Cr	52	**52.436**	**ug/L**	0.782	223070	0.246
	Cr	53		**ug/L**		496362	0.325
	Mn	55	**53.278**	**ug/L**	1.204	372944	0.408
	Fe	57	**2178.357**	**ug/L**	1.912	312214	0.330
	Co	59	**53.078**	**ug/L**	1.412	280407	0.309
	Ni	60	**54.345**	**ug/L**	0.770	60773	0.067
	Cu	63		**ug/L**		147975	0.163
	Cu	65	**53.147**	**ug/L**	0.798	69465	0.076
	Zn	66	**53.924**	**ug/L**	2.485	53149	0.130
	Zn	67		**ug/L**		55627	0.100
	Zn	68		**ug/L**		41268	0.097
>	Ge	74		**ug/L**		405884	405884.112
	As	75	**52.389**	**ug/L**	1.961	61662	0.151
	Se	77		**ug/L**		25537	0.044
	Se	82	**53.351**	**ug/L**	0.507	5101	0.013
	Kr	83		**ug/L**		231	0.000
	Sr	88	**52.751**	**ug/L**	0.751	634948	2.388
	Y	89		**ug/L**		247	0.000
	Zr	90	**49.506**	**ug/L**	3.215	338306	1.264
	Mo	98	**52.291**	**ug/L**	2.868	165013	0.621
	Ag	107	**52.859**	**ug/L**	1.457	278369	1.047
	Cd	111	**51.680**	**ug/L**	2.071	65984	0.248
	Cd	114		**ug/L**		160035	0.602
>	In	115		**ug/L**		265717	265716.575
	Sn	120	**52.199**	**ug/L**	1.758	271628	1.021
	Sb	121	**55.221**	**ug/L**	2.066	274124	1.029
	Sb	123		**ug/L**		207966	0.781
	Ba	135		**ug/L**		64035	0.194
	Ba	137	**54.502**	**ug/L**	2.406	112282	0.339
	Ho	165		**ug/L**		22	0.000
>	Ta	181		**ug/L**		330464	330463.744
	Tl	205	**50.691**	**ug/L**	1.758	637253	1.926
	Pb	208	**53.985**	**ug/L**	1.015	756174	2.287
	Bi	209		**ug/L**		100	0.000
	Th	232	**51.812**	**ug/L**	2.801	746577	2.250
	U	238	**54.237**	**ug/L**	0.514	761272	2.302

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			102.2		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			106.7		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			101.7		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181			99.0		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: 161214001
Sample Date/Time: Thursday, May 11, 2006 00:15:26
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\161214001.273

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**21.326**	**ug/L**	0.716	18657	0.019
	Be	9	**-0.020**	**ug/L**	19.242	17	-0.000
	B	11	**15.612**	**ug/L**	8.962	4134	0.004
	Na	23	**12774.542**	**ug/L**	7.838	24737003	25.382
	Mg	24	**4051.203**	**ug/L**	2.434	7204014	7.392
	Al	27	**9.483**	**ug/L**	10.662	36380	0.026
	P	31	**6.088**	**ug/L**	24.134	10440	0.001
	K	39	**1794.253**	**ug/L**	5.058	9065416	8.214
	Ca	43	**11028.254**	**ug/L**	0.126	104061	0.106
>	Sc	45		**ug/L**		973723	973722.676
	Ti	47	**5.174**	**ug/L**	0.866	2759	0.003
	V	51	**3.942**	**ug/L**	29.444	27600	0.019
	Cr	52	**4.456**	**ug/L**	4.266	20343	0.021
	Cr	53		**ug/L**		505354	0.298
	Mn	55	**7.291**	**ug/L**	2.071	56677	0.056
	Fe	57	**50.497**	**ug/L**	1.125	21238	0.008
	Co	59	**4.434**	**ug/L**	1.282	25237	0.026
	Ni	60	**1.455**	**ug/L**	1.471	1826	0.002
	Cu	63		**ug/L**		4779	0.005
	Cu	65	**1.334**	**ug/L**	0.937	1978	0.002
	Zn	66	**9.429**	**ug/L**	1.350	9517	0.023
	Zn	67		**ug/L**		48742	0.083
	Zn	68		**ug/L**		10410	0.021
>	Ge	74		**ug/L**		403820	403820.459
	As	75	**2.250**	**ug/L**	49.412	3172	0.006
	Se	77		**ug/L**		26059	0.046
	Se	82	**0.107**	**ug/L**	129.677	-15	0.000
	Kr	83		**ug/L**		228	0.000
	Sr	88	**54.303**	**ug/L**	0.762	644859	2.458
	Y	89		**ug/L**		264	0.000
	Zr	90	**1.955**	**ug/L**	34.889	15581	0.050
	Mo	98	**2.033**	**ug/L**	1.422	6478	0.024
	Ag	107	**0.005**	**ug/L**	66.065	107	0.000
	Cd	111	**-0.001**	**ug/L**	707.282	23	-0.000
	Cd	114		**ug/L**		48	-0.000
>	In	115		**ug/L**		262152	262152.346
	Sn	120	**0.158**	**ug/L**	12.174	1166	0.003
	Sb	121	**0.718**	**ug/L**	5.206	4212	0.013
	Sb	123		**ug/L**		3163	0.010
	Ba	135		**ug/L**		19396	0.059
	Ba	137	**16.697**	**ug/L**	1.086	34200	0.104
	Ho	165		**ug/L**		28	0.000
>	Ta	181		**ug/L**		327685	327685.228
	Tl	205	**0.491**	**ug/L**	35.735	6722	0.019
	Pb	208	**0.083**	**ug/L**	4.153	1757	0.004
	Bi	209		**ug/L**		72	0.000
	Th	232	**1.096**	**ug/L**	48.653	18385	0.048
	U	238	**0.732**	**ug/L**	1.252	10712	0.031

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		109.6			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		106.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		100.3			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		98.2			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: 161214002
Sample Date/Time: Thursday, May 11, 2006 00:19:46
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\161214002.274

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**27.202**	**ug/L**	0.658	23234	0.024
	Be	9	**-0.014**	**ug/L**	155.251	18	-0.000
	B	11	**30.516**	**ug/L**	3.017	7226	0.007
	Na	23	**12564.203**	**ug/L**	7.070	23779442	24.964
	Mg	24	**5807.863**	**ug/L**	4.149	10094712	10.597
	Al	27	**1.505**	**ug/L**	120.173	14341	0.004
	P	31	**-13.713**	**ug/L**	7.288	6770	-0.002
	K	39	**1441.525**	**ug/L**	1.293	7325470	6.600
	Ca	43	**20755.176**	**ug/L**	2.323	190938	0.200
>	Sc	45		**ug/L**		951900	951899.798
	Ti	47	**5.392**	**ug/L**	2.548	2800	0.003
	V	51	**-0.762**	**ug/L**	307.477	5760	-0.004
	Cr	52	**28.104**	**ug/L**	3.492	125275	0.132
	Cr	53		**ug/L**		526297	0.332
	Mn	55	**3.128**	**ug/L**	1.110	25042	0.024
	Fe	57	**84.433**	**ug/L**	4.030	25648	0.013
	Co	59	**1.879**	**ug/L**	3.756	10525	0.011
	Ni	60	**1.036**	**ug/L**	1.017	1294	0.001
	Cu	63		**ug/L**		9450	0.010
	Cu	65	**3.143**	**ug/L**	1.744	4408	0.005
	Zn	66	**10.427**	**ug/L**	1.413	10275	0.025
	Zn	67		**ug/L**		49699	0.088
	Zn	68		**ug/L**		11481	0.025
>	Ge	74		**ug/L**		395563	395562.901
	As	75	**1.655**	**ug/L**	40.421	2428	0.005
	Se	77		**ug/L**		28310	0.053
	Se	82	**0.767**	**ug/L**	30.651	47	0.000
	Kr	83		**ug/L**		222	0.000
	Sr	88	**89.033**	**ug/L**	0.822	1035255	4.030
	Y	89		**ug/L**		224	0.000
	Zr	90	**0.597**	**ug/L**	22.570	6358	0.015
	Mo	98	**1.942**	**ug/L**	1.526	6065	0.023
	Ag	107	**-0.004**	**ug/L**	35.289	59	-0.000
	Cd	111	**-0.008**	**ug/L**	156.398	14	-0.000
	Cd	114		**ug/L**		40	-0.000
>	In	115		**ug/L**		256752	256752.110
	Sn	120	**0.101**	**ug/L**	1.746	856	0.002
	Sb	121	**0.372**	**ug/L**	5.036	2467	0.007
	Sb	123		**ug/L**		1940	0.005
	Ba	135		**ug/L**		45152	0.138
	Ba	137	**38.683**	**ug/L**	2.235	78833	0.241
	Ho	165		**ug/L**		19	-0.000
>	Ta	181		**ug/L**		326701	326701.403
	Tl	205	**0.133**	**ug/L**	8.238	2252	0.005
	Pb	208	**0.210**	**ug/L**	3.314	3502	0.009
	Bi	209		**ug/L**		69	0.000
	Th	232	**0.193**	**ug/L**	18.624	5507	0.008
	U	238	**0.711**	**ug/L**	3.067	10386	0.030

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		107.1			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		104.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		98.3			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		97.9			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: 161214003
Sample Date/Time: Thursday, May 11, 2006 00:24:06
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\161214003.275

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**35.595**	**ug/L**	0.730	29038	0.032
	Be	9	**-0.024**	**ug/L**	56.825	15	-0.000
	B	11	**26.488**	**ug/L**	1.821	6086	0.006
	Na	23	**14734.483**	**ug/L**	1.965	26652126	29.277
	Mg	24	**9279.590**	**ug/L**	4.150	15416162	16.932
	Al	27	**0.691**	**ug/L**	278.894	11672	0.002
	P	31	**-15.887**	**ug/L**	5.874	6112	-0.003
	K	39	**1764.714**	**ug/L**	2.574	8351743	8.079
	Ca	43	**36146.980**	**ug/L**	1.459	317592	0.348
>	Sc	45		**ug/L**		910141	910140.837
	Ti	47	**5.353**	**ug/L**	0.566	2660	0.003
	V	51	**-55.349**	**ug/L**	8.613	-229298	-0.261
	Cr	52	**412.530**	**ug/L**	1.813	1757925	1.932
	Cr	53		**ug/L**		643998	0.487
	Mn	55	**1.004**	**ug/L**	3.255	9133	0.008
	Fe	57	**158.721**	**ug/L**	4.564	34747	0.024
	Co	59	**0.200**	**ug/L**	1.920	1186	0.001
	Ni	60	**6.932**	**ug/L**	1.219	7835	0.009
	Cu	63		**ug/L**		4350	0.005
	Cu	65	**1.520**	**ug/L**	2.350	2093	0.002
	Zn	66	**4.379**	**ug/L**	1.466	4365	0.011
	Zn	67		**ug/L**		39760	0.066
	Zn	68		**ug/L**		7257	0.014
>	Ge	74		**ug/L**		383668	383668.337
	As	75	**1.986**	**ug/L**	31.842	2721	0.006
	Se	77		**ug/L**		22829	0.041
	Se	82	**0.471**	**ug/L**	58.833	19	0.000
	Kr	83		**ug/L**		221	0.000
	Sr	88	**150.522**	**ug/L**	0.426	1709952	6.814
	Y	89		**ug/L**		257	0.000
	Zr	90	**0.027**	**ug/L**	62.630	2567	0.001
	Mo	98	**0.836**	**ug/L**	2.556	2635	0.010
	Ag	107	**-0.006**	**ug/L**	23.814	47	-0.000
	Cd	111	**0.003**	**ug/L**	247.464	26	0.000
	Cd	114		**ug/L**		57	-0.000
>	In	115		**ug/L**		250894	250893.567
	Sn	120	**0.069**	**ug/L**	10.950	678	0.001
	Sb	121	**0.168**	**ug/L**	4.402	1457	0.003
	Sb	123		**ug/L**		1188	0.003
	Ba	135		**ug/L**		69040	0.209
	Ba	137	**58.592**	**ug/L**	1.265	120428	0.365
	Ho	165		**ug/L**		26	0.000
>	Ta	181		**ug/L**		329663	329662.992
	Tl	205	**0.065**	**ug/L**	3.280	1415	0.002
	Pb	208	**0.037**	**ug/L**	7.713	1119	0.002
	Bi	209		**ug/L**		58	0.000
	Th	232	**0.006**	**ug/L**	26.632	2881	0.000
	U	238	**1.042**	**ug/L**	1.783	15102	0.044

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		102.4			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		100.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		96.0			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		98.8			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	V	51	Sample is out of limits (<-PQL)

QC Action

QC Action Line: Continue

ICPMS#3 - Summary Report

Sample ID: 161214004
Sample Date/Time: Thursday, May 11, 2006 00:28:27
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\161214004.276

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**34.339**	**ug/L**	0.627	28519	0.031
	Be	9	**-0.020**	**ug/L**	102.342	16	-0.000
	B	11	**25.474**	**ug/L**	0.670	5985	0.006
	Na	23	**14734.506**	**ug/L**	7.457	27130907	29.277
	Mg	24	**9374.044**	**ug/L**	2.543	15852040	17.104
	Al	27	**0.097**	**ug/L**	906.340	10337	0.000
	P	31	**-15.428**	**ug/L**	4.438	6300	-0.003
	K	39	**1715.742**	**ug/L**	6.139	8292762	7.855
	Ca	43	**35498.139**	**ug/L**	1.558	317457	0.342
>	Sc	45		**ug/L**		926442	926442.438
	Ti	47	**5.467**	**ug/L**	1.635	2760	0.003
	V	51	**-57.726**	**ug/L**	9.355	-243772	-0.273
	Cr	52	**404.891**	**ug/L**	3.102	1756306	1.896
	Cr	53		**ug/L**		715128	0.551
	Mn	55	**3.513**	**ug/L**	0.395	27105	0.027
	Fe	57	**165.139**	**ug/L**	3.482	36276	0.025
	Co	59	**1.719**	**ug/L**	2.275	9386	0.010
	Ni	60	**7.137**	**ug/L**	2.659	8207	0.009
	Cu	63		**ug/L**		5274	0.005
	Cu	65	**1.853**	**ug/L**	2.528	2573	0.003
	Zn	66	**4.293**	**ug/L**	1.488	4379	0.010
	Zn	67		**ug/L**		49908	0.090
	Zn	68		**ug/L**		7829	0.015
>	Ge	74		**ug/L**		392056	392055.670
	As	75	**1.814**	**ug/L**	27.257	2587	0.005
	Se	77		**ug/L**		27239	0.051
	Se	82	**0.120**	**ug/L**	178.309	-13	0.000
	Kr	83		**ug/L**		257	0.000
	Sr	88	**148.630**	**ug/L**	0.321	1704308	6.728
	Y	89		**ug/L**		237	0.000
	Zr	90	**-0.033**	**ug/L**	49.725	2201	-0.001
	Mo	98	**0.828**	**ug/L**	1.204	2635	0.010
	Ag	107	**-0.006**	**ug/L**	20.309	48	-0.000
	Cd	111	**-0.002**	**ug/L**	425.817	21	-0.000
	Cd	114		**ug/L**		52	-0.000
>	In	115		**ug/L**		253253	253253.283
	Sn	120	**0.073**	**ug/L**	7.275	706	0.001
	Sb	121	**0.248**	**ug/L**	4.968	1852	0.005
	Sb	123		**ug/L**		1532	0.004
	Ba	135		**ug/L**		68224	0.208
	Ba	137	**58.509**	**ug/L**	1.584	119765	0.364
	Ho	165		**ug/L**		25	0.000
>	Ta	181		**ug/L**		328310	328310.091
	Tl	205	**0.034**	**ug/L**	1.441	1030	0.001
	Pb	208	**0.036**	**ug/L**	2.933	1102	0.002
	Bi	209		**ug/L**		43	-0.000
	Th	232	**-0.017**	**ug/L**	38.116	2537	-0.001
	U	238	**1.022**	**ug/L**	2.938	14770	0.043

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		104.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		103.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		96.9			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		98.4			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	V	51	Sample is out of limits (<-PQL)

QC Action

QC Action Line: Continue

ICPMS#3 - Summary Report

Sample ID: 161214005
Sample Date/Time: Thursday, May 11, 2006 00:32:48
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\161214005.277

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**22.929**	**ug/L**	0.626	19353	0.020
	Be	9	**-0.019**	**ug/L**	12.550	17	-0.000
	B	11	**12.349**	**ug/L**	2.133	3301	0.003
	Na	23	**12983.630**	**ug/L**	3.330	24258222	25.798
	Mg	24	**3891.673**	**ug/L**	4.621	6677217	7.101
	Al	27	**25.272**	**ug/L**	8.870	76538	0.071
	P	31	**7.519**	**ug/L**	18.508	10318	0.001
	K	39	**1756.807**	**ug/L**	4.837	8590617	8.043
	Ca	43	**11245.067**	**ug/L**	2.197	102405	0.108
>	Sc	45		**ug/L**		939786	939786.228
	Ti	47	**5.878**	**ug/L**	1.996	2991	0.003
	V	51	**3.888**	**ug/L**	11.701	26382	0.018
	Cr	52	**5.260**	**ug/L**	0.189	23171	0.025
	Cr	53		**ug/L**		524056	0.337
	Mn	55	**0.605**	**ug/L**	1.236	6556	0.005
	Fe	57	**81.626**	**ug/L**	3.088	24924	0.012
	Co	59	**0.044**	**ug/L**	7.476	370	0.000
	Ni	60	**0.796**	**ug/L**	1.612	1000	0.001
	Cu	63		**ug/L**		15461	0.016
	Cu	65	**5.169**	**ug/L**	0.573	7087	0.007
	Zn	66	**22.210**	**ug/L**	0.862	21377	0.054
	Zn	67		**ug/L**		53622	0.099
	Zn	68		**ug/L**		19213	0.044
>	Ge	74		**ug/L**		392868	392867.682
	As	75	**1.880**	**ug/L**	19.470	2669	0.005
	Se	77		**ug/L**		28720	0.054
	Se	82	**0.001**	**ug/L**	11181.288	-24	0.000
	Kr	83		**ug/L**		236	0.000
	Sr	88	**56.979**	**ug/L**	0.969	659788	2.579
	Y	89		**ug/L**		462	0.001
	Zr	90	**-0.147**	**ug/L**	3.588	1480	-0.004
	Mo	98	**2.122**	**ug/L**	0.906	6585	0.025
	Ag	107	**-0.006**	**ug/L**	14.551	51	-0.000
	Cd	111	**-0.005**	**ug/L**	178.698	17	-0.000
	Cd	114		**ug/L**		44	-0.000
>	In	115		**ug/L**		255630	255629.976
	Sn	120	**0.094**	**ug/L**	1.705	819	0.002
	Sb	121	**0.206**	**ug/L**	0.619	1667	0.004
	Sb	123		**ug/L**		1298	0.003
	Ba	135		**ug/L**		19615	0.060
	Ba	137	**17.027**	**ug/L**	2.317	34522	0.106
	Ho	165		**ug/L**		33	0.000
>	Ta	181		**ug/L**		324444	324444.365
	Tl	205	**0.017**	**ug/L**	19.804	811	0.001
	Pb	208	**0.117**	**ug/L**	4.588	2202	0.005
	Bi	209		**ug/L**		102	0.000
	Th	232	**-0.046**	**ug/L**	3.630	2109	-0.002
	U	238	**0.787**	**ug/L**	1.794	11361	0.033

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		105.8			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		103.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		97.8			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		97.2			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: 161214006
Sample Date/Time: Thursday, May 11, 2006 00:37:08
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\161214006.278

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**27.774**	ug/L	1.636	23783	0.025
	Be	9	**-0.026**	ug/L	25.249	15	-0.000
	B	11	**30.550**	ug/L	4.832	7249	0.007
	Na	23	**11686.350**	ug/L	4.877	22183506	23.220
	Mg	24	**5942.871**	ug/L	4.361	10351425	10.844
	Al	27	**4.333**	ug/L	49.419	22018	0.012
	P	31	**-13.198**	ug/L	10.124	6875	-0.002
	K	39	**1479.433**	ug/L	1.985	7511261	6.773
	Ca	43	**20851.216**	ug/L	1.232	192392	0.201
>	Sc	45		ug/L		954676	954676.282
	Ti	47	**5.519**	ug/L	3.285	2867	0.003
	V	51	**0.782**	ug/L	343.726	12779	0.004
	Cr	52	**25.172**	ug/L	3.748	112490	0.118
	Cr	53		ug/L		555167	0.361
	Mn	55	**0.520**	ug/L	4.999	6040	0.004
	Fe	57	**99.237**	ug/L	6.926	27844	0.015
	Co	59	**0.047**	ug/L	5.650	393	0.000
	Ni	60	**0.780**	ug/L	5.320	997	0.001
	Cu	63		ug/L		92958	0.097
	Cu	65	**32.117**	ug/L	2.311	44143	0.046
	Zn	66	**18.225**	ug/L	1.848	17950	0.044
	Zn	67		ug/L		55126	0.100
	Zn	68		ug/L		17119	0.038
>	Ge	74		ug/L		400725	400725.039
	As	75	**2.346**	ug/L	7.733	3256	0.007
	Se	77		ug/L		31902	0.061
	Se	82	**0.735**	ug/L	18.735	45	0.000
	Kr	83		ug/L		242	0.000
	Sr	88	**90.978**	ug/L	1.227	1064144	4.118
	Y	89		ug/L		402	0.001
	Zr	90	**-0.117**	ug/L	4.278	1688	-0.003
	Mo	98	**1.924**	ug/L	1.478	6047	0.023
	Ag	107	**-0.007**	ug/L	21.884	44	-0.000
	Cd	111	**-0.021**	ug/L	39.821	-2	-0.000
	Cd	114		ug/L		41	-0.000
>	In	115		ug/L		258281	258281.043
	Sn	120	**0.074**	ug/L	7.258	723	0.001
	Sb	121	**0.140**	ug/L	4.716	1366	0.003
	Sb	123		ug/L		1115	0.002
	Ba	135		ug/L		45847	0.139
	Ba	137	**38.834**	ug/L	2.028	79827	0.242
	Ho	165		ug/L		35	0.000
>	Ta	181		ug/L		329524	329523.874
	Tl	205	**0.010**	ug/L	46.734	736	0.000
	Pb	208	**0.261**	ug/L	0.415	4248	0.011
	Bi	209		ug/L		76	0.000
	Th	232	**-0.069**	ug/L	2.808	1811	-0.003
	U	238	**0.725**	ug/L	0.058	10670	0.031

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		107.4			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		105.4			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		98.8			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		98.7			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Thursday, May 11, 2006 00:41:26
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 6.279

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**52.183**	**ug/L**	1.059	42592	0.047
	Be	9	**51.495**	**ug/L**	1.445	14247	0.016
	B	11	**107.649**	**ug/L**	2.197	22712	0.024
	Na	23	**5258.593**	**ug/L**	1.461	9535716	10.449
	Mg	24	**5531.092**	**ug/L**	4.238	9206912	10.092
	Al	27	**5263.659**	**ug/L**	3.612	13416687	14.704
	P	31	**5182.192**	**ug/L**	2.411	869480	0.944
	K	39	**5367.650**	**ug/L**	3.700	23403755	24.574
	Ca	43	**5228.241**	**ug/L**	2.959	46474	0.050
>	Sc	45		**ug/L**		911691	911691.415
	Ti	47	**50.761**	**ug/L**	2.286	23188	0.025
	V	51	**52.538**	**ug/L**	1.922	235139	0.248
	Cr	52	**51.445**	**ug/L**	0.749	219650	0.241
	Cr	53		**ug/L**		307807	0.117
	Mn	55	**53.073**	**ug/L**	1.771	372858	0.407
	Fe	57	**5293.509**	**ug/L**	1.102	742998	0.801
	Co	59	**51.833**	**ug/L**	0.505	274839	0.301
	Ni	60	**53.249**	**ug/L**	0.807	59764	0.065
	Cu	63		**ug/L**		142174	0.156
	Cu	65	**51.076**	**ug/L**	0.466	67003	0.073
	Zn	66	**53.398**	**ug/L**	2.433	50551	0.129
	Zn	67		**ug/L**		28847	0.037
	Zn	68		**ug/L**		37627	0.092
>	Ge	74		**ug/L**		389861	389861.360
	As	75	**51.451**	**ug/L**	3.213	58161	0.148
	Se	77		**ug/L**		14936	0.019
	Se	82	**51.660**	**ug/L**	2.490	4743	0.012
	Kr	83		**ug/L**		245	0.000
	Sr	88	**53.393**	**ug/L**	1.462	635902	2.417
	Y	89		**ug/L**		191	0.000
	Zr	90	**50.377**	**ug/L**	2.165	340640	1.286
	Mo	98	**51.891**	**ug/L**	1.134	162080	0.616
	Ag	107	**53.321**	**ug/L**	1.862	277879	1.057
	Cd	111	**51.148**	**ug/L**	1.470	64628	0.246
	Cd	114		**ug/L**		157255	0.598
>	In	115		**ug/L**		262939	262939.494
	Sn	120	**51.835**	**ug/L**	1.626	266924	1.014
	Sb	121	**50.897**	**ug/L**	2.480	250088	0.949
	Sb	123		**ug/L**		192185	0.729
	Ba	135		**ug/L**		64254	0.190
	Ba	137	**53.233**	**ug/L**	2.214	112291	0.332
	Ho	165		**ug/L**		21	0.000
>	Ta	181		**ug/L**		338384	338383.520
	Tl	205	**51.675**	**ug/L**	2.375	664856	1.964
	Pb	208	**54.289**	**ug/L**	2.737	778459	2.299
	Bi	209		**ug/L**		65	0.000
	Th	232	**52.133**	**ug/L**	4.431	768652	2.264
	U	238	**54.310**	**ug/L**	2.226	780360	2.305

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	104.366				
	Be	9	102.990				
	B	11	107.649				
	Na	23	105.172				
	Mg	24	110.622				
	Al	27	104.231				
	P	31	103.644				
	K	39	107.353				
	Ca	43	104.565				
>	Sc	45		102.6			
	Ti	47	101.521				
	V	51	105.077				
	Cr	52	102.890				
	Cr	53					
	Mn	55	106.145				
	Fe	57	105.870				
	Co	59	103.666				
	Ni	60	106.498				
	Cu	63					
	Cu	65	102.152				
	Zn	66	106.797				
	Zn	67					
	Zn	68					
>	Ge	74		102.5			
	As	75	102.902				
	Se	77					
	Se	82	103.320				
	Kr	83					
	Sr	88	106.786				
	Y	89					
	Zr	90	100.754				
	Mo	98	103.781				
	Ag	107	106.642				
	Cd	111	102.296				
	Cd	114					
>	In	115		100.6			
	Sn	120	103.670				
	Sb	121	101.795				
	Sb	123					
	Ba	135					
	Ba	137	106.466				
	Ho	165					
>	Ta	181		101.4			
	Tl	205	103.350				
	Pb	208	108.579				
	Bi	209					
	Th	232	104.265				
	U	238	108.620				

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 6	Mg	24CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#3 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Thursday, May 11, 2006 00:45:44
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 7.280

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.019**	**ug/L**	40.464	119	0.000
	Be	9	**0.001**	**ug/L**	1933.081	21	0.000
	B	11	**4.173**	**ug/L**	33.660	1496	0.001
	Na	23	**1.847**	**ug/L**	89.808	12673	0.004
	Mg	24	**-0.432**	**ug/L**	289.346	4668	-0.001
	Al	27	**-0.286**	**ug/L**	279.699	9003	-0.001
	P	31	**0.322**	**ug/L**	458.354	8631	0.000
	K	39	**-4.886**	**ug/L**	334.360	958176	-0.022
	Ca	43	**11.731**	**ug/L**	38.697	628	0.000
>	Sc	45		**ug/L**		892763	892763.228
	Ti	47	**0.171**	**ug/L**	44.361	315	0.000
	V	51	**0.023**	**ug/L**	2021.208	8741	0.000
	Cr	52	**0.003**	**ug/L**	1669.808	39	0.000
	Cr	53		**ug/L**		234284	0.041
	Mn	55	**0.045**	**ug/L**	12.536	2401	0.000
	Fe	57	**-4.351**	**ug/L**	43.896	12064	-0.001
	Co	59	**0.020**	**ug/L**	15.300	228	0.000
	Ni	60	**0.008**	**ug/L**	199.983	86	0.000
	Cu	63		**ug/L**		185	0.000
	Cu	65	**0.011**	**ug/L**	61.197	118	0.000
	Zn	66	**0.025**	**ug/L**	39.392	332	0.000
	Zn	67		**ug/L**		17645	0.009
	Zn	68		**ug/L**		2066	0.001
>	Ge	74		**ug/L**		382565	382565.313
	As	75	**0.492**	**ug/L**	42.095	1070	0.001
	Se	77		**ug/L**		9544	0.006
	Se	82	**0.023**	**ug/L**	933.940	-22	0.000
	Kr	83		**ug/L**		202	-0.000
	Sr	88	**0.008**	**ug/L**	42.922	544	0.000
	Y	89		**ug/L**		145	-0.000
	Zr	90	**0.282**	**ug/L**	23.656	4343	0.007
	Mo	98	**0.067**	**ug/L**	37.182	355	0.001
	Ag	107	**0.009**	**ug/L**	53.584	127	0.000
	Cd	111	**0.009**	**ug/L**	137.641	36	0.000
	Cd	114		**ug/L**		75	0.000
>	In	115		**ug/L**		259650	259650.185
	Sn	120	**0.099**	**ug/L**	33.714	857	0.002
	Sb	121	**0.549**	**ug/L**	53.664	3349	0.010
	Sb	123		**ug/L**		2553	0.008
	Ba	135		**ug/L**		80	0.000
	Ba	137	**-0.007**	**ug/L**	78.197	108	-0.000
	Ho	165		**ug/L**		13	-0.000
>	Ta	181		**ug/L**		326643	326642.681
	Tl	205	**0.124**	**ug/L**	36.821	2131	0.005
	Pb	208	**0.008**	**ug/L**	33.935	718	0.000
	Bi	209		**ug/L**		53	0.000
	Th	232	**1.030**	**ug/L**	48.111	17330	0.045
	U	238	**0.015**	**ug/L**	55.976	727	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		100.5			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		100.6			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		99.4			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		97.9			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 7	Th	232CCB is out of limts (+/- PQL)

QC Action

QC Action Line: Continue

ICPMS#3 - Summary Report

Sample ID: 161214007
Sample Date/Time: Thursday, May 11, 2006 00:50:04
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\161214007.281

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**33.020**	ug/L	0.931	29045	0.029
	Be	9	**-0.043**	ug/L	19.764	10	-0.000
	B	11	**25.107**	ug/L	2.056	6258	0.006
	Na	23	**15300.671**	ug/L	4.228	29843997	30.402
	Mg	24	**9434.461**	ug/L	6.042	16892263	17.215
	Al	27	**-0.370**	ug/L	143.147	9670	-0.001
	P	31	**-13.248**	ug/L	3.283	7061	-0.002
	K	39	**1758.217**	ug/L	3.077	8973995	8.049
	Ca	43	**36228.006**	ug/L	0.824	343115	0.349
>	Sc	45		ug/L		981152	981151.698
	Ti	47	**5.545**	ug/L	2.193	2961	0.003
	V	51	**-55.290**	ug/L	1.245	-246760	-0.261
	Cr	52	**397.757**	ug/L	1.666	1827351	1.863
	Cr	53		ug/L		695928	0.488
	Mn	55	**1.317**	ug/L	3.444	12199	0.010
	Fe	57	**245.243**	ug/L	0.544	50306	0.037
	Co	59	**0.094**	ug/L	2.861	670	0.001
	Ni	60	**6.851**	ug/L	3.476	8347	0.008
	Cu	63		ug/L		5779	0.006
	Cu	65	**1.841**	ug/L	1.771	2709	0.003
	Zn	66	**8.611**	ug/L	0.865	8647	0.021
	Zn	67		ug/L		45926	0.077
	Zn	68		ug/L		10497	0.022
>	Ge	74		ug/L		400441	400440.905
	As	75	**1.614**	ug/L	45.835	2408	0.005
	Se	77		ug/L		27226	0.049
	Se	82	**0.361**	ug/L	98.146	9	0.000
	Kr	83		ug/L		232	0.000
	Sr	88	**150.786**	ug/L	0.424	1807329	6.826
	Y	89		ug/L		272	0.000
	Zr	90	**0.588**	ug/L	34.677	6488	0.015
	Mo	98	**0.835**	ug/L	3.676	2776	0.010
	Ag	107	**-0.004**	ug/L	47.420	59	-0.000
	Cd	111	**-0.006**	ug/L	90.500	16	-0.000
	Cd	114		ug/L		63	-0.000
>	In	115		ug/L		264713	264713.246
	Sn	120	**0.148**	ug/L	2.457	1125	0.003
	Sb	121	**0.201**	ug/L	18.993	1699	0.004
	Sb	123		ug/L		1371	0.003
	Ba	135		ug/L		71214	0.214
	Ba	137	**60.079**	ug/L	1.509	124268	0.374
	Ho	165		ug/L		18	-0.000
>	Ta	181		ug/L		331733	331733.124
	Tl	205	**0.013**	ug/L	7.334	771	0.000
	Pb	208	**0.096**	ug/L	2.551	1957	0.004
	Bi	209		ug/L		63	0.000
	Th	232	**0.130**	ug/L	29.918	4693	0.006
	U	238	**1.039**	ug/L	1.581	15164	0.044

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		110.4			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		105.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		101.3			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		99.4			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	V	51	Sample is out of limits (<-PQL)

QC Action

QC Action Line: Continue

ICPMS#3 - Summary Report

Sample ID: 161214008
Sample Date/Time: Thursday, May 11, 2006 00:54:23
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\161214008.282

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**31.982**	**ug/L**	1.679	28513	0.029
	Be	9	**-0.022**	**ug/L**	24.760	17	-0.000
	B	11	**24.133**	**ug/L**	2.694	6123	0.005
	Na	23	**14855.835**	**ug/L**	1.045	29365217	29.518
	Mg	24	**9880.061**	**ug/L**	3.251	17932486	18.028
	Al	27	**1.272**	**ug/L**	103.116	14341	0.004
	P	31	**-15.342**	**ug/L**	6.732	6775	-0.003
	K	39	**1701.601**	**ug/L**	10.121	8823593	7.790
	Ca	43	**35959.965**	**ug/L**	1.906	345190	0.347
>	Sc	45		**ug/L**		994564	994564.362
	Ti	47	**5.453**	**ug/L**	3.024	2954	0.003
	V	51	**-57.191**	**ug/L**	1.590	-259122	-0.270
	Cr	52	**391.887**	**ug/L**	2.758	1824168	1.835
	Cr	53		**ug/L**		761616	0.545
	Mn	55	**1.629**	**ug/L**	4.921	14734	0.012
	Fe	57	**286.056**	**ug/L**	5.311	57094	0.043
	Co	59	**0.099**	**ug/L**	7.665	710	0.001
	Ni	60	**7.191**	**ug/L**	3.945	8873	0.009
	Cu	63		**ug/L**		6399	0.006
	Cu	65	**2.058**	**ug/L**	3.688	3054	0.003
	Zn	66	**8.775**	**ug/L**	2.221	8886	0.021
	Zn	67		**ug/L**		53301	0.095
	Zn	68		**ug/L**		11248	0.023
>	Ge	74		**ug/L**		404150	404149.550
	As	75	**1.153**	**ug/L**	69.821	1897	0.003
	Se	77		**ug/L**		29487	0.054
	Se	82	**0.378**	**ug/L**	87.321	11	0.000
	Kr	83		**ug/L**		260	0.000
	Sr	88	**150.107**	**ug/L**	0.915	1799044	6.795
	Y	89		**ug/L**		255	0.000
	Zr	90	**0.023**	**ug/L**	66.243	2676	0.001
	Mo	98	**0.815**	**ug/L**	4.269	2712	0.010
	Ag	107	**-0.006**	**ug/L**	2.947	52	-0.000
	Cd	111	**-0.001**	**ug/L**	469.422	23	-0.000
	Cd	114		**ug/L**		61	-0.000
>	In	115		**ug/L**		264702	264701.893
	Sn	120	**0.069**	**ug/L**	8.299	717	0.001
	Sb	121	**0.131**	**ug/L**	8.637	1355	0.002
	Sb	123		**ug/L**		1104	0.002
	Ba	135		**ug/L**		71085	0.216
	Ba	137	**60.657**	**ug/L**	0.939	124059	0.378
	Ho	165		**ug/L**		23	0.000
>	Ta	181		**ug/L**		328037	328036.783
	Tl	205	**0.002**	**ug/L**	184.241	629	0.000
	Pb	208	**0.140**	**ug/L**	1.977	2543	0.006
	Bi	209		**ug/L**		111	0.000
	Th	232	**-0.010**	**ug/L**	84.443	2643	-0.000
	U	238	**1.021**	**ug/L**	0.931	14740	0.043

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		111.9			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		106.3			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		101.3			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		98.3			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	V	51	Sample is out of limits (<-PQL)

QC Action

QC Action Line: Continue

ICPMS#3 - Summary Report

Sample ID: 1201076751
Sample Date/Time: Thursday, May 11, 2006 01:03:04
Sample Type:
Sample Description: ESHL 6020 DUP
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\1201076751.284

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**5.035**	ug/L	1.763	4667	0.004
	Be	9	**-0.001**	ug/L	892.663	24	-0.000
	B	11	**11.267**	ug/L	4.559	3308	0.003
	Na	23	**21433.431**	ug/L	2.367	43090264	42.587
	Mg	24	**4068.465**	ug/L	4.619	7514209	7.424
	Al	27	**58.927**	ug/L	10.506	177434	0.165
	P	31	**-14.500**	ug/L	4.714	7050	-0.003
	K	39	**6362.122**	ug/L	2.216	30575874	29.127
	Ca	43	**21452.553**	ug/L	0.858	209753	0.207
>	Sc	45		ug/L		1011772	1011772.367
	Ti	47	**5.278**	ug/L	1.607	2919	0.003
	V	51	**-3.756**	ug/L	26.965	-8187	-0.018
	Cr	52	**0.332**	ug/L	26.055	1601	0.002
	Cr	53		ug/L		575018	0.347
	Mn	55	**105.801**	ug/L	2.872	822478	0.811
	Fe	57	**109.014**	ug/L	4.529	31024	0.016
	Co	59	**1.556**	ug/L	2.750	9289	0.009
	Ni	60	**0.820**	ug/L	1.010	1107	0.001
	Cu	63		ug/L		3215	0.003
	Cu	65	**0.849**	ug/L	2.475	1351	0.001
	Zn	66	**5.508**	ug/L	0.442	5785	0.013
	Zn	67		ug/L		53860	0.094
	Zn	68		ug/L		8889	0.017
>	Ge	74		ug/L		410190	410189.788
	As	75	**0.242**	ug/L	64.336	853	0.001
	Se	77		ug/L		32929	0.061
	Se	82	**-0.270**	ug/L	32.017	-52	-0.000
	Kr	83		ug/L		263	0.000
	Sr	88	**177.368**	ug/L	0.273	2136477	8.029
	Y	89		ug/L		3617	0.013
	Zr	90	**0.019**	ug/L	25.963	2669	0.000
	Mo	98	**1.519**	ug/L	2.204	4947	0.018
	Ag	107	**-0.008**	ug/L	11.122	43	-0.000
	Cd	111	**0.004**	ug/L	222.608	30	0.000
	Cd	114		ug/L		108	0.000
>	In	115		ug/L		266040	266039.713
	Sn	120	**0.118**	ug/L	5.574	974	0.002
	Sb	121	**0.101**	ug/L	13.303	1217	0.002
	Sb	123		ug/L		1015	0.002
	Ba	135		ug/L		50266	0.154
	Ba	137	**42.679**	ug/L	0.416	86718	0.266
	Ho	165		ug/L		146	0.000
>	Ta	181		ug/L		325756	325755.830
	Tl	205	**0.023**	ug/L	10.495	885	0.001
	Pb	208	**0.034**	ug/L	0.049	1064	0.001
	Bi	209		ug/L		70	0.000
	Th	232	**-0.060**	ug/L	3.985	1911	-0.003
	U	238	**3.342**	ug/L	1.051	46728	0.142

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		113.9			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		107.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		101.8			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		97.6			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: 1201076752
Sample Date/Time: Thursday, May 11, 2006 01:07:25
Sample Type:
Sample Description: ESHL 6020 MS
Number of Replicates: 3
Batch ID: 523147|1|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\1201076752.285

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**45.448**	ug/L	0.596	42758	0.041
	Be	9	**42.652**	ug/L	0.441	13601	0.013
	B	11	**103.407**	ug/L	2.732	25170	0.023
	Na	23	**27504.905**	ug/L	14.999	57453685	54.651
	Mg	24	**6173.451**	ug/L	4.785	11840896	11.264
	Al	27	**1992.312**	ug/L	3.883	5857910	5.566
	P	31	**1904.594**	ug/L	1.660	374582	0.347
	K	39	**8549.358**	ug/L	6.530	42277752	39.141
	Ca	43	**23517.000**	ug/L	1.903	238707	0.227
>	Sc	45		ug/L		1050495	1050495.021
	Ti	47	**45.753**	ug/L	0.271	24109	0.023
	V	51	**39.901**	ug/L	6.789	208230	0.189
	Cr	52	**45.240**	ug/L	1.556	222568	0.212
	Cr	53		ug/L		613038	0.362
	Mn	55	**150.391**	ug/L	0.696	1212983	1.152
	Fe	57	**1983.564**	ug/L	0.949	330131	0.300
	Co	59	**46.577**	ug/L	0.837	284589	0.271
	Ni	60	**46.926**	ug/L	0.707	60699	0.058
	Cu	63		ug/L		146451	0.139
	Cu	65	**45.856**	ug/L	1.717	69327	0.066
	Zn	66	**57.247**	ug/L	1.180	57043	0.138
	Zn	67		ug/L		61948	0.114
	Zn	68		ug/L		44315	0.103
>	Ge	74		ug/L		410440	410439.703
	As	75	**40.279**	ug/L	2.184	48083	0.116
	Se	77		ug/L		34534	0.065
	Se	82	**9.902**	ug/L	4.661	936	0.002
	Kr	83		ug/L		289	0.000
	Sr	88	**229.215**	ug/L	0.797	2834105	10.376
	Y	89		ug/L		3824	0.013
	Zr	90	**49.822**	ug/L	0.976	349895	1.272
	Mo	98	**50.770**	ug/L	1.353	164716	0.603
	Ag	107	**49.345**	ug/L	1.951	267088	0.978
	Cd	111	**5.120**	ug/L	2.509	6743	0.025
	Cd	114		ug/L		15790	0.058
>	In	115		ug/L		273110	273110.467
	Sn	120	**49.199**	ug/L	1.951	263161	0.962
	Sb	121	**103.256**	ug/L	1.137	526240	1.924
	Sb	123		ug/L		400824	1.466
	Ba	135		ug/L		113413	0.345
	Ba	137	**97.063**	ug/L	2.298	198687	0.605
	Ho	165		ug/L		153	0.000
>	Ta	181		ug/L		328441	328440.548
	Tl	205	**47.310**	ug/L	1.237	591045	1.798
	Pb	208	**20.363**	ug/L	0.591	283875	0.863
	Bi	209		ug/L		59	0.000
	Th	232	**47.770**	ug/L	1.975	684040	2.074
	U	238	**52.399**	ug/L	2.668	730875	2.224

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		118.2			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		107.9			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		104.5			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		98.4			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: 1201076753
Sample Date/Time: Thursday, May 11, 2006 01:11:47
Sample Type:
Sample Description: ESHL 6020 SDILT
Number of Replicates: 3
Batch ID: 523147|5|prb
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\1201076753.286

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**1.077**	ug/L	6.417	1025	0.001
	Be	9	**-0.014**	ug/L	54.791	18	-0.000
	B	11	**5.323**	ug/L	18.737	1839	0.001
	Na	23	**5020.827**	ug/L	3.768	9495817	9.976
	Mg	24	**778.749**	ug/L	3.475	1356870	1.421
	Al	27	**12.036**	ug/L	24.839	42398	0.034
	P	31	**-24.016**	ug/L	2.753	4979	-0.004
	K	39	**1336.017**	ug/L	7.823	6862467	6.117
	Ca	43	**4595.592**	ug/L	0.599	42685	0.044
>	Sc	45		ug/L		951158	951158.289
	Ti	47	**1.143**	ug/L	3.198	794	0.001
	V	51	**-0.296**	ug/L	379.411	7864	-0.001
	Cr	52	**-0.513**	ug/L	24.073	-2257	-0.002
	Cr	53		ug/L		353407	0.151
	Mn	55	**22.722**	ug/L	0.247	167821	0.174
	Fe	57	**14.615**	ug/L	14.507	15581	0.002
	Co	59	**0.331**	ug/L	1.892	1960	0.002
	Ni	60	**0.173**	ug/L	9.410	284	0.000
	Cu	63		ug/L		836	0.001
	Cu	65	**0.210**	ug/L	11.375	397	0.000
	Zn	66	**1.470**	ug/L	7.752	1706	0.004
	Zn	67		ug/L		26421	0.030
	Zn	68		ug/L		3854	0.005
>	Ge	74		ug/L		391831	391831.183
	As	75	**-0.132**	ug/L	336.814	392	-0.000
	Se	77		ug/L		16696	0.024
	Se	82	**-0.135**	ug/L	141.024	-37	-0.000
	Kr	83		ug/L		226	0.000
	Sr	88	**34.992**	ug/L	1.527	422305	1.584
	Y	89		ug/L		847	0.003
	Zr	90	**-0.211**	ug/L	10.476	1104	-0.005
	Mo	98	**0.330**	ug/L	9.801	1195	0.004
	Ag	107	**-0.006**	ug/L	28.010	53	-0.000
	Cd	111	**-0.010**	ug/L	32.575	11	-0.000
	Cd	114		ug/L		38	-0.000
>	In	115		ug/L		266341	266340.662
	Sn	120	**0.034**	ug/L	26.754	542	0.001
	Sb	121	**0.089**	ug/L	53.377	1159	0.002
	Sb	123		ug/L		896	0.001
	Ba	135		ug/L		9961	0.031
	Ba	137	**8.639**	ug/L	2.874	17542	0.054
	Ho	165		ug/L		45	0.000
>	Ta	181		ug/L		323801	323800.860
	Tl	205	**0.463**	ug/L	38.476	6291	0.018
	Pb	208	**-0.013**	ug/L	7.066	423	-0.001
	Bi	209		ug/L		65	0.000
	Th	232	**0.326**	ug/L	40.348	7331	0.014
	U	238	**0.658**	ug/L	2.622	9559	0.028

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		107.0			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		103.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		101.9			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		97.0			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#3 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Thursday, May 11, 2006 01:20:26
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 6.288

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**43.959**	**ug/L**	4.162	39788	0.039
	Be	9	**45.362**	**ug/L**	3.412	13916	0.014
	B	11	**95.807**	**ug/L**	4.862	22494	0.022
	Na	23	**5548.332**	**ug/L**	1.472	11161575	11.024
	Mg	24	**5481.758**	**ug/L**	1.562	10126801	10.002
	Al	27	**5249.247**	**ug/L**	0.977	14842121	14.664
	P	31	**5160.453**	**ug/L**	4.264	959752	0.940
	K	39	**5676.632**	**ug/L**	4.661	27367295	25.989
	Ca	43	**5204.214**	**ug/L**	2.858	51294	0.050
>	Sc	45		**ug/L**		1011589	1011589.393
	Ti	47	**49.156**	**ug/L**	2.420	24908	0.024
	V	51	**49.231**	**ug/L**	7.825	244771	0.233
	Cr	52	**49.245**	**ug/L**	5.479	232980	0.231
	Cr	53		**ug/L**		330898	0.107
	Mn	55	**50.779**	**ug/L**	3.602	395582	0.389
	Fe	57	**5027.638**	**ug/L**	5.055	782731	0.761
	Co	59	**49.203**	**ug/L**	4.567	289144	0.286
	Ni	60	**50.878**	**ug/L**	2.694	63320	0.063
	Cu	63		**ug/L**		152362	0.151
	Cu	65	**49.008**	**ug/L**	3.242	71279	0.070
	Zn	66	**54.207**	**ug/L**	2.916	52762	0.131
	Zn	67		**ug/L**		29905	0.037
	Zn	68		**ug/L**		39204	0.093
>	Ge	74		**ug/L**		400898	400897.799
	As	75	**51.910**	**ug/L**	0.913	60352	0.149
	Se	77		**ug/L**		16528	0.022
	Se	82	**53.083**	**ug/L**	1.921	5012	0.013
	Kr	83		**ug/L**		241	0.000
	Sr	88	**52.958**	**ug/L**	1.750	663829	2.397
	Y	89		**ug/L**		193	0.000
	Zr	90	**49.700**	**ug/L**	0.310	353720	1.269
	Mo	98	**50.960**	**ug/L**	2.384	167507	0.605
	Ag	107	**52.685**	**ug/L**	1.887	288953	1.044
	Cd	111	**51.065**	**ug/L**	2.732	67906	0.245
	Cd	114		**ug/L**		164185	0.593
>	In	115		**ug/L**		276754	276754.002
	Sn	120	**50.702**	**ug/L**	1.310	274814	0.992
	Sb	121	**49.790**	**ug/L**	0.611	257520	0.928
	Sb	123		**ug/L**		195619	0.705
	Ba	135		**ug/L**		65786	0.197
	Ba	137	**55.040**	**ug/L**	1.254	114379	0.343
	Ho	165		**ug/L**		24	0.000
>	Ta	181		**ug/L**		333278	333277.743
	Tl	205	**52.252**	**ug/L**	0.998	662318	1.985
	Pb	208	**54.557**	**ug/L**	0.664	770755	2.311
	Bi	209		**ug/L**		51	0.000
	Th	232	**51.080**	**ug/L**	2.525	742083	2.218
	U	238	**52.696**	**ug/L**	0.226	745974	2.237

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7	87.919				
	Be	9	90.724				
	B	11	95.807				
	Na	23	110.967				
	Mg	24	109.635				
	Al	27	103.945				
	P	31	103.209				
	K	39	113.533				
	Ca	43	104.084				
>	Sc	45		113.8			
	Ti	47	98.312				
	V	51	98.463				
	Cr	52	98.489				
	Cr	53					
	Mn	55	101.558				
	Fe	57	100.553				
	Co	59	98.406				
	Ni	60	101.756				
	Cu	63					
	Cu	65	98.016				
	Zn	66	108.413				
	Zn	67					
	Zn	68					
>	Ge	74		105.4			
	As	75	103.820				
	Se	77					
	Se	82	106.165				
	Kr	83					
	Sr	88	105.915				
	Y	89					
	Zr	90	99.399				
	Mo	98	101.920				
	Ag	107	105.370				
	Cd	111	102.129				
	Cd	114					
>	In	115		105.9			
	Sn	120	101.405				
	Sb	121	99.579				
	Sb	123					
	Ba	135					
	Ba	137	110.081				
	Ho	165					
>	Ta	181		99.8			
	Tl	205	104.505				
	Pb	208	109.114				
	Bi	209					
	Th	232	102.159				
	U	238	105.392				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	CCV is out of limits (+/- 10%)
QC Std 6	Na	23	CCV is out of limits (+/- 10%)
QC Std 6	K	39	CCV is out of limits (+/- 10%)
QC Std 6	Ba	137	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#3 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Thursday, May 11, 2006 01:24:45
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020 17.mth
Dataset File: C:\elandata\Dataset\060510\QC Std 7.289

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**-0.012**	ug/L	113.800	103	-0.000
	Be	9	**-0.017**	ug/L	87.454	18	-0.000
	B	11	**3.277**	ug/L	38.119	1439	0.001
	Na	23	**3.494**	ug/L	79.181	17011	0.007
	Mg	24	**1.024**	ug/L	255.321	7669	0.002
	Al	27	**-0.469**	ug/L	181.230	9337	-0.001
	P	31	**-0.530**	ug/L	108.088	9281	-0.000
	K	39	**-0.278**	ug/L	1878.237	1067820	-0.001
	Ca	43	**11.485**	ug/L	19.980	684	0.000
>	Sc	45		ug/L		975533	975532.944
	Ti	47	**0.185**	ug/L	16.987	352	0.000
	V	51	**-0.659**	ug/L	114.592	6411	-0.003
	Cr	52	**-0.137**	ug/L	60.610	-601	-0.001
	Cr	53		ug/L		255692	0.041
	Mn	55	**0.048**	ug/L	23.482	2642	0.000
	Fe	57	**-13.273**	ug/L	2.799	11867	-0.002
	Co	59	**0.017**	ug/L	4.126	230	0.000
	Ni	60	**0.010**	ug/L	25.758	96	0.000
	Cu	63		ug/L		208	0.000
	Cu	65	**0.015**	ug/L	58.001	134	0.000
	Zn	66	**0.037**	ug/L	105.228	350	0.000
	Zn	67		ug/L		17951	0.009
	Zn	68		ug/L		2057	0.001
>	Ge	74		ug/L		391047	391047.340
	As	75	**0.144**	ug/L	251.538	704	0.000
	Se	77		ug/L		11027	0.009
	Se	82	**0.244**	ug/L	38.721	-2	0.000
	Kr	83		ug/L		207	-0.000
	Sr	88	**0.011**	ug/L	43.382	606	0.001
	Y	89		ug/L		145	-0.000
	Zr	90	**0.277**	ug/L	27.702	4452	0.007
	Mo	98	**0.058**	ug/L	59.324	338	0.001
	Ag	107	**0.007**	ug/L	26.238	122	0.000
	Cd	111	**0.013**	ug/L	94.942	41	0.000
	Cd	114		ug/L		86	0.000
>	In	115		ug/L		268171	268171.134
	Sn	120	**0.091**	ug/L	30.205	844	0.002
	Sb	121	**0.520**	ug/L	51.820	3315	0.010
	Sb	123		ug/L		2646	0.008
	Ba	135		ug/L		73	-0.000
	Ba	137	**0.000**	ug/L	1396.574	122	0.000
	Ho	165		ug/L		20	0.000
>	Ta	181		ug/L		326106	326105.669
	Tl	205	**0.158**	ug/L	30.703	2559	0.006
	Pb	208	**0.008**	ug/L	8.764	707	0.000
	Bi	209		ug/L		42	-0.000
	Th	232	**1.012**	ug/L	46.118	17079	0.044
	U	238	**0.011**	ug/L	49.601	678	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		109.8			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		102.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		102.6			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		97.7			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 7	Th	232CCB is out of limts (+/- PQL)

QC Action

QC Action Line: Continue

Miscellaneous

Prep LogBook

Analyst: LXE1 Verified by:_____

Batch: 523146

Lab SOP: GL-MA-E-006 REV# 9

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1201076750	UI515021A	.5	mL
MS	1201076752	UI060425-04	.5	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1201076749		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
LCS	1201076750		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
SAMPLE	161214001		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
SAMPLE	161214002		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
SAMPLE	161214003		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
SAMPLE	161214004		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
SAMPLE	161214005		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
SAMPLE	161214006		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
SAMPLE	161214007		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
SAMPLE	161214008		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
SAMPLE	161220001		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
DUP	1201076751	161220001	SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
MS	1201076752	161220001	SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
SDILT	1201076753	161220001	SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER
SAMPLE	161220005		SW846 3005A	09-MAY-2006 10:30	50 mL	50 mL	1	GROUND WATER

Reagent/Solvent Lot ID	Amount	Description
517510	2.5 mL	HYDROCHLORIC ACID
517512	1 mL	Nitric Acid CONC.

Comments

Case Narrative for
Los Alamos National Laboratory (17809)
ENV-WQH Groundwater
COC #: WG-03717-GE, WG-03718-GE and WG-03719-GE
SDG: 162512

May 18, 2006

Laboratory Identification:

General Engineering Laboratories, LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt The samples arrived at General Engineering Laboratories, LLC, Charleston, South Carolina on April 21, 2006 for analysis. Shipping container temperatures were checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. Shipping container temperature was within specification (4 +/- 2C).

Sample Identification The laboratory received the following samples:

Laboratory ID	Client ID
162512001	GF06040G01R01
162512002	GF06040G11R01
162512003	GF06040G28R01
162512004	GF06040G28R90

Case Narrative

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Metals.

Valerie Davis

Project Manager

CHAIN OF CUSTODY

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03717-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/ Time: 4/19/06 0904	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178
WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545	Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov	
Sampler Initials: BB	Date: 4/19/06	

161214 / 162512

Analysis Request

Sample Id: **GF06040G01R01** Field Prep: **F**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
9008	WG: Cr(VI) 40 ml w/MS	40 ml amber glass	2	HN03	0	pH<2 (+IC-H cartridge	
Total Containers:	3						

Sample Id: **GU06040G01R01** Field Prep: **UF**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
Total Containers:	1						

Grand Total: 4

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03717-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/Time: 4/19/06 0900	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178
WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545	Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov	
Sampler Initials: BG	Date: 4/19/06	

Analysis Request

Technique: Submersible pump

Comments: NA

Chain of Custody

Sampling Team: A. Beaver, J. Jordan

Relinquished By:	Date	Time	Received By	Date	Time	Reason for Transfer
A Beaver (sampler)	4/19/06	1527	[illegible]	4/19/06	1527	
			[illegible]	4-21-06	1030	

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03718-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/ Time: 4/20/06 0932	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178
WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545	Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov	
Sampler Initials: AB	Date: 4/20/06	

161214 7.

Analysis Request

Sample Id: **GF06040G11R01** Field Prep: **F**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
9008	WG: Cr(VI) 40 ml w/MS	40 ml amber glass	2	HN03	0	pH<2 (+ TCH cartridge)	
Total Containers:	3						

Sample Id: **GU06040G11R01** Field Prep: **UF**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
Total Containers:	1						

Grand Total: 4

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03718-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/ Time: 4/20/06 0932	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178
		WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545 Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov Sampler Initials: AB Date: 4/20/06

Analysis Request

Technique: Submersible Pump

Comments: NA

Chain of Custody

Sampling Team: A Baner, J. Jordan, A Martinez

Relinquished By:	Date	Time	Received By	Date	Time	Reason for Transfer
A Baner (sampler)	4/20/06	1112	[illegible]	4/20/06	11:12	
			Mike Barker	4-21-06	1030	

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03719-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/ Time: 4/19/06 1255	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178
WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545	Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov	
Sampler Initials: [illegible]	Date: 4/19/06	

Analysis Request

161214%

Sample Id: **GF06040G28R01** Field Prep: **F**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
9008	WG: Cr(VI) 40 ml w/MS	40 ml amber glass	2	HN03	0	pH<2 (+ IC-H cartridge)	
Total Containers:	3						

Sample Id: **GF06040G28R90** Field Prep: **F**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
9008	WG: Cr(VI) 40 ml w/MS	40 ml amber glass	2	HN03	0	pH<2 (+ IC-H cartridge)	
Total Containers:	3						

Sample Id: **GU06040G28R01** Field Prep: **UF**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
Total Containers:	1						

Sample Id: **GU06040G28R90** Field Prep: **UF**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9009	WG: Cr 500 ml w/ MS	500 ml poly	1	HN03	0	pH<2	
Total Containers:	1						

Grand Total: 8

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03719-GE PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/ Time: 4/19/06 1255	Ship To: General Engineering Laboratories, Inc., Charleston, SC 2040 Savage Rd. Charleston, SC 29407	Contact: Valerie Davis Phone: (843) 556-8171 Fax: (843) 766-1178
WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545	Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov	
Sampler Initials: AB	Date: 4/19/06	

Analysis Request

Technique: Submersible pump

Comments: NA

Chain of Custody

Sampling Team: A. Bauer, J. Jordan

Relinquished By:	Date	Time	Received By	Date	Time	Reason for Transfer
A Bauer (sampler)	4/19/06	1530	[illegible]	4-19-06	1530	
			[illegible]	4-21-06	1030	

COOLER RECEIPT CHECKLIST

SAMPLE RECEIPT & REVIEW FORM

GENERAL ENGINEERING LABORATORIES, LLC

PM use only

Client: ESH2	SDG/ARCOC/Work Order: 162512
Date Received: 4-21-06	PM(A) Review (ensure non-conforming items are resolved prior to signing): Valen Jani
Received By: MK	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.	✓			Circle Coolant # ice bags blue ice dry ice none other describe) 2c 3c 4c 21c
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?	✓			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6	VOA vials free of headspace (defined as < 6mm bubble)?	✓			Sample ID's and containers affected:
7	Are Encore containers present? (If yes, immediately deliver to VOA laboratory)			✓	
8	Samples received within holding time?	✓			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Sample ID's affected: NO DATE OR TIME ON CONTAINERS
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	✓			
14	Air Bill ,Tracking #'s, & Additional Comments	FEDEX#'S 7209 7838 1900-4c 1873-4c 1862-3c 1884-3c 1895-2c 1851-4c 1910-21c NO ICE			

	Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt # _____ *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A	Radiological Classification?	✓			Maximum Counts Observed*: CPM 30
B	PCB Regulated?	✓			Comments:
C	Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	✓			Hazard Class Shipped: UN#:

PM (or PMA) review of Hazard classification: USO Initials 4/21/06 Date:

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

Ship Date: 20APR06
ActWgt: 41.0 LB MAN
System#: 0014176/CAFE2307
Account: S *********

(843) 556-8171

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

FedEx
Express

CLS022306/16/19

REF: 7h20mr0a00ec5v00
PO:
Inv:
Dept:

Delivery Address
Barcode

BILL SENDER

FRI
Deliver By:
21APR06

PRIORITY OVERNIGHT

TRK# 7209 7838 1910 Form 0201

CHS A1

29407 -SC-US XX CHSA

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

REF: 7h20mr0a00ec5v00
PO:
Inv:

Dept:

Ship Date: 20APR06
ActWgt: 52.0 LB MAN
System#: 0014176/CA
Account: S *********

(843) 556-

Fed

E

Delivery Add
Barcode

BILL SENDE

PRIORITY OVERNIGHT

TRK# 7209 7838 1862 Form 0201

29407 -SC-US

FRI
Deliver
21APR
A1

CHS
XX CHSA

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

REF: 7h20mr0a00ec5v00
PO:
Inv:

Dept:

Ship Date: 20APR06
ActWgt: 53.0 LB MAN
System#: 0014176/CAFE2307
Account: S *********

(843) 556-8171

FedEx
Express

E

CLS022306/16/19

Delivery Address
Barcode

BILL SENDER

PRIORITY OVERNIGHT

TRK# 7209 7838 1873 Form 0201

29407 -SC-US

FRI
Deliver By
21APR06

CHS
A1

XX CHSA

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

REF: 7h20mr0a00ec5v00
PO:
Inv:

Dept:

Ship
ActWgt: 42.0 LB MAN
System#: 0014176/CAFE2307
Account: S *********

(843) 556-8171

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CLS022306/16/19

Delivery Address
Barcode

BILL SENDER

PRIORITY OVERNIGHT

TRK# 7209 7838 1900 Form 0201

29407 -SC-US

FRI
Deliver By
21APR06

CHS
A1

XX CHSA

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

REF: 7h20mr0a00ec5v00
PO:
Inv:

Dept:

ActWgt: 48.0 LB MAN
System#: 0014176/CAFE2307
Account: S *********

(843) 556-8171

FedEx Express

CLS022306/16/19

Delivery Address Barcode

BILL SENDER

FRI
Deliver By:
21APR06

CHS A1

PRIORITY OVERNIGHT

TRK# 7209 7838 1851 Form 0201

29407 -SC-US

XX CHSA

Part # 156146-434 NEXT 10-04

ID: SAFA (505) 665-9968
E VALDEZ
AMOS NATL LAB
LDG 1237 DPU 03

AMOS, NM 87545
STATES US

RIE DAVIS
RAL ENGINEERING LAB
SAVAGE RD

LESTON, SC 29407

mr0a00ec5v00

Dept:

Ship Date: 20APR06
ActWgt: 51.0 LB MAN
System#: 0014176/CAFE2307
Account: S *********

(843) 556-8171

FedEx Express

CLS022306/16/19

Delivery Address Barcode

2C

BILL SENDER

ORITY OVERNIGHT

7209 7838 1895 Form 0201

407 -SC-US

FRI
Deliver By:
21APR06

CHS A1

XX CHSA

ORIGIN ID: ...
JOYLENE VALDEZ
LOS ALAMOS NATL LAB.
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON, SC 29407

REF: 7h20mr0a00ec5v00
PO:
Inv:

Dept:

(843) 556-8171

FedEx Express

CLS022306/16/19

Delivery Address Barcode

3C

BILL SENDER

PRIORITY OVERNIGHT

TRK# 7209 7838 1884 Form 0201

29407 -SC-US

FRI
Deliver By:
21APR06

CHS A1

XX CHSA

Part # 156146-434 NEXT 10-04

DATA REVIEW QUALIFIER FLAG DEFINITION SHEET

General Engineering Laboratories, LLC

DATA QUALIFIERS FOR INORGANIC ANALYSES

Data Qualifiers used on Form 1s or Certificates of Analysis (COA) follow the specifications set forth in the technical specifications of the most current CLP Statement of Work and are defined as follows:

Section	Explanation	Location
E	The qualifier that is used when the percent difference between the parent sample and its serial dilution's concentration exceeds 10%. The sample's concentration must be greater than 50 times the IDL/MDL for ICP or 100 times the absolute value of the preparation blank's concentration for ICP-MS. However, if analyzing ILMO 4.0 (ICP-MS), the parent sample's concentration must be 20 times the CRDL before the "E" flag is applied.	Form 1 and EDD
*	The qualifier that is used to indicate the duplicate sample analysis for an analyte is out of control.	Form 1 and EDD
B	The qualifier is used to indicate that the reported result fell above the IDL/MDL but below the CRDL.	Form 1 and EDD
N	This qualifier is used to indicate that the matrix or pre-digested spike sample recovery for an analyte is not within the specified control limit.	Form 1 and EDD
U	Analyte analyzed for but not detected above the PQL/CRDL.	COA, Form 1, and EDD
X	Other reporting flag as defined in report narrative.	Form 1 and EDD
**	Laboratory Control Sample (LCS) recovery for an analyte is outside of specified acceptance limit.	QC Summary Report

All surrogate recoveries and acceptance ranges are reported at the bottom of Form 2 or COA.
Any recoveries falling outside the acceptance range will be flagged with a **.
All flags do not apply to QC Summary and Certificate of Analysis packages.

Metals Analysis

Case Narrative

Metals Fractional Narrative
Los Alamos National Laboratory (ESHL)
SDG 162512

Method/Analysis Information

Analytical Batch:	528474
Prep Batch:	528471
Standard Operating Procedures:	GL-MA-E-014 REV# 10, GL-MA-E-006 REV# 9
Analytical Method:	SW846 6020
Prep Method:	SW846 3005A

Sample Analysis

Sample ID	Client ID
162512001	GF06040G01R01
162512002	GF06040G11R01
162512003	GF06040G28R01
162512004	GF06040G28R90
1201089345	Method Blank (MB) **ICP-MS**
1201089346	Laboratory Control Sample (LCS)
1201089535	Laboratory Control Sample Duplicate (LCSD)
1201089349	162512001(GF06040G01R01L) Serial Dilution (SD)

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by General Engineering Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

System Configuration

The ICP-MS analysis was performed on a Perkin Elmer ICP-MS ELAN 9000. The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, and tantalum were utilized to cover the mass spectrum. Operating conditions are

set at 1400W power and combined argon pressures of 3607 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

Calibration Information

Instrument Calibration
All initial calibration requirements have been met for this sample delivery group (SDG).

CRDL Requirements
All CRDL standard(s) met the referenced advisory control limits.

ICSA/ICSAB statement
All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

Continuing Calibration Blank (CCB) Requirements
All continuing calibration blanks (CCB) bracketing this batch met the established acceptance criteria.

Continuing Calibration Verification (CCV) Requirements
All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

Quality Control (QC) Information

Method Blank (MB) Statement
The MB analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery
The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery
The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement
The relative percent difference (RPD) obtained from the laboratory control sample (LCS) and it's duplicate (LCSD) is evaluated based on acceptance criteria of 20% and it is within the required acceptance limits.

Quality Control (QC) Sample Statement
The following sample was selected as the quality control (QC) sample for this SDG: 162512001 (GF06040G01R01).

Serial Dilution % Difference Statement
The serial dilution is used to assess matrix suppression or enhancement. Raw element concentrations that are 25X the IDL for CVAA, 50X the IDL for ICP, and 100X the IDL

for ICP-MS analyses are applicable for serial dilution assessment. All applicable analytes met the acceptance criteria of less than 10% difference (%D).

Technical Information

Holding Time Specifications

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP.

Sample Dilutions

Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations present in solid samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. The samples in this SDG did not require dilutions.

Preparation Information

The samples in this SDG were prepared exactly according to the cited SOP.

Miscellaneous Information

Nonconformance Documentation

Nonconformance reports (NCRs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not required for this SDG.

Additional Comments

Additional comments were not required for this SDG.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Reviewer: Kristan M. Murray **Date:** 5-16-06

Sample Data Summary

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 162512 **METHOD TYPE:** SW846

SAMPLE ID: 162512001 **CLIENT ID:** GF06040G01R01

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21-APR-06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440-47-3	Cr(VI)	9.8	ug/L			MS	1	1	ICPMS5	060512-1

Comments:

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 162512 **METHOD TYPE:** SW846

SAMPLE ID: 162512002 **CLIENT ID:** GF06040G11R01

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21-APR-06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440-47-3	Cr(VI)	22.6	ug/L			MS	1	1	ICPMS5	060512-1

Comments:

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 162512 **METHOD TYPE:** SW846

SAMPLE ID: 162512003 **CLIENT ID:** GF06040G28R01

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21-APR-06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440-47-3	Cr(VI)	380	ug/L			MS	1	1	ICPMS5	060512-1

Comments:

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 162512 **METHOD TYPE:** SW846

SAMPLE ID: 162512004 **CLIENT ID:** GF06040G28R90

CONTRACT: ESHL00701

MATRIX: G **DATE RECEIVED** 21-APR-06 **LEVEL:** Low **%SOLIDS:**

CAS No	Analyte	Result	Units	C	Qual	M	MDL	DF	Instrument ID	Analytical Run
7440-47-3	Cr(VI)	376	ug/L			MS	1	1	ICPMS5	060512-1

Comments:

Quality Control Summary

METALS
–2a–
Initial and Continuing Calibration Verification

SDG No: 162512

Contract: ESHL00701 **Lab Code:** GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: ICPMS5

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
ICV01										
	Chromium	53.22	ug/L	50	ug/L	106.4	90.0 – 110.0	MS	12–MAY–06 21:51	060512–1
CCV01										
	Chromium	53.08	ug/L	50	ug/L	106.2	90.0 – 110.0	MS	12–MAY–06 22:16	060512–1
CCV02										
	Chromium	52.79	ug/L	50	ug/L	105.6	90.0 – 110.0	MS	12–MAY–06 22:32	060512–1
CCV03										
	Chromium	52.87	ug/L	50	ug/L	105.7	90.0 – 110.0	MS	12–MAY–06 23:24	060512–1

METALS
–2b–
CRDL Standard for AA & ICP

SDG No: 162512

Contract: ESHL00701 **Lab Code:** GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: ICPMS5

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Advisory Limits (%R)	M	Analysis Date/Time	Run Number
CRDL01										
	Chromium	3.32	ug/L	3	ug/L	110.53	70.0 – 130.0	MS	12–MAY–06 22:01	060512–1

Metals
–3a–
Initial and Continuing Calibration Blank Summary

SDG No.: 162512

Contract: ESHL00701

Lab Code: GEL

Sample ID	Analyte	Result	Acceptance ug/L	Conc Qual	MDL	RDL	M	Analysis Date/Time	Run
ICB01									
	Chromium	1.0	+/–3	U	1.0	3.0	MS	12–MAY–06 21:56	060512–1
CCB01									
	Chromium	1.0	+/–3	U	1.0	3.0	MS	12–MAY–06 22:22	060512–1
CCB02									
	Chromium	1.0	+/–3	U	1.0	3.0	MS	12–MAY–06 22:37	060512–1
CCB03									
	Chromium	1.0	+/–3	U	1.0	3.0	MS	12–MAY–06 23:29	060512–1

METALS
–3b–
PREPARATION BLANK SUMMARY

SDG NO. 162512
Contract: ESHL00701
Matrix: GROUND WATER

Sample ID	Analyte	Result	Units	Acceptance Window	Conc Qual	M	MDL	RDL
1201089345								
	Chromium	1.154	ug/L	+/–3.0	J	MS	1	3

METALS
–4–
Interference Check Sample

SDG No: 162512

Contract: ESHL00701 **Lab Code:** GEL

ICS: O2Si

Instrument: ICPMS5

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	Analysis Date/Time	Run Number
ICSA01									
	Chromium	0.589	ug/L					12–MAY–06 22:06	060512–1
ICSAB01									
	Chromium	22.09	ug/L	22.2	ug/L	99.5	80.0 – 120.0	12–MAY–06 22:11	060512–1

Metals
–6–
Duplicate Sample Summary

SDG No.: 162512

Contract: ESHL00701 **Lab Code:** GEL

Matrix: LIQUID **Level:** Low **Client ID:** LCSD for batch 528471

Sample ID: 1201089346 **Duplicate ID:** 1201089535 **Percent Solids for Dup:** N/A

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Chromium	ug/L	+/–20	41.9		44.1		5.14		MS

METALS
–7–
Laboratory Control Sample Summary

SDG NO. 162512

Contract: ESHL00701

Aqueous LCS Source: o2si **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1201089346								
	Chromium	ug/L	50	41.9		83.7	80–120	MS

METALS
–7–
Laboratory Control Sample Summary

SDG NO. 162512

Contract: ESHL00701

Aqueous LCS Source:o2si **Solid LCS Source:**

Sample ID	Analyte	Units	True Value	Result	C	% Recovery	Acceptance Limit	M
1201089535								
	Chromium	ug/L	50	44.1		88.2	80–120	MS

METALS
–9–
Serial Dilution Sample Summary

SDG NO. 162512 **Client ID:** GF06040G01R01L

Contract: ESHL00701

Matrix: LIQUID **Level:** Low

Sample ID: 162512001 **Serial Dilution ID:** 1201089349

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Chromium	9.83		11.65	J	18.5			MS

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 162512 **Method Type:** MS

Contract: ESHL00701 **Lab Code:** GEL

Sample ID	Client ID	Sample Type	Matrix	Prep Date	Initial Sample Size	Final Sample Volume	Percent Solids
Batch Number	528471						
1201089345	MB for batch 528471	MB	GROUND WATER	11-MAY-06	25mL	25mL	
1201089346	LCS for batch 528471	LCS	GROUND WATER	11-MAY-06	25mL	25mL	
1201089535	LCSD for batch 528471	LCSD	GROUND WATER	11-MAY-06	25mL	25mL	
162512001	GF06040G01R01	SAMPLE	GROUND WATER	11-MAY-06	25mL	25mL	
162512002	GF06040G11R01	SAMPLE	GROUND WATER	11-MAY-06	25mL	25mL	
162512003	GF06040G28R01	SAMPLE	GROUND WATER	11-MAY-06	25mL	25mL	
162512004	GF06040G28R90	SAMPLE	GROUND WATER	11-MAY-06	25mL	25mL	

Metals
–14–
Analysis Run Log

Contract: ESHL00701
Lab Code: GEL
Inst Name: ICPMS5
Start Date: 12–MAY–06

End Date: 12–MAY–06

Client Sdg: 162512
Method MS
Data File: 060512–1

Samp No.	D/F	Run Time	Cr
Blank	1	21:35:00	X
Standard 1	1	21:41:00	X
Standard 2	1	21:46:00	X
ICV01	1	21:51:00	X
ICB01	1	21:56:00	X
CRDL01	1	22:01:00	X
ICSA01	1	22:06:00	X
ICSAB01	1	22:11:00	X
CCV01	1	22:16:00	X
CCB01	1	22:22:00	X
ZZZZZZ	1	22:27:00	
CCV02	1	22:32:00	X
CCB02	1	22:37:00	X
1201089345	1	22:42:00	X
1201089346	1	22:47:00	X
1201089535	1	22:53:00	X
162512001	1	22:58:00	X
1201089349	5	23:03:00	X
162512002	1	23:08:00	X
162512003	1	23:14:00	X
162512004	1	23:19:00	X
CCV03	1	23:24:00	X
CCB03	1	23:29:00	X

Standards

METALS
-10-
Instrument Detection Limits

SDG NO. 162512

Contract: ESHL00701 **Lab Code: GEL** **MDL Effective Date:** 01-APR-05

ICP/MS	Analyte	Wavelength (nm)	MDL ug/L	RDL ug/L
	Chromium		1.0	3

METALS
-12-
Linear Ranges

SDG NO. 162512

Contract: ESHL00701 **Lab Code: GEL**

Instrument ID ICPMS5

Analyte	Integration Time	LDR	Units	Effective Date
Chromium		1000	ug/L	01-MAY-06

Raw Data

ICPMS #5 Instrument Tuning Report

File Name: default2.tun
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	585	2070	0.622
Be	9.0	9.0	2061	2100	0.566
Mg	24.0	24.0	5678	2090	0.581
Mg	25.0	25.0	5946	2100	0.590
Mg	26.0	26.0	6160	2100	0.576
Co	58.9	58.9	14183	2100	0.660
Rh	102.9	102.9	24873	2175	0.601
In	114.9	114.9	27793	2200	0.579
Ce	139.9	139.9	33861	2210	0.609
Pb	206.0	205.9	49936	2300	0.619
Pb	207.0	207.0	50171	2290	0.610
Pb	208.0	208.0	50439	2300	0.617
U	238.1	238.0	57727	2330	0.625

✓ EAG 5/12/06

Report Date/Time: Friday, May 12, 2006 09:27:11
Page 1

ICPMS #5 Daily Performance Report

Sample ID: Sample
Sample Date/Time: Friday, May 12, 2006 09:28:10
Sample Description:
Method File: C:\elandata\Method\Daily2.mth
Dataset File: c:\elandata\Dataset\default\Sample.1708
Tuning File: c:\elandata\Tuning\default2.tun
Optimization File: c:\elandata\Optimize\default.dac
Dual Detector Mode: Pulse
Acq. Dead Time(ns): 35
Current Dead Time (ns): 35
Number of Replicates: 5

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Be	9.0	8731.1	8731.069	228.641	2.6
	Mg	24.0	97081.2	97081.178	1012.086	1.0
	Co	58.9	205666.0	205666.038	3676.273	1.8
	Rh	102.9	376746.7	376746.711	4444.798	1.2
	In	114.9	434942.6	434942.554	5831.804	1.3
	Pb	208.0	325249.9	325249.904	2825.393	0.9
⌈>	Ba	137.9	418414.5	418414.534	3452.642	0.8
⌊	Ba++	69.0	12525.4	0.030	0.000	1.6
⌈>	Ce	139.9	532759.1	532759.066	6686.781	1.3
⌊	CeO	155.9	14378.3	0.027	0.001	2.2
	Bkgd	220.0	14.7	14.700	0.274	1.9

Current Optimization File Data

Current Value	Description
0.90	Nebulizer Gas Flow
8.75	Lens Voltage
1400.00	ICP RF Power
-1625.00	Analog Stage Voltage
1200.00	Pulse Stage Voltage
250.00	Discriminator Threshold
-6.00	AC Rod Offset

5/12/06

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	15	9.3	8785.4
Co	59	15	10.3	143395.4
In	115	15	11.5	382023.6

ICPMS#5 - Summary Report

Sample ID: Blank
Sample Date/Time: Friday, May 12, 2006 21:35:52
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\Blank.213

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7		ug/L		110	
	Be	9		ug/L		21	
	B	11		ug/L		1342	
	Na	23		ug/L		36380	
	Mg	24		ug/L		9003	
	Al	27		ug/L		13340	
	P	31		ug/L		8828	
	K	39		ug/L		886337	
	Ca	43		ug/L		1019	
>	Sc	45		ug/L		1465440	
	Ti	47		ug/L		395	
	V	51		ug/L		26051	
	Cr	52		ug/L		4124	
	Cr	53		ug/L		175811	
	Mn	55		ug/L		1838	
	Fe	57		ug/L		11202	
	Co	59		ug/L		324	
	Ni	60		ug/L		114	
	Cu	63		ug/L		339	
	Cu	65		ug/L		205	
	Zn	66		ug/L		385	
	Zn	67		ug/L		27497	
	Zn	68		ug/L		2586	
>	Ge	74		ug/L		658464	
	As	75		ug/L		306	
	Se	77		ug/L		7828	
	Se	82		ug/L		-20	
	Kr	83		ug/L		249	
	Sr	88		ug/L		698	
	Y	89		ug/L		297	
	Zr	90		ug/L		1263	
	Mo	98		ug/L		255	
	Ag	107		ug/L		125	
	Cd	111		ug/L		43	
	Cd	114		ug/L		86	
>	In	115		ug/L		330760	
	Sn	120		ug/L		363	
	Sb	121		ug/L		756	
	Sb	123		ug/L		638	
	Ba	135		ug/L		56	
	Ba	137		ug/L		112	
	Ho	165		ug/L		27	
>	Ta	181		ug/L		485887	
	Tl	205		ug/L		2084	
	Pb	208		ug/L		1820	
	Bi	209		ug/L		61	
	Th	232		ug/L		2198	
	U	238		ug/L		785	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9998
U	238	Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45					
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115					
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Ta	181					
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 1
Sample Date/Time: Friday, May 12, 2006 21:41:01
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\Standard 1.214

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	10.000	ug/L	2.593	22097	0.015
	Be	9	10.000	ug/L	4.861	5894	0.004
	B	11	20.000	ug/L	3.186	11737	0.007
	Na	23	1000.000	ug/L	5.510	5928627	4.105
	Mg	24	1000.000	ug/L	4.586	4134105	2.873
	Al	27	1000.000	ug/L	0.486	5658613	3.932
	P	31	1000.000	ug/L	1.358	375974	0.256
	K	39	1000.000	ug/L	6.956	8837015	5.550
	Ca	43	1000.000	ug/L	2.786	17753	0.012
>	Sc	45		ug/L		1435869	1435868.634
	Ti	47	10.000	ug/L	2.798	9408	0.006
	V	51	10.000	ug/L	4.243	122317	0.067
	Cr	52	10.000	ug/L	0.315	93621	0.062
	Cr	53		ug/L		182417	0.007
	Mn	55	10.000	ug/L	2.843	136888	0.094
	Fe	57	1000.000	ug/L	3.246	276196	0.185
	Co	59	10.000	ug/L	1.252	108036	0.075
	Ni	60	10.000	ug/L	1.462	22895	0.016
	Cu	63		ug/L		55867	0.039
	Cu	65	10.000	ug/L	2.148	27356	0.019
	Zn	66	10.000	ug/L	4.646	17665	0.026
	Zn	67		ug/L		30176	0.004
	Zn	68		ug/L		16017	0.021
>	Ge	74		ug/L		652995	652995.469
	As	75	10.000	ug/L	3.160	19581	0.030
	Se	77		ug/L		8974	0.002
	Se	82	10.000	ug/L	2.269	1669	0.003
	Kr	83		ug/L		252	0.000
	Sr	88	10.000	ug/L	0.582	197544	0.597
	Y	89		ug/L		431	0.000
	Zr	90	10.000	ug/L	2.209	108245	0.324
	Mo	98	10.000	ug/L	3.608	47916	0.145
	Ag	107	10.000	ug/L	0.642	80444	0.244
	Cd	111	10.000	ug/L	3.008	19020	0.058
	Cd	114		ug/L		43874	0.133
>	In	115		ug/L		329782	329781.701
	Sn	120	10.000	ug/L	4.448	75543	0.228
	Sb	121	10.000	ug/L	2.981	63935	0.192
	Sb	123		ug/L		49355	0.148
	Ba	135		ug/L		18115	0.037
	Ba	137	10.000	ug/L	1.800	32346	0.067
	Ho	165		ug/L		27	0.000
>	Ta	181		ug/L		481634	481633.710
	Tl	205	10.000	ug/L	1.524	209143	0.430
	Pb	208	10.000	ug/L	1.733	293224	0.605
	Bi	209		ug/L		79	0.000
	Th	232	10.000	ug/L	1.415	300059	0.618
	U	238	10.000	ug/L	1.992	300047	0.621

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	1.0000
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 2
Sample Date/Time: Friday, May 12, 2006 21:46:07
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\Standard 2.215

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**100.033**	**ug/L**	2.075	218348	0.158
	Be	9	**99.990**	**ug/L**	1.783	55833	0.041
	B	11	**200.014**	**ug/L**	6.255	101895	0.073
	Na	23	**9993.990**	**ug/L**	9.253	53349627	38.702
	Mg	24	**9994.742**	**ug/L**	4.171	37608546	27.284
	Al	27	**9996.912**	**ug/L**	4.786	52519771	38.129
	P	31	**9994.268**	**ug/L**	4.237	3338270	2.418
	K	39	**9992.182**	**ug/L**	2.183	71683282	51.437
	Ca	43	**9994.523**	**ug/L**	1.815	153272	0.111
>	Sc	45		**ug/L**		1377895	1377895.313
	Ti	47	**99.963**	**ug/L**	2.099	83826	0.061
	V	51	**99.914**	**ug/L**	6.037	878189	0.620
	Cr	52	**99.921**	**ug/L**	2.894	799686	0.578
	Cr	53		**ug/L**		246138	0.059
	Mn	55	**99.908**	**ug/L**	2.928	1186768	0.860
	Fe	57	**9993.504**	**ug/L**	4.065	2397696	1.734
	Co	59	**99.909**	**ug/L**	2.937	946374	0.687
	Ni	60	**99.956**	**ug/L**	1.938	209437	0.152
	Cu	63		**ug/L**		498786	0.362
	Cu	65	**99.940**	**ug/L**	1.642	245817	0.178
	Zn	66	**99.950**	**ug/L**	3.586	157177	0.252
	Zn	67		**ug/L**		51651	0.041
	Zn	68		**ug/L**		123896	0.195
>	Ge	74		**ug/L**		622645	622644.783
	As	75	**99.945**	**ug/L**	1.667	174389	0.280
	Se	77		**ug/L**		19194	0.019
	Se	82	**99.972**	**ug/L**	0.672	15656	0.025
	Kr	83		**ug/L**		271	0.000
	Sr	88	**99.894**	**ug/L**	1.516	1676043	5.392
	Y	89		**ug/L**		1104	0.003
	Zr	90	**99.944**	**ug/L**	0.685	955326	3.070
	Mo	98	**99.969**	**ug/L**	0.733	436158	1.403
	Ag	107	**99.938**	**ug/L**	3.217	711983	2.291
	Cd	111	**99.974**	**ug/L**	1.091	174456	0.561
	Cd	114		**ug/L**		404027	1.300
>	In	115		**ug/L**		310779	310779.406
	Sn	120	**99.956**	**ug/L**	0.647	679336	2.185
	Sb	121	**99.979**	**ug/L**	1.019	584238	1.878
	Sb	123		**ug/L**		454550	1.461
	Ba	135		**ug/L**		167073	0.356
	Ba	137	**99.922**	**ug/L**	1.460	291350	0.620
	Ho	165		**ug/L**		37	0.000
>	Ta	181		**ug/L**		469582	469582.364
	Tl	205	**99.842**	**ug/L**	1.141	1742658	3.707
	Pb	208	**99.889**	**ug/L**	0.793	2556501	5.441
	Bi	209		**ug/L**		402	0.001
	Th	232	**99.854**	**ug/L**	1.466	2531724	5.387
	U	238	**99.844**	**ug/L**	2.680	2520749	5.367

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45					
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74					
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115					
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181					
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 1
Sample Date/Time: Friday, May 12, 2006 21:51:14
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\QC Std 1.216

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**54.114**	**ug/L**	0.037	114147	0.086
	Be	9	**53.409**	**ug/L**	2.124	28820	0.022
	B	11	**113.585**	**ug/L**	1.395	56473	0.042
	Na	23	**5103.182**	**ug/L**	4.235	26332829	19.762
	Mg	24	**5014.776**	**ug/L**	3.395	18222545	13.690
	Al	27	**5132.410**	**ug/L**	2.569	26063916	19.575
	P	31	**5008.678**	**ug/L**	2.002	1620726	1.212
	K	39	**5053.043**	**ug/L**	5.635	35436651	26.011
	Ca	43	**5176.666**	**ug/L**	1.404	77128	0.057
>	Sc	45		**ug/L**		1330944	1330943.652
	Ti	47	**51.783**	**ug/L**	1.075	42127	0.031
	V	51	**54.108**	**ug/L**	2.589	470491	0.336
	Cr	52	**53.216**	**ug/L**	2.988	413164	0.308
	Cr	53		**ug/L**		185386	0.019
	Mn	55	**54.112**	**ug/L**	0.702	621906	0.466
	Fe	57	**5104.346**	**ug/L**	3.173	1188310	0.885
	Co	59	**53.192**	**ug/L**	4.598	486786	0.366
	Ni	60	**53.130**	**ug/L**	1.711	107591	0.081
	Cu	63		**ug/L**		253669	0.190
	Cu	65	**52.595**	**ug/L**	1.666	125062	0.094
	Zn	66	**54.407**	**ug/L**	2.915	83996	0.137
	Zn	67		**ug/L**		36091	0.017
	Zn	68		**ug/L**		65904	0.104
>	Ge	74		**ug/L**		610018	610017.788
	As	75	**51.522**	**ug/L**	1.161	88223	0.144
	Se	77		**ug/L**		12609	0.009
	Se	82	**54.725**	**ug/L**	1.179	8387	0.014
	Kr	83		**ug/L**		222	-0.000
	Sr	88	**52.744**	**ug/L**	2.000	871519	2.847
	Y	89		**ug/L**		401	0.000
	Zr	90	**52.929**	**ug/L**	2.624	498483	1.626
	Mo	98	**51.502**	**ug/L**	2.100	221265	0.723
	Ag	107	**54.023**	**ug/L**	2.892	378965	1.239
	Cd	111	**51.017**	**ug/L**	1.225	87644	0.286
	Cd	114		**ug/L**		203958	0.666
>	In	115		**ug/L**		305945	305945.242
	Sn	120	**52.257**	**ug/L**	2.976	349698	1.142
	Sb	121	**52.827**	**ug/L**	0.711	304219	0.992
	Sb	123		**ug/L**		233712	0.762
	Ba	135		**ug/L**		84091	0.182
	Ba	137	**51.459**	**ug/L**	2.265	147994	0.319
	Ho	165		**ug/L**		26	0.000
>	Ta	181		**ug/L**		463046	463045.563
	Tl	205	**52.817**	**ug/L**	1.334	909957	1.961
	Pb	208	**53.079**	**ug/L**	0.925	1340342	2.891
	Bi	209		**ug/L**		88	0.000
	Th	232	**52.835**	**ug/L**	1.086	1321946	2.850
	U	238	**53.953**	**ug/L**	2.105	1343518	2.900

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7	108.228				
	Be	9	106.818				
	B	11	113.585				
	Na	23	102.064				
	Mg	24	100.296				
	Al	27	101.632				
	P	31	100.174				
	K	39	101.061				
	Ca	43	103.533				
>	Sc	45			90.8		
	Ti	47	103.566				
	V	51	108.215				
	Cr	52	106.431				
	Cr	53					
	Mn	55	108.223				
	Fe	57	102.087				
	Co	59	106.385				
	Ni	60	106.259				
	Cu	63					
	Cu	65	105.189				
	Zn	66	108.814				
	Zn	67					
	Zn	68					
>	Ge	74			92.6		
	As	75	103.043				
	Se	77					
	Se	82	109.451				
	Kr	83					
	Sr	88	105.487				
	Y	89					
	Zr	90	105.857				
	Mo	98	103.005				
	Ag	107	108.046				
	Cd	111	102.034				
	Cd	114					
>	In	115			92.5		
	Sn	120	104.515				
	Sb	121	105.653				
	Sb	123					
	Ba	135					
	Ba	137	102.918				
	Ho	165					
>	Ta	181			95.3		
	Tl	205	105.635				
	Pb	208	106.158				
	Bi	209					
	Th	232	105.670				
	U	238	107.906				

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 1	B	11ICV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 2
Sample Date/Time: Friday, May 12, 2006 21:56:24
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\QC Std 2.217

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.026**	**ug/L**	5.262	158	0.000
	Be	9	**0.008**	**ug/L**	92.927	23	0.000
	B	11	**5.712**	**ug/L**	21.946	4069	0.002
	Na	23	**-0.244**	**ug/L**	89.752	32370	-0.001
	Mg	24	**1.628**	**ug/L**	113.564	14342	0.004
	Al	27	**2.201**	**ug/L**	60.085	23687	0.008
	P	31	**1.403**	**ug/L**	29.601	8626	0.000
	K	39	**4.194**	**ug/L**	52.965	849185	0.022
	Ca	43	**3.157**	**ug/L**	112.289	990	0.000
>	Sc	45		**ug/L**		1355568	1355567.721
	Ti	47	**-0.037**	**ug/L**	101.287	335	-0.000
	V	51	**-0.306**	**ug/L**	68.752	21528	-0.002
	Cr	52	**0.033**	**ug/L**	70.019	4072	0.000
	Cr	53		**ug/L**		150592	-0.009
	Mn	55	**0.008**	**ug/L**	66.836	1791	0.000
	Fe	57	**-1.209**	**ug/L**	38.621	10078	-0.000
	Co	59	**0.010**	**ug/L**	7.876	395	0.000
	Ni	60	**0.020**	**ug/L**	50.630	146	0.000
	Cu	63		**ug/L**		336	0.000
	Cu	65	**0.012**	**ug/L**	46.444	217	0.000
	Zn	66	**0.017**	**ug/L**	28.457	381	0.000
	Zn	67		**ug/L**		24404	-0.002
	Zn	68		**ug/L**		2277	-0.000
>	Ge	74		**ug/L**		606960	606960.299
	As	75	**0.212**	**ug/L**	132.368	641	0.001
	Se	77		**ug/L**		6436	-0.001
	Se	82	**-0.019**	**ug/L**	644.966	-22	-0.000
	Kr	83		**ug/L**		243	0.000
	Sr	88	**0.004**	**ug/L**	45.562	717	0.000
	Y	89		**ug/L**		264	-0.000
	Zr	90	**0.122**	**ug/L**	64.504	2321	0.004
	Mo	98	**0.041**	**ug/L**	44.102	411	0.001
	Ag	107	**0.009**	**ug/L**	18.215	182	0.000
	Cd	111	**0.005**	**ug/L**	74.860	49	0.000
	Cd	114		**ug/L**		103	0.000
>	In	115		**ug/L**		306812	306812.365
	Sn	120	**0.009**	**ug/L**	37.952	395	0.000
	Sb	121	**0.550**	**ug/L**	18.181	3866	0.010
	Sb	123		**ug/L**		2988	0.008
	Ba	135		**ug/L**		80	0.000
	Ba	137	**0.003**	**ug/L**	171.655	113	0.000
	Ho	165		**ug/L**		28	0.000
>	Ta	181		**ug/L**		456041	456040.742
	Tl	205	**0.054**	**ug/L**	54.201	2872	0.002
	Pb	208	**0.008**	**ug/L**	11.466	1903	0.000
	Bi	209		**ug/L**		57	-0.000
	Th	232	**0.099**	**ug/L**	36.071	4478	0.005
	U	238	**0.015**	**ug/L**	44.407	1102	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			92.5		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			92.2		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			92.8		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181			93.9		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 3
Sample Date/Time: Friday, May 12, 2006 22:01:33
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\QC Std 3.218

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**10.822**	**ug/L**	1.878	23289	0.017
	Be	9	**0.486**	**ug/L**	7.816	286	0.000
	B	11	**17.954**	**ug/L**	4.341	10116	0.007
	Na	23	**242.244**	**ug/L**	11.222	1301684	0.938
	Mg	24	**17.242**	**ug/L**	20.109	71850	0.047
	Al	27	**16.843**	**ug/L**	11.171	99347	0.064
	P	31	**50.100**	**ug/L**	3.303	24552	0.012
	K	39	**315.624**	**ug/L**	7.725	3015279	1.625
	Ca	43	**115.063**	**ug/L**	6.212	2663	0.001
>	Sc	45		**ug/L**		1353403	1353403.443
	Ti	47	**8.595**	**ug/L**	2.191	7414	0.005
	V	51	**11.267**	**ug/L**	6.979	118627	0.070
	Cr	52	**3.316**	**ug/L**	2.488	29753	0.019
	Cr	53		**ug/L**		159359	-0.002
	Mn	55	**5.528**	**ug/L**	1.575	66129	0.048
	Fe	57	**25.623**	**ug/L**	5.163	16359	0.004
	Co	59	**1.146**	**ug/L**	1.728	10960	0.008
	Ni	60	**2.226**	**ug/L**	0.962	4686	0.003
	Cu	63		**ug/L**		5748	0.004
	Cu	65	**1.097**	**ug/L**	3.818	2839	0.002
	Zn	66	**10.526**	**ug/L**	1.660	16739	0.027
	Zn	67		**ug/L**		27806	0.003
	Zn	68		**ug/L**		14632	0.020
>	Ge	74		**ug/L**		617203	617202.814
	As	75	**5.181**	**ug/L**	4.746	9238	0.014
	Se	77		**ug/L**		7425	0.000
	Se	82	**5.115**	**ug/L**	4.127	776	0.001
	Kr	83		**ug/L**		240	0.000
	Sr	88	**10.965**	**ug/L**	0.451	184334	0.592
	Y	89		**ug/L**		326	0.000
	Zr	90	**2.036**	**ug/L**	3.888	20585	0.063
	Mo	98	**0.491**	**ug/L**	4.263	2376	0.007
	Ag	107	**1.053**	**ug/L**	3.869	7610	0.024
	Cd	111	**1.048**	**ug/L**	2.489	1864	0.006
	Cd	114		**ug/L**		4230	0.013
>	In	115		**ug/L**		310332	310331.567
	Sn	120	**5.309**	**ug/L**	2.924	36345	0.116
	Sb	121	**2.304**	**ug/L**	3.039	14134	0.043
	Sb	123		**ug/L**		10961	0.033
	Ba	135		**ug/L**		3484	0.007
	Ba	137	**2.111**	**ug/L**	1.926	6182	0.013
	Ho	165		**ug/L**		26	0.000
>	Ta	181		**ug/L**		463806	463805.954
	Tl	205	**1.116**	**ug/L**	2.351	21193	0.041
	Pb	208	**2.214**	**ug/L**	3.537	57622	0.121
	Bi	209		**ug/L**		48	-0.000
	Th	232	**1.100**	**ug/L**	1.730	29605	0.059
	U	238	**0.211**	**ug/L**	2.488	6002	0.011

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7	108.220				
	Be	9	97.262				
	B	11	119.690				
	Na	23	96.898				
	Mg	24	114.945				
	Al	27	112.284				
	P	31	100.199				
	K	39	105.208				
	Ca	43	115.063				
>	Sc	45			92.4		
	Ti	47	85.950				
	V	51	112.674				
	Cr	52	110.538				
	Cr	53					
	Mn	55	110.562				
	Fe	57	102.493				
	Co	59	114.602				
	Ni	60	111.322				
	Cu	63					
	Cu	65	109.731				
	Zn	66	105.260				
	Zn	67					
	Zn	68					
>	Ge	74			93.7		
	As	75	103.627				
	Se	77					
	Se	82	102.296				
	Kr	83					
	Sr	88	109.653				
	Y	89					
	Zr	90	101.787				
	Mo	98	98.171				
	Ag	107	105.337				
	Cd	111	104.752				
	Cd	114					
>	In	115			93.8		
	Sn	120	106.183				
	Sb	121	115.198				
	Sb	123					
	Ba	135					
	Ba	137	105.547				
	Ho	165					
>	Ta	181			95.5		
	Tl	205	111.568				
	Pb	208	110.685				
	Bi	209					
	Th	232	109.961				
	U	238	105.389				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 4
Sample Date/Time: Friday, May 12, 2006 22:06:41
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\QC Std 4.219

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.570**	**ug/L**	5.006	1284	0.001
	Be	9	**0.016**	**ug/L**	92.066	27	0.000
	B	11	**3.437**	**ug/L**	2.765	2853	0.001
	Na	23	**89011.642**	**ug/L**	4.368	452787857	344.704
	Mg	24	**92817.352**	**ug/L**	2.000	332807285	253.380
	Al	27	**94778.032**	**ug/L**	5.592	474833604	361.486
	P	31	**95520.292**	**ug/L**	2.685	30364072	23.112
	K	39	**97279.161**	**ug/L**	2.687	658514214	500.763
	Ca	43	**95154.734**	**ug/L**	2.258	1383339	1.053
>	Sc	45		**ug/L**		1313460	1313460.398
	Ti	47	**1762.071**	**ug/L**	0.276	1403116	1.068
	V	51	**-0.673**	**ug/L**	46.408	17861	-0.004
	Cr	52	**0.589**	**ug/L**	3.271	8169	0.003
	Cr	53		**ug/L**		127151	-0.023
	Mn	55	**3.127**	**ug/L**	0.732	37020	0.027
	Fe	57	**101949.006**	**ug/L**	0.230	23238606	17.685
	Co	59	**0.376**	**ug/L**	2.574	3682	0.003
	Ni	60	**1.776**	**ug/L**	4.170	3649	0.003
	Cu	63		**ug/L**		8658	0.006
	Cu	65	**2.627**	**ug/L**	0.849	6340	0.005
	Zn	66	**6.414**	**ug/L**	1.265	9971	0.016
	Zn	67		**ug/L**		22408	-0.004
	Zn	68		**ug/L**		5829	0.006
>	Ge	74		**ug/L**		595025	595024.517
	As	75	**0.095**	**ug/L**	594.505	431	0.000
	Se	77		**ug/L**		9359	0.004
	Se	82	**-0.937**	**ug/L**	11.225	-159	-0.000
	Kr	83		**ug/L**		429	0.000
	Sr	88	**1.754**	**ug/L**	0.928	28807	0.095
	Y	89		**ug/L**		1175	0.003
	Zr	90	**0.209**	**ug/L**	8.026	3051	0.006
	Mo	98	**1979.460**	**ug/L**	2.824	8264261	27.773
	Ag	107	**0.067**	**ug/L**	2.271	569	0.002
	Cd	111	**0.218**	**ug/L**	71.177	404	0.001
	Cd	114		**ug/L**		9315	0.031
>	In	115		**ug/L**		297640	297640.135
	Sn	120	**0.107**	**ug/L**	8.534	1025	0.002
	Sb	121	**0.734**	**ug/L**	4.223	4782	0.014
	Sb	123		**ug/L**		3666	0.010
	Ba	135		**ug/L**		766	0.002
	Ba	137	**0.381**	**ug/L**	7.697	1217	0.002
	Ho	165		**ug/L**		61	0.000
>	Ta	181		**ug/L**		469697	469696.584
	Tl	205	**-0.025**	**ug/L**	13.481	1570	-0.001
	Pb	208	**0.348**	**ug/L**	1.710	10654	0.019
	Bi	209		**ug/L**		4783	0.010
	Th	232	**-0.018**	**ug/L**	45.246	1660	-0.001
	U	238	**-0.012**	**ug/L**	6.685	452	-0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23	89.012				
	Mg	24	92.817				
	Al	27	94.778				
	P	31	95.520				
	K	39	97.279				
	Ca	43	95.155				
>	Sc	45			89.6		
	Ti	47	88.104				
	V	51					
	Cr	52	26.771				
	Cr	53					
	Mn	55	115.813				
	Fe	57	101.949				
	Co	59	93.914				
	Ni	60	74.013				
	Cu	63					
	Cu	65	77.267				
	Zn	66	91.634				
	Zn	67					
	Zn	68					
>	Ge	74			90.4		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98	98.973				
	Ag	107					
	Cd	111	109.201				
	Cd	114					
>	In	115			90.0		
	Sn	120					
	Sb	121	146.778				
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181			96.7		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 5
Sample Date/Time: Friday, May 12, 2006 22:11:50
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\QC Std 5.220

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**23.178**	**ug/L**	1.028	47605	0.037
	Be	9	**20.180**	**ug/L**	2.175	10600	0.008
	B	11	**22.147**	**ug/L**	4.505	11658	0.008
	Na	23	**90714.230**	**ug/L**	7.396	455010758	351.298
	Mg	24	**91690.507**	**ug/L**	1.842	323924864	250.304
	Al	27	**96504.923**	**ug/L**	3.854	476205389	368.073
	P	31	**96797.915**	**ug/L**	2.226	30315252	23.421
	K	39	**100010.244**	**ug/L**	4.618	666816515	514.821
	Ca	43	**96347.945**	**ug/L**	0.220	1380362	1.066
>	Sc	45		**ug/L**		1294416	1294415.888
	Ti	47	**1758.850**	**ug/L**	1.778	1380024	1.066
	V	51	**21.765**	**ug/L**	7.066	197695	0.135
	Cr	52	**22.089**	**ug/L**	2.871	168904	0.128
	Cr	53		**ug/L**		140234	-0.012
	Mn	55	**24.899**	**ug/L**	1.896	279128	0.214
	Fe	57	**103969.674**	**ug/L**	3.667	23343815	18.036
	Co	59	**21.649**	**ug/L**	3.132	192861	0.149
	Ni	60	**21.765**	**ug/L**	2.777	42915	0.033
	Cu	63		**ug/L**		100401	0.077
	Cu	65	**22.190**	**ug/L**	1.670	51420	0.040
	Zn	66	**26.619**	**ug/L**	3.812	38786	0.067
	Zn	67		**ug/L**		26325	0.004
	Zn	68		**ug/L**		27824	0.045
>	Ge	74		**ug/L**		573177	573177.209
	As	75	**21.229**	**ug/L**	1.068	34319	0.059
	Se	77		**ug/L**		11412	0.008
	Se	82	**19.244**	**ug/L**	1.904	2760	0.005
	Kr	83		**ug/L**		431	0.000
	Sr	88	**24.077**	**ug/L**	2.013	383885	1.300
	Y	89		**ug/L**		1147	0.003
	Zr	90	**22.108**	**ug/L**	2.104	201417	0.679
	Mo	98	**2002.207**	**ug/L**	3.358	8283889	28.092
	Ag	107	**19.962**	**ug/L**	1.185	135132	0.458
	Cd	111	**19.284**	**ug/L**	4.043	31953	0.108
	Cd	114		**ug/L**		83876	0.284
>	In	115		**ug/L**		294973	294973.102
	Sn	120	**21.265**	**ug/L**	2.276	137402	0.465
	Sb	121	**23.278**	**ug/L**	3.195	129587	0.437
	Sb	123		**ug/L**		99965	0.337
	Ba	135		**ug/L**		34166	0.075
	Ba	137	**21.077**	**ug/L**	1.420	59542	0.131
	Ho	165		**ug/L**		61	0.000
>	Ta	181		**ug/L**		454332	454331.536
	Tl	205	**20.571**	**ug/L**	1.466	348946	0.764
	Pb	208	**20.669**	**ug/L**	1.347	513135	1.126
	Bi	209		**ug/L**		4568	0.010
	Th	232	**22.134**	**ug/L**	1.376	544580	1.194
	U	238	**21.778**	**ug/L**	1.767	532540	1.171

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7	115.890				
	Be	9	100.901				
	B	11	110.733				
	Na	23	90.714				
	Mg	24	91.691				
	Al	27	96.505				
	P	31	96.798				
	K	39	100.010				
	Ca	43	96.348				
>	Sc	45		88.3			
	Ti	47	87.942				
	V	51	108.823				
	Cr	52	99.501				
	Cr	53					
	Mn	55	109.686				
	Fe	57	103.970				
	Co	59	106.125				
	Ni	60	97.163				
	Cu	63					
	Cu	65	94.830				
	Zn	66	98.588				
	Zn	67					
	Zn	68					
>	Ge	74		87.0			
	As	75	106.144				
	Se	77					
	Se	82	96.220				
	Kr	83					
	Sr	88	120.383				
	Y	89					
	Zr	90	110.541				
	Mo	98	100.110				
	Ag	107	99.809				
	Cd	111	95.465				
	Cd	114					
>	In	115		89.2			
	Sn	120	106.323				
	Sb	121	113.553				
	Sb	123					
	Ba	135					
	Ba	137	105.387				
	Ho	165					
>	Ta	181		93.5			
	Tl	205	102.856				
	Pb	208	103.343				
	Bi	209					
	Th	232	110.671				
	U	238	108.889				

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 5	Sr	88ICSAB is out of limits

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 6
Sample Date/Time: Friday, May 12, 2006 22:16:58
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\QC Std 6.221

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**59.840**	ug/L	1.543	120464	0.095
	Be	9	**55.887**	ug/L	0.143	28787	0.023
	B	11	**104.887**	ug/L	2.982	49872	0.038
	Na	23	**4825.420**	ug/L	8.280	23767943	18.687
	Mg	24	**4839.691**	ug/L	3.299	16790373	13.212
	Al	27	**5311.494**	ug/L	2.729	25748528	20.258
	P	31	**4830.523**	ug/L	0.863	1492315	1.169
	K	39	**5330.208**	ug/L	9.157	35639146	27.438
	Ca	43	**5146.350**	ug/L	1.202	73198	0.057
>	Sc	45		ug/L		1270330	1270329.885
	Ti	47	**51.420**	ug/L	0.763	39931	0.031
	V	51	**53.229**	ug/L	0.921	442243	0.330
	Cr	52	**53.075**	ug/L	1.420	393401	0.307
	Cr	53		ug/L		172320	0.016
	Mn	55	**53.547**	ug/L	0.977	587441	0.461
	Fe	57	**5193.234**	ug/L	2.117	1154068	0.901
	Co	59	**54.042**	ug/L	1.692	472213	0.372
	Ni	60	**53.217**	ug/L	1.961	102864	0.081
	Cu	63		ug/L		247102	0.194
	Cu	65	**53.339**	ug/L	1.705	121058	0.095
	Zn	66	**54.914**	ug/L	4.413	79530	0.138
	Zn	67		ug/L		32702	0.015
	Zn	68		ug/L		61823	0.104
>	Ge	74		ug/L		572335	572334.906
	As	75	**52.001**	ug/L	2.971	83527	0.146
	Se	77		ug/L		11385	0.008
	Se	82	**55.220**	ug/L	4.393	7937	0.014
	Kr	83		ug/L		208	-0.000
	Sr	88	**53.222**	ug/L	0.768	834383	2.873
	Y	89		ug/L		355	0.000
	Zr	90	**52.879**	ug/L	1.738	472515	1.624
	Mo	98	**52.455**	ug/L	2.707	213796	0.736
	Ag	107	**52.651**	ug/L	0.534	350532	1.207
	Cd	111	**51.563**	ug/L	1.481	84037	0.289
	Cd	114		ug/L		192959	0.665
>	In	115		ug/L		290260	290260.072
	Sn	120	**52.582**	ug/L	2.360	333842	1.149
	Sb	121	**52.593**	ug/L	2.691	287289	0.988
	Sb	123		ug/L		220348	0.757
	Ba	135		ug/L		78991	0.185
	Ba	137	**53.295**	ug/L	3.541	141238	0.331
	Ho	165		ug/L		35	0.000
>	Ta	181		ug/L		426904	426904.334
	Tl	205	**53.235**	ug/L	2.452	845283	1.976
	Pb	208	**53.821**	ug/L	1.938	1252638	2.931
	Bi	209		ug/L		83	0.000
	Th	232	**54.209**	ug/L	3.078	1249999	2.925
	U	238	**54.929**	ug/L	3.118	1260525	2.953

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7	119.680				
	Be	9	111.775				
	B	11	104.887				
	Na	23	96.508				
	Mg	24	96.794				
	Al	27	105.178				
	P	31	96.610				
	K	39	106.604				
	Ca	43	102.927				
>	Sc	45			86.7		
	Ti	47	102.840				
	V	51	106.457				
	Cr	52	106.151				
	Cr	53					
	Mn	55	107.094				
	Fe	57	103.865				
	Co	59	108.084				
	Ni	60	106.433				
	Cu	63					
	Cu	65	106.678				
	Zn	66	109.828				
	Zn	67					
	Zn	68					
>	Ge	74			86.9		
	As	75	104.002				
	Se	77					
	Se	82	110.440				
	Kr	83					
	Sr	88	106.445				
	Y	89					
	Zr	90	105.758				
	Mo	98	104.910				
	Ag	107	105.303				
	Cd	111	103.125				
	Cd	114					
>	In	115			87.8		
	Sn	120	105.164				
	Sb	121	105.186				
	Sb	123					
	Ba	135					
	Ba	137	106.590				
	Ho	165					
>	Ta	181			87.9		
	Tl	205	106.470				
	Pb	208	107.643				
	Bi	209					
	Th	232	108.419				
	U	238	109.857				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Li	7	CCV is out of limits (+/- 10%)
QC Std 6	Be	9	CCV is out of limits (+/- 10%)
QC Std 6	Se	82	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 7
Sample Date/Time: Friday, May 12, 2006 22:22:07
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\QC Std 7.222

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.035**	**ug/L**	17.538	168	0.000
	Be	9	**0.027**	**ug/L**	23.977	32	0.000
	B	11	**3.725**	**ug/L**	22.444	2910	0.001
	Na	23	**1.825**	**ug/L**	107.340	40727	0.007
	Mg	24	**1.187**	**ug/L**	46.484	12005	0.003
	Al	27	**2.535**	**ug/L**	27.641	24020	0.010
	P	31	**-0.339**	**ug/L**	339.903	7594	-0.000
	K	39	**2.049**	**ug/L**	254.761	786782	0.011
	Ca	43	**14.439**	**ug/L**	6.884	1093	0.000
>	Sc	45		**ug/L**		1278436	1278436.381
	Ti	47	**-0.000**	**ug/L**	12791.601	344	-0.000
	V	51	**-0.679**	**ug/L**	64.508	17366	-0.004
	Cr	52	**0.007**	**ug/L**	241.494	3653	0.000
	Cr	53		**ug/L**		139077	-0.011
	Mn	55	**0.008**	**ug/L**	107.801	1693	0.000
	Fe	57	**0.923**	**ug/L**	11.796	9977	0.000
	Co	59	**0.009**	**ug/L**	31.745	362	0.000
	Ni	60	**0.011**	**ug/L**	63.225	121	0.000
	Cu	63		**ug/L**		338	0.000
	Cu	65	**0.022**	**ug/L**	53.825	228	0.000
	Zn	66	**0.032**	**ug/L**	29.661	382	0.000
	Zn	67		**ug/L**		22043	-0.003
	Zn	68		**ug/L**		1877	-0.001
>	Ge	74		**ug/L**		574456	574456.134
	As	75	**-0.009**	**ug/L**	3371.521	255	-0.000
	Se	77		**ug/L**		5875	-0.002
	Se	82	**-0.014**	**ug/L**	1060.716	-20	-0.000
	Kr	83		**ug/L**		225	0.000
	Sr	88	**-0.000**	**ug/L**	12770.376	611	-0.000
	Y	89		**ug/L**		263	0.000
	Zr	90	**0.133**	**ug/L**	56.234	2287	0.004
	Mo	98	**0.228**	**ug/L**	13.159	1149	0.003
	Ag	107	**0.010**	**ug/L**	23.680	173	0.000
	Cd	111	**0.004**	**ug/L**	72.067	44	0.000
	Cd	114		**ug/L**		104	0.000
>	In	115		**ug/L**		289381	289381.252
	Sn	120	**0.010**	**ug/L**	57.909	381	0.000
	Sb	121	**0.324**	**ug/L**	24.428	2419	0.006
	Sb	123		**ug/L**		1858	0.004
	Ba	135		**ug/L**		63	0.000
	Ba	137	**0.012**	**ug/L**	93.362	130	0.000
	Ho	165		**ug/L**		27	0.000
>	Ta	181		**ug/L**		423941	423941.098
	Tl	205	**0.085**	**ug/L**	31.236	3158	0.003
	Pb	208	**0.008**	**ug/L**	33.887	1764	0.000
	Bi	209		**ug/L**		54	0.000
	Th	232	**0.042**	**ug/L**	44.697	2883	0.002
	U	238	**0.013**	**ug/L**	40.598	983	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		87.2			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		87.2			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		87.5			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		87.3			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 11
Sample Date/Time: Friday, May 12, 2006 22:32:23
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\QC Std 11.224

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**58.457**	**ug/L**	0.928	119587	0.093
	Be	9	**55.217**	**ug/L**	1.254	28898	0.022
	B	11	**108.466**	**ug/L**	5.783	52327	0.040
	Na	23	**5021.903**	**ug/L**	4.930	25135882	19.448
	Mg	24	**5564.328**	**ug/L**	8.321	19601565	15.190
	Al	27	**5099.959**	**ug/L**	11.416	25084070	19.451
	P	31	**4934.638**	**ug/L**	3.682	1548242	1.194
	K	39	**5183.386**	**ug/L**	2.822	35234155	26.682
	Ca	43	**5142.018**	**ug/L**	1.624	74301	0.057
>	Sc	45		**ug/L**		1290813	1290812.551
	Ti	47	**50.797**	**ug/L**	1.406	40085	0.031
	V	51	**53.618**	**ug/L**	3.365	452308	0.333
	Cr	52	**52.788**	**ug/L**	2.743	397492	0.305
	Cr	53		**ug/L**		172925	0.014
	Mn	55	**54.115**	**ug/L**	1.367	603122	0.466
	Fe	57	**5106.660**	**ug/L**	2.717	1152934	0.886
	Co	59	**53.553**	**ug/L**	4.361	475253	0.368
	Ni	60	**53.353**	**ug/L**	2.440	104769	0.081
	Cu	63		**ug/L**		250960	0.194
	Cu	65	**52.923**	**ug/L**	0.505	122071	0.094
	Zn	66	**55.302**	**ug/L**	2.187	82705	0.139
	Zn	67		**ug/L**		33856	0.016
	Zn	68		**ug/L**		64337	0.105
>	Ge	74		**ug/L**		590856	590855.909
	As	75	**51.964**	**ug/L**	2.527	86181	0.145
	Se	77		**ug/L**		11642	0.008
	Se	82	**52.794**	**ug/L**	1.736	7836	0.013
	Kr	83		**ug/L**		224	0.000
	Sr	88	**53.203**	**ug/L**	0.993	851165	2.872
	Y	89		**ug/L**		349	0.000
	Zr	90	**52.679**	**ug/L**	0.944	480417	1.618
	Mo	98	**52.397**	**ug/L**	2.824	217939	0.735
	Ag	107	**53.954**	**ug/L**	2.298	366516	1.237
	Cd	111	**52.256**	**ug/L**	1.712	86905	0.293
	Cd	114		**ug/L**		200522	0.677
>	In	115		**ug/L**		296191	296190.710
	Sn	120	**52.521**	**ug/L**	1.981	340315	1.148
	Sb	121	**53.409**	**ug/L**	1.433	297734	1.003
	Sb	123		**ug/L**		230122	0.775
	Ba	135		**ug/L**		81603	0.186
	Ba	137	**53.194**	**ug/L**	2.136	144785	0.330
	Ho	165		**ug/L**		37	0.000
>	Ta	181		**ug/L**		438217	438216.501
	Tl	205	**53.584**	**ug/L**	1.739	873630	1.989
	Pb	208	**56.034**	**ug/L**	2.488	1338990	3.052
	Bi	209		**ug/L**		88	0.000
	Th	232	**54.369**	**ug/L**	1.751	1287260	2.933
	U	238	**56.349**	**ug/L**	3.774	1327840	3.029

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7	116.913				
	Be	9	110.434				
	B	11	108.466				
	Na	23	100.438				
	Mg	24	111.287				
	Al	27	100.989				
	P	31	98.693				
	K	39	103.668				
	Ca	43	102.840				
>	Sc	45		88.1			
	Ti	47	101.594				
	V	51	107.236				
	Cr	52	105.576				
	Cr	53					
	Mn	55	108.231				
	Fe	57	102.133				
	Co	59	107.105				
	Ni	60	106.706				
	Cu	63					
	Cu	65	105.847				
	Zn	66	110.604				
	Zn	67					
	Zn	68					
>	Ge	74		89.7			
	As	75	103.928				
	Se	77					
	Se	82	105.589				
	Kr	83					
	Sr	88	106.406				
	Y	89					
	Zr	90	105.358				
	Mo	98	104.793				
	Ag	107	107.907				
	Cd	111	104.512				
	Cd	114					
>	In	115		89.5			
	Sn	120	105.042				
	Sb	121	106.818				
	Sb	123					
	Ba	135					
	Ba	137	106.388				
	Ho	165					
>	Ta	181		90.2			
	Tl	205	107.168				
	Pb	208	112.068				
	Bi	209					
	Th	232	108.737				
	U	238	112.698				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 11	Li	7	CCV is out of limits (+/- 10%)
QC Std 11	Be	9	CCV is out of limits (+/- 10%)
QC Std 11	Mg	24	CCV is out of limits (+/- 10%)
QC Std 11	Zn	66	CCV is out of limits (+/- 10%)
QC Std 11	Pb	208	CCV is out of limits (+/- 10%)
QC Std 11	U	238	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 12
Sample Date/Time: Friday, May 12, 2006 22:37:32
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\QC Std 12.225

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.183**	**ug/L**	6.595	463	0.000
	Be	9	**0.033**	**ug/L**	53.041	35	0.000
	B	11	**3.753**	**ug/L**	17.612	2911	0.001
	Na	23	**4.429**	**ug/L**	53.764	53436	0.017
	Mg	24	**3.516**	**ug/L**	9.427	20014	0.010
	Al	27	**4.087**	**ug/L**	37.369	31369	0.016
	P	31	**0.197**	**ug/L**	499.538	7720	0.000
	K	39	**7.840**	**ug/L**	37.430	820592	0.040
	Ca	43	**11.166**	**ug/L**	61.829	1041	0.000
>	Sc	45		**ug/L**		1271687	1271687.050
	Ti	47	**0.015**	**ug/L**	188.414	354	0.000
	V	51	**-0.532**	**ug/L**	67.411	18398	-0.003
	Cr	52	**0.079**	**ug/L**	53.680	4159	0.000
	Cr	53		**ug/L**		134491	-0.014
	Mn	55	**0.029**	**ug/L**	16.827	1917	0.000
	Fe	57	**-0.055**	**ug/L**	101.689	9709	-0.000
	Co	59	**0.058**	**ug/L**	6.324	787	0.000
	Ni	60	**0.034**	**ug/L**	29.550	165	0.000
	Cu	63		**ug/L**		491	0.000
	Cu	65	**0.051**	**ug/L**	20.286	293	0.000
	Zn	66	**0.046**	**ug/L**	28.560	402	0.000
	Zn	67		**ug/L**		21691	-0.004
	Zn	68		**ug/L**		1937	-0.001
>	Ge	74		**ug/L**		573385	573385.362
	As	75	**0.212**	**ug/L**	114.720	609	0.001
	Se	77		**ug/L**		5642	-0.002
	Se	82	**0.050**	**ug/L**	314.026	-11	0.000
	Kr	83		**ug/L**		227	0.000
	Sr	88	**0.012**	**ug/L**	11.973	812	0.001
	Y	89		**ug/L**		265	-0.000
	Zr	90	**0.172**	**ug/L**	42.579	2698	0.005
	Mo	98	**0.170**	**ug/L**	14.930	932	0.002
	Ag	107	**0.011**	**ug/L**	16.859	186	0.000
	Cd	111	**0.018**	**ug/L**	9.232	68	0.000
	Cd	114		**ug/L**		134	0.000
>	In	115		**ug/L**		296084	296083.734
	Sn	120	**0.038**	**ug/L**	8.076	572	0.001
	Sb	121	**1.211**	**ug/L**	12.194	7409	0.023
	Sb	123		**ug/L**		5825	0.018
	Ba	135		**ug/L**		118	0.000
	Ba	137	**0.038**	**ug/L**	2.596	198	0.000
	Ho	165		**ug/L**		26	0.000
>	Ta	181		**ug/L**		426245	426244.809
	Tl	205	**0.161**	**ug/L**	24.034	4367	0.006
	Pb	208	**0.049**	**ug/L**	8.725	2745	0.003
	Bi	209		**ug/L**		49	-0.000
	Th	232	**0.187**	**ug/L**	22.186	6228	0.010
	U	238	**0.099**	**ug/L**	17.716	2965	0.005

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		86.8			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		87.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		89.5			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		87.7			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1201089345
Sample Date/Time: Friday, May 12, 2006 22:42:45
Sample Type:
Sample Description: ESHL 6020 MB
Number of Replicates: 3
Batch ID: 528474|1|baj
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\1201089345.226

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.405**	**ug/L**	7.494	917	0.001
	Be	9	**0.006**	**ug/L**	99.031	21	0.000
	B	11	**1.698**	**ug/L**	20.132	1964	0.001
	Na	23	**21.299**	**ug/L**	18.440	137333	0.082
	Mg	24	**-0.432**	**ug/L**	170.025	6335	-0.001
	Al	27	**2.881**	**ug/L**	46.005	25691	0.011
	P	31	**-5.483**	**ug/L**	9.148	6009	-0.001
	K	39	**12.908**	**ug/L**	21.822	858723	0.066
	Ca	43	**69.791**	**ug/L**	7.655	1878	0.001
>	Sc	45		**ug/L**		1279567	1279566.847
	Ti	47	**0.337**	**ug/L**	13.851	607	0.000
	V	51	**-1.405**	**ug/L**	142.830	11415	-0.009
	Cr	52	**1.154**	**ug/L**	8.904	12137	0.007
	Cr	53		**ug/L**		347315	0.151
	Mn	55	**0.184**	**ug/L**	5.489	3634	0.002
	Fe	57	**0.866**	**ug/L**	194.834	9969	0.000
	Co	59	**0.047**	**ug/L**	1.317	698	0.000
	Ni	60	**0.108**	**ug/L**	6.113	309	0.000
	Cu	63		**ug/L**		900	0.000
	Cu	65	**0.154**	**ug/L**	14.659	531	0.000
	Zn	66	**5.667**	**ug/L**	1.242	8988	0.014
	Zn	67		**ug/L**		97721	0.120
	Zn	68		**ug/L**		10890	0.014
>	Ge	74		**ug/L**		604388	604388.331
	As	75	**0.615**	**ug/L**	76.881	1330	0.002
	Se	77		**ug/L**		20247	0.022
	Se	82	**0.010**	**ug/L**	2029.589	-18	0.000
	Kr	83		**ug/L**		226	-0.000
	Sr	88	**0.042**	**ug/L**	5.649	1243	0.002
	Y	89		**ug/L**		242	-0.000
	Zr	90	**-0.049**	**ug/L**	13.645	651	-0.002
	Mo	98	**0.066**	**ug/L**	19.649	478	0.001
	Ag	107	**-0.005**	**ug/L**	17.693	71	-0.000
	Cd	111	**-0.003**	**ug/L**	324.104	32	-0.000
	Cd	114		**ug/L**		55	-0.000
>	In	115		**ug/L**		282511	282511.233
	Sn	120	**0.108**	**ug/L**	5.867	978	0.002
	Sb	121	**0.882**	**ug/L**	50.618	5295	0.017
	Sb	123		**ug/L**		4205	0.013
	Ba	135		**ug/L**		200	0.000
	Ba	137	**0.109**	**ug/L**	3.808	366	0.001
	Ho	165		**ug/L**		20	-0.000
>	Ta	181		**ug/L**		403853	403852.863
	Tl	205	**0.005**	**ug/L**	83.641	1810	0.000
	Pb	208	**0.045**	**ug/L**	9.779	2505	0.002
	Bi	209		**ug/L**		296	0.001
	Th	232	**0.042**	**ug/L**	28.518	2737	0.002
	U	238	**0.018**	**ug/L**	21.631	1052	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		87.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		91.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		85.4			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		83.1			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1201089346
Sample Date/Time: Friday, May 12, 2006 22:47:59
Sample Type:
Sample Description: ESHL 6020 LCS
Number of Replicates: 3
Batch ID: 528474|1|baj
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\1201089346.227

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**50.317**	**ug/L**	0.683	104233	0.080
	Be	9	**49.459**	**ug/L**	1.350	26210	0.020
	B	11	**92.275**	**ug/L**	4.408	45270	0.034
	Na	23	**1729.260**	**ug/L**	5.350	8782062	6.697
	Mg	24	**1895.622**	**ug/L**	5.928	6771074	5.175
	Al	27	**1937.131**	**ug/L**	5.103	9669860	7.388
	P	31	**1720.147**	**ug/L**	3.225	551820	0.416
	K	39	**1931.558**	**ug/L**	3.094	13785490	9.943
	Ca	43	**1914.162**	**ug/L**	1.629	28583	0.021
>	Sc	45		**ug/L**		1306923	1306923.480
	Ti	47	**32.357**	**ug/L**	5.896	25984	0.020
	V	51	**47.473**	**ug/L**	2.467	408247	0.295
	Cr	52	**41.874**	**ug/L**	3.289	320079	0.242
	Cr	53		**ug/L**		142485	-0.011
	Mn	55	**49.594**	**ug/L**	2.477	559794	0.427
	Fe	57	**1520.287**	**ug/L**	5.912	354651	0.264
	Co	59	**49.114**	**ug/L**	1.908	441525	0.338
	Ni	60	**48.791**	**ug/L**	1.973	97035	0.074
	Cu	63		**ug/L**		234537	0.179
	Cu	65	**48.959**	**ug/L**	1.279	114341	0.087
	Zn	66	**54.033**	**ug/L**	2.093	82075	0.136
	Zn	67		**ug/L**		28687	0.006
	Zn	68		**ug/L**		64542	0.104
>	Ge	74		**ug/L**		600020	600020.198
	As	75	**46.164**	**ug/L**	0.947	77784	0.129
	Se	77		**ug/L**		9282	0.004
	Se	82	**53.199**	**ug/L**	1.548	8020	0.013
	Kr	83		**ug/L**		221	-0.000
	Sr	88	**48.046**	**ug/L**	1.895	793496	2.593
	Y	89		**ug/L**		266	-0.000
	Zr	90	**36.928**	**ug/L**	5.708	347985	1.134
	Mo	98	**41.778**	**ug/L**	3.979	179396	0.586
	Ag	107	**47.725**	**ug/L**	1.764	334699	1.094
	Cd	111	**47.815**	**ug/L**	2.415	82084	0.268
	Cd	114		**ug/L**		190265	0.622
>	In	115		**ug/L**		305794	305793.587
	Sn	120	**36.868**	**ug/L**	4.770	246720	0.806
	Sb	121	**43.541**	**ug/L**	4.279	250662	0.818
	Sb	123		**ug/L**		193586	0.631
	Ba	135		**ug/L**		75731	0.172
	Ba	137	**49.095**	**ug/L**	2.518	134179	0.305
	Ho	165		**ug/L**		27	0.000
>	Ta	181		**ug/L**		440065	440065.294
	Tl	205	**49.863**	**ug/L**	0.445	816606	1.851
	Pb	208	**47.060**	**ug/L**	2.391	1129446	2.563
	Bi	209		**ug/L**		77	0.000
	Th	232	**38.739**	**ug/L**	5.245	921886	2.090
	U	238	**39.862**	**ug/L**	3.072	943602	2.143

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		89.2			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		91.1			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		92.5			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		90.6			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1201089535
Sample Date/Time: Friday, May 12, 2006 22:53:11
Sample Type:
Sample Description: ESHL 6020 LCSD
Number of Replicates: 3
Batch ID: 528474|1|baj
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\1201089535.228

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**48.598**	**ug/L**	1.118	100196	0.077
	Be	9	**48.598**	**ug/L**	1.782	25629	0.020
	B	11	**91.871**	**ug/L**	4.077	44856	0.034
	Na	23	**1777.818**	**ug/L**	0.774	8987788	6.885
	Mg	24	**1828.160**	**ug/L**	0.323	6499404	4.991
	Al	27	**1818.751**	**ug/L**	5.073	9029898	6.937
	P	31	**1787.573**	**ug/L**	2.962	570251	0.433
	K	39	**1909.900**	**ug/L**	6.738	13567175	9.832
	Ca	43	**1882.297**	**ug/L**	3.933	27975	0.021
>	Sc	45		**ug/L**		1300702	1300701.563
	Ti	47	**36.333**	**ug/L**	3.586	28987	0.022
	V	51	**46.704**	**ug/L**	3.059	400032	0.290
	Cr	52	**44.084**	**ug/L**	2.701	335139	0.255
	Cr	53		**ug/L**		121472	-0.027
	Mn	55	**48.602**	**ug/L**	2.484	545998	0.419
	Fe	57	**1686.157**	**ug/L**	4.012	390264	0.292
	Co	59	**47.877**	**ug/L**	3.623	428256	0.329
	Ni	60	**47.394**	**ug/L**	0.993	93811	0.072
	Cu	63		**ug/L**		228022	0.175
	Cu	65	**48.531**	**ug/L**	1.651	112793	0.087
	Zn	66	**53.113**	**ug/L**	2.622	80338	0.134
	Zn	67		**ug/L**		24824	-0.000
	Zn	68		**ug/L**		62048	0.100
>	Ge	74		**ug/L**		597425	597424.844
	As	75	**45.553**	**ug/L**	0.367	76431	0.127
	Se	77		**ug/L**		8877	0.003
	Se	82	**52.631**	**ug/L**	0.433	7899	0.013
	Kr	83		**ug/L**		231	0.000
	Sr	88	**47.687**	**ug/L**	2.172	781558	2.574
	Y	89		**ug/L**		270	-0.000
	Zr	90	**41.734**	**ug/L**	1.939	390133	1.282
	Mo	98	**42.877**	**ug/L**	2.946	182736	0.602
	Ag	107	**46.669**	**ug/L**	1.352	324846	1.070
	Cd	111	**47.113**	**ug/L**	2.505	80264	0.264
	Cd	114		**ug/L**		185029	0.610
>	In	115		**ug/L**		303446	303445.651
	Sn	120	**41.813**	**ug/L**	2.304	277637	0.914
	Sb	121	**46.008**	**ug/L**	2.497	262815	0.864
	Sb	123		**ug/L**		203693	0.669
	Ba	135		**ug/L**		74026	0.167
	Ba	137	**46.947**	**ug/L**	0.995	129187	0.291
	Ho	165		**ug/L**		29	0.000
>	Ta	181		**ug/L**		442976	442975.865
	Tl	205	**48.770**	**ug/L**	1.771	803959	1.811
	Pb	208	**46.760**	**ug/L**	1.083	1129846	2.547
	Bi	209		**ug/L**		66	0.000
	Th	232	**42.925**	**ug/L**	3.418	1027829	2.316
	U	238	**40.316**	**ug/L**	4.036	960745	2.167

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			88.8		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			90.7		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			91.7		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181			91.2		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 162512001
Sample Date/Time: Friday, May 12, 2006 22:58:22
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 528474|1|baj
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\162512001.229

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**18.061**	**ug/L**	1.993	37733	0.029
	Be	9	**0.051**	**ug/L**	79.828	46	0.000
	B	11	**618.136**	**ug/L**	3.376	298497	0.226
	Na	23	**686.919**	**ug/L**	7.211	3532062	2.660
	Mg	24	**3.609**	**ug/L**	49.588	21016	0.010
	Al	27	**300.421**	**ug/L**	6.781	1520407	1.146
	P	31	**136.473**	**ug/L**	100.482	51701	0.033
	K	39	**109.288**	**ug/L**	7.314	1536069	0.563
	Ca	43	**159.792**	**ug/L**	3.640	3241	0.002
>	Sc	45		**ug/L**		1316088	1316088.148
	Ti	47	**86.318**	**ug/L**	6.957	69243	0.052
	V	51	**1.281**	**ug/L**	58.873	33842	0.008
	Cr	52	**9.833**	**ug/L**	31.021	78698	0.057
	Cr	53		**ug/L**		346704	0.144
	Mn	55	**0.699**	**ug/L**	2.504	9575	0.006
	Fe	57	**270.710**	**ug/L**	98.568	72306	0.047
	Co	59	**0.064**	**ug/L**	9.967	873	0.000
	Ni	60	**0.338**	**ug/L**	2.753	779	0.001
	Cu	63		**ug/L**		9184	0.007
	Cu	65	**1.764**	**ug/L**	1.808	4327	0.003
	Zn	66	**6.930**	**ug/L**	2.718	10320	0.017
	Zn	67		**ug/L**		92610	0.120
	Zn	68		**ug/L**		16734	0.025
>	Ge	74		**ug/L**		571585	571585.144
	As	75	**1.568**	**ug/L**	48.058	2775	0.004
	Se	77		**ug/L**		23740	0.030
	Se	82	**0.638**	**ug/L**	134.663	74	0.000
	Kr	83		**ug/L**		236	0.000
	Sr	88	**3.223**	**ug/L**	1.684	48274	0.174
	Y	89		**ug/L**		1313	0.004
	Zr	90	**8.381**	**ug/L**	71.678	71853	0.257
	Mo	98	**3.133**	**ug/L**	32.903	12294	0.044
	Ag	107	**0.132**	**ug/L**	26.957	934	0.003
	Cd	111	**0.081**	**ug/L**	59.623	161	0.000
	Cd	114		**ug/L**		56	-0.000
>	In	115		**ug/L**		274276	274276.492
	Sn	120	**8.163**	**ug/L**	74.658	49399	0.178
	Sb	121	**5.041**	**ug/L**	71.553	26677	0.095
	Sb	123		**ug/L**		20701	0.073
	Ba	135		**ug/L**		261449	0.713
	Ba	137	**197.731**	**ug/L**	3.615	449998	1.227
	Ho	165		**ug/L**		74	0.000
>	Ta	181		**ug/L**		366755	366755.257
	Tl	205	**0.094**	**ug/L**	139.097	2887	0.003
	Pb	208	**1.840**	**ug/L**	87.540	38718	0.100
	Bi	209		**ug/L**		566	0.001
	Th	232	**7.795**	**ug/L**	83.795	158125	0.421
	U	238	**0.787**	**ug/L**	84.549	16335	0.042

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		89.8			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		86.8			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		82.9			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		75.5			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
B	11 Upper, S, EEE B	11	Sample is out of limits (over linear range)

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1201089349
Sample Date/Time: Friday, May 12, 2006 23:03:34
Sample Type:
Sample Description: ESHL 6020 SDILT
Number of Replicates: 3
Batch ID: 528474|5|baj
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\1201089349.230

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**4.119**	**ug/L**	1.439	8184	0.007
	Be	9	**0.019**	**ug/L**	34.097	27	0.000
	B	11	**145.722**	**ug/L**	1.922	67201	0.053
	Na	23	**152.815**	**ug/L**	13.091	764429	0.592
	Mg	24	**1.599**	**ug/L**	94.447	13007	0.004
	Al	27	**64.950**	**ug/L**	3.700	318513	0.248
	P	31	**13.424**	**ug/L**	7.507	11500	0.003
	K	39	**24.448**	**ug/L**	31.104	906617	0.126
	Ca	43	**53.492**	**ug/L**	2.518	1597	0.001
>	Sc	45		**ug/L**		1240423	1240422.564
	Ti	47	**17.822**	**ug/L**	1.840	13732	0.011
	V	51	**0.588**	**ug/L**	176.041	26566	0.004
	Cr	52	**2.328**	**ug/L**	7.265	20193	0.013
	Cr	53		**ug/L**		225348	0.062
	Mn	55	**0.216**	**ug/L**	2.636	3858	0.002
	Fe	57	**11.860**	**ug/L**	12.541	12033	0.002
	Co	59	**0.021**	**ug/L**	9.932	451	0.000
	Ni	60	**0.087**	**ug/L**	8.882	261	0.000
	Cu	63		**ug/L**		1708	0.001
	Cu	65	**0.338**	**ug/L**	9.463	921	0.001
	Zn	66	**1.912**	**ug/L**	1.803	2990	0.005
	Zn	67		**ug/L**		41660	0.034
	Zn	68		**ug/L**		5835	0.007
>	Ge	74		**ug/L**		553276	553276.131
	As	75	**0.224**	**ug/L**	250.623	603	0.001
	Se	77		**ug/L**		15078	0.015
	Se	82	**-0.017**	**ug/L**	932.596	-20	-0.000
	Kr	83		**ug/L**		221	0.000
	Sr	88	**0.666**	**ug/L**	1.004	10455	0.036
	Y	89		**ug/L**		431	0.001
	Zr	90	**0.478**	**ug/L**	14.243	5079	0.015
	Mo	98	**0.490**	**ug/L**	2.881	2102	0.007
	Ag	107	**0.013**	**ug/L**	17.127	186	0.000
	Cd	111	**-0.003**	**ug/L**	126.809	31	-0.000
	Cd	114		**ug/L**		31	-0.000
>	In	115		**ug/L**		274764	274764.314
	Sn	120	**0.679**	**ug/L**	15.625	4378	0.015
	Sb	121	**0.370**	**ug/L**	11.980	2537	0.007
	Sb	123		**ug/L**		2011	0.005
	Ba	135		**ug/L**		54601	0.145
	Ba	137	**41.291**	**ug/L**	1.171	96601	0.256
	Ho	165		**ug/L**		38	0.000
>	Ta	181		**ug/L**		376572	376571.723
	Tl	205	**-0.040**	**ug/L**	9.681	1061	-0.001
	Pb	208	**0.119**	**ug/L**	6.845	3859	0.007
	Bi	209		**ug/L**		193	0.000
	Th	232	**0.408**	**ug/L**	20.598	9985	0.022
	U	238	**0.090**	**ug/L**	18.258	2429	0.005

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		84.6			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		84.0			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		83.1			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		77.5			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 162512002
Sample Date/Time: Friday, May 12, 2006 23:08:47
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 528474|1|baj
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\162512002.231

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.368**	ug/L	2.200	857	0.001
	Be	9	**0.003**	ug/L	380.583	20	0.000
	B	11	**270.289**	ug/L	1.796	129809	0.099
	Na	23	**449.360**	ug/L	1.802	2297710	1.740
	Mg	24	**19.680**	ug/L	15.414	77881	0.054
	Al	27	**113.815**	ug/L	2.677	577102	0.434
	P	31	**4.611**	ug/L	5.580	9296	0.001
	K	39	**68.190**	ug/L	23.271	1244519	0.351
	Ca	43	**104.436**	ug/L	2.800	2410	0.001
>	Sc	45		ug/L		1301925	1301924.670
	Ti	47	**50.359**	ug/L	1.674	40087	0.031
	V	51	**-1.081**	ug/L	110.111	14361	-0.007
	Cr	52	**22.625**	ug/L	3.431	173943	0.131
	Cr	53		ug/L		383217	0.174
	Mn	55	**0.324**	ug/L	2.058	5260	0.003
	Fe	57	**57.705**	ug/L	5.130	22983	0.010
	Co	59	**0.037**	ug/L	12.809	617	0.000
	Ni	60	**0.334**	ug/L	3.385	761	0.001
	Cu	63		ug/L		5749	0.004
	Cu	65	**1.021**	ug/L	4.067	2553	0.002
	Zn	66	**4.230**	ug/L	3.044	6309	0.011
	Zn	67		ug/L		99046	0.135
	Zn	68		ug/L		12955	0.019
>	Ge	74		ug/L		560984	560983.893
	As	75	**1.301**	ug/L	28.217	2301	0.004
	Se	77		ug/L		26115	0.035
	Se	82	**0.846**	ug/L	27.166	102	0.000
	Kr	83		ug/L		242	0.000
	Sr	88	**2.966**	ug/L	1.678	44009	0.160
	Y	89		ug/L		499	0.001
	Zr	90	**0.688**	ug/L	9.824	6775	0.021
	Mo	98	**1.968**	ug/L	1.290	7700	0.028
	Ag	107	**0.147**	ug/L	3.187	1018	0.003
	Cd	111	**-0.001**	ug/L	651.615	34	-0.000
	Cd	114		ug/L		36	-0.000
>	In	115		ug/L		271299	271298.834
	Sn	120	**0.365**	ug/L	19.353	2464	0.008
	Sb	121	**0.296**	ug/L	21.461	2131	0.006
	Sb	123		ug/L		1646	0.004
	Ba	135		ug/L		194905	0.556
	Ba	137	**156.421**	ug/L	1.061	340529	0.971
	Ho	165		ug/L		38	0.000
>	Ta	181		ug/L		350661	350660.507
	Tl	205	**-0.059**	ug/L	4.335	733	-0.002
	Pb	208	**0.157**	ug/L	0.660	4311	0.009
	Bi	209		ug/L		162	0.000
	Th	232	**0.124**	ug/L	37.405	3937	0.007
	U	238	**0.014**	ug/L	9.281	836	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			88.8		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			85.2		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			82.0		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181			72.2		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
B 11 Upper, S, EEE B		11	Sample is out of limits (over linear range)

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 162512003
Sample Date/Time: Friday, May 12, 2006 23:14:00
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 528474|1|baj
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\162512003.232

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**18.069**	**ug/L**	1.797	36153	0.029
	Be	9	**0.029**	**ug/L**	49.312	33	0.000
	B	11	**565.741**	**ug/L**	3.426	261748	0.207
	Na	23	**682.075**	**ug/L**	3.991	3361069	2.641
	Mg	24	**7.173**	**ug/L**	24.165	32371	0.020
	Al	27	**261.433**	**ug/L**	5.997	1267584	0.997
	P	31	**3.503**	**ug/L**	20.218	8662	0.001
	K	39	**99.709**	**ug/L**	0.814	1409248	0.513
	Ca	43	**128.806**	**ug/L**	5.977	2672	0.001
>	Sc	45		**ug/L**		1260416	1260415.983
	Ti	47	**77.909**	**ug/L**	2.387	59846	0.047
	V	51	**-19.612**	**ug/L**	25.132	-131035	-0.122
	Cr	52	**380.127**	**ug/L**	2.341	2773496	2.198
	Cr	53		**ug/L**		549199	0.316
	Mn	55	**0.492**	**ug/L**	1.996	6925	0.004
	Fe	57	**56.506**	**ug/L**	2.748	21986	0.010
	Co	59	**0.033**	**ug/L**	12.006	562	0.000
	Ni	60	**4.014**	**ug/L**	0.465	7791	0.006
	Cu	63		**ug/L**		6751	0.005
	Cu	65	**1.429**	**ug/L**	6.753	3389	0.003
	Zn	66	**5.104**	**ug/L**	4.210	7155	0.013
	Zn	67		**ug/L**		42228	0.038
	Zn	68		**ug/L**		12977	0.020
>	Ge	74		**ug/L**		532155	532155.446
	As	75	**1.185**	**ug/L**	58.727	2023	0.003
	Se	77		**ug/L**		11320	0.009
	Se	82	**0.484**	**ug/L**	43.135	48	0.000
	Kr	83		**ug/L**		239	0.000
	Sr	88	**2.969**	**ug/L**	1.676	43222	0.160
	Y	89		**ug/L**		1195	0.004
	Zr	90	**0.606**	**ug/L**	4.639	5974	0.019
	Mo	98	**1.002**	**ug/L**	1.699	3946	0.014
	Ag	107	**0.029**	**ug/L**	13.209	278	0.001
	Cd	111	**-0.007**	**ug/L**	100.547	24	-0.000
	Cd	114		**ug/L**		54	-0.000
>	In	115		**ug/L**		266178	266177.575
	Sn	120	**0.093**	**ug/L**	12.299	831	0.002
	Sb	121	**0.092**	**ug/L**	15.044	1068	0.002
	Sb	123		**ug/L**		801	0.001
	Ba	135		**ug/L**		236379	0.660
	Ba	137	**185.758**	**ug/L**	3.609	413010	1.153
	Ho	165		**ug/L**		72	0.000
>	Ta	181		**ug/L**		358224	358224.437
	Tl	205	**-0.059**	**ug/L**	5.756	749	-0.002
	Pb	208	**0.202**	**ug/L**	3.732	5291	0.011
	Bi	209		**ug/L**		362	0.001
	Th	232	**-0.011**	**ug/L**	23.191	1415	-0.001
	U	238	**0.015**	**ug/L**	17.249	871	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45			86.0		
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74			80.8		
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115			80.5		
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181			73.7		
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
B 11 Upper, S, EEE	B	11	Sample is out of limits (over linear range)
	V	51	Sample is out of limits (<-PQL)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: 162512004
Sample Date/Time: Friday, May 12, 2006 23:19:13
Sample Type:
Sample Description: ESHL 6020
Number of Replicates: 3
Batch ID: 528474|1|baj
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\162512004.233

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**30.062**	ug/L	1.249	63851	0.048
	Be	9	**0.014**	ug/L	63.135	27	0.000
	B	11	**797.105**	ug/L	6.327	391079	0.291
	Na	23	**3015.054**	ug/L	7.411	15651147	11.676
	Mg	24	**1387.100**	ug/L	6.290	5076091	3.787
	Al	27	**364.780**	ug/L	4.879	1876627	1.391
	P	31	**3.559**	ug/L	6.001	9222	0.001
	K	39	**407.215**	ug/L	3.844	3616437	2.096
	Ca	43	**5985.583**	ug/L	1.974	89590	0.066
>	Sc	45		ug/L		1339504	1339504.403
	Ti	47	**102.431**	ug/L	3.281	83489	0.062
	V	51	**-16.804**	ug/L	34.122	-116672	-0.104
	Cr	52	**375.818**	ug/L	5.228	2911679	2.173
	Cr	53		ug/L		707053	0.408
	Mn	55	**0.819**	ug/L	4.917	11124	0.007
	Fe	57	**100.620**	ug/L	5.765	33594	0.017
	Co	59	**0.057**	ug/L	8.912	817	0.000
	Ni	60	**4.622**	ug/L	4.121	9508	0.007
	Cu	63		ug/L		11265	0.008
	Cu	65	**2.197**	ug/L	2.043	5438	0.004
	Zn	66	**6.178**	ug/L	0.920	9226	0.016
	Zn	67		ug/L		107391	0.146
	Zn	68		ug/L		18845	0.029
>	Ge	74		ug/L		570958	570957.983
	As	75	**1.692**	ug/L	5.339	2967	0.005
	Se	77		ug/L		22354	0.027
	Se	82	**0.600**	ug/L	24.633	69	0.000
	Kr	83		ug/L		267	0.000
	Sr	88	**29.728**	ug/L	0.553	438380	1.605
	Y	89		ug/L		1579	0.005
	Zr	90	**0.706**	ug/L	3.809	6961	0.022
	Mo	98	**1.128**	ug/L	2.663	4526	0.016
	Ag	107	**0.175**	ug/L	5.977	1195	0.004
	Cd	111	**-0.003**	ug/L	147.007	31	-0.000
	Cd	114		ug/L		60	-0.000
>	In	115		ug/L		272867	272867.100
	Sn	120	**0.158**	ug/L	2.302	1244	0.003
	Sb	121	**0.110**	ug/L	15.804	1187	0.002
	Sb	123		ug/L		932	0.001
	Ba	135		ug/L		334065	0.915
	Ba	137	**254.998**	ug/L	2.387	577998	1.583
	Ho	165		ug/L		82	0.000
>	Ta	181		ug/L		365153	365153.430
	Tl	205	**-0.069**	ug/L	2.234	626	-0.003
	Pb	208	**0.372**	ug/L	1.935	8770	0.020
	Bi	209		ug/L		485	0.001
	Th	232	**0.006**	ug/L	47.155	1773	0.000
	U	238	**0.200**	ug/L	0.953	4521	0.011

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		91.4			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		86.7			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		82.5			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		75.2			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
B 11 Upper, S, EEE	B	11	Sample is out of limits (over linear range)
	Ti	47	Sample is out of limits (over linear range)
	V	51	Sample is out of limits (<-PQL)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 8
Sample Date/Time: Friday, May 12, 2006 23:24:25
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\QC Std 8.234

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**58.818**	**ug/L**	0.546	116318	0.093
	Be	9	**56.952**	**ug/L**	1.726	28814	0.023
	B	11	**135.160**	**ug/L**	5.789	62763	0.049
	Na	23	**5091.307**	**ug/L**	5.033	24622905	19.716
	Mg	24	**5036.947**	**ug/L**	1.412	17165396	13.750
	Al	27	**5031.760**	**ug/L**	10.921	23935812	19.191
	P	31	**4887.291**	**ug/L**	2.732	1482813	1.183
	K	39	**5118.394**	**ug/L**	16.178	33614194	26.348
	Ca	43	**5110.155**	**ug/L**	2.662	71395	0.057
>	Sc	45		**ug/L**		1247900	1247899.546
	Ti	47	**49.436**	**ug/L**	0.628	37730	0.030
	V	51	**53.161**	**ug/L**	2.839	433791	0.330
	Cr	52	**52.869**	**ug/L**	2.461	384888	0.306
	Cr	53		**ug/L**		197701	0.039
	Mn	55	**53.049**	**ug/L**	0.239	571720	0.457
	Fe	57	**5068.886**	**ug/L**	1.231	1106740	0.879
	Co	59	**53.468**	**ug/L**	2.717	458860	0.368
	Ni	60	**53.038**	**ug/L**	3.331	100688	0.081
	Cu	63		**ug/L**		241663	0.193
	Cu	65	**52.068**	**ug/L**	0.708	116094	0.093
	Zn	66	**52.989**	**ug/L**	2.251	76286	0.134
	Zn	67		**ug/L**		38444	0.026
	Zn	68		**ug/L**		60937	0.103
>	Ge	74		**ug/L**		568664	568663.893
	As	75	**51.038**	**ug/L**	1.145	81485	0.143
	Se	77		**ug/L**		12452	0.010
	Se	82	**53.246**	**ug/L**	4.372	7606	0.013
	Kr	83		**ug/L**		262	0.000
	Sr	88	**52.703**	**ug/L**	1.691	810415	2.845
	Y	89		**ug/L**		890	0.002
	Zr	90	**52.663**	**ug/L**	3.577	461474	1.618
	Mo	98	**50.664**	**ug/L**	2.110	202555	0.711
	Ag	107	**51.914**	**ug/L**	2.331	338911	1.190
	Cd	111	**50.222**	**ug/L**	3.681	80257	0.282
	Cd	114		**ug/L**		188843	0.663
>	In	115		**ug/L**		284727	284726.568
	Sn	120	**50.530**	**ug/L**	2.829	314670	1.105
	Sb	121	**50.754**	**ug/L**	2.963	271933	0.953
	Sb	123		**ug/L**		211133	0.740
	Ba	135		**ug/L**		77347	0.185
	Ba	137	**52.485**	**ug/L**	3.949	135961	0.326
	Ho	165		**ug/L**		41	0.000
>	Ta	181		**ug/L**		417332	417331.733
	Tl	205	**53.801**	**ug/L**	2.526	835030	1.998
	Pb	208	**53.134**	**ug/L**	2.535	1208799	2.894
	Bi	209		**ug/L**		140	0.000
	Th	232	**53.075**	**ug/L**	2.482	1196357	2.863
	U	238	**54.001**	**ug/L**	3.141	1211369	2.903

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7	117.635				
	Be	9	113.904				
	B	11	135.160				
	Na	23	101.826				
	Mg	24	100.739				
	Al	27	99.639				
	P	31	97.746				
	K	39	102.368				
	Ca	43	102.203				
>	Sc	45		85.2			
	Ti	47	98.873				
	V	51	106.322				
	Cr	52	105.737				
	Cr	53					
	Mn	55	106.097				
	Fe	57	101.378				
	Co	59	106.935				
	Ni	60	106.076				
	Cu	63					
	Cu	65	104.137				
	Zn	66	105.978				
	Zn	67					
	Zn	68					
>	Ge	74		86.4			
	As	75	102.075				
	Se	77					
	Se	82	106.492				
	Kr	83					
	Sr	88	105.406				
	Y	89					
	Zr	90	105.325				
	Mo	98	101.328				
	Ag	107	103.828				
	Cd	111	100.444				
	Cd	114					
>	In	115		86.1			
	Sn	120	101.061				
	Sb	121	101.508				
	Sb	123					
	Ba	135					
	Ba	137	104.969				
	Ho	165					
>	Ta	181		85.9			
	Tl	205	107.602				
	Pb	208	106.267				
	Bi	209					
	Th	232	106.150				
	U	238	108.002				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Li	7	CCV is out of limits (+/- 10%)
QC Std 8	Be	9	CCV is out of limits (+/- 10%)
QC Std 8	B	11	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 9
Sample Date/Time: Friday, May 12, 2006 23:29:36
Sample Type:
Sample Description:
Number of Replicates: 3
Batch ID:
Method File: c:\elandata\Method\6020.mth
Dataset File: c:\elandata\Dataset\060512\QC Std 9.235

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
	Li	7	**0.064**	ug/L	15.526	216	0.000
	Be	9	**0.032**	ug/L	28.540	33	0.000
	B	11	**17.013**	ug/L	11.979	8710	0.006
	Na	23	**0.087**	ug/L	918.669	30700	0.000
	Mg	24	**1.056**	ug/L	104.617	11005	0.003
	Al	27	**3.342**	ug/L	42.337	26693	0.013
	P	31	**2.690**	ug/L	27.781	8149	0.001
	K	39	**7.664**	ug/L	92.637	786805	0.039
	Ca	43	**19.802**	ug/L	6.391	1117	0.000
>	Sc	45		ug/L		1220975	1220974.678
	Ti	47	**0.088**	ug/L	43.775	394	0.000
	V	51	**-0.671**	ug/L	61.847	16604	-0.004
	Cr	52	**0.250**	ug/L	13.783	5202	0.001
	Cr	53		ug/L		144459	-0.002
	Mn	55	**0.038**	ug/L	10.395	1931	0.000
	Fe	57	**0.848**	ug/L	126.228	9511	0.000
	Co	59	**0.023**	ug/L	10.732	462	0.000
	Ni	60	**0.020**	ug/L	31.171	132	0.000
	Cu	63		ug/L		407	0.000
	Cu	65	**0.018**	ug/L	59.101	209	0.000
	Zn	66	**0.045**	ug/L	22.972	385	0.000
	Zn	67		ug/L		23986	0.002
	Zn	68		ug/L		2284	0.000
>	Ge	74		ug/L		550842	550841.512
	As	75	**0.243**	ug/L	12.070	630	0.001
	Se	77		ug/L		6399	-0.000
	Se	82	**-0.134**	ug/L	54.962	-36	-0.000
	Kr	83		ug/L		233	0.000
	Sr	88	**0.001**	ug/L	260.248	609	0.000
	Y	89		ug/L		240	-0.000
	Zr	90	**0.070**	ug/L	41.438	1674	0.002
	Mo	98	**0.065**	ug/L	11.413	472	0.001
	Ag	107	**0.012**	ug/L	26.345	184	0.000
	Cd	111	**0.016**	ug/L	6.990	61	0.000
	Cd	114		ug/L		108	0.000
>	In	115		ug/L		280045	280044.897
	Sn	120	**0.028**	ug/L	15.661	477	0.001
	Sb	121	**0.267**	ug/L	23.630	2048	0.005
	Sb	123		ug/L		1597	0.004
	Ba	135		ug/L		77	0.000
	Ba	137	**0.018**	ug/L	46.428	138	0.000
	Ho	165		ug/L		24	0.000
>	Ta	181		ug/L		403020	403019.794
	Tl	205	**0.017**	ug/L	158.575	1982	0.001
	Pb	208	**0.021**	ug/L	12.460	1968	0.001
	Bi	209		ug/L		52	0.000
	Th	232	**0.074**	ug/L	35.901	3435	0.004
	U	238	**0.039**	ug/L	4.379	1494	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Li	7	Linear Thru Zero	1.0000
Be	9	Linear Thru Zero	1.0000
B	11	Linear Thru Zero	1.0000
Na	23	Linear Thru Zero	1.0000
Mg	24	Linear Thru Zero	1.0000
Al	27	Linear Thru Zero	1.0000
P	31	Linear Thru Zero	1.0000
K	39	Linear Thru Zero	1.0000
Ca	43	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ti	47	Linear Thru Zero	1.0000
V	51	Linear Thru Zero	1.0000
Cr	52	Linear Thru Zero	1.0000
Cr	53	Linear Thru Zero	
Mn	55	Linear Thru Zero	1.0000
Fe	57	Linear Thru Zero	1.0000
Co	59	Linear Thru Zero	1.0000
Ni	60	Linear Thru Zero	1.0000
Cu	63	Linear Thru Zero	
Cu	65	Linear Thru Zero	1.0000
Zn	66	Linear Thru Zero	1.0000
Zn	67	Linear Thru Zero	
Zn	68	Linear Thru Zero	
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Sr	88	Linear Thru Zero	0.9999
Y	89	Linear Thru Zero	
Zr	90	Linear Thru Zero	1.0000
Mo	98	Linear Thru Zero	1.0000
Ag	107	Linear Thru Zero	1.0000
Cd	111	Linear Thru Zero	1.0000
Cd	114	Linear Thru Zero	
In	115	Linear Thru Zero	
Sn	120	Linear Thru Zero	1.0000
Sb	121	Linear Thru Zero	1.0000
Sb	123	Linear Thru Zero	
Ba	135	Linear Thru Zero	
Ba	137	Linear Thru Zero	1.0000
Ho	165	Linear Thru Zero	
Ta	181	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999
Pb	208	Linear Thru Zero	0.9999
Bi	209	Linear Thru Zero	
Th	232	Linear Thru Zero	0.9999
U	238	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
	Li	7					
	Be	9					
	B	11					
	Na	23					
	Mg	24					
	Al	27					
	P	31					
	K	39					
	Ca	43					
>	Sc	45		83.3			
	Ti	47					
	V	51					
	Cr	52					
	Cr	53					
	Mn	55					
	Fe	57					
	Co	59					
	Ni	60					
	Cu	63					
	Cu	65					
	Zn	66					
	Zn	67					
	Zn	68					
>	Ge	74		83.7			
	As	75					
	Se	77					
	Se	82					
	Kr	83					
	Sr	88					
	Y	89					
	Zr	90					
	Mo	98					
	Ag	107					
	Cd	111					
	Cd	114					
>	In	115		84.7			
	Sn	120					
	Sb	121					
	Sb	123					
	Ba	135					
	Ba	137					
	Ho	165					
>	Ta	181		82.9			
	Tl	205					
	Pb	208					
	Bi	209					
	Th	232					
	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 9	B	11	CCB is out of limits (+/- PQL)

QC Action

QC Action Line: Continue

Miscellaneous

Prep LogBook

Analyst: FGA Verified by:_____

Batch: 528471

Lab SOP: GL-MA-E-006 REV# 9

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1201089346	UI515023B	.25	mL
LCSD	1201089535	UI060425-04	.25	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1201089345		SW846 3005A	11-MAY-2006 09:30	25 mL	25 mL	1	GROUND WATER
LCS	1201089346		SW846 3005A	11-MAY-2006 09:30	25 mL	25 mL	1	GROUND WATER
LCSD	1201089535		SW846 3005A	11-MAY-2006 09:30	25 mL	25 mL	1	GROUND WATER
SAMPLE	162512001		SW846 3005A	11-MAY-2006 09:30	25 mL	25 mL	1	GROUND WATER
SDILT	1201089349	162512001	SW846 3005A	11-MAY-2006 09:30	25 mL	25 mL	1	GROUND WATER
SAMPLE	162512002		SW846 3005A	11-MAY-2006 09:30	25 mL	25 mL	1	GROUND WATER
SAMPLE	162512003		SW846 3005A	11-MAY-2006 09:30	25 mL	25 mL	1	GROUND WATER
SAMPLE	162512004		SW846 3005A	11-MAY-2006 09:30	25 mL	25 mL	1	GROUND WATER

Reagent/Solvent Lot ID	Amount	Description
517510	1.25 mL	HYDROCHLORIC ACID
517512	.5 mL	Nitric Acid CONC.

Comments 1/2 volume prep due to limited sample

Cover Letter 2
Case Narrative 2
Chain of Custody 3
Analytical Report 7
QA/QC 14
STL Los Angeles Raw Data 22
Raw Data: Gen Chem 23

SEVERN TRENT STL

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921
www.stl-inc.com

April 27, 2006

STL LOT NUMBER: **E6D200260**
PO/CONTRACT: JH03 MR1A 01EA 5A00

Keith Greene
Los Alamos National Laboratory
P.O. Box 1663
MS P240
Los Alamos, NM 87545

Dear Keith Greene,

This report contains the analytical results for the sample received under chain of custody by STL Los Angeles on April 20, 2006. This sample is associated with your LOS ALAMOS - CR+6 WATERS project.

STL Los Angeles certifies that the test results provided in this report meet all the requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA/E87652.

Any matrix related anomaly is footnoted within the report. A cooler receipt temperature between 2-6 degrees Celsius is within EPA acceptance criteria. The temperature(s) of the coolers received for this project can be found on the Project Receipt Checklist.

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report contains 000065 pages.

CASE NARRATIVE

Historical control limits for the LCS are used to define the estimate of uncertainty for a method.

All applicable quality control procedures met method-specified acceptance criteria.

Please note that the samples for this project were received at a temperature of 8.7 degrees C.

If you have any questions, please feel free to call me at 714.258.8610.

Sincerely,

Sabina Sudoko
Project Manager
CC: Project File

E6D200260

********** **Quick Turnaround -- Please Expedite** **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

E6D200260

Matrix: Ground Water
Coc Id: WG-03717-ST
PO #:
Program: Stwd Mon
Cost Code: JH03 MR1A 01EA 5A00
Collection Date/ Time: 4/19/06 1048

Ship To:
Severn Trent - Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705

Contact:
Jesse Bacwaden
Phone:
(714) 258-8610
Fax:
(714) 258-8610

WQH Contact:
Bart Vanden Plas
Los Alamos National Laboratory
MS K497 DDP 59011701U
Los Alamos, NM 87545
Phone: 1-505-667-0675
Fax: 1-505-665-9344
Email: bartvan@lanl.gov

Sampler Initials: BF Date: 4/19/06

Analysis Request

Sample Id: **SF06040G01R01** Field Prep: **F**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9010	WG: Cr(VI)	250 ml poly	2	ammonium sulfate/ammoni	0	pH 9-9.5	

Total Containers: 2

Grand Total: 2

Technique: Submersible pump

Comments: NA

Chain of Custody

Sampling Team: A. Bemer, J. Jordan, M. Sandoval

Relinquished By:	Date	Time	Received By	Date	Time	Reason for Transfer
(sampler)	4/19/06	1340		4-19-06	1340	
				4-20-06		

Sudoko, Sabina

From: ssudoko@stl-inc.com
Sent: Friday, April 21, 2006 12:25 PM
To: kgreene@lanl.gov
Subject: Information for E6D200262

Sample
ıfirmation for E6D2(

* *

Lot ID: E6D200262
Project Number: LOS ALAMOS - CR+6
Project Name/Site: LOS ALAMOS - CR+6 WATERS

Acknowledgment of samples received for LOS ALAMOS CR+6

NOTE: Samples were received at a temperature of 8.7 degrees C.

Please check the sample confirmation sheet.

thank you..

Sabina Sudoko
(714)258-8610
ssudoko@stl-inc.com

This message and any files transmitted with it are confidential and intended solely for the use of the addressee. If you have received this message in error please notify the sender and destroy your copies of the message and any attached files.

[00257381]
Version: 2.1.10

STL LOS ANGELES - PROJECT RECEIPT CHECKLIST Date: 4-20-06

Single Cooler Only

LIMS Lot #: E6D200260 Quote #: 68506

Client Name: Los Alamos Project: WG-03717-ST

Received by: K FREITAG Date/Time Received: 4-20-06 0900

Delivered by : ☐ Client ☐ STL ☐ DHL ☒ Fed Ex ☐ UPS ☐ Other

****

	Initial / Date
Custody Seal Status Cooler: ☒ Intact ☐ Broken ☐ None	4/20
Custody Seal Status Samples: ☒ Intact ☐ Broken ☐ None	
Custody Seal #(s): ☒ No Seal #	
Sampler Signature on COC ☒ Yes ☐ No ☐ N/A	
IR Gun # __A_ Correction Factor __-.5_°C IR passed daily verification ☒ Yes ☐ No	
Temperature - **BLANK** ____°C - .5___ CF = _____°C ...**Cooler #1 ID**	
Temperature – **COOLER** (6.1 °C 6.3 °C — °C — °C) = 6.2 avg °C - .5 CF = 5.7 °C	
Samples outside temperature criteria but received within 6 hours of final sampling ☐ Yes ☒ N/A	
Sample Container(s): ☐ STL-LA ☒ Client 4-20-06	
pH measured: ☒ Yes ☐ Anomaly (if checked, notify lab and file NCM) ☒ N/A	
Anomalies: ☒ No ☐ Yes – complete CUR and Create NCM 4-20-06 ☒ N/A	

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ Yes ☐ No..... 4/20

Labeled by: SG 4/20/06

****

Turn Around Time: ☐ RUSH–24HR ☐ RUSH–48HR ☐ RUSH–72HR ☒ NORMAL..... 4/20/06

********** LEAVE NO BLANK SPACES ; USE N/A **********

Headspace Anomaly ☐ YES ☒ N/A 4/20/06

Lab ID	Container(s) #	Headspace	Lab ID	Container(s) #	Headspace
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm

LIMS Lot # E6D200260

PROJECT RECEIPT CHECKLIST Cont'd

Fraction															
VOAH															
250pB	2														N/A

SLS 4/20/06

H: HCL, S: H2SO4, N: HNO3, V: VOA, SL, Sleeve, E: Encore, PB: Poly Bottle, CGB: Clear Glass Bottle, AGJ: Amber Glass Jar, T: Terracore
AGB: Amber Glass Bottle, n/f/l:HNO3-Lab filtered, n/f:HNO3-Field filtered, znna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

Condition Upon Receipt Anomaly Form

Anomalies ☐ YES ☒ N/A SLS 4/20/06

- **COOLERS**
  - ☐ Not Received (received COC only)
  - ☐ Leaking
  - ☐ Other:
- **CUSTODY SEALS (COOLER(S)**
  - ☐ None
  - ☐ Not Intact
  - ☐ Other
- **CONTAINER(S)**
  - ☐ None
  - ☐ Not Intact
  - ☐ Other
- **TEMPERATURE (SPECS 4 ± 2°C)**
  - ☐ Cooler Temp(s)
  - ☐ Temperature Blank(s)
- **CHAIN OF CUSTODY (COC)**
  - ☐ Not relinquished by Client; No date/time relinquished
  - ☐ Incomplete information provided
  - ☐ Other ☐ COC not received – notify PM
- **CONTAINERS**
  - ☐ Leaking ☐ Voa Vials with Bubbles > 6mm
  - ☐ Broken
  - ☐ Extra
  - ☐ Without Labels
  - ☐ Other:
- **LABELS**
  - ☐ Not the same ID/info as in COC
  - ☐ Incomplete Information
  - ☐ Markings/Info illegible
  - ☐ Torn
- **SAMPLES**
  - ☐ Samples NOT RECEIVED but listed on COC
  - ☐ Samples received but NOT LISTED on COC
  - ☐ Logged based on Label Information
  - ☐ Logged based on info from other samples on COC
  - ☐ Logged according to Work Plan
  - ☐ Logged on HOLD UNTIL FURTHER NOTICE
  - ☐ Will be noted on COC--Client to send samples with new COC
  - ☐ Mislabeled as to tests, preservatives, etc.
  - ☐ Holding time expired – list sample ID and test
  - ☐ Improper container used
  - ☐ Not preserved/Improper preservative used
  - ☐ Improper pH _____ Lab to preserve sample and document
  - ☐ Insufficient quantities for analysis ☐ Other

Comments:

☐ Corrective Action Implemented:

☐ Client Informed: verbally on _____ By: _____ ☐ In writing on _____ By: _____

☐ Sample(s) on hold until: _____ ☐ Sample(s) processed "as is."

Logged by/Date: Logged in by other STL ☐ ____ Albert Vargas 4-20-06

PM Review/Date: 4/21 [illegible]

SEVERN TRENT STL

Analytical Report

ANALYTICAL REPORT

PROJECT NO. LOS ALAMOS - CR+6

LOS ALAMOS - CR+6 WATERS

Lot #: E6D200260

Keith Greene

Los Alamos National Laboratory

SEVERN TRENT LABORATORIES, INC.

Sabina Sudoko
Project Manager

April 26, 2006

EXECUTIVE SUMMARY - Detection Highlights

E6D200260

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SF06040G01R01 04/19/06 10:48 001				
Dissolved Hexavalent Chromium	4.5	0.20	ug/L	SW846 7199

METHODS SUMMARY

E6D200260

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Hexavalent Chromium	SW846 7199	SW846 7199

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

E6D200260

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
H3PJH	001	SF06040G01R01	04/19/06	10:48

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Los Alamos National Laboratory

Client Sample ID: SF06040G01R01

General Chemistry

Lot-Sample #...: E6D200260-001 **Work Order #...:** H3PJH **Matrix.....:** W
Date Sampled...: 04/19/06 10:48 **Date Received..:** 04/20/06 09:00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium	**4.5**	**0.20**	**ug/L**	**SW846 7199**	**04/20/06**	**6110477**

Dilution Factor: 1 Analysis Time..: 10:37 Analyst ID.....: 000022
Instrument ID..: W18 MS Run #.....: 6110278 MDL.....: 0.050

SEVERN TRENT STL

QA/QC

QC DATA ASSOCIATION SUMMARY

E6D200260

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	W	SW846 7199		6110477	6110278

METHOD BLANK REPORT

General Chemistry

Client Lot #...: E6D200260 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: H3PMF1AA		MB Lot-Sample #:	E6D200000-477	
	ND	0.20	ug/L	SW846 7199	04/20/06	6110477
		Dilution Factor: 1				
		Analysis Time..: 10:18		Analyst ID.....: 000022	Instrument ID..: W18	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E6D200260 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: H3PMF1AC	LCS Lot-Sample#: E6D200000-477		
	101	(90 - 110)	SW846 7199	04/20/06	6110477

Dilution Factor: 1 Analysis Time..: 10:09 Analyst ID.....: 000022
Instrument ID..: W18

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E6D200260 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium			Work Order #: H3PMF1AC		LCS Lot-Sample#: E6D200000-477		
	7.50	7.58	ug/L	101	SW846 7199	04/20/06	6110477
			Dilution Factor: 1		Analysis Time..: 10:09	Analyst ID.....: 000022	
			Instrument ID..: W18				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E6D200260 **Matrix.....:** WATER
Date Sampled...: 04/19/06 09:00 **Date Received..:** 04/20/06 09:00

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #...: H3PJ21AC		MS Lot-Sample #:	E6D200262-001
	101	(80 - 120)	SW846 7199	04/20/06	6110477

Dilution Factor: 50 Analysis Time..: 11:13 Instrument ID..: W18
Analyst ID.....: 000022
MS Run #.....: 6110278

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E6D200260 **Matrix.....:** WATER
Date Sampled...: 04/19/06 09:00 **Date Received..:** 04/20/06 09:00

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium			Work Order #...: H3PJ21AC			MS Lot-Sample #: E6D200262-001		
	417	500	921	ug/L	101	SW846 7199	04/20/06	6110477

Dilution Factor: 50 Analysis Time..: 11:13 Instrument ID..: W18
Analyst ID.....: 000022
MS Run #.....: 6110278

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: E6D200260 **Work Order #...:** H3PJ2-SMP H3PJ2-DUP **Matrix.....:** WATER

Date Sampled...: 04/19/06 09:00 **Date Received..:** 04/20/06 09:00

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium						SD Lot-Sample #:	E6D200262-001	
	417	413	ug/L	0.87	(0-20)	SW846 7199	04/20/06	6110477

Dilution Factor: 20 Analysis Time..: 11:13 Analyst ID.....: 000022

Instrument ID..: W18 MS Run Number..: 6110278

SEVERN TRENT STL

STL Los Angeles
Raw Data

SEVERN TRENT STL

Classical Chemistry
Extended Raw Data

Lot ID: E6D200260

I certify that, to the best of my knowledge, the attached package is a complete and accurate representation of the original data.

Signature / Date: 04/27/06

SEVERN TRENT STL

Classical Chemistry

Preparation Notes
Initial Calibration
Sample Raw Data

E6D200260

STL Los Angeles

Hexavalent Chromium by Ion Chromatography

SOP: SANA-WC-0009

Analytical Method: 7199 ✓

218.6____

IC File: CrVI042006

Calibration Check Standards (ug/L)

ICV 7.5

CCV 15

Analyst: YZ

Reviewer/Date:

Batch(s): 6110477

Date/Time Collected	Dilution Factor	Injection Number	Sample Name	For Soil Sample Data Reduction: Beaker Number	Sample Name	Wet Sample Weight (g)	EPA 218.6 Cr+6 ug/L	SW 7199 Water Average Cr+6 mg/L	SW 7199 Soil Total Cr+6 mg/Kg	RPD <20% for 7199	Calibration Check % Recovery ICV/CCV
4/20/06 10:09	1	1	ICV/LCS 7.50 ppb		#N/A	#N/A	7.577871482				101.0
4/20/06 10:18	1	2	ICB/MB 042006		#N/A	#N/A		0.0038	#N/A	100.00000	
4/20/06 10:27	1	3	H3PJH		#N/A	#N/A	4.49307016				
4/20/06 10:37	1	4	H3PJH		#N/A	#N/A	4.485552487	0.0045	#N/A	0.16746	
4/20/06 10:46	1	5	H3PJH2 REF.		#N/A	#N/A	412.0653596				
4/20/06 10:55	1	6	H3PJH2 REF.		#N/A	#N/A	412.5385461	0.4123	#N/A	0.11477	
4/20/06 11:04	20	7	H3PJH2		#N/A	#N/A	413.0502403				
4/20/06 11:13	20	8	H3PJH2		#N/A	#N/A	420.6576699	0.4169	#N/A	1.82496	
4/20/06 11:22	20	9	H3PJH2 X		#N/A	#N/A	405.2199056				
4/20/06 11:31	20	10	H3PJH2 X		#N/A	#N/A	421.4538411	0.4133	#N/A	3.92753	
4/20/06 11:40	50	11	H3PJH2 S		#N/A	#N/A	917.95816				
4/20/06 11:49	50	12	H3PJH2 S		#N/A	#N/A	924.4685216	0.9212	#N/A	0.70672	
4/20/06 11:59	1	13	CCV 15.0 ppb		#N/A	#N/A	15.39482175				102.6
4/20/06 12:08	1	14	CCB		#N/A	#N/A		0.0077	#N/A	100.00000	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					

Saved as:IC_Cr+6042006.xls
Saved on:4/20/06

n:\Inorganics\wetchem\Wrkshts\A_IC_Cr+6.xls
ver.04/04/2003

RQC050

Severn Trent Laboratories, Inc.
WET CHEM BATCHSHEET

Run Date: 4/20/06
Time: 14:32:24

STL Los Angeles

PRODUCTION FIGURES - WET CHEM

TOTAL NUMBER	SAMPLE NUMBER	QC	RE-RUN MATRIX	RE-RUN OTHER	MISC NUMBER	TOTAL HOURS	EXPANDED DELIVERABLE

METHOD: 2X Chromium, Hexavalent by Ion Chromatography (7199)
QC BATCH #: **6110477**
PREP DATE: 4/20/06 10:09
COMP DATE: 4/20/06 10:09
USER: ZAKHRABY

INITIALS:
PREP _____
ANAL _____

DATA ENTRY:
INITIALS _____
DATE _____

Work Order	Lab Number	Structured Analysis	Exp. Del.	Analysis Date	Sample ID:
H3PMF-1-AA	E-6D200000-477-B	XX I 87 2X 01		_____	INTRA-LAB BLANK
H3PMF-1-AC	E-6D200000-477-C	XX I 87 2X 01		_____	INTRA-LAB CHECK
H3PJH-1-AA	E-6D200260-001	XX I 87 2X 01	Y-D	_____	SF06040G01R01
H3PJ2-1-AA	E-6D200262-001	XX I 87 2X 01	Y-D	_____	SF06040G28R01
H3PJ2-1-AC	E-6D200262-001-S	XX I 87 2X 01	Y-D	_____	SF06040G28R01
H3PJ2-1-AD	E-6D200262-001-X	XX I 87 2X 01	Y-D	_____	SF06040G28R01 DUP
		Control Limits			
		(80-120)			
		(90-110)			

dule File: C:\PeakNet\schedule\Cr VI Schedule\crvi042006.SCH

Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Comment
ICV/LCS 7.50 ppb	Sample		crvi 021506.met	crvi042006_001.dxd	1	1	
ICB/MB 042006	Sample		crvi 021506.met	crvi042006_002.dxd	1	1	
H3PJH	Sample		crvi 021506.met	crvi042006_003.dxd	1	1	
H3PJH	Sample		crvi 021506.met	crvi042006_004.dxd	1	1	
H3PJH2 REF.	Sample		crvi 021506.met	crvi042006_005.dxd	1	1	
H3PJH2 REF.	Sample		crvi 021506.met	crvi042006_006.dxd	1	1	
H3PJH2	Sample		crvi 021506.met	crvi042006_007.dxd	1	20	
H3PJH2	Sample		crvi 021506.met	crvi042006_008.dxd	1	20	
H3PJH2 X	Sample		crvi 021506.met	crvi042006_009.dxd	1	20	
H3PJH2 X	Sample		crvi 021506.met	crvi042006_010.dxd	1	20	
H3PJH2 S	Sample		crvi 021506.met	crvi042006_011.dxd	1	50	
H3PJH2 S	Sample		crvi 021506.met	crvi042006_012.dxd	1	50	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042006_013.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042006_014.dxd	1	1	

ılt Method Path: C:\PEAKNET\METHOD
ılt Data Path: C:\PEAKNET\CRVI\CRVI 2
nent:

SEVERN TRENT STL

STL Los Angeles

Hexavalent Chromium by Ion Chromatography
Standards and Reagent Log

Method EPA 218.6 _____ SW 846 7199 ✓
Analyst: TL
Date: 4/20/06

Reagent Lot Numbers/Expiration Dates

Chromatographic Eluent: 2006-17-3-24 / 4/19/07
Post-column Reagent: 2006-17-4-31 / 4/23/06
Buffer Solution: 2006-17-1-1 / 1/3/07
Dilution Water: 2 liters of DI water adjusted to a pH of 9.0 to 9.5 with buffer solution.
Final pH: 9.06

Preparation of Intermediate Calibration and Check (ICV/LCS) Standard:

Analyte	Stock Concentration (mg/L)	Volume of Stock (mL)	Final Volume (mL)	Final Concentration (mg/L)
Calibration	1000	0.1	1000	0.1
Check	1000	0.1	1000	0.1

Intermediate Standard Lot Numbers/Expiration Dates
Calibration Standard: 2006-17-6-16 / 4/26/06
Check (ICV/LCS) Standard: 2006-17-5-16 / 4/26/06

Preparation of Calibration and Check Standards:
All standards and blanks are prepared with dilution water at a pH of 9.0 to 9.5.

Standard Name	Standard Conc.	Source Conc. (mg/L)	Source Solution	mL of Source	Final Volume
Cal Blank	0 mg/L	NA	Dilution water	10	10 mL
Cal Std 1	0.0002 mg/L	0.1	Intermediate Calib Stock	0.02	10 mL
Cal Std 2	0.001 mg/L	0.1	Intermediate Calib Stock	0.1	10 mL
Cal Std 3	0.010 mg/L	0.1	Intermediate Calib Stock	1.0	10 mL
Cal Std 4	0.025 mg/L	0.1	Intermediate Calib Stock	2.5	10 mL
ICV/LCS	0.0075 mg/L	0.1	Intermediate ICV Stock	0.75	10 mL
ICB/CCB/MB	0 mg/L	NA	Dilution water	10	10 mL
CCV	0.015 mg/L	0.1	Intermediate Calib Stock	1.5	10 mL
MS/MSD	0.010 mg/L	0.1	Intermediate ICV Stock	1.0	10 mL Sample

SEVERN TRENT STL

STL Los Angeles

Tracking Log for Cr^{+6} by Ion Chromatography

Method: CrVI 021506
Calib. Date: 021506
Run Date: 042006

Standard Lot Numbers
ICV/LCS/MS, MSD: 2006-17.2-1
ICB/CCB/MB: 042006
CCV: ERA 10075.1

Instrument ID: W18
Instrument Serial #: 01070608
Analyst: Z

Sample	Work Order	Date/Time Collected	Sample pH	Batch/Injection Number 218.6	Batch/Injection Number 7199	Comments
					6110477	
E6D200260-1	H3PJH	4/19 10:48	9.12		7	
E6D200262-1	H3PJ2	12:55	9.10		8	
-1	H3PJ2X	12:55	9.10		10	
-1	H3PJ2S	12:55	9.10		12	

4/20/06

4/20/06

N:\Inorganics\wetchem\Forms\ic_cr+6_injlog.doc

lule File: C:\PeakNet\schedule\Cr VI Schedule\crvi042006.SCH

Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Comment
ICV/LCS 7.50 ppb	Sample		crvi 021506.met	crvi042006_001.dxd	1	1	
ICB/MB 042006	Sample		crvi 021506.met	crvi042006_002.dxd	1	1	
SF06040G01R01	Sample		crvi 021506.met	crvi042006_003.dxd	1	1	
SF06040G01R01	Sample		crvi 021506.met	crvi042006_004.dxd	1	1	
SF06040G28R01 REF.	Sample		crvi 021506.met	crvi042006_005.dxd	1	1	
SF06040G28R01 REF.	Sample		crvi 021506.met	crvi042006_006.dxd	1	1	
SF06040G28R01	Sample		crvi 021506.met	crvi042006_007.dxd	1	20	
SF06040G28R01	Sample		crvi 021506.met	crvi042006_008.dxd	1	20	
SF06040G28R01X	Sample		crvi 021506.met	crvi042006_009.dxd	1	20	
SF06040G28R01X	Sample		crvi 021506.met	crvi042006_010.dxd	1	20	
SF06040G28R01S	Sample		crvi 021506.met	crvi042006_011.dxd	1	50	
SF06040G28R01S	Sample		crvi 021506.met	crvi042006_012.dxd	1	50	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042006_013.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042006_014.dxd	1	1	

lt Method Path: C:\PEAKNET\METHOD
lt Data Path: C:\PEAKNET\CRVI\CRVI 2
ıent:

STL Los Angeles Cr VI Sample Analysis Report

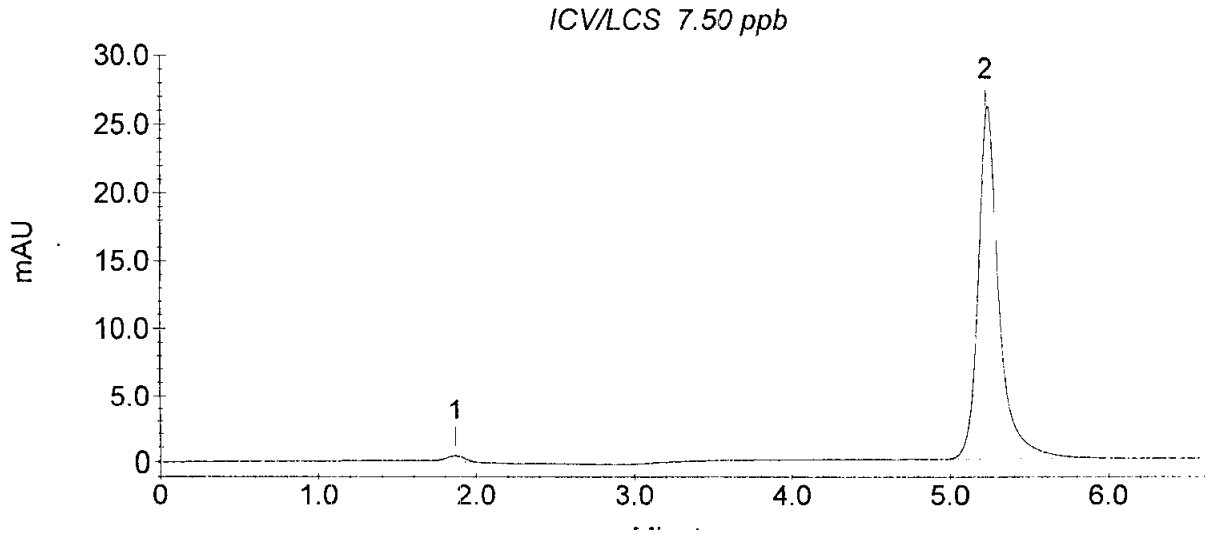
Sample Name : ICV/LCS 7.50 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_001.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:09:41
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 1
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	3064	357
2	CRVI	5.22	7.58	239668	25237



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

Sample Name : ICB/MB 042006
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_002.DXD

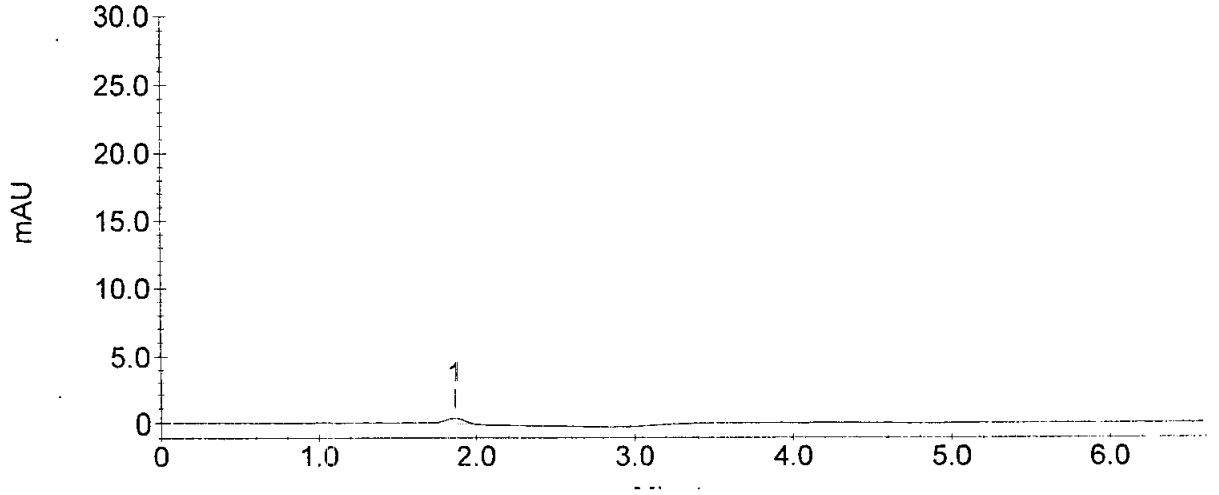
Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:18:49
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 2
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2914	345

ICB/MB 042006



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

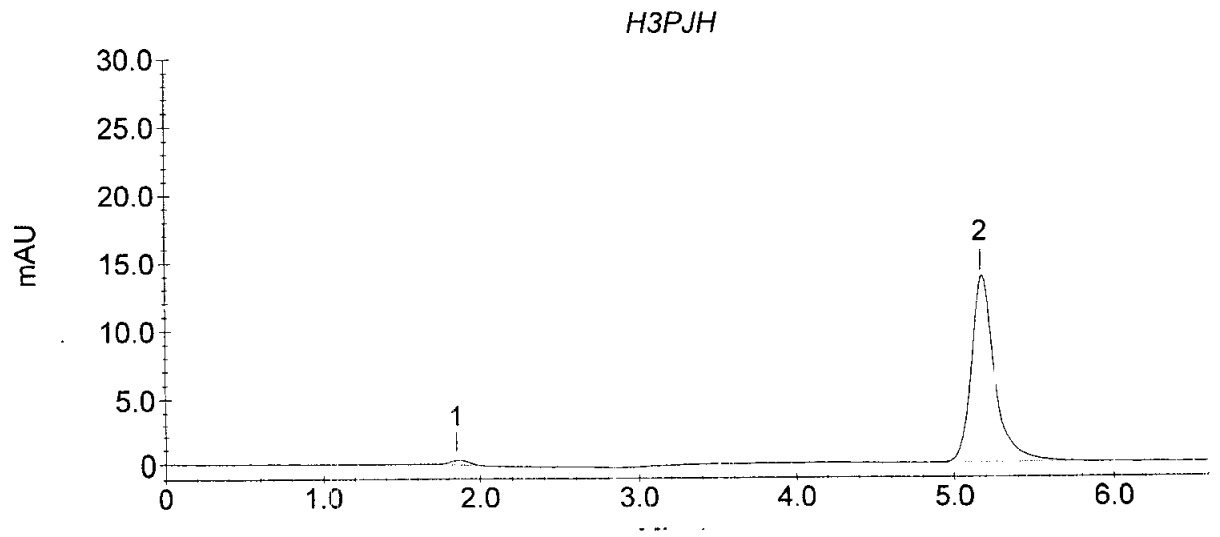
Sample Name : H3PJH
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_003.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 10:27:56
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 3
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2829	304
2	CRVI	5.17	4.49	142130	13697



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

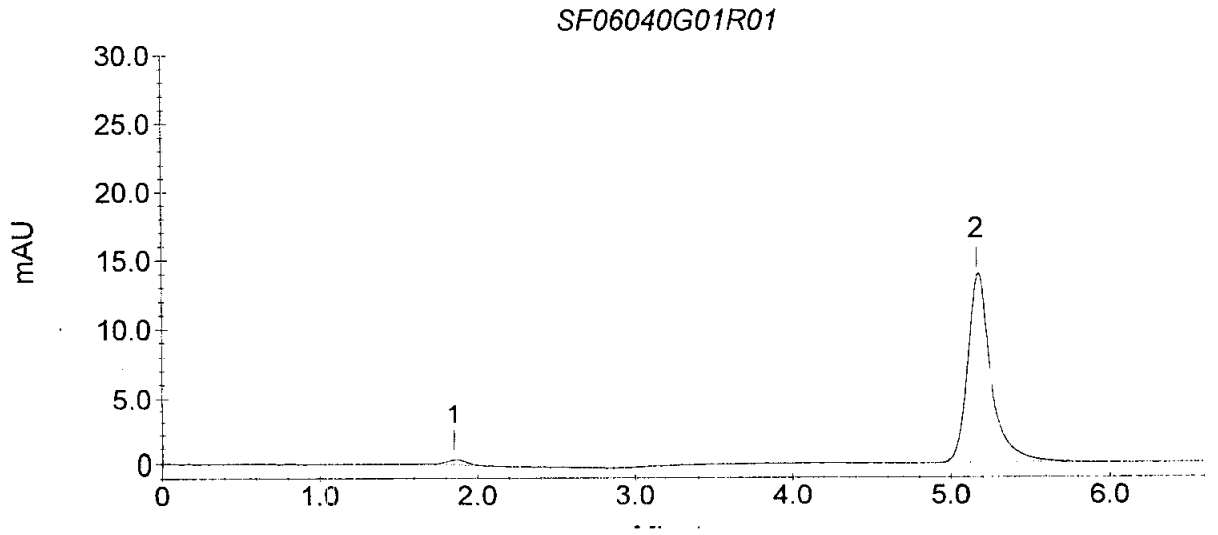
Sample Name : SF06040G01R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_003.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:27:56
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 3
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2829	304
2	CRVI	5.17	4.49	142130	13697



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

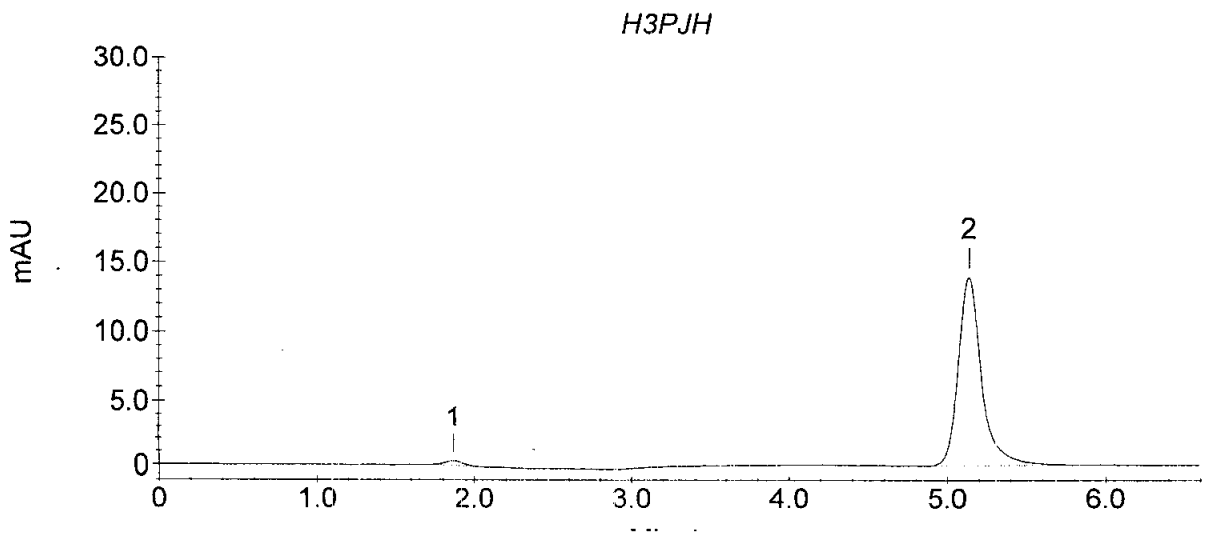
Sample Name : H3PJH
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_004.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 10:37:03
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 4
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2836	338
2	CRVI	5.13	4.49	141892	13948



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

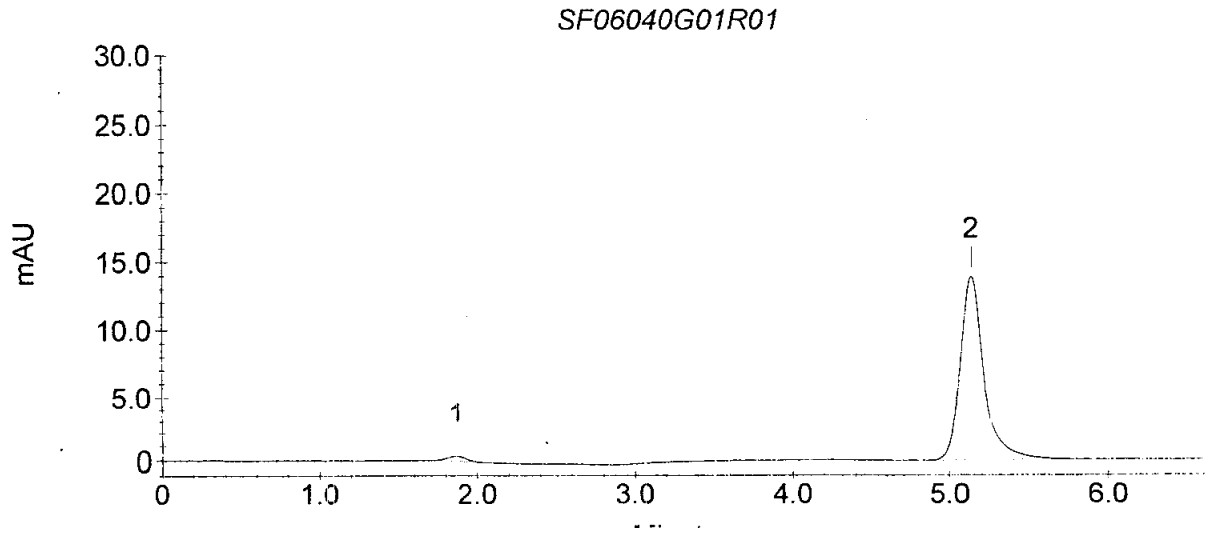
Sample Name : SF06040G01R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_004.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:37:03
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 4
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2836	338
2	CRVI	5.13	4.49	141892	13948



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

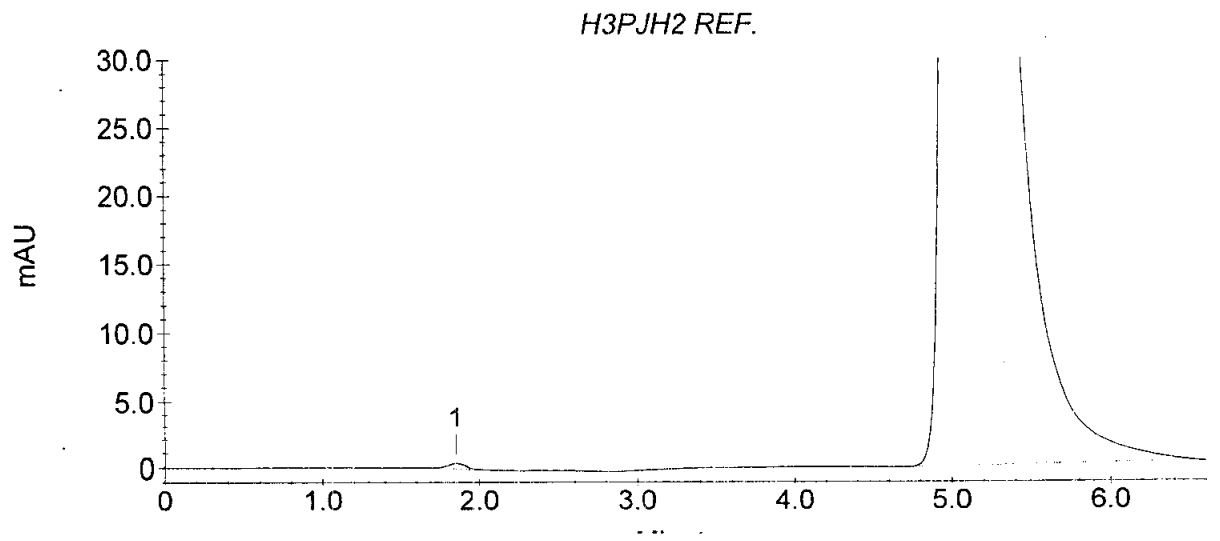
Sample Name : H3PJH2 REF.
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_005.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 10:46:11
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 5
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2841	339
2	CRVI	5.08	412.07	13029088	1236551



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

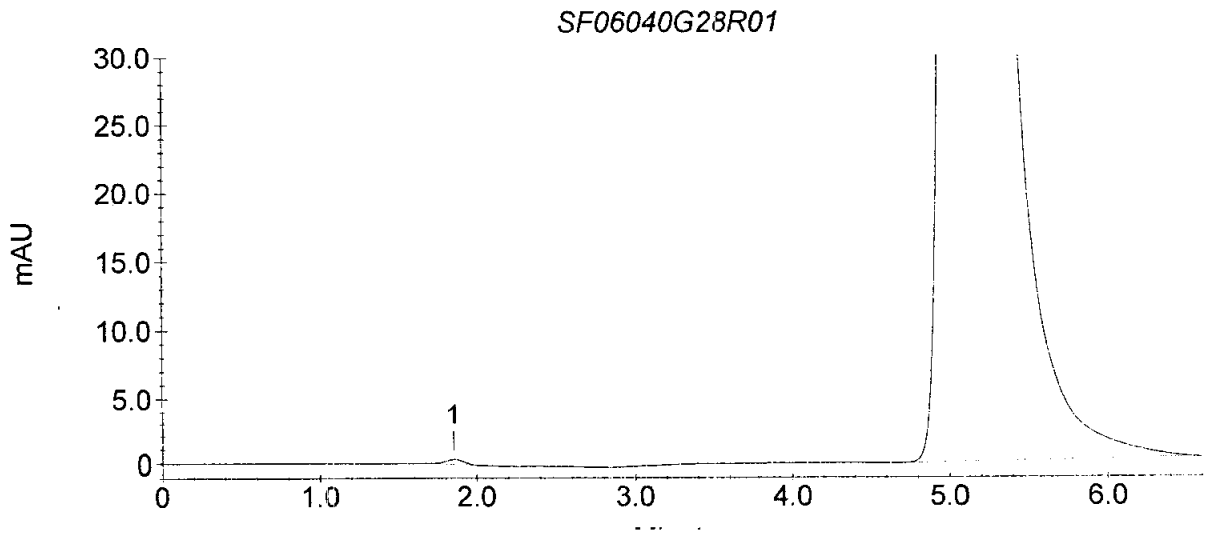
Sample Name : SF06040G28R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_005.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:46:11
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 5
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2841	339
2	CRVI	5.08	412.07	13029088	1236551



Ref.

Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

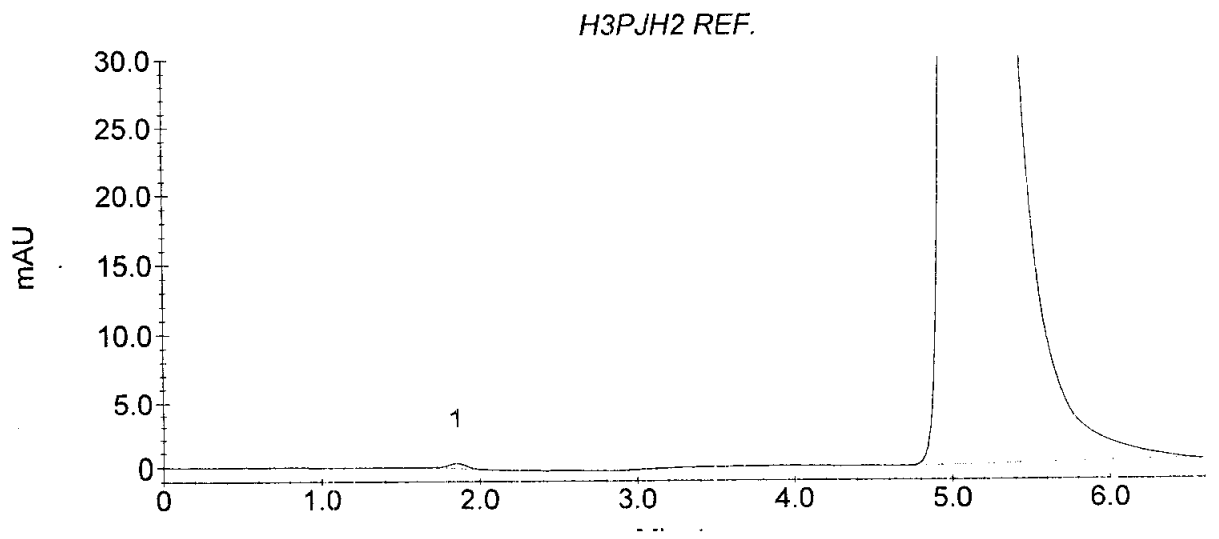
Sample Name : H3PJH2 REF.
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_006.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 10:55:16
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 6
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2748	334
2	CRVI	5.08	412.54	13044049	1238484



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

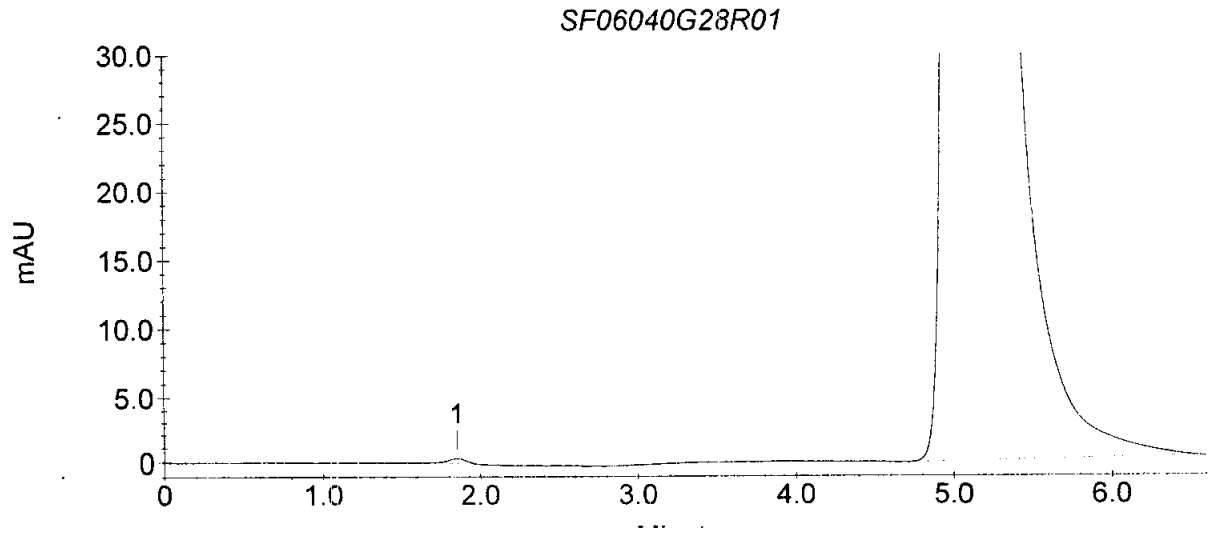
Sample Name : SF06040G28R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_006.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:55:16
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 6
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2748	334
2	CRVI	5.08	412.54	13044049	1238484



Rej

Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

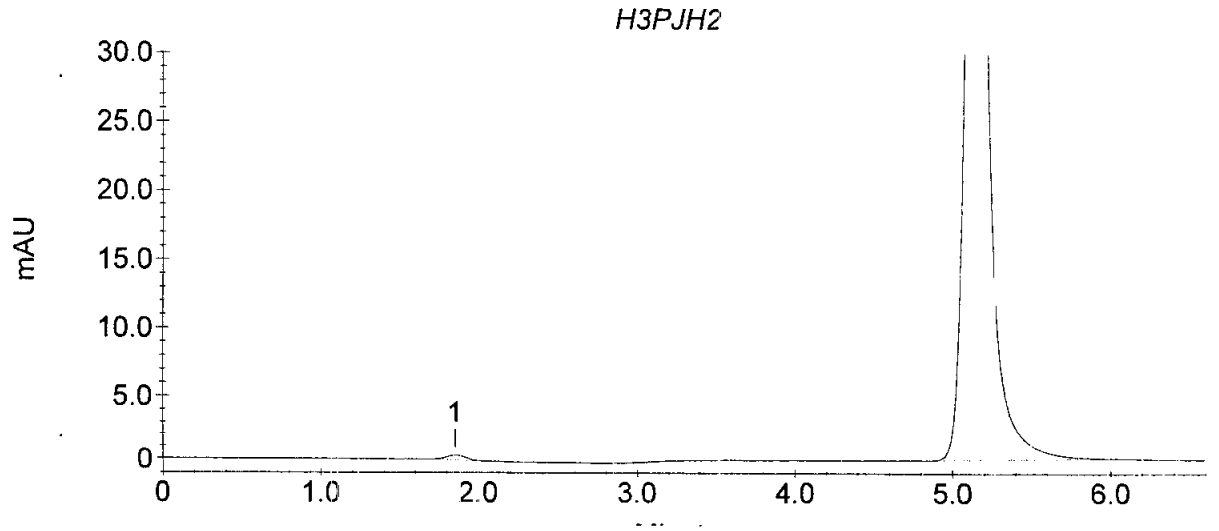
Sample Name : H3PJH2
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_007.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:04:27
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 7
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2972	357
2	CRVI	5.13	413.05	653072	71311



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

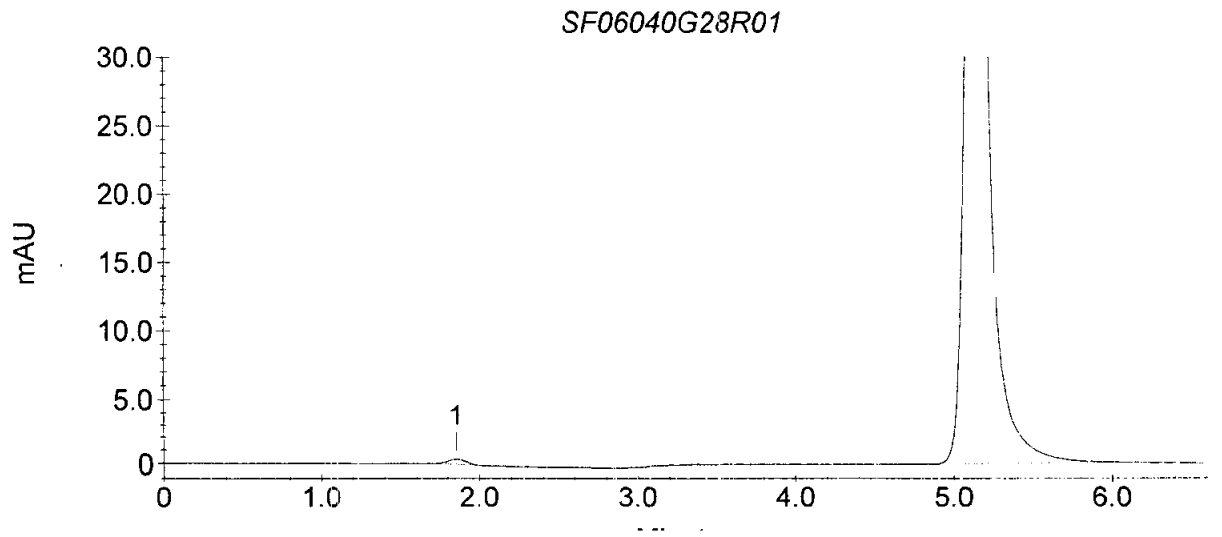
Sample Name : SF06040G28R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_007.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:04:27
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 7
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2972	357
2	CRVI	5.13	413.05	653072	71311



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

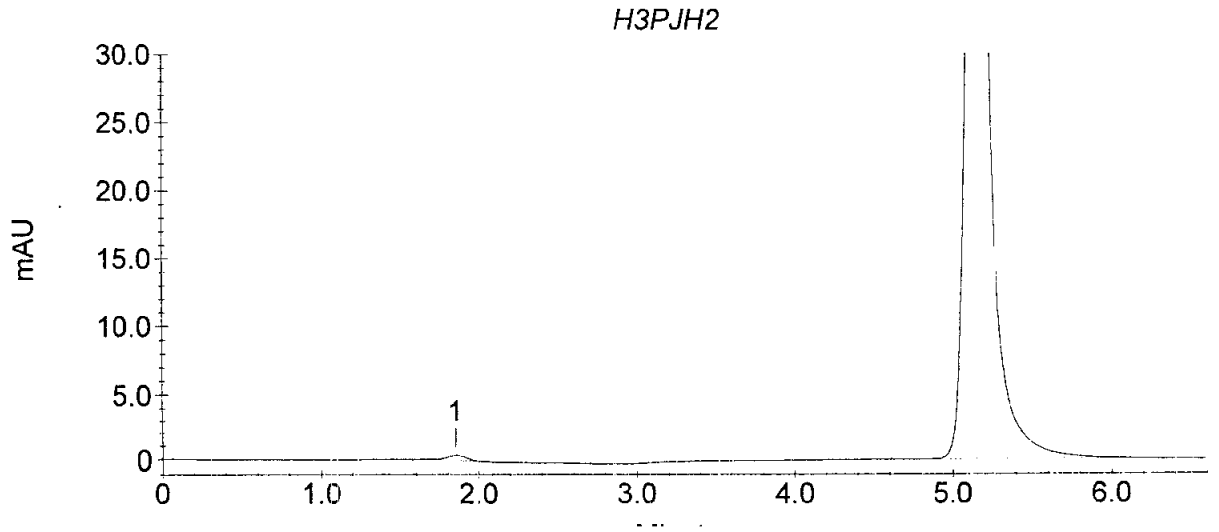
Sample Name : H3PJH2
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_008.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:13:32
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 8
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3077	358
2	CRVI	5.15	420.66	665099	73609



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

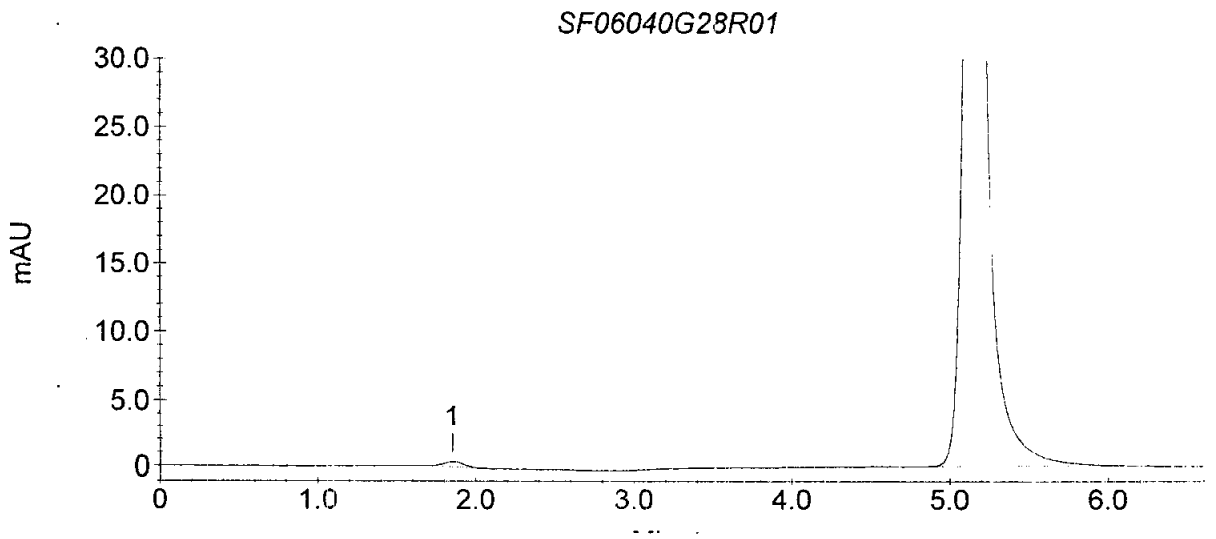
Sample Name : SF06040G28R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_008.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:13:32
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 8
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3077	358
2	CRVI	5.15	420.66	665099	73609



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

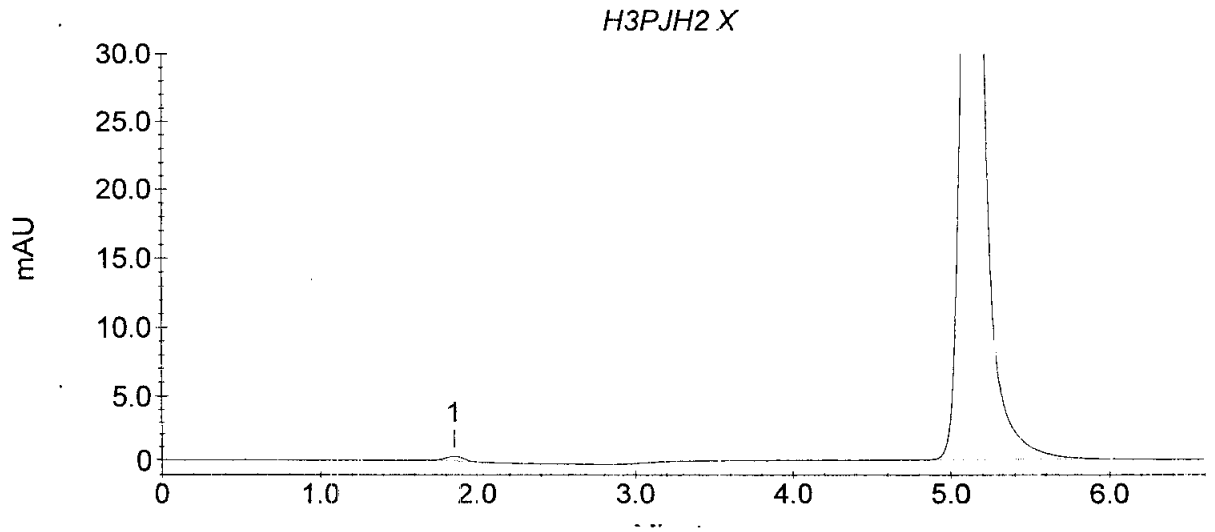
Sample Name : H3PJH2 X
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_009.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:22:38
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 9
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2854	353
2	CRVI	5.12	405.22	640693	68405



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

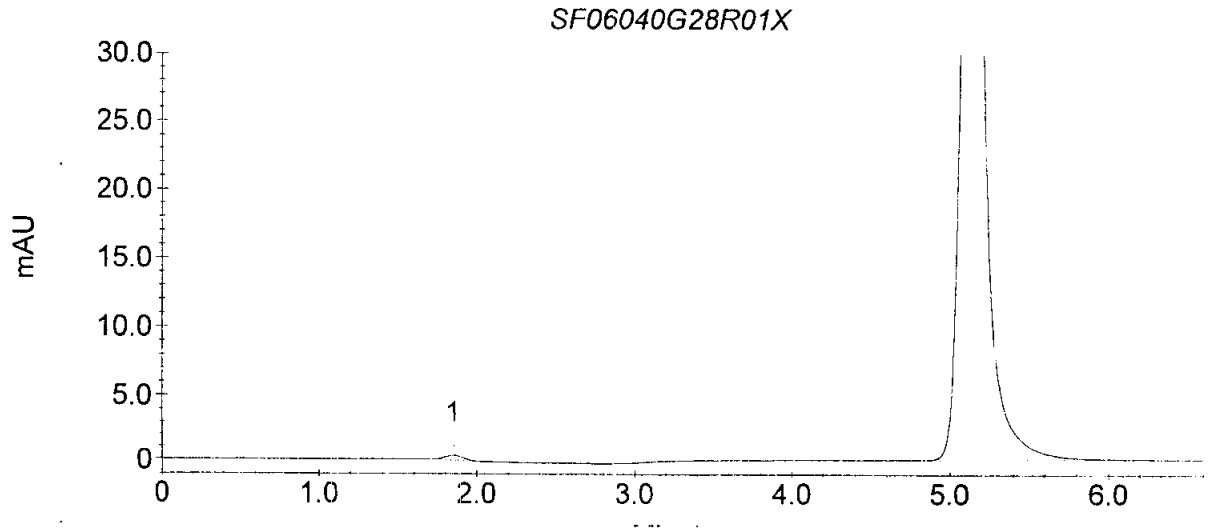
Sample Name : SF06040G28R01X
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_009.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:22:38
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 9
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2854	353
2	CRVI	5.12	405.22	640693	68405



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

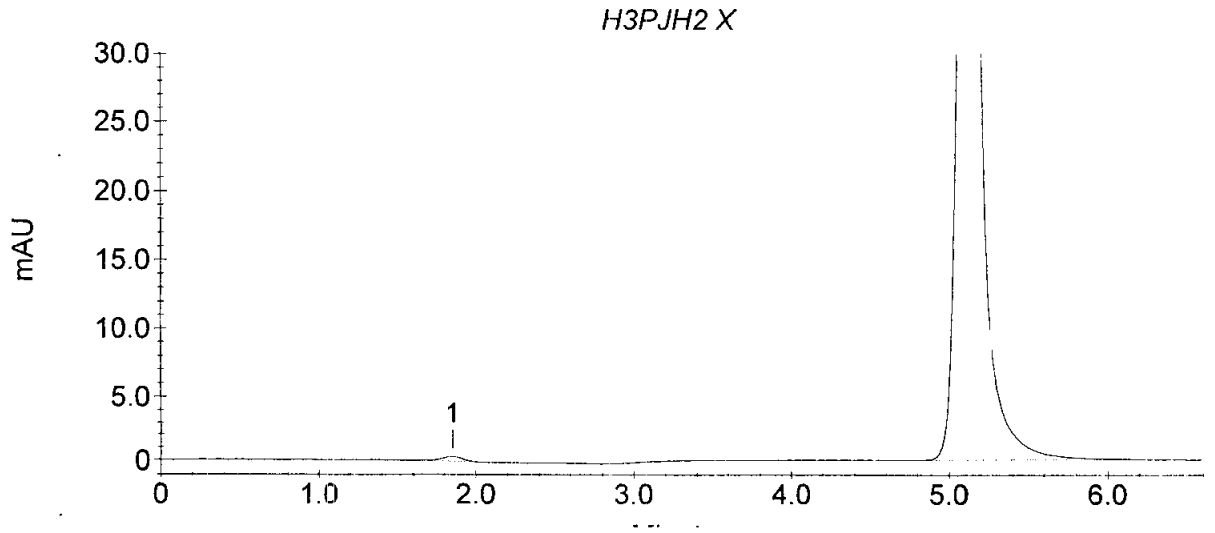
Sample Name : H3PJH2 X
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_010.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:31:44
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 10
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3171	363
2	CRVI	5.12	421.45	666358	73732



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

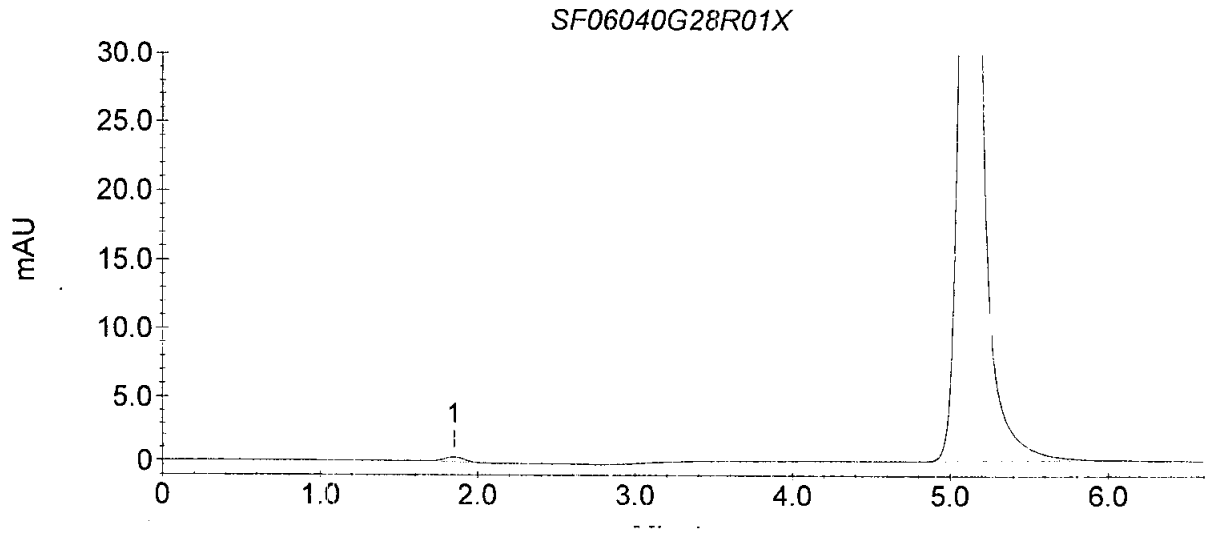
Sample Name : SF06040G28R01X
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_010.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:31:44
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 10
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3171	363
2	CRVI	5.12	421.45	666358	73732



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

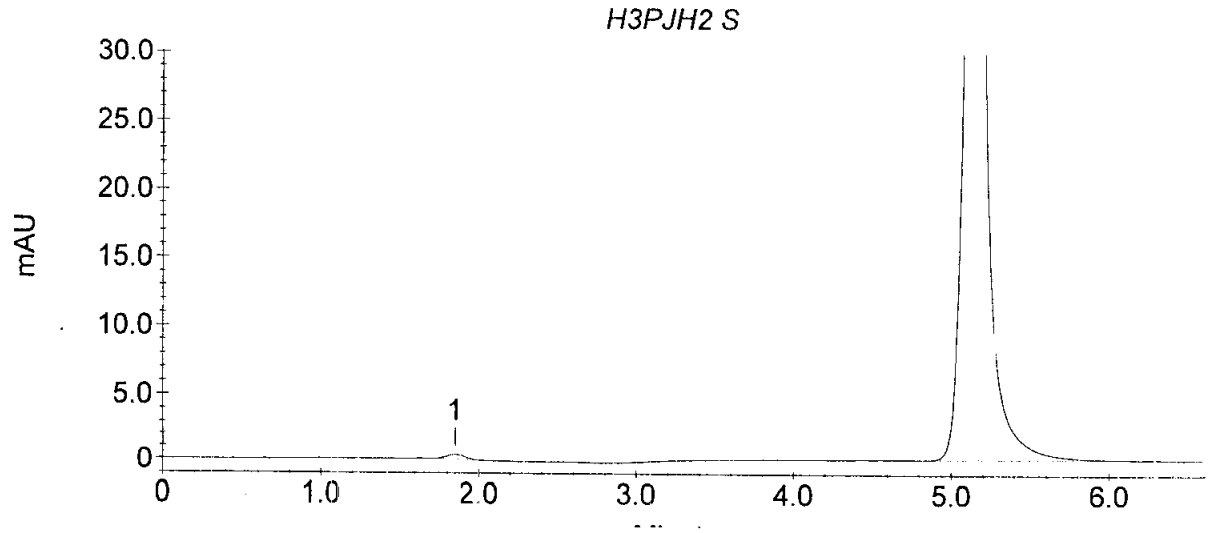
Sample Name : H3PJH2 S
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_011.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:40:51
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 11
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3051	364
2	CRVI	5.13	917.96	580559	64349



STL Los Angeles Cr VI Sample Analysis Report

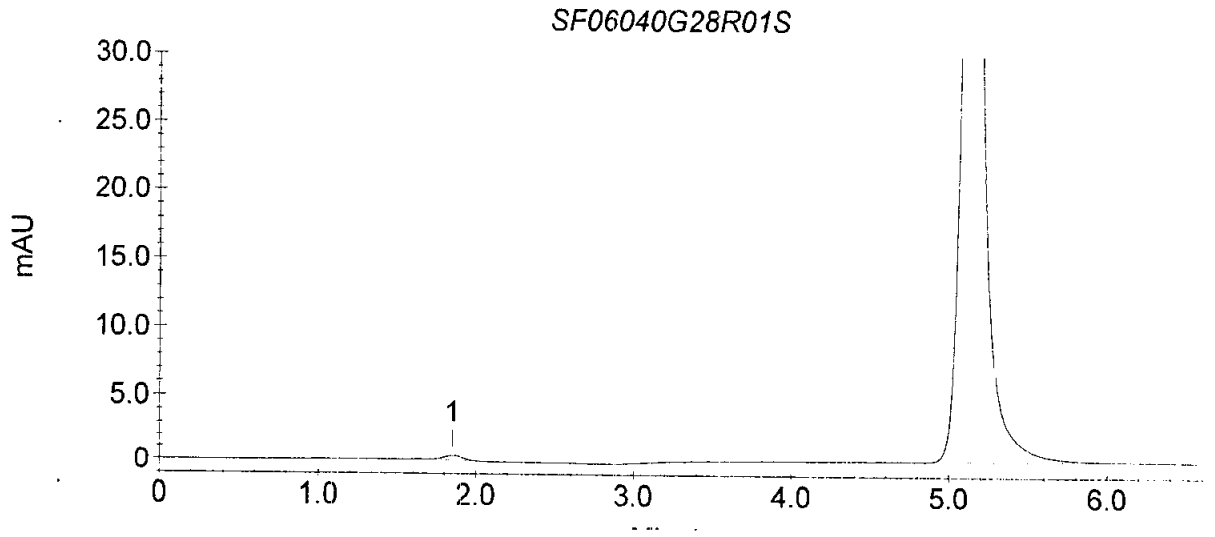
Sample Name : SF06040G28R01S
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_011.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:40:51
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 11
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3051	364
2	CRVI	5.13	917.96	580559	64349



STL Los Angeles Cr VI Sample Analysis Report

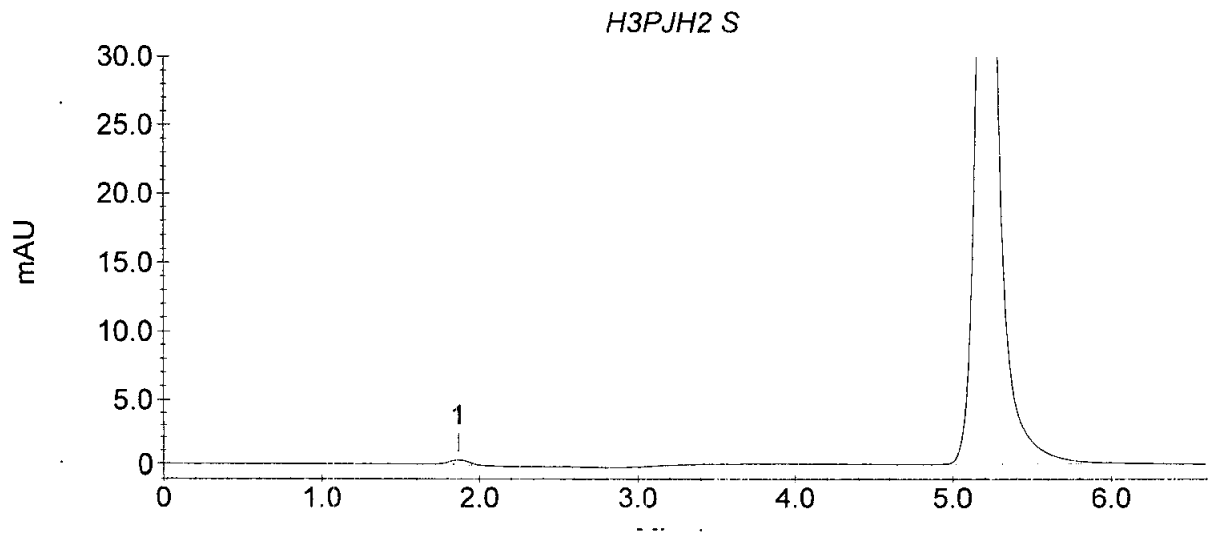
Sample Name : H3PJH2 S
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_012.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:49:56
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 12
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2870	326
2	CRVI	5.20	924.47	584676	64294



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

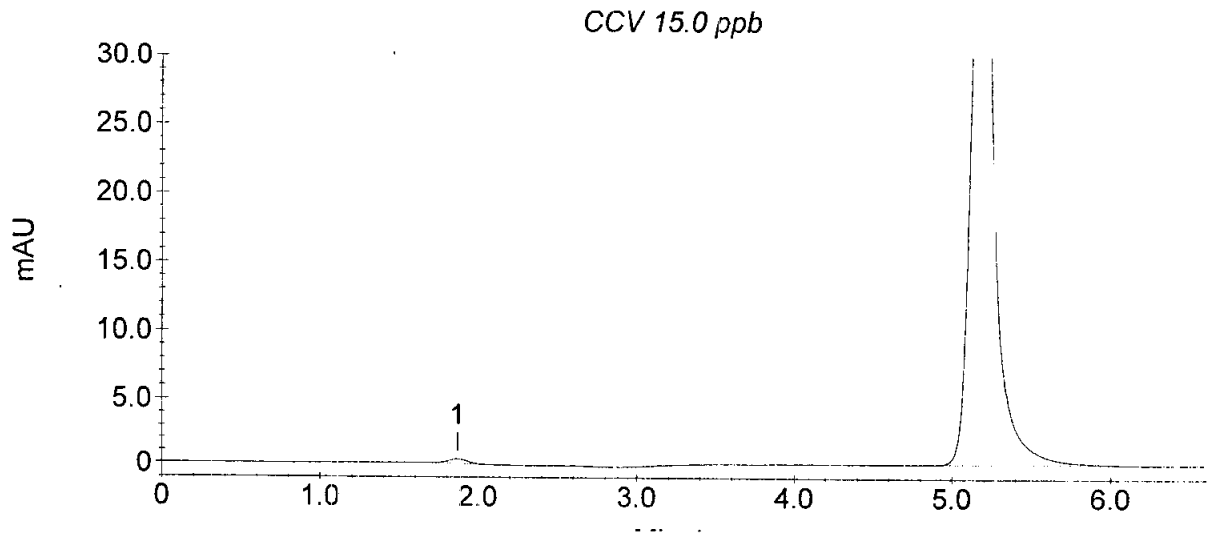
Sample Name : CCV 15.0 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_013.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:59:05
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 13
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2994	352
2	CRVI	5.17	15.39	486830	52627



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

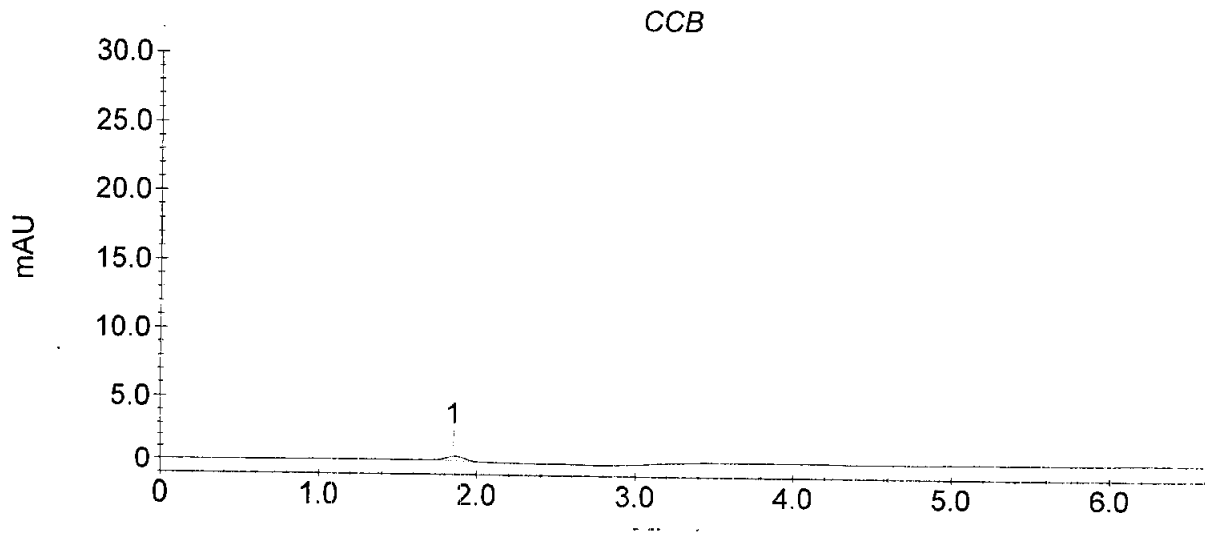
Sample Name : CCB
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_014.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 12:08:09
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 14
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3128	355



Current Date : 4/20/06

SEVERN TRENT STL

STL Los Angeles

Hexavalent Chromium by Ion Chromatography
Standards and Reagent Log

Method EPA 218.6 _____ SW 846 7199 ✓
Analyst: YY
Date: 2/15/06

Reagent Lot Numbers/Expiration Dates

Chromatographic Eluent: 2006-17-3-11 / 2/13/07
Post-column Reagent: 2006-17-4-14 / 2/19/06
Buffer Solution: 2006-17-1-1 / 1/3/07
Dilution Water: 2 liters of DI water adjusted to a pH of 9.0 to 9.5 with buffer solution.
Final pH: 9.05

Preparation of Intermediate Calibration and Check (ICV/LCS) Standard:

Analyte	Stock Concentration (mg/L)	Volume of Stock (mL)	Final Volume (mL)	Final Concentration (mg/L)
Calibration	1000	0.1	1000	0.1
Check	1000	0.1	1000	0.1

Intermediate Standard Lot Numbers/Expiration Dates
Calibration Standard: 2006-17-6-8 / 2/22/06
Check (ICV/LCS) Standard: 2006-17-5-8 / 2/22/06

Preparation of Calibration and Check Standards:
All standards and blanks are prepared with dilution water at a pH of 9.0 to 9.5.

Standard Name	Standard Conc.	Source Conc. (mg/L)	Source Solution	mL of Source	Final Volume
Cal Blank	0 mg/L	NA	Dilution water	10	10 mL
Cal Std 1	0.0002 mg/L	0.1	Intermediate Calib Stock	0.02	10 mL
Cal Std 2	0.001 mg/L	0.1	Intermediate Calib Stock	0.1	10 mL
Cal Std 3	0.010 mg/L	0.1	Intermediate Calib Stock	1.0	10 mL
Cal Std 4	0.025 mg/L	0.1	Intermediate Calib Stock	2.5	10 mL
ICV/LCS	0.0075 mg/L	0.1	Intermediate ICV Stock	0.75	10 mL
ICB/CCB/MB	0 mg/L	NA	Dilution water	10	10 mL
CCV	0.015 mg/L	0.1	Intermediate Calib Stock	1.5	10 mL
MS/MSD	0.010 mg/L	0.1	Intermediate ICV Stock	1.0	10 mL Sample

Method Report - CRVI 021506.met

Method Information : Select Module(s)

System Name : CRVI
System Number : 2
Method Type : Ion Chromatography
Column : AS7-010224, NG1-017371
Analyst : YZ
Comment : Comment: 4 point plus blank
Calibration 02/15/06
Eluent 2006-17-3-10
Post-Column Reagent 2006-17-4-13
Calibration Source: ERA 09073.3
ICV Source: 2006-17-2-1
Curve: linear
Cr 6+ (0.2 - 25 ppb)

AD25 Timed Events

Module Name :
Module Serial Number :
UV Lamp : Off
Visible Lamp : On
Offset Level: 10%
Calibration: Off
Polarity: Positive
TTL1 : TTL 1
TTL2 : TTL 2
Relay1 : RLY 1
Relay2 : RLY 2

AD25 Detector Parameters

Detector Type : AD25
Data collection time (minutes) : 7.00
Data Collection Rate (Hz.) : 5.00
Rise Time (Sec.) : 2.00
Real time plot scale maximum (mAU) : 30.000
Real time plot scale minimum (mAU) : -1.000

AD25 Integration Parameters

Peak detection algorithm : Standard
Starting peak width (seconds) : 10.00
Peak threshold : 0.50
Peak area reject (area counts) : 1000.00
Reference peak area reject (area counts) : 1000.00

AD25 Smoothing Parameters

Filter Type : No filter

AD25 Report Data

Report Format File : C:\PeakNet\method\DEFAULT.RPT
Print Sample Analysis : Yes
Print Calibration Update : Yes
Print Check Standard : Yes
System Suitability Tests :
No system suitability tests selected.

AD25 Integration Data Events

AD25 Calibration Parameters

External or internal calibration : EXTERNAL
Number of replicates for calibration : 1
Rejection : Manual
Level Weighting : Equal
Calibration standard volume : 1.00
Default sample volume : 1.00
Amount units : PPB
Replace retention time : Yes
Update response : Yes
Default dilution factor : 1.00
Default response factor for unknown peaks : 0.00
Calculate unknowns by area or height : Area

AD25 Component Identification Table

Component	Retention	Tolerance	Reference
CRVI	5.22 min	1.00 min	

AD25 Component Quantitation Table

Component	Retention	Low Limit	High Limit
CRVI	5.22 min	0	0

AD25 Component Calibration Table

Component	Retention Time	Curve Fit	Origin	Cal. by	Response Component	Relative Factor
CRVI	5.22 min	Linear	Include	Area		0.00

AD25 Component = CRVI Levels Table

Retention Time : 5.22 min
Amount units : PPB
Replicate unit type : Area
Number of levels : 5
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	0
2	0.20	6583.8
3	1.00	31512.9
4	10.00	316308
5	25.00	790518

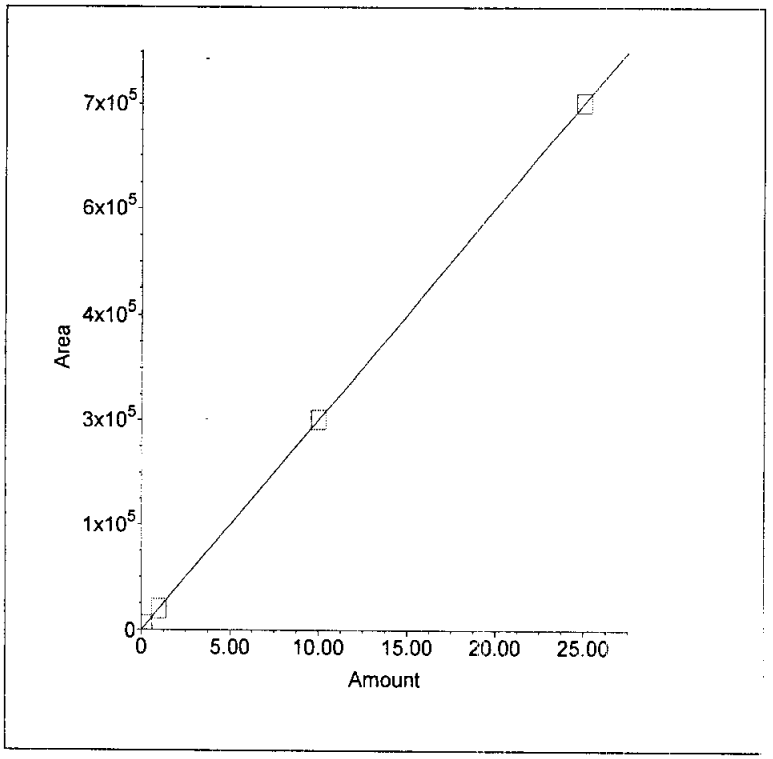
AD25 XY Data Parameters

IP25 Timed Events

Module Name :
Module Serial Number :
Description :
Low Pressure Limit : 20.0
High Pressure Limit : 3000.0
Piston Size : Standard
Pressure Unit : psi
Oven Temperature : Oven Not Installed

Time	Flow	Valve	Column	TTL1	TTL2	Relay1	Relay2
Init	1.00	Load	B	Low	Low	Open	Open
0.00	1.00	Load	B	Low	Low	Closed	Open
2.40	1.00	Inject	B	Low	Low	Open	Open

1. Component:CRVI
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=1.000000
Amt=3.163e-005*Resp+-0.00203



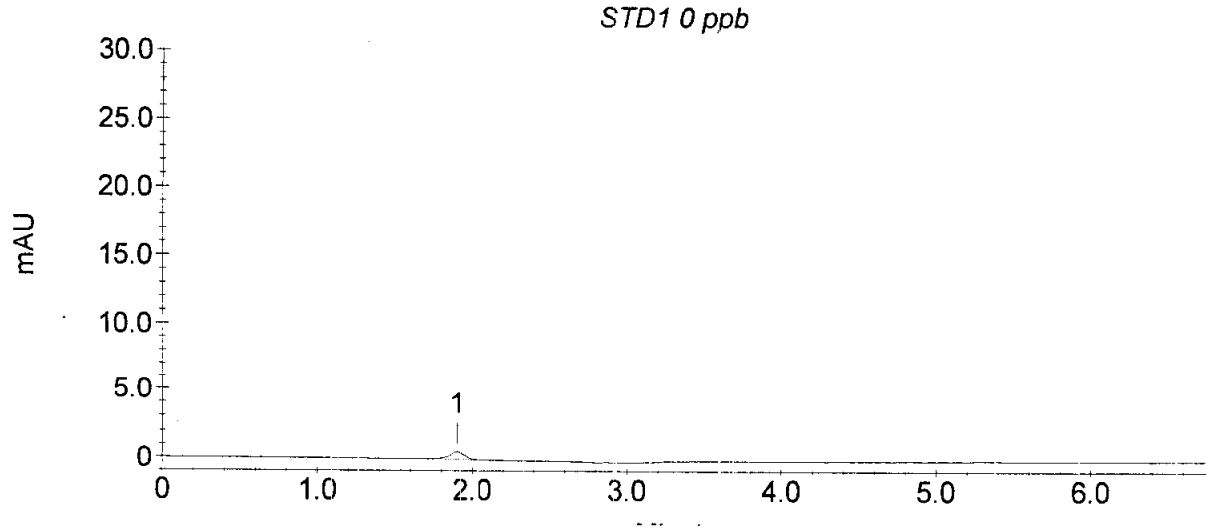
Calibration Update Report

Sample Name : STD1 0 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_001.DXD

Method File Name : c:\peaknet\method\crvi 021306a.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:23:11
Calibration Date : 2/15/06 08:32:19
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1		1.90			



Current Date : 2/15/06

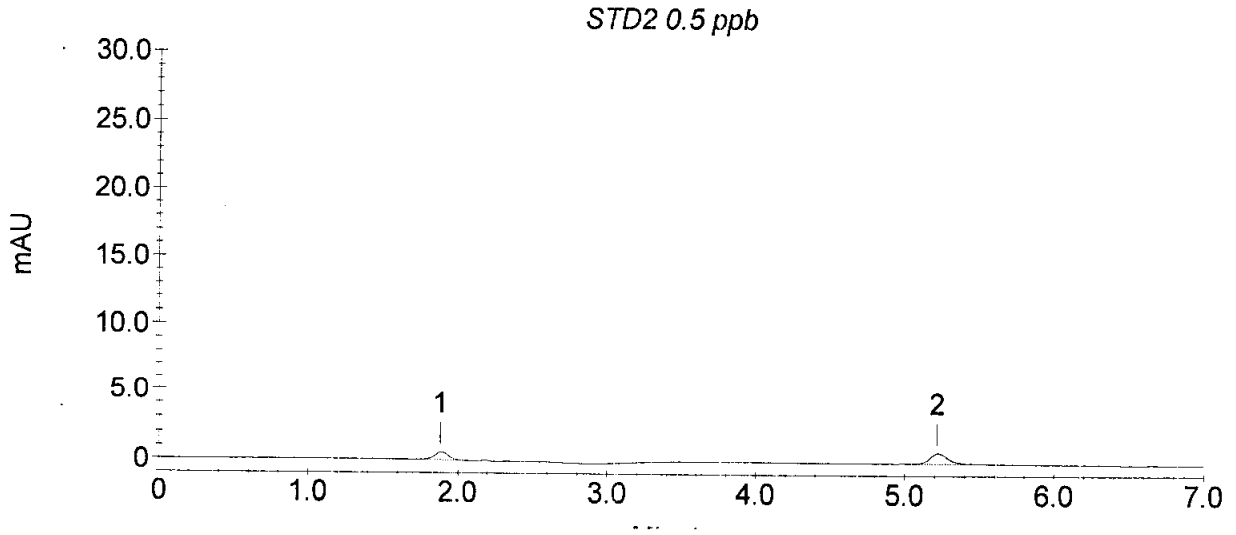
Calibration Update Report

Sample Name : STD2 0.5 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_002.DXD

Method File Name : c:\peaknet\method\crvi 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:32:24
Calibration Date : 2/15/06 08:41:52
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	0	6584	6584



Current Date : 2/15/06

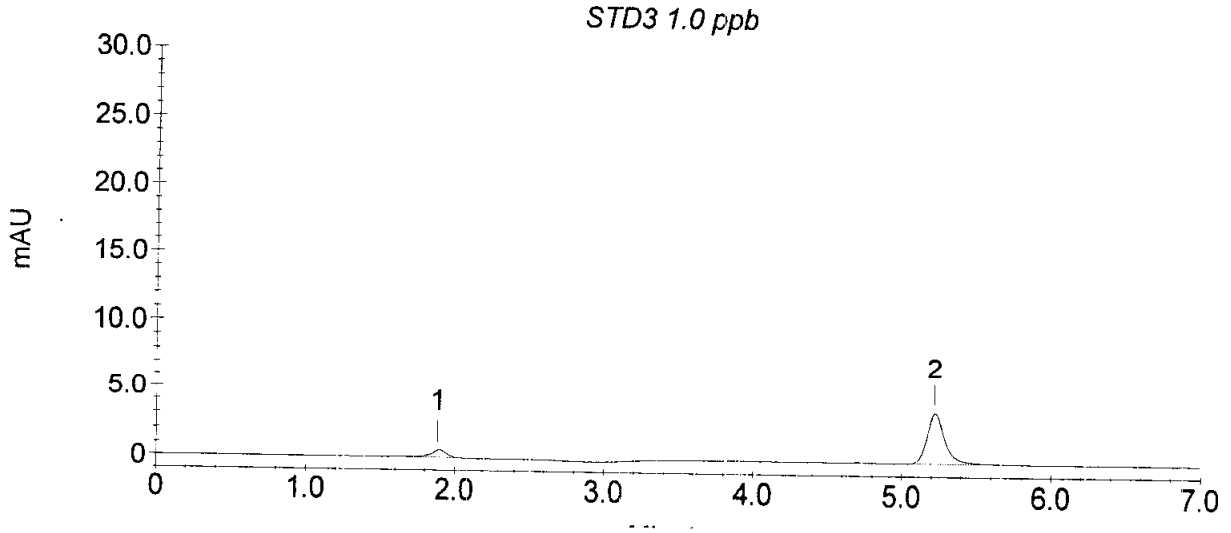
Calibration Update Report

Sample Name : STD3 1.0 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_003.DXD

Method File Name : c:\peaknet\method\crvi 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:41:56
Calibration Date : 2/15/06 08:51:24
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	0	31513	31513



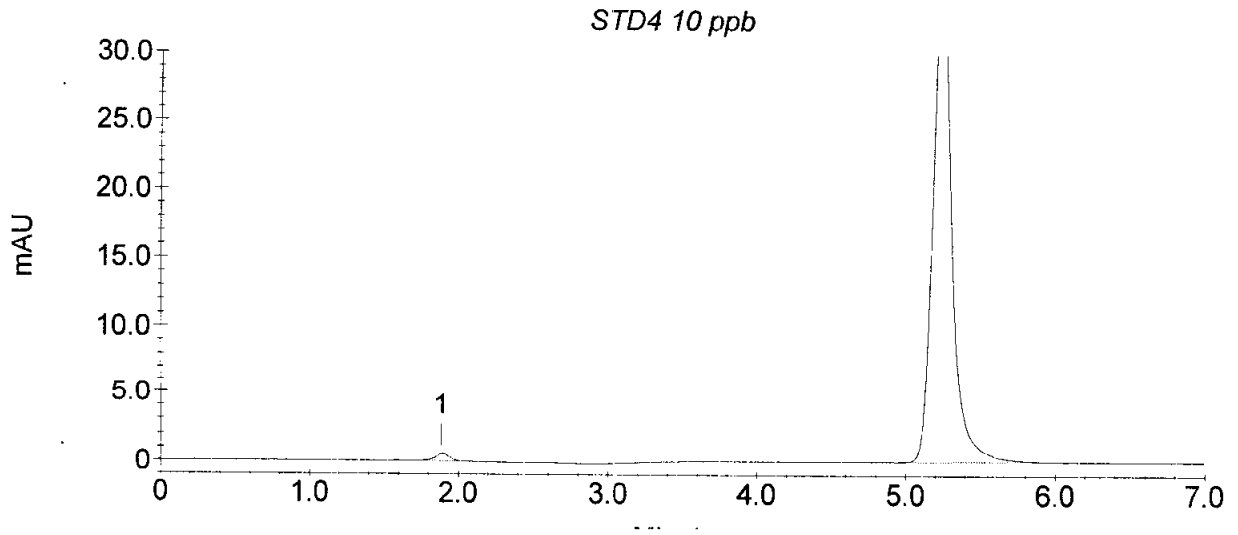
Calibration Update Report

Sample Name : STD4 10 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_004.DXD

Method File Name : C:\PEAKNET\METHOD\CRVI 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:51:28
Calibration Date : 2/15/06 09:01:29
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	316308	316308	316308



Current Date : 2/15/06

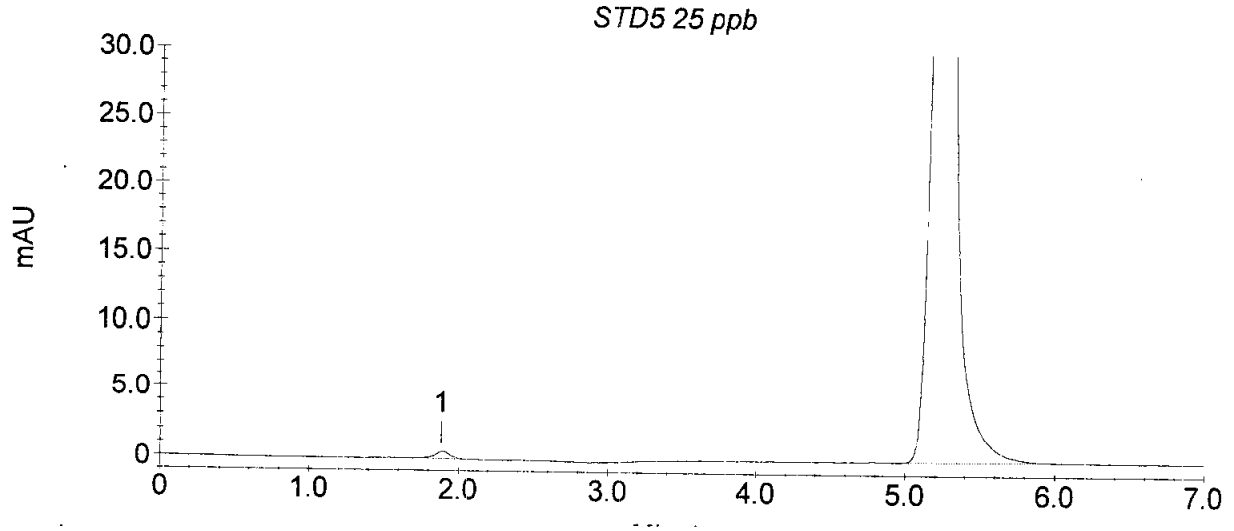
Calibration Update Report

Sample Name : STD5 25 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_005.DXD

Method File Name : c:\peaknet\method\crvi 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 09:01:00
Calibration Date : 2/15/06 09:10:29
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	0	790518	790518



Current Date : 2/15/06

STL Los Angeles Cr VI Sample Analysis Report

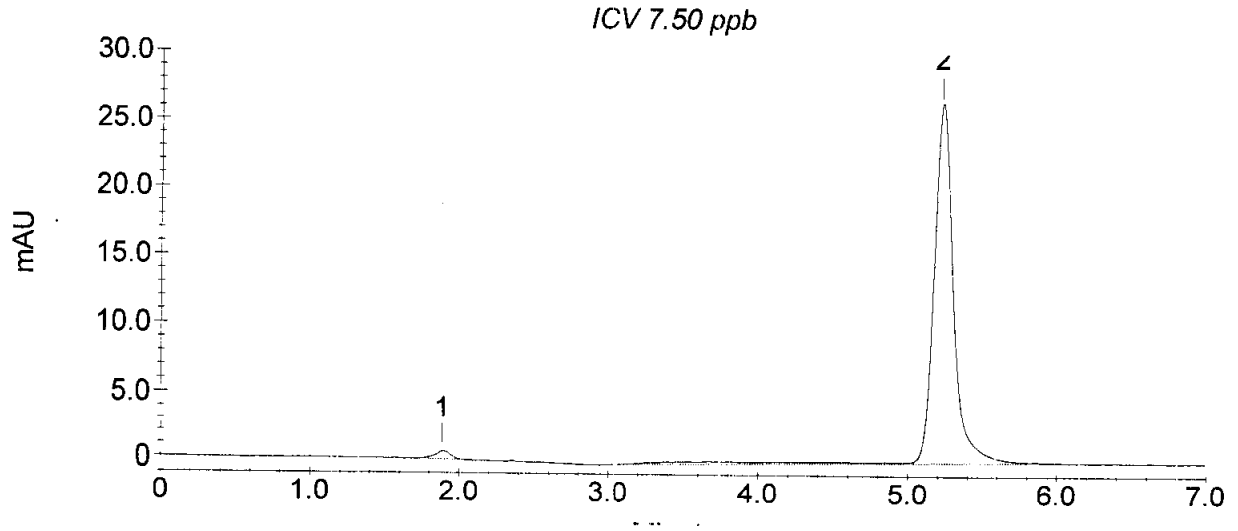
Sample Name : ICV 7.50 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_006.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 2/15/06 09:10:33
System Operator : YZ
Calibration Date : 2/15/06 09:10:29

Column Type : AS7-010224, NG1-017371
Injection Number : 6
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.88	0.00	3844	515
2	CRVI	5.22	7.88	249284	26256



Current Date : 2/15/06

STL Los Angeles Cr VI Sample Analysis Report

Sample Name : ICB 021506
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_007.DXD

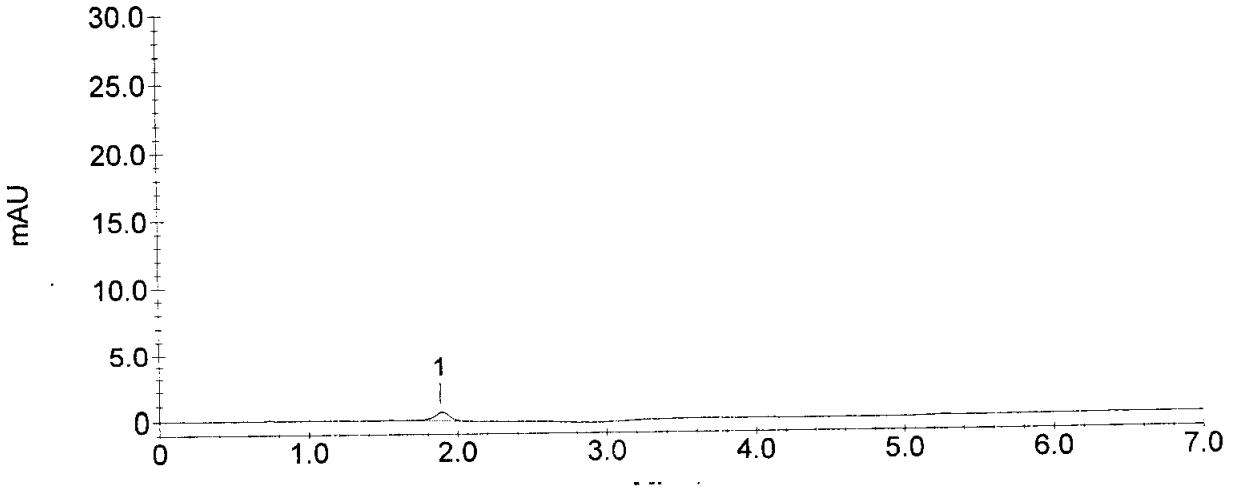
Method File Name : ...\crvi 021506.met
Date Time Collected : 2/15/06 09:20:05
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 7
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.88	0.00	3810	498

ICB 021506



Current Date : 2/15/06
Current Time : 09:29:34

SEVERN TRENT STL

END OF RAW DATA

Cover Letter 2
Case Narrative 2
Chain of Custody 4
Analytical Report 8
QA/QC 15
STL Los Angeles Raw Data 23
Raw Data: Gen Chem 24

SEVERN TRENT STL

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921
www.stl-inc.com

April 27, 2006

STL LOT NUMBER: **E6D200262**
PO/CONTRACT: JH03 MR1A 01EA 5A00

Keith Greene
Los Alamos National Laboratory
P.O. Box 1663
MS P240
Los Alamos, NM 87545

Dear Keith Greene,

This report contains the analytical results for the sample received under chain of custody by STL Los Angeles on April 20, 2006. This sample is associated with your LOS ALAMOS - CR+6 WATERS project.

STL Los Angeles certifies that the test results provided in this report meet all the requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA/E87652.

Any matrix related anomaly is footnoted within the report. A cooler receipt temperature between 2-6 degrees Celsius is within EPA acceptance criteria. The temperature(s) of the coolers received for this project can be found on the Project Receipt Checklist.

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report contains 000066 pages.

CASE NARRATIVE

Historical control limits for the LCS are used to define the estimate of uncertainty for a method.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

If you have any questions, please feel free to call me at 714.258.8610.

Sincerely,

Sabina Sudoko
Project Manager
CC: Project File

LOT NUMBER E6D200262

Nonconformance 05-16268

Affected Samples:
E6D200262 (1): SF06040G28R01

Affected Methods:
7199

Details:
The samples were received at a temperature of 8.7 degrees C.

E6D200262

********** Quick Turnaround -- Please Expedite **********

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

E6D200262

Matrix: Ground Water Coc Id: WG-03719-ST PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/Time: 4/19/06 1255	Ship To: Severn Trent - Los Angeles 1721 South Grand Avenue Santa Ana, CA 92705	Contact: Jesse Bacwaden Phone: (714) 258-8610 Fax: (714) 258-8610	WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545 Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov Sampler Initials: [illegible] Date: 4/19/06

Analysis Request

Sample Id: **SF06040G28R01** Field Prep: **F**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9010	WG: Cr(VI)	250 ml poly	2	ammonium sulfate/ammoni	0	pH 9.95	

Total Containers: 2

Grand Total: 2

Technique: Submersible pump

Comments: NA

Chain of Custody

Sampling Team: A. Barnes, J. Jordan, M Scandrett

Relinquished By:	Date	Time	Received By	Date	Time	Reason for Transfer
[signature] (sampler)	4/19/06	13:40	[signature]	4-19-06	1340	
			[signature]	4-20-06	0900	

Sudoko, Sabina

From: ssudoko@stl-inc.com
Sent: Friday, April 21, 2006 12:25 PM
To: kgreene@lanl.gov
Subject: Information for E6D200262

Sample
ıfirmation for E6D2(

* *

Lot ID: E6D200262
Project Number: LOS ALAMOS - CR+6
Project Name/Site: LOS ALAMOS - CR+6 WATERS

Acknowledgment of samples received for LOS ALAMOS CR+6

NOTE: Samples were received at a temperature of 8.7 degrees C.

Please check the sample confirmation sheet.

thank you..

Sabina Sudoko
(714)258-8610
ssudoko@stl-inc.com

This message and any files transmitted with it are confidential and intended solely for the use of the addressee. If you have received this message in error please notify the sender and destroy your copies of the message and any attached files.

[00257381]
Version: 2.1.10

STL LOS ANGELES - PROJECT RECEIPT CHECKLIST Date: 4-20-06

Single Cooler Only

LIMS Lot #: E6D200262 Quote #: 68506

Client Name: Los Alamos Project: WG-03719-ST

Received by: K FREITAG Date/Time Received: 4-20-06 0900

Delivered by : ☐ Client ☐ STL ☐ DHL ☒ Fed Ex ☐ UPS ☐ Other

****

	Initial / Date
Custody Seal Status Cooler: ☒ Intact ☐ Broken ☐ None	4/20
Custody Seal Status Samples: ☒ Intact ☐ Broken ☐ None	
Custody Seal #(s): ☒ No Seal #	
Sampler Signature on COC ☐ Yes ☐ No ☐ N/A	
IR Gun # __A_ Correction Factor __-.5_°C IR passed daily verification ☒ Yes ☐ No	
Temperature - **BLANK** ____°C - .5___ CF ___ °C **Cooler #1 ID**	
Temperature – **COOLER** (9.5 °C 8.9 °C ___ °C ___ °C) = 9.2 avg °C - __.5 __ CF = 8.7 °C	
Samples outside temperature criteria but received within 6 hours of final sampling ☐ Yes ☒ N/A	
Sample Container(s): ☐ STL-LA ☒ Client	
pH measured: ☐ Yes ☐ Anomaly (if checked, notify lab and file NCM) ☒ N/A	
Anomalies: ☐ No ☒ Yes – complete CUR and Create NCM	
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☐ Yes ☒ No	✓
Labeled by: SG	SG 4/20/06

****

Turn Around Time: ☐ RUSH–24HR ☐ RUSH–48HR ☐ RUSH–72HR ☒ NORMAL SG 4/20/06

********** LEAVE NO BLANK SPACES . USE N/A **********

Headspace Anomaly ☐ YES ☒ N/A SG 4/20/06

Lab ID	Container(s) #	Headspace	Lab ID	Container(s) #	Headspace
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm

LIMS Lot # E6D200262

PROJECT RECEIPT CHECKLIST Cont'd

Fraction	1													
VOAH														
250 PB	2													N/A

H: HCL, S: H2SO4, N: HNO3, V: VOA, SL, Sleeve, E: Encore, PB: Poly Bottle, CGB: Clear Glass Bottle, AGJ: Amber Glass Jar, T: Terracore AGB: Amber Glass Bottle, n/f/l:HNO3-Lab filtered, n/f:HNO3-Field filtered, znna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

Condition Upon Receipt Anomaly Form

Anomalies ☐ YES ☐ N/A 4/20/06

- **COOLERS**
  - ☐ Not Received (received COC only)
  - ☐ Leaking
  - ☐ Other:
- **CUSTODY SEALS (COOLER(S)** / **CONTAINER(S)**
  - ☐ None / ☐ None
  - ☐ Not Intact / ☐ Not Intact
  - ☐ Other / ☐ Other
- **TEMPERATURE (SPECS 4 ± 2°C)**
  - ☐ Cooler Temp(s)
  - ☒ Temperature Blank(s)
- **CHAIN OF CUSTODY (COC)**
  - ☐ Not relinquished by Client; No date/time relinquished
  - ☐ Incomplete information provided
  - ☐ Other ☐ COC not received – notify PM
- **CONTAINERS**
  - ☐ Leaking ☐ Voa Vials with Bubbles > 6mm
  - ☐ Broken
  - ☐ Extra
  - ☐ Without Labels
  - ☐ Other:
- **LABELS**
  - ☐ Not the same ID/info as in COC
  - ☐ Incomplete Information
  - ☐ Markings/Info illegible
  - ☐ Torn
- **SAMPLES**
  - ☐ Samples NOT RECEIVED but listed on COC
  - ☐ Samples received but NOT LISTED on COC
  - ☐ Logged based on Label Information
  - ☐ Logged based on info from other samples on COC
  - ☐ Logged according to Work Plan
  - ☐ Logged on HOLD UNTIL FURTHER NOTICE
  - ☐ Will be noted on COC--Client to send samples with new COC
  - ☐ Mislabeled as to tests, preservatives, etc.
  - ☐ Holding time expired – list sample ID and test
  - ☐ Improper container used
  - ☐ Not preserved/Improper preservative used
  - ☐ Improper pH _____ Lab to preserve sample and document
  - ☐ Insufficient quantities for analysis ☐ Other

Comments: Samples received out of temp. (8.7°c)

☐ Corrective Action Implemented:

☐ Client Informed: verbally on _____ By: _____ ☐ In writing on _____ By: _____

☐ Sample(s) on hold until: _____ ☐ Sample(s) processed "as is."

Logged by/Date: Logged in by other STL ☐ ____ Albert Vargas 4-20-06

PM Review/Date: 4/21 Sudeke

SEVERN TRENT STL

Analytical Report

ANALYTICAL REPORT

PROJECT NO. LOS ALAMOS - CR+6

LOS ALAMOS - CR+6 WATERS

Lot #: E6D200262

Keith Greene

Los Alamos National Laboratory

SEVERN TRENT LABORATORIES, INC.

Sabina Sudoko
Project Manager

April 26, 2006

EXECUTIVE SUMMARY - Detection Highlights

E6D200262

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SF06040G28R01 04/19/06 09:00 001				
Dissolved Hexavalent Chromium	417	8.0	ug/L	SW846 7199

METHODS SUMMARY

E6D200262

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Hexavalent Chromium	SW846 7199	SW846 7199

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

E6D200262

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
H3PJ2	001	SF06040G28R01	04/19/06	09:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Los Alamos National Laboratory

Client Sample ID: SF06040G28R01

General Chemistry

Lot-Sample #...: E6D200262-001 **Work Order #...:** H3PJ2 **Matrix.....:** W
Date Sampled...: 04/19/06 09:00 **Date Received..:** 04/20/06 09:00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium	**417**	**8.0**	**ug/L**	**SW846 7199**	**04/20/06**	**6110477**

Dilution Factor: 20 Analysis Time..: 11:13 Analyst ID.....: 000022
Instrument ID..: W18 MS Run #.....: 6110278 MDL.....: 1.0

SEVERN TRENT STL

QA/QC

QC DATA ASSOCIATION SUMMARY

E6D200262

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	W	SW846 7199		6110477	6110278

METHOD BLANK REPORT

General Chemistry

Client Lot #...: E6D200262 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: H3PMF1AA		MB Lot-Sample #:	E6D200000-477	
	ND	0.40	ug/L	SW846 7199	04/20/06	6110477

Dilution Factor: 1

Analysis Time..: 10:18 Analyst ID.....: 000022 Instrument ID..: W18

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E6D200262 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: H3PMF1AC	LCS Lot-Sample#: E6D200000-477		
	101	(90 - 110)	SW846 7199	04/20/06	6110477

Dilution Factor: 1 Analysis Time..: 10:09 Analyst ID.....: 000022
Instrument ID..: W18

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E6D200262 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium			Work Order #: H3PMF1AC		LCS Lot-Sample#: E6D200000-477		
	7.50	7.58	ug/L	101	SW846 7199	04/20/06	6110477
			Dilution Factor: 1		Analysis Time..: 10:09	Analyst ID.....: 000022	
			Instrument ID..: W18				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E6D200262 **Matrix.....:** W
Date Sampled...: 04/19/06 09:00 **Date Received..:** 04/20/06 09:00

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #...: H3PJ21AC		MS Lot-Sample #:	E6D200262-001
	101	(80 - 120)	SW846 7199	04/20/06	6110477

Dilution Factor: 50 Analysis Time..: 11:13 Instrument ID..: W18
Analyst ID.....: 000022
MS Run #.....: 6110278

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E6D200262 **Matrix.....:** W
Date Sampled...: 04/19/06 09:00 **Date Received..:** 04/20/06 09:00

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium			Work Order #...: H3PJ21AC			MS Lot-Sample #: E6D200262-001		
	417	500	921	ug/L	101	SW846 7199	04/20/06	6110477
			Dilution Factor: 50			Analysis Time..: 11:13	Instrument ID..: W18	
			Analyst ID.....: 000022					
			MS Run #.....: 6110278					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: E6D200262 **Work Order #...:** H3PJ2-SMP H3PJ2-DUP **Matrix.....:** W

Date Sampled...: 04/19/06 09:00 **Date Received..:** 04/20/06 09:00

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium						SD Lot-Sample #:	E6D200262-001	
	417	413	ug/L	0.87	(0-20)	SW846 7199	04/20/06	6110477

Dilution Factor: 20 Analysis Time..: 11:13 Analyst ID.....: 000022

Instrument ID..: W18 MS Run Number..: 6110278

SEVERN TRENT STL

STL Los Angeles
Raw Data

SEVERN TRENT STL

Classical Chemistry
Extended Raw Data

Lot ID: E6D200262

I certify that, to the best of my knowledge, the attached package is a complete and accurate representation of the original data.

Signature / Date: 04/27/06

SEVERN TRENT STL

Classical Chemistry

Preparation Notes
Initial Calibration
Sample Raw Data

STL Los Angeles

Hexavalent Chromium by Ion Chromatography

SOP: SANA-WC-0009

Analytical Method: 7199 ✓

218.6____

IC File: CrVI042006

Calibration Check Standards (ug/L)

ICV 7.5

CCV 15

Analyst: YZ

Reviewer/Date:

Batch(s): 6110477

Date/Time Collected	Dilution Factor	Injection Number	Sample Name	For Soil Sample Data Reduction: Beaker Number	Sample Name	Wet Sample Weight (g)	EPA 218.6 Cr+6 ug/L	SW 7199 Water Average Cr+6 mg/L	SW 7199 Soil Total Cr+6 mg/Kg	RPD <20% for 7199	Calibration Check % Recovery ICV/CCV
4/20/06 10:09	1	1	ICV/LCS 7.50 ppb		#N/A	#N/A	7.577871482				101.0
4/20/06 10:18	1	2	ICB/MB 042006		#N/A	#N/A		0.0038	#N/A	100.00000	
4/20/06 10:27	1	3	H3PJH		#N/A	#N/A	4.49307016				
4/20/06 10:37	1	4	H3PJH		#N/A	#N/A	4.485552487	0.0045	#N/A	0.16746	
4/20/06 10:46	1	5	H3PJH2 REF.		#N/A	#N/A	412.0653596				
4/20/06 10:55	1	6	H3PJH2 REF.		#N/A	#N/A	412.5385461	0.4123	#N/A	0.11477	
4/20/06 11:04	20	7	H3PJH2		#N/A	#N/A	413.0502403				
4/20/06 11:13	20	8	H3PJH2		#N/A	#N/A	420.6576699	0.4169	#N/A	1.82496	
4/20/06 11:22	20	9	H3PJH2 X		#N/A	#N/A	405.2199056				
4/20/06 11:31	20	10	H3PJH2 X		#N/A	#N/A	421.4538411	0.4133	#N/A	3.92753	
4/20/06 11:40	50	11	H3PJH2 S		#N/A	#N/A	917.95816				
4/20/06 11:49	50	12	H3PJH2 S		#N/A	#N/A	924.4685216	0.9212	#N/A	0.70672	
4/20/06 11:59	1	13	CCV 15.0 ppb		#N/A	#N/A	15.39482175				102.6
4/20/06 12:08	1	14	CCB		#N/A	#N/A		0.0077	#N/A	100.00000	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					

Saved as:IC_Cr+6042006.xls
Saved on:4/20/06

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ver.04/04/2003

RQC050

Severn Trent Laboratories, Inc.
WET CHEM BATCHSHEET

Run Date: 4/20/06
Time: 14:32:24

STL Los Angeles

PRODUCTION FIGURES - WET CHEM

TOTAL NUMBER	SAMPLE NUMBER	QC	RE-RUN MATRIX	RE-RUN OTHER	MISC NUMBER	TOTAL HOURS	EXPANDED DELIVERABLE

METHOD: 2X Chromium, Hexavalent by Ion Chromatography (7199)
QC BATCH #: **6110477**
PREP DATE: 4/20/06 10:09
COMP DATE: 4/20/06 10:09
USER: ZAKHRABY

INITIALS:
PREP _____
ANAL _____

DATA ENTRY:
INITIALS _____
DATE _____

Work Order	Lab Number	Structured Analysis	Exp. Del.	Analysis Date	Sample ID:
H3PMF-1-AA	E-6D200000-477-B	XX I 87 2X 01		_____	INTRA-LAB BLANK
H3PMF-1-AC	E-6D200000-477-C	XX I 87 2X 01		_____	INTRA-LAB CHECK
H3PJH-1-AA	E-6D200260-001	XX I 87 2X 01	Y-D	_____	SF06040G01R01
H3PJ2-1-AA	E-6D200262-001	XX I 87 2X 01	Y-D	_____	SF06040G28R01
H3PJ2-1-AC	E-6D200262-001-S	XX I 87 2X 01	Y-D	_____	SF06040G28R01
H3PJ2-1-AD	E-6D200262-001-X	XX I 87 2X 01	Y-D	_____	SF06040G28R01 DUP

Control Limits

(80-120)

(90-110)

dule File: C:\PeakNet\schedule\Cr VI Schedule\crvi042006.SCH

Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Comment
ICV/LCS 7.50 ppb	Sample		crvi 021506.met	crvi042006_001.dxd	1	1	
ICB/MB 042006	Sample		crvi 021506.met	crvi042006_002.dxd	1	1	
H3PJH	Sample		crvi 021506.met	crvi042006_003.dxd	1	1	
H3PJH	Sample		crvi 021506.met	crvi042006_004.dxd	1	1	
H3PJH2 REF.	Sample		crvi 021506.met	crvi042006_005.dxd	1	1	
H3PJH2 REF.	Sample		crvi 021506.met	crvi042006_006.dxd	1	1	
H3PJH2	Sample		crvi 021506.met	crvi042006_007.dxd	1	20	
H3PJH2	Sample		crvi 021506.met	crvi042006_008.dxd	1	20	
H3PJH2 X	Sample		crvi 021506.met	crvi042006_009.dxd	1	20	
H3PJH2 X	Sample		crvi 021506.met	crvi042006_010.dxd	1	20	
H3PJH2 S	Sample		crvi 021506.met	crvi042006_011.dxd	1	50	
H3PJH2 S	Sample		crvi 021506.met	crvi042006_012.dxd	1	50	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042006_013.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042006_014.dxd	1	1	

ılt Method Path: C:\PEAKNET\METHOD
ılt Data Path: C:\PEAKNET\CRVI\CRVI 2
nent:

SEVERN TRENT STL

STL Los Angeles

Hexavalent Chromium by Ion Chromatography
Standards and Reagent Log

Method EPA 218.6 _____ SW 846 7199 ✓
Analyst: TL
Date: 4/20/06

Reagent Lot Numbers/Expiration Dates

Chromatographic Eluent: 2006-17-3-24 / 4/19/07
Post-column Reagent: 2006-17-4-31 / 4/23/06
Buffer Solution: 2006-17-1-1 / 1/2/07
Dilution Water: 2 liters of DI water adjusted to a pH of 9.0 to 9.5 with buffer solution.
Final pH: 9.06

Preparation of Intermediate Calibration and Check (ICV/LCS) Standard:

Analyte	Stock Concentration (mg/L)	Volume of Stock (mL)	Final Volume (mL)	Final Concentration (mg/L)
Calibration	1000	0.1	1000	0.1
Check	1000	0.1	1000	0.1

Intermediate Standard Lot Numbers/Expiration Dates
Calibration Standard: 2006-17-6-16 / 4/26/06
Check (ICV/LCS) Standard: 2006-17-5-16 / 4/26/06

Preparation of Calibration and Check Standards:
All standards and blanks are prepared with dilution water at a pH of 9.0 to 9.5.

Standard Name	Standard Conc.	Source Conc. (mg/L)	Source Solution	mL of Source	Final Volume
Cal Blank	0 mg/L	NA	Dilution water	10	10 mL
Cal Std 1	0.0002 mg/L	0.1	Intermediate Calib Stock	0.02	10 mL
Cal Std 2	0.001 mg/L	0.1	Intermediate Calib Stock	0.1	10 mL
Cal Std 3	0.010 mg/L	0.1	Intermediate Calib Stock	1.0	10 mL
Cal Std 4	0.025 mg/L	0.1	Intermediate Calib Stock	2.5	10 mL
ICV/LCS	0.0075 mg/L	0.1	Intermediate ICV Stock	0.75	10 mL
ICB/CCB/MB	0 mg/L	NA	Dilution water	10	10 mL
CCV	0.015 mg/L	0.1	Intermediate Calib Stock	1.5	10 mL
MS/MSD	0.010 mg/L	0.1	Intermediate ICV Stock	1.0	10 mL Sample

SEVERN TRENT STL

STL Los Angeles
Tracking Log for Cr^{+6} by Ion Chromatography

Method: CrVI021506
Calib. Date: 021506
Run Date: 042006

Standard Lot Numbers
ICV/LCS/MS, MSD: 2006-17.2-1
ICB/CCB/MB: 042006
CCV: ERA 10075.1

Instrument ID: W18
Instrument Serial #: 01070608
Analyst: Z

Sample	Work Order	Date/Time Collected	Sample pH	Batch/Injection Number 218.6	Batch/Injection Number 7199	Comments
					6110477	
E6D200260-1	H3PJH	4/19 10:48	9.12		7	
E6D200262-1	H3PJ2	12:55	9.10		8	
-1	H3PJ2X	12:55	9.10	+ 4/20/06	10	
-1	H3PJ2S	12:55	9.10		12	

Z 4/20/06

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lule File: C:\PeakNet\schedule\Cr VI Schedule\crvi042006.SCH

Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Comment
ICV/LCS 7.50 ppb	Sample		crvi 021506.met	crvi042006_001.dxd	1	1	
ICB/MB 042006	Sample		crvi 021506.met	crvi042006_002.dxd	1	1	
SF06040G01R01	Sample		crvi 021506.met	crvi042006_003.dxd	1	1	
SF06040G01R01	Sample		crvi 021506.met	crvi042006_004.dxd	1	1	
SF06040G28R01 REF.	Sample		crvi 021506.met	crvi042006_005.dxd	1	1	
SF06040G28R01 REF.	Sample		crvi 021506.met	crvi042006_006.dxd	1	1	
SF06040G28R01	Sample		crvi 021506.met	crvi042006_007.dxd	1	20	
SF06040G28R01	Sample		crvi 021506.met	crvi042006_008.dxd	1	20	
SF06040G28R01X	Sample		crvi 021506.met	crvi042006_009.dxd	1	20	
SF06040G28R01X	Sample		crvi 021506.met	crvi042006_010.dxd	1	20	
SF06040G28R01S	Sample		crvi 021506.met	crvi042006_011.dxd	1	50	
SF06040G28R01S	Sample		crvi 021506.met	crvi042006_012.dxd	1	50	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042006_013.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042006_014.dxd	1	1	

lt Method Path: C:\PEAKNET\METHOD
lt Data Path: C:\PEAKNET\CRVI\CRVI 2
ıent:

STL Los Angeles Cr VI Sample Analysis Report

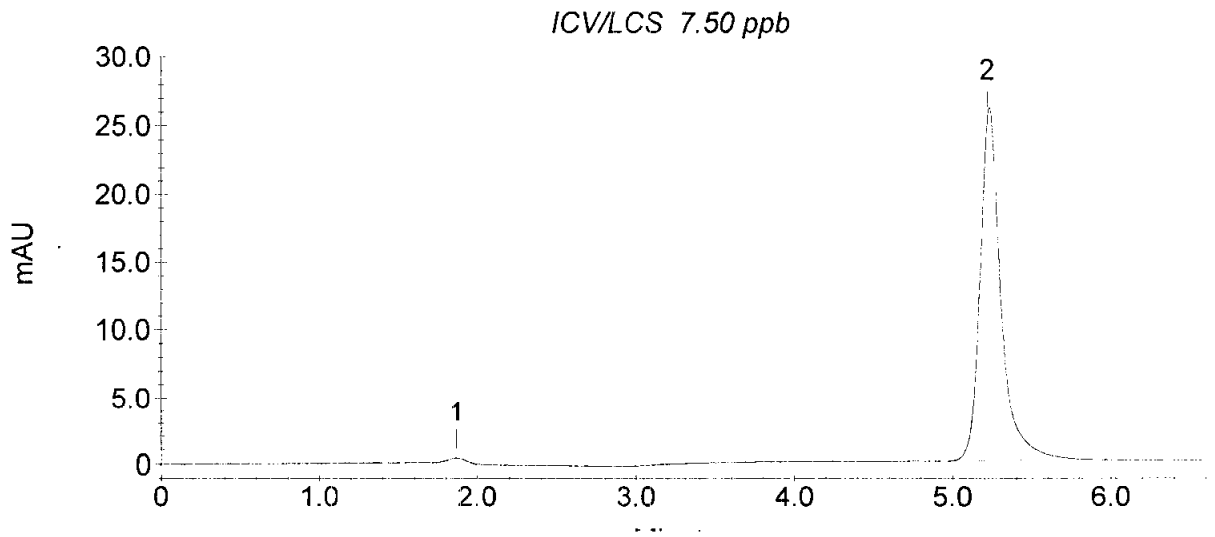
Sample Name : ICV/LCS 7.50 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_001.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:09:41
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 1
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	3064	357
2	CRVI	5.22	7.58	239668	25237



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

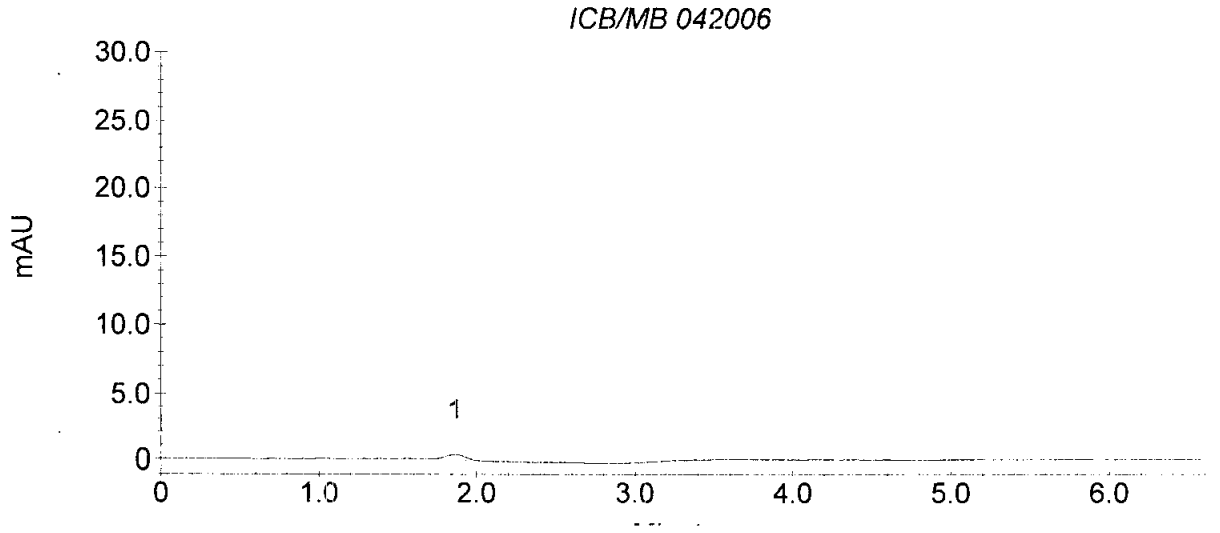
Sample Name : ICB/MB 042006
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_002.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:18:49
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 2
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2914	345



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

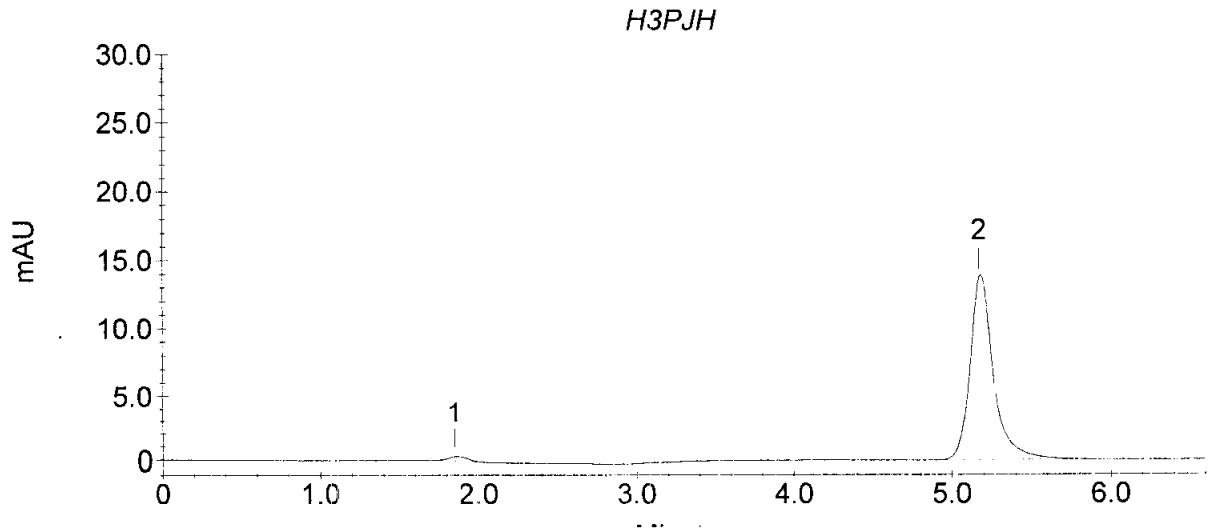
Sample Name : H3PJH
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_003.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 10:27:56
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 3
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2829	304
2	CRVI	5.17	4.49	142130	13697



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

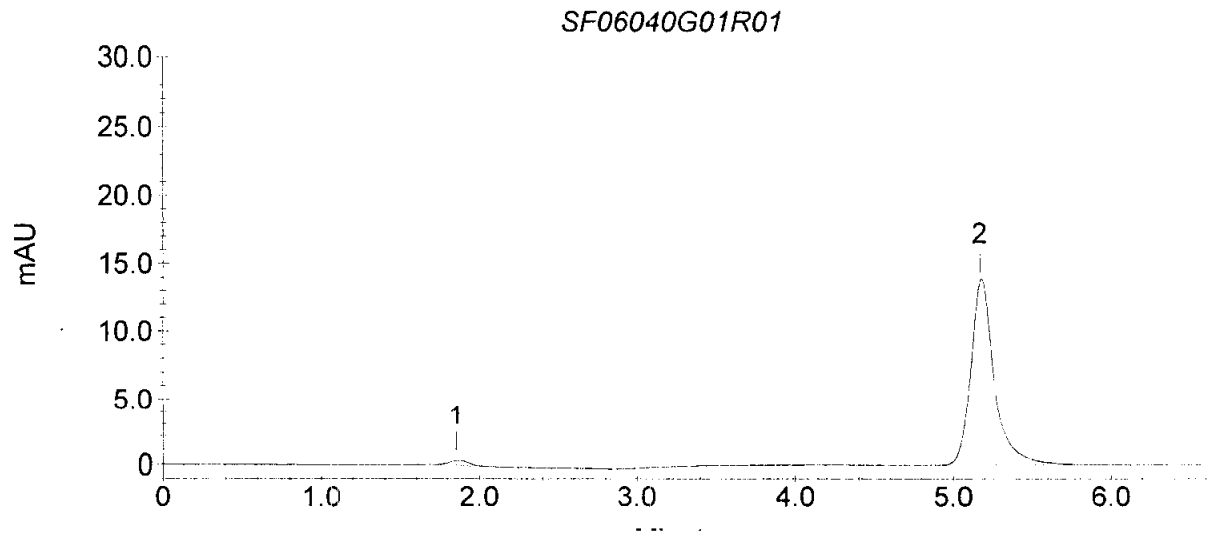
Sample Name : SF06040G01R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_003.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:27:56
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 3
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2829	304
2	CRVI	5.17	4.49	142130	13697



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

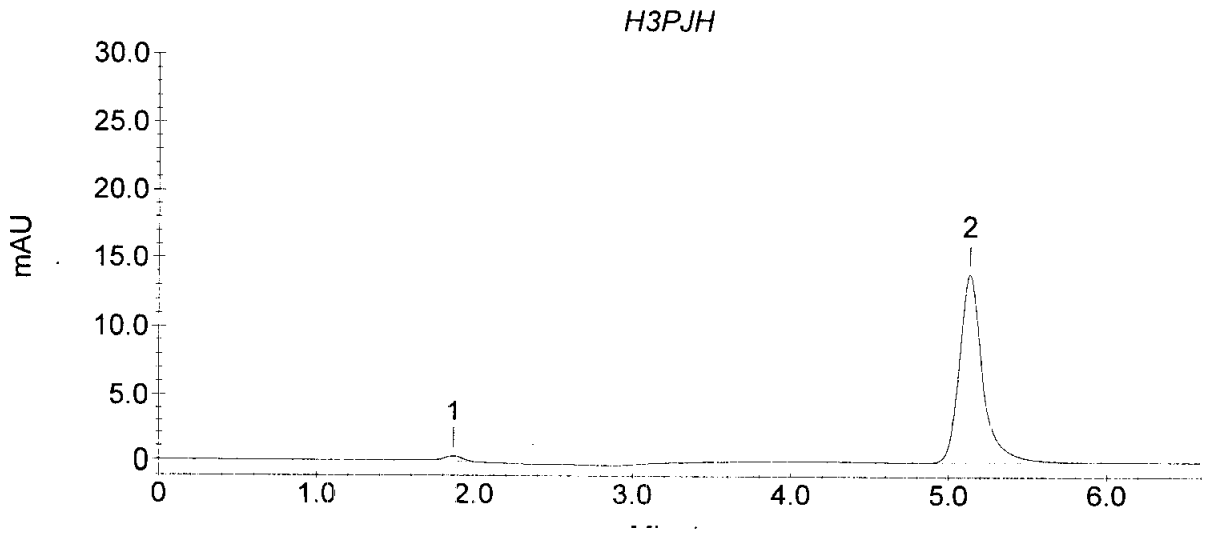
Sample Name : H3PJH
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_004.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 10:37:03
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 4
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2836	338
2	CRVI	5.13	4.49	141892	13948



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

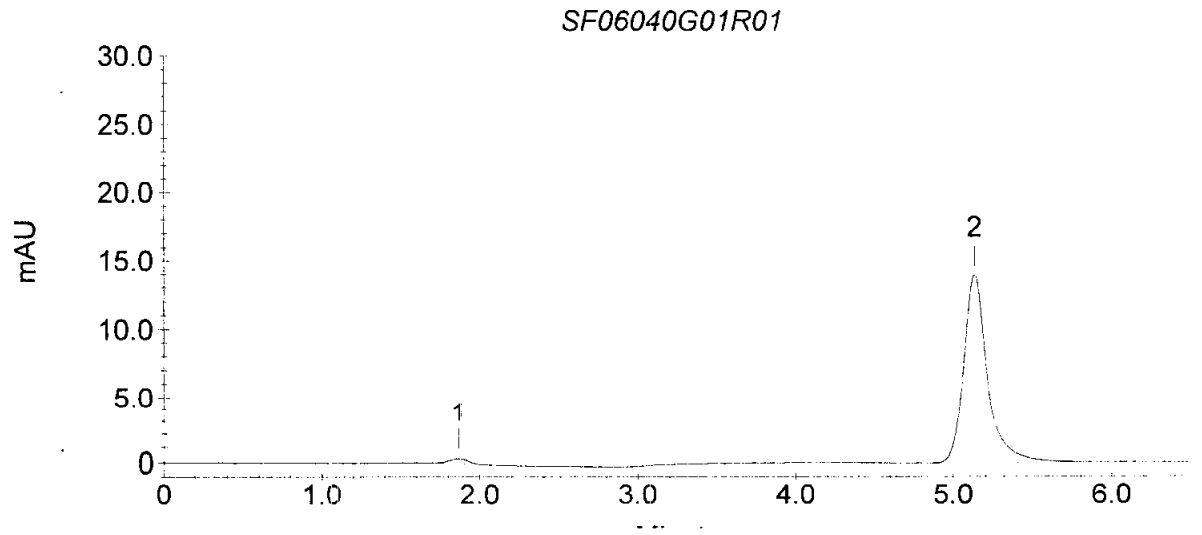
Sample Name : SF06040G01R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_004.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:37:03
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 4
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2836	338
2	CRVI	5.13	4.49	141892	13948



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

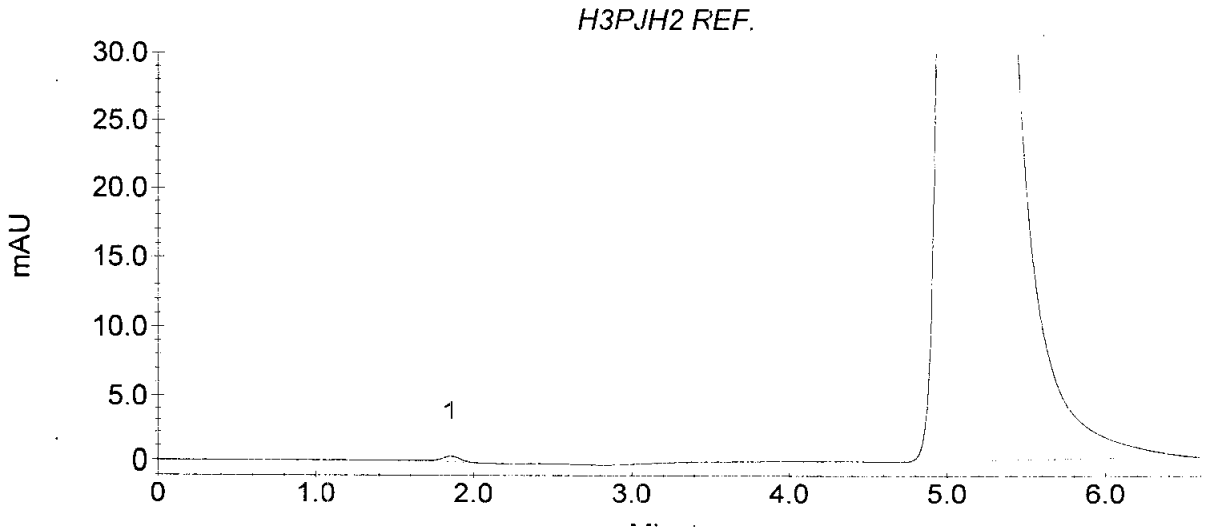
Sample Name : H3PJH2 REF.
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_005.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 10:46:11
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 5
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2841	339
2	CRVI	5.08	412.07	13029088	1236551



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

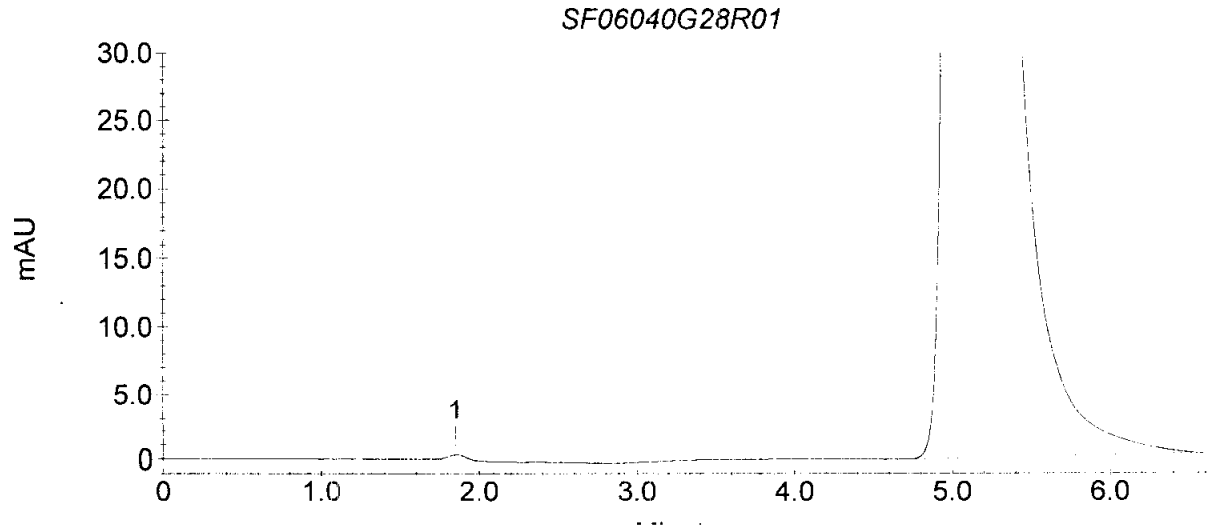
Sample Name : SF06040G28R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_005.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:46:11
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 5
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2841	339
2	CRVI	5.08	412.07	13029088	1236551



Rf.

Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

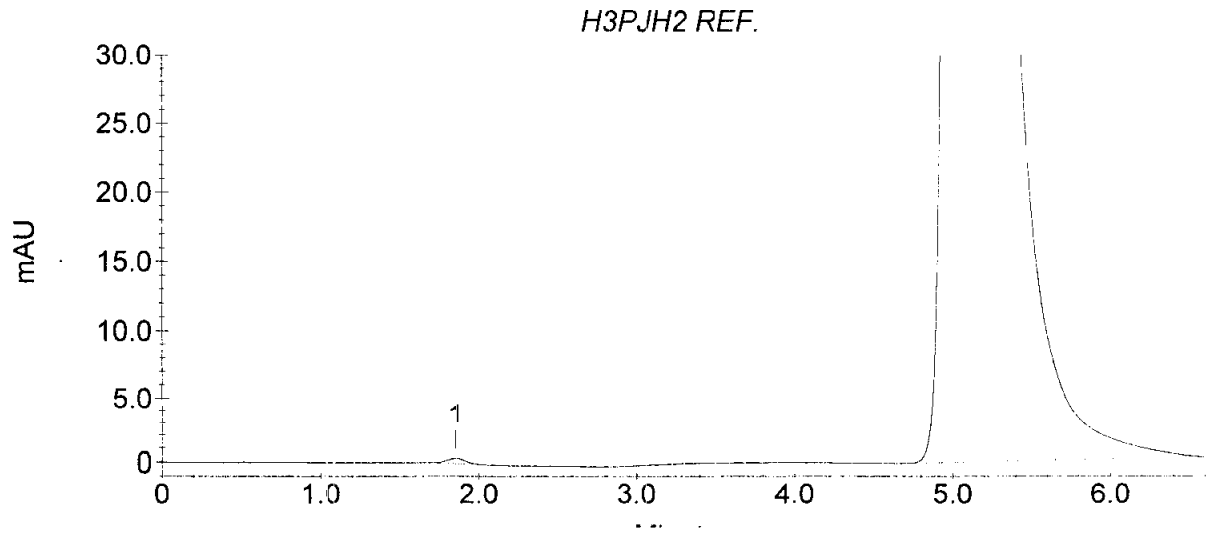
Sample Name : H3PJH2 REF.
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_006.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 10:55:16
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 6
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2748	334
2	CRVI	5.08	412.54	13044049	1238484



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

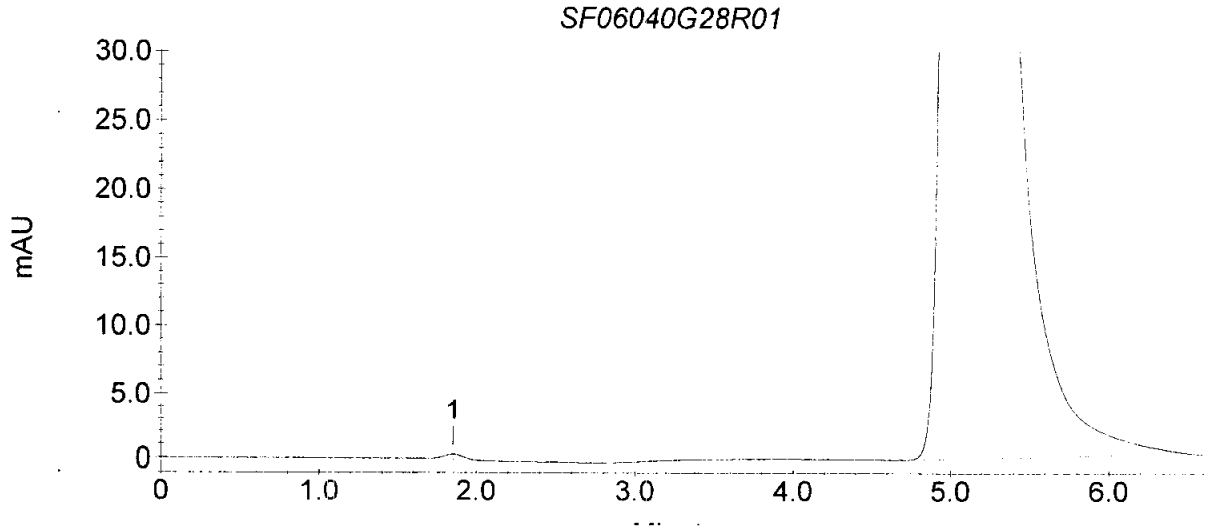
Sample Name : SF06040G28R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_006.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 10:55:16
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 6
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2748	334
2	CRVI	5.08	412.54	13044049	1238484



Rej

Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

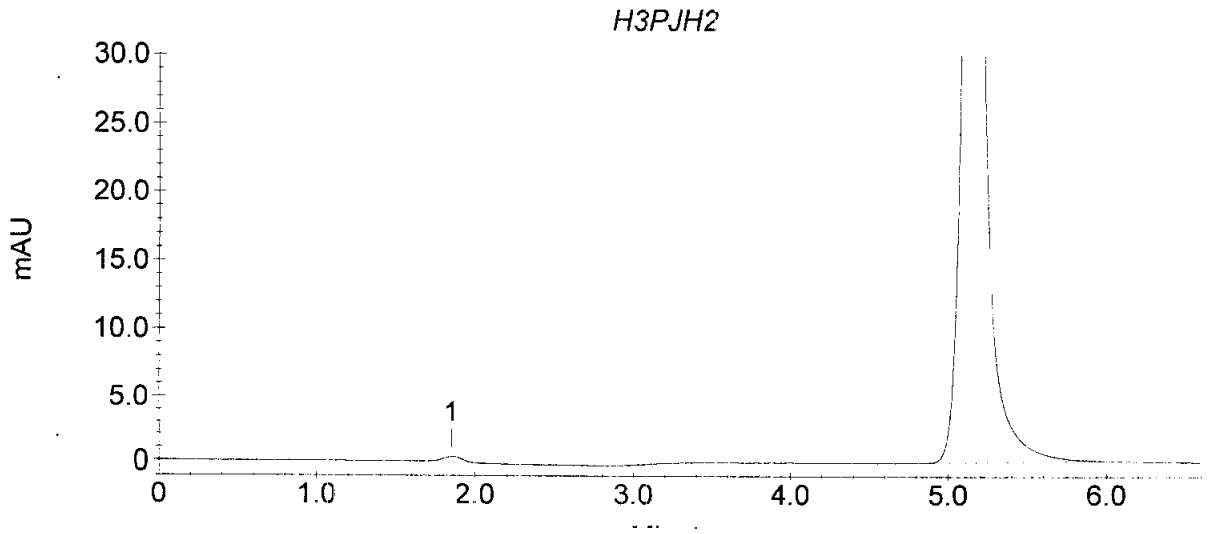
Sample Name : H3PJH2
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_007.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:04:27
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 7
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2972	357
2	CRVI	5.13	413.05	653072	71311



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

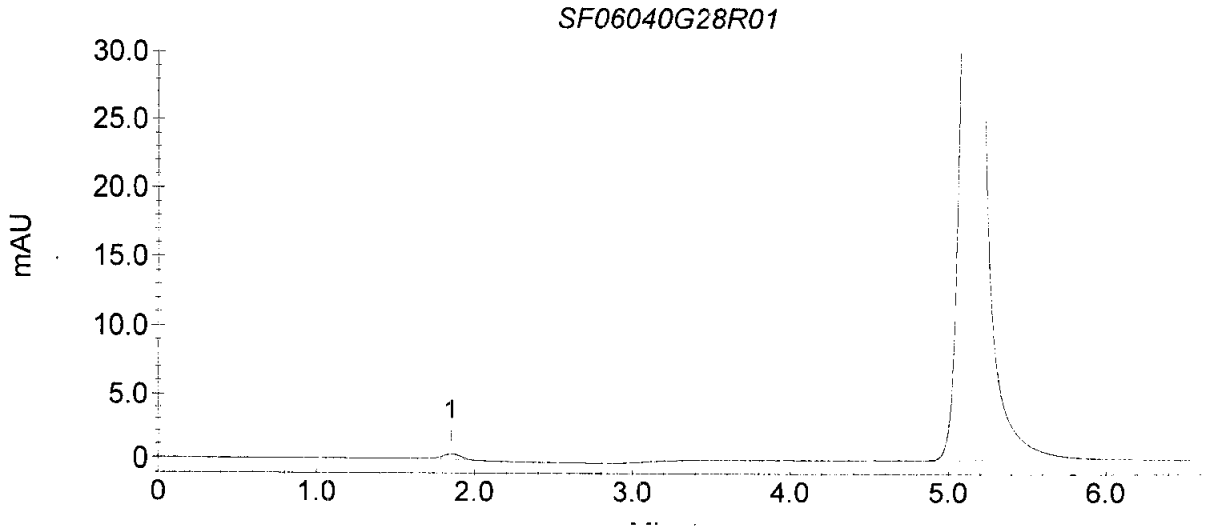
Sample Name : SF06040G28R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_007.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:04:27
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 7
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2972	357
2	CRVI	5.13	413.05	653072	71311



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

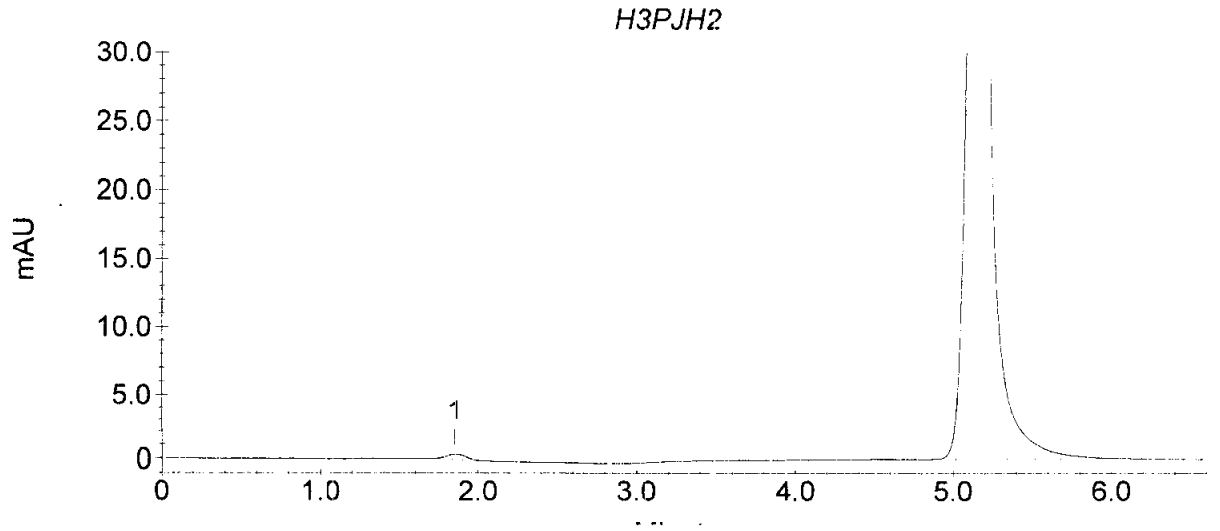
Sample Name : H3PJH2
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_008.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:13:32
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 8
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3077	358
2	CRVI	5.15	420.66	665099	73609



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

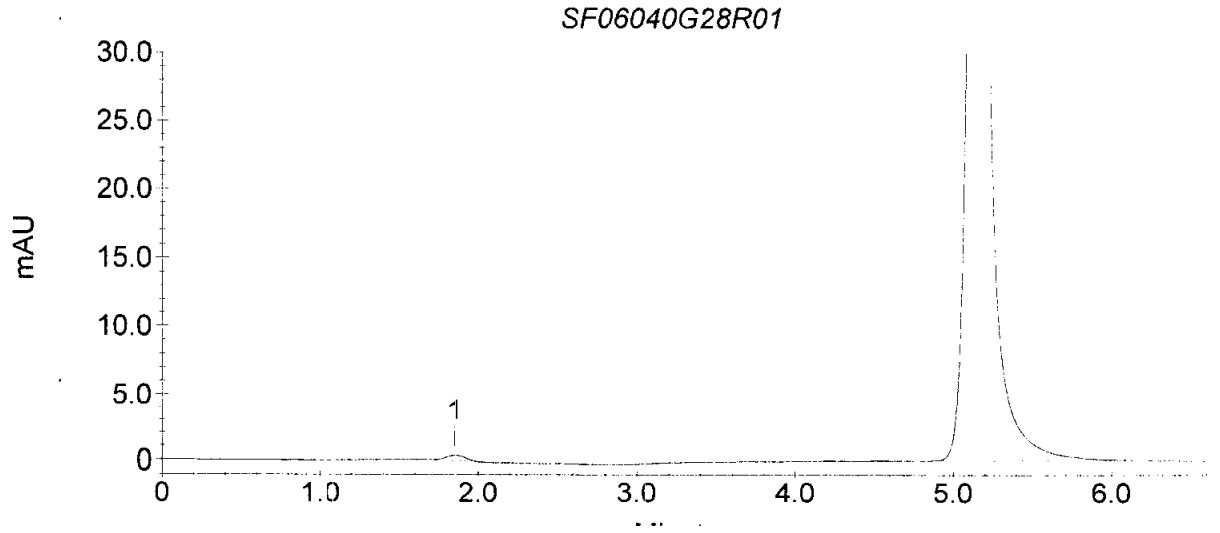
Sample Name : SF06040G28R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_008.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:13:32
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 8
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3077	358
2	CRVI	5.15	420.66	665099	73609



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

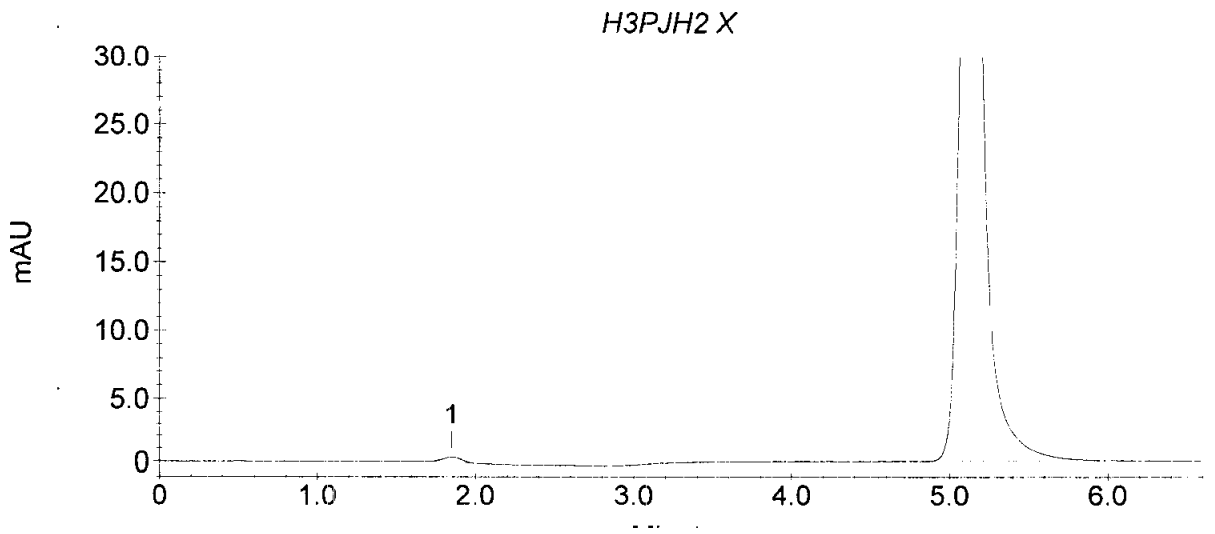
Sample Name : H3PJH2 X
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_009.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:22:38
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 9
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2854	353
2	CRVI	5.12	405.22	640693	68405



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

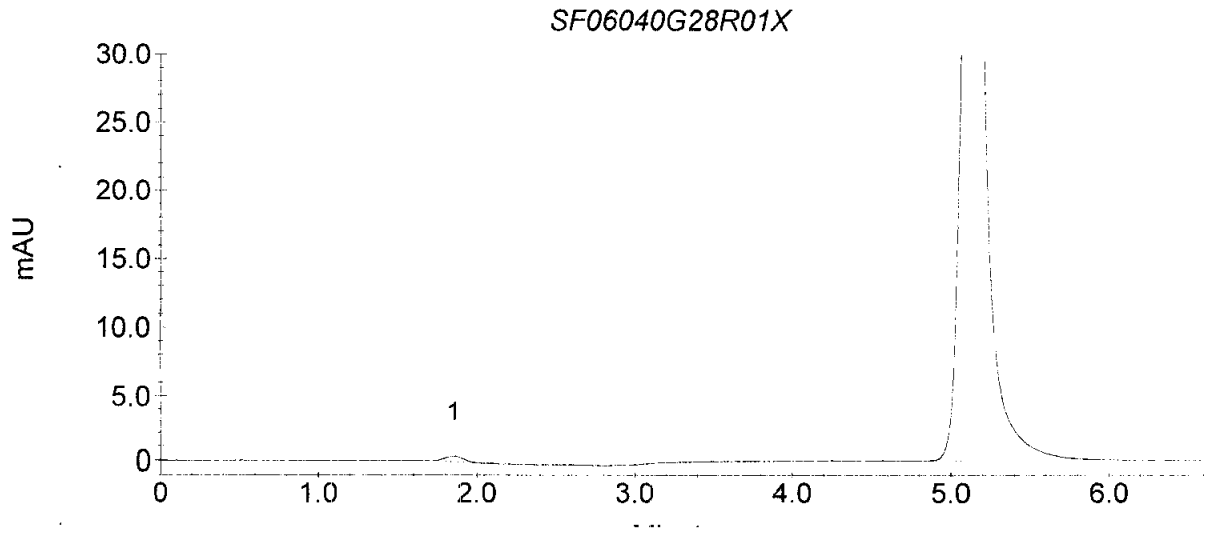
Sample Name : SF06040G28R01X
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_009.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:22:38
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 9
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2854	353
2	CRVI	5.12	405.22	640693	68405



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

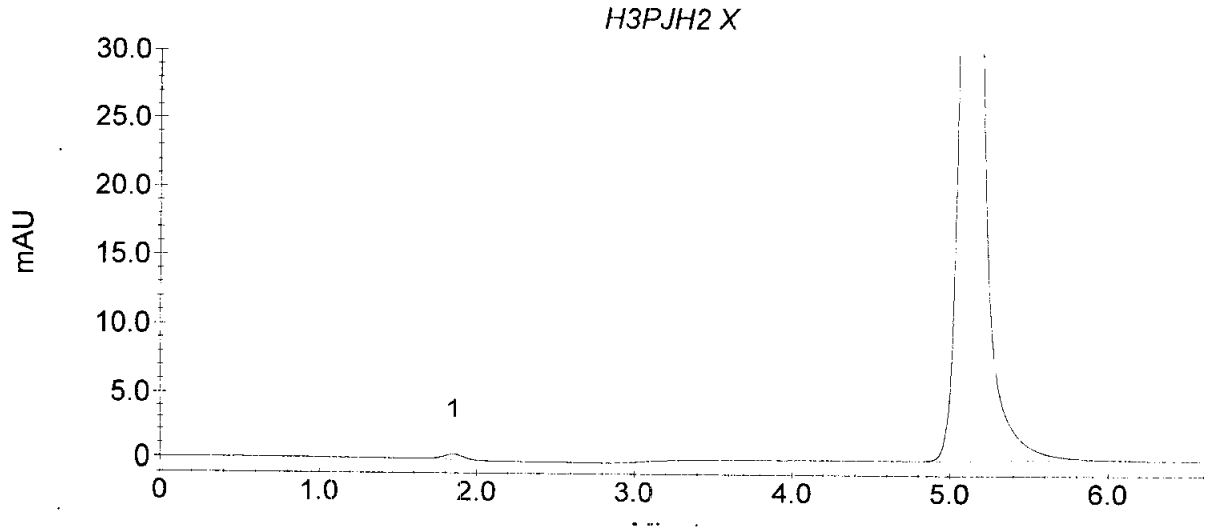
Sample Name : H3PJH2 X
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_010.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:31:44
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 10
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3171	363
2	CRVI	5.12	421.45	666358	73732



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

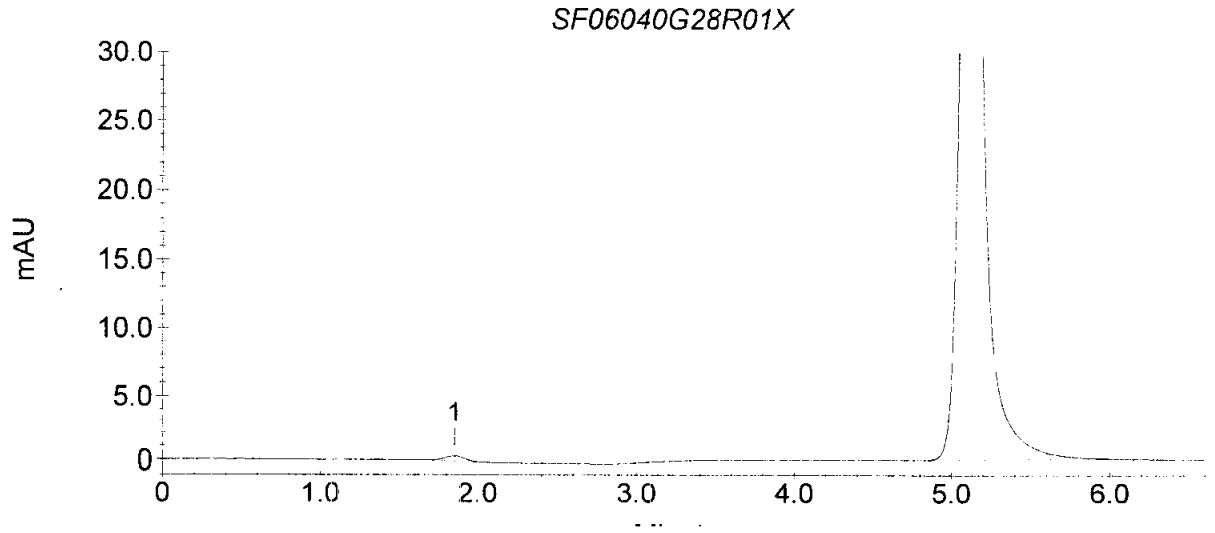
Sample Name : SF06040G28R01X
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_010.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:31:44
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 10
Dilution Factor : 20.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3171	363
2	CRVI	5.12	421.45	666358	73732



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

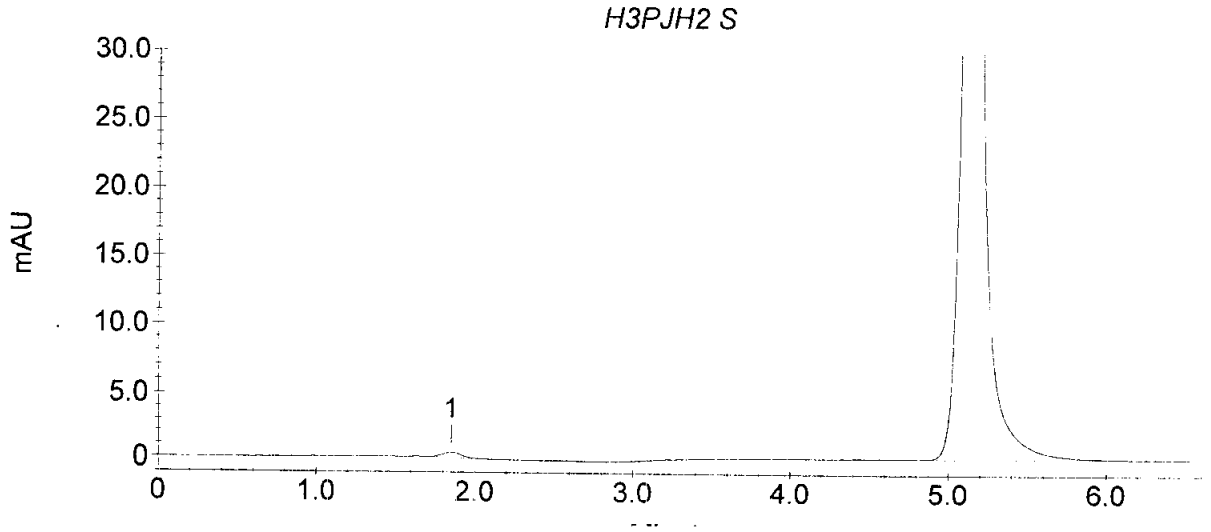
Sample Name : H3PJH2 S
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_011.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:40:51
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 11
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3051	364
2	CRVI	5.13	917.96	580559	64349



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

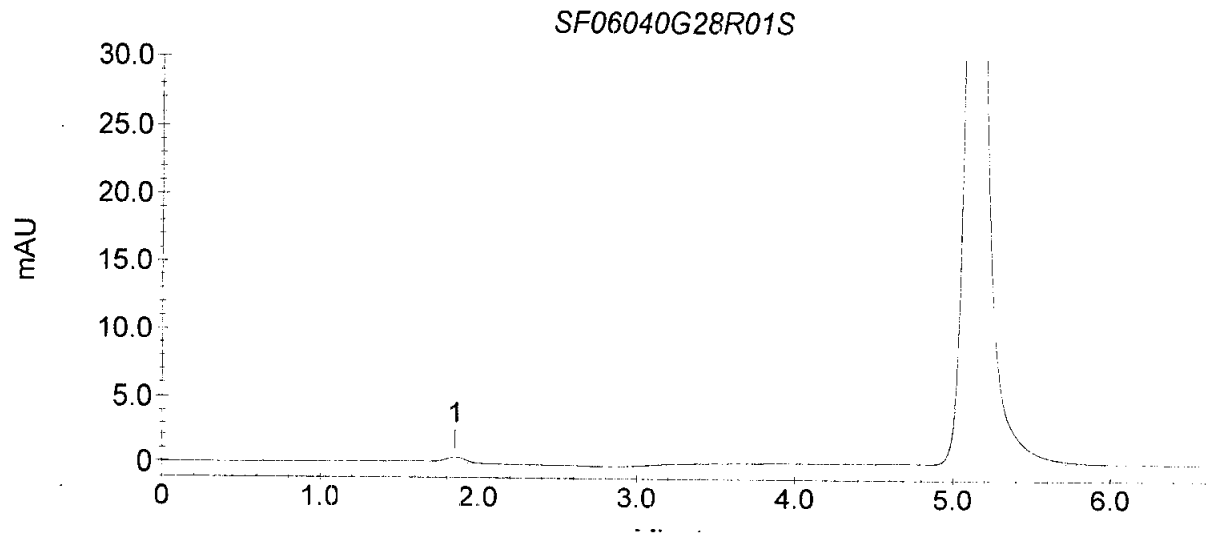
Sample Name : SF06040G28R01S
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_011.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:40:51
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 11
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3051	364
2	CRVI	5.13	917.96	580559	64349



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

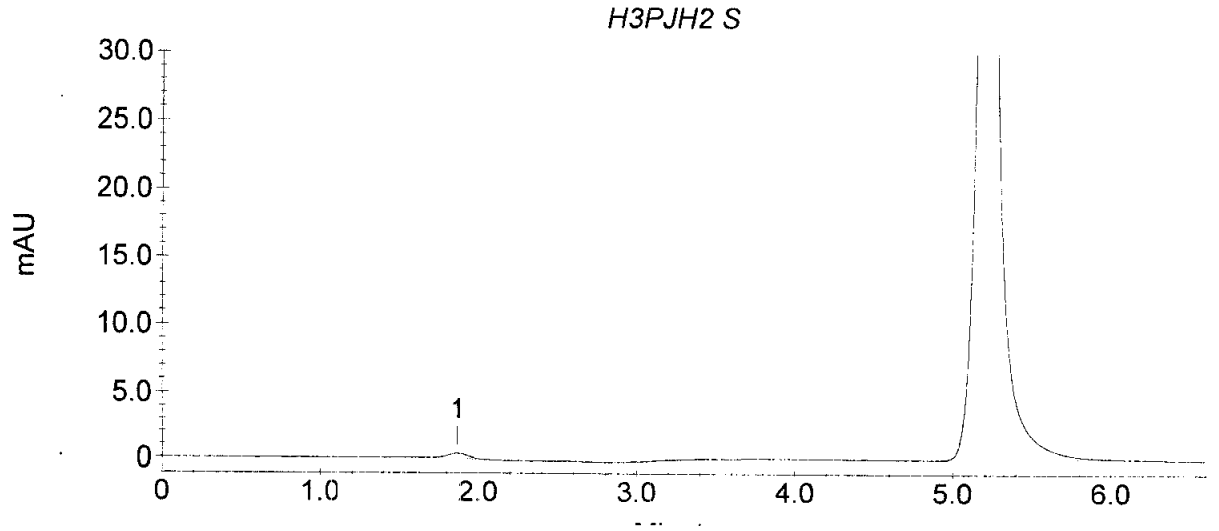
Sample Name : H3PJH2 S
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_012.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/20/06 11:49:56
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 12
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2870	326
2	CRVI	5.20	924.47	584676	64294



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

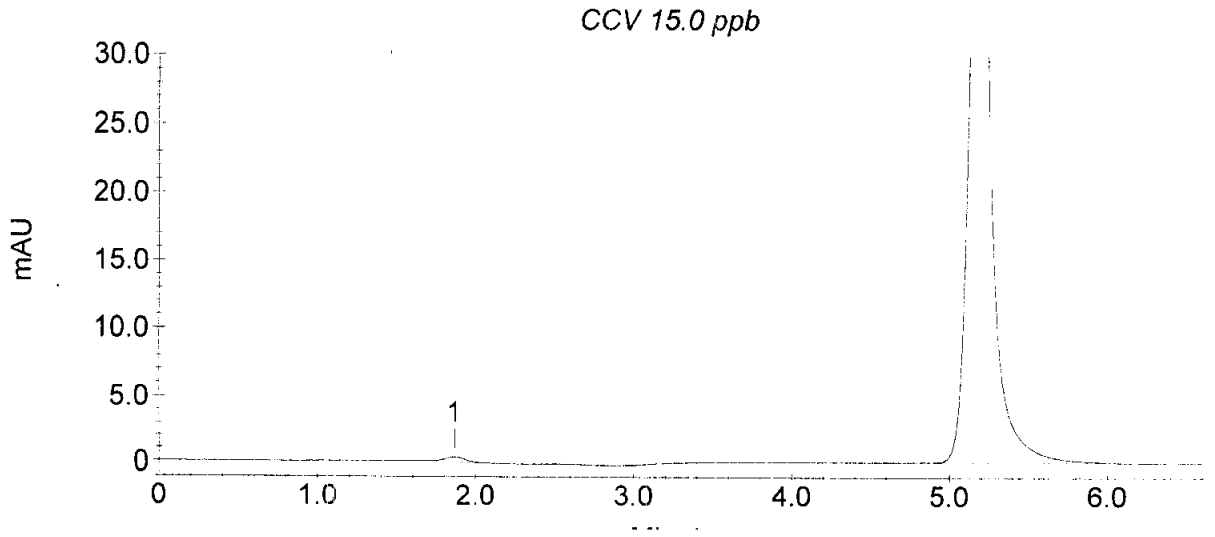
Sample Name : CCV 15.0 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_013.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 11:59:05
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 13
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2994	352
2	CRVI	5.17	15.39	486830	52627



Current Date : 4/20/06

STL Los Angeles Cr VI Sample Analysis Report

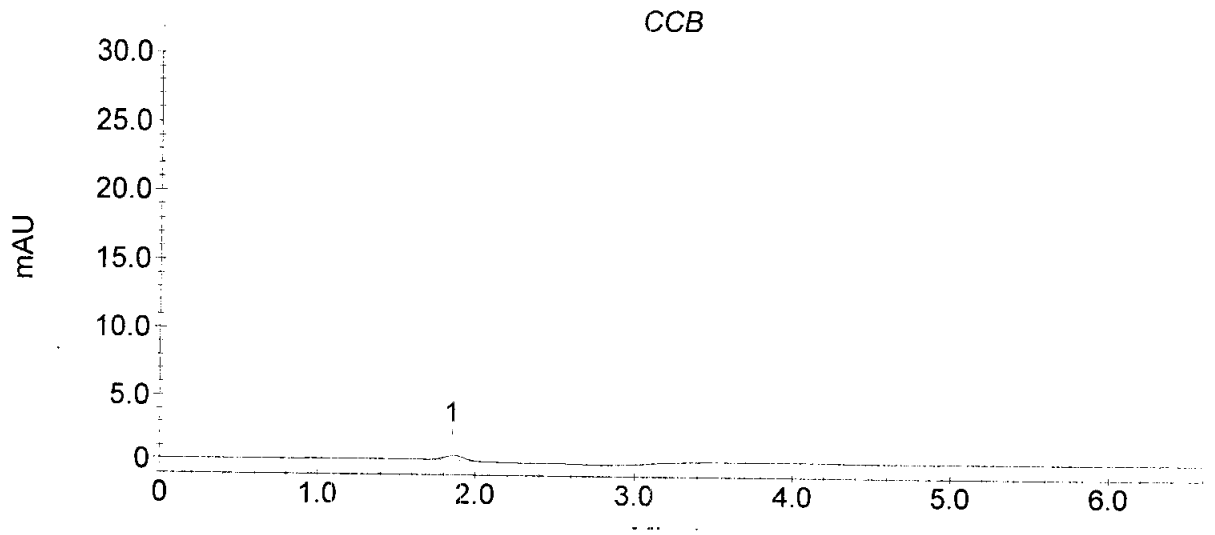
Sample Name : CCB
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042006_014.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/20/06 12:08:09
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 14
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3128	355



Current Date : 4/20/06

SEVERN TRENT STL

STL Los Angeles

Hexavalent Chromium by Ion Chromatography
Standards and Reagent Log

Method EPA 218.6 _____ SW 846 7199 ✓
Analyst: Y
Date: 2/15/01

Reagent Lot Numbers/Expiration Dates

Chromatographic Eluent: 2006-17-3-11 / 2/13/07
Post-column Reagent: 2006-17-4-14 / 2/19/06
Buffer Solution: 2006-17-1-1 / 1/3/07
Dilution Water: 2 liters of DI water adjusted to a pH of 9.0 to 9.5 with buffer solution.
Final pH: 9.05

Preparation of Intermediate Calibration and Check (ICV/LCS) Standard:

Analyte	Stock Concentration (mg/L)	Volume of Stock (mL)	Final Volume (mL)	Final Concentration (mg/L)
Calibration	1000	0.1	1000	0.1
Check	1000	0.1	1000	0.1

Intermediate Standard Lot Numbers/Expiration Dates
Calibration Standard: 2006-17-6-8 / 2/22/06
Check (ICV/LCS) Standard: 2006-17-5-8 / 2/22/06

Preparation of Calibration and Check Standards:
All standards and blanks are prepared with dilution water at a pH of 9.0 to 9.5.

Standard Name	Standard Conc.	Source Conc. (mg/L)	Source Solution	mL of Source	Final Volume
Cal Blank	0 mg/L	NA	Dilution water	10	10 mL
Cal Std 1	0.0002 mg/L	0.1	Intermediate Calib Stock	0.02	10 mL
Cal Std 2	0.001 mg/L	0.1	Intermediate Calib Stock	0.1	10 mL
Cal Std 3	0.010 mg/L	0.1	Intermediate Calib Stock	1.0	10 mL
Cal Std 4	0.025 mg/L	0.1	Intermediate Calib Stock	2.5	10 mL
ICV/LCS	0.0075 mg/L	0.1	Intermediate ICV Stock	0.75	10 mL
ICB/CCB/MB	0 mg/L	NA	Dilution water	10	10 mL
CCV	0.015 mg/L	0.1	Intermediate Calib Stock	1.5	10 mL
MS/MSD	0.010 mg/L	0.1	Intermediate ICV Stock	1.0	10 mL Sample

Method Report - CRVI 021506.met

Method Information : Select Module(s)

System Name : CRVI
System Number : 2
Method Type : Ion Chromatography
Column : AS7-010224, NG1-017371
Analyst : YZ
Comment : Comment: 4 point plus blank
Calibration 02/15/06
Eluent 2006-17-3-10
Post-Column Reagent 2006-17-4-13
Calibration Source: ERA 09073.3
ICV Source: 2006-17-2-1
Curve: linear
Cr 6+ (0.2 - 25 ppb)

AD25 Timed Events

Module Name :
Module Serial Number :
UV Lamp : Off
Visible Lamp : On
Offset Level: 10%
Calibration: Off
Polarity: Positive
TTL1 : TTL 1
TTL2 : TTL 2
Relay1 : RLY 1
Relay2 : RLY 2

AD25 Detector Parameters

Detector Type : AD25
Data collection time (minutes) : 7.00
Data Collection Rate (Hz.) : 5.00
Rise Time (Sec.) : 2.00
Real time plot scale maximum (mAU) : 30.000
Real time plot scale minimum (mAU) : -1.000

AD25 Integration Parameters

Peak detection algorithm : Standard
Starting peak width (seconds) : 10.00
Peak threshold : 0.50
Peak area reject (area counts) : 1000.00
Reference peak area reject (area counts) : 1000.00

AD25 Smoothing Parameters

Filter Type : No filter

AD25 Report Data

Report Format File : C:\PeakNet\method\DEFAULT.RPT
Print Sample Analysis : Yes
Print Calibration Update : Yes
Print Check Standard : Yes
System Suitability Tests :
No system suitability tests selected.

AD25 Integration Data Events

AD25 Calibration Parameters

External or internal calibration : EXTERNAL
Number of replicates for calibration : 1
Rejection : Manual
Level Weighting : Equal
Calibration standard volume : 1.00
Default sample volume : 1.00
Amount units : PPB
Replace retention time : Yes
Update response : Yes
Default dilution factor : 1.00
Default response factor for unknown peaks : 0.00
Calculate unknowns by area or height : Area

AD25 Component Identification Table

Component	Retention	Tolerance	Reference
CRVI	5.22 min	1.00 min	

AD25 Component Quantitation Table

Component	Retention	Low Limit	High Limit
CRVI	5.22 min	0	0

AD25 Component Calibration Table

Component	Retention Time	Curve Fit	Origin	Cal. by	Response Component	Relative Factor
CRVI	5.22 min	Linear	Include	Area		0.00

AD25 Component = CRVI Levels Table

Retention Time : 5.22 min
Amount units : PPB
Replicate unit type : Area
Number of levels : 5
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	0
2	0.20	6583.8
3	1.00	31512.9
4	10.00	316308
5	25.00	790518

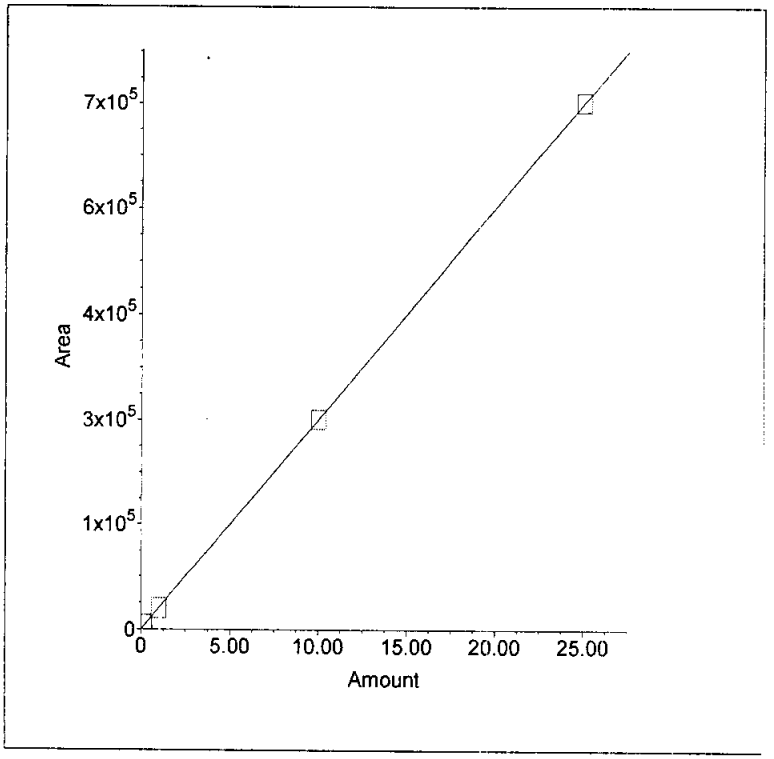
AD25 XY Data Parameters

IP25 Timed Events

Module Name :
Module Serial Number :
Description :
Low Pressure Limit : 20.0
High Pressure Limit : 3000.0
Piston Size : Standard
Pressure Unit : psi
Oven Temperature : Oven Not Installed

Time	Flow	Valve	Column	TTL1	TTL2	Relay1	Relay2
Init	1.00	Load	B	Low	Low	Open	Open
0.00	1.00	Load	B	Low	Low	Closed	Open
2.40	1.00	Inject	B	Low	Low	Open	Open

1. Component:CRVI
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=1.000000
Amt=3.163e-005*Resp+-0.00203



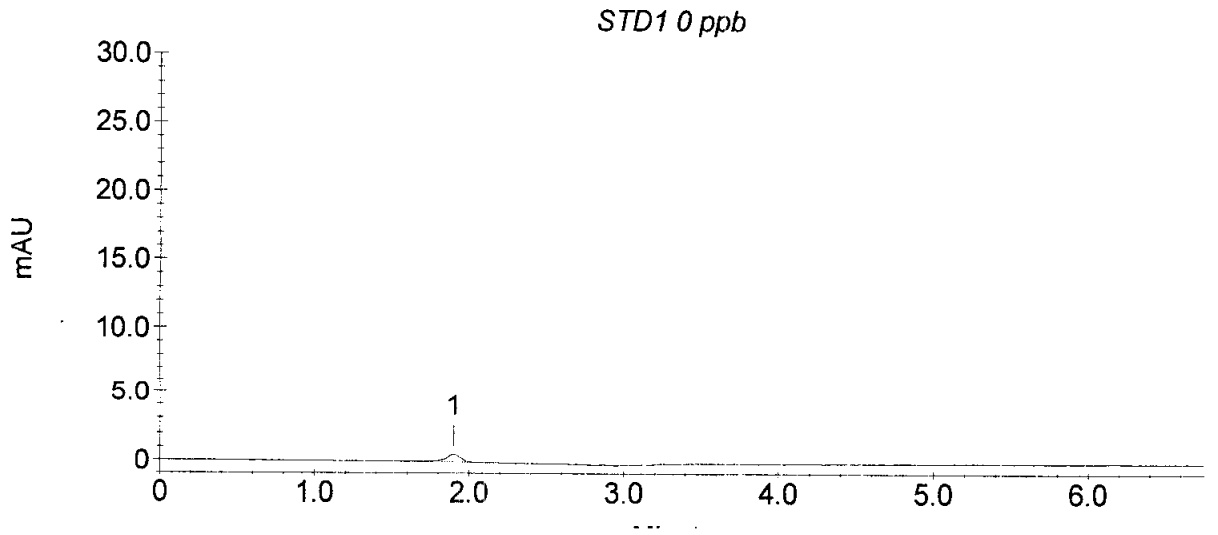
Calibration Update Report

Sample Name : STD1 0 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_001.DXD

Method File Name : c:\peaknet\method\crvi 021306a.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:23:11
Calibration Date : 2/15/06 08:32:19
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1		1.90			



Current Date : 2/15/06

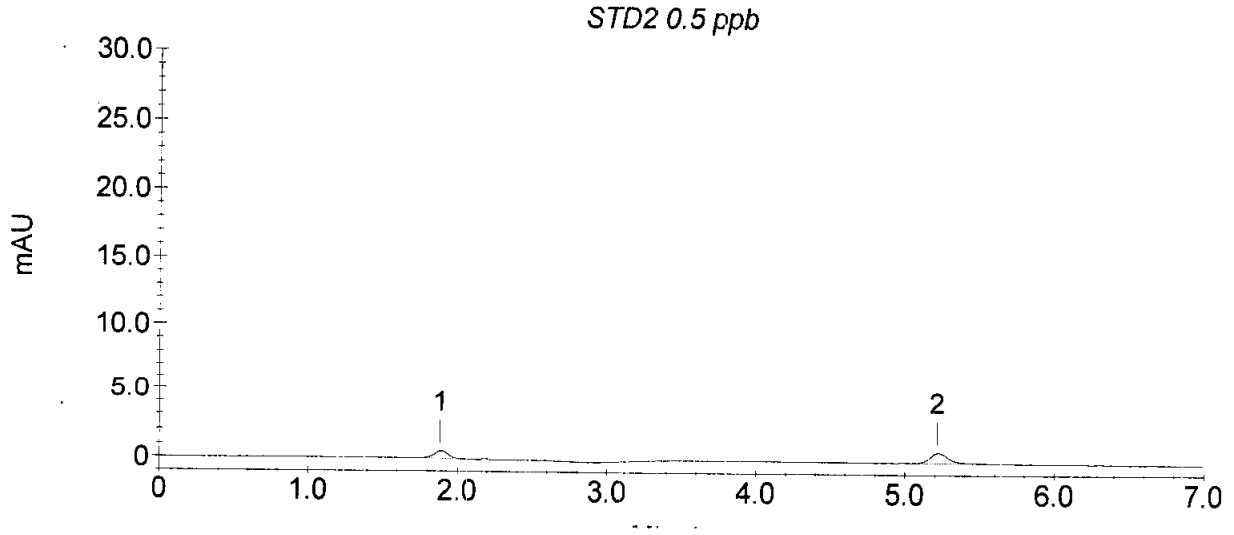
Calibration Update Report

Sample Name : STD2 0.5 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_002.DXD

Method File Name : c:\peaknet\method\crvi 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:32:24
Calibration Date : 2/15/06 08:41:52
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	0	6584	6584



Current Date : 2/15/06

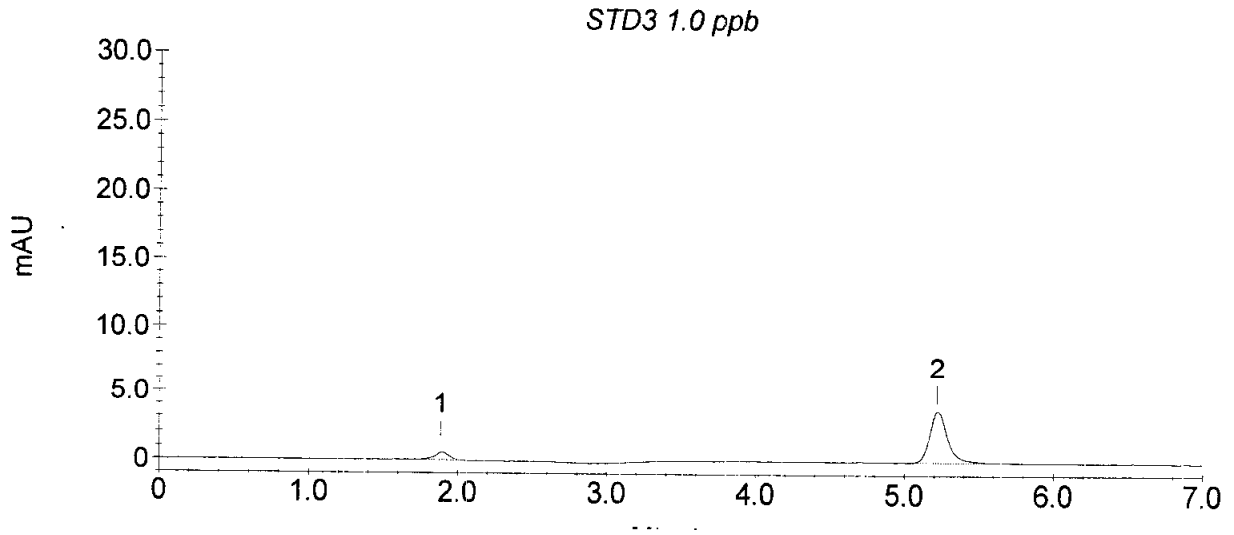
Calibration Update Report

Sample Name : STD3 1.0 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_003.DXD

Method File Name : c:\peaknet\method\crvi 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:41:56
Calibration Date : 2/15/06 08:51:24
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	0	31513	31513



Current Date : 2/15/06

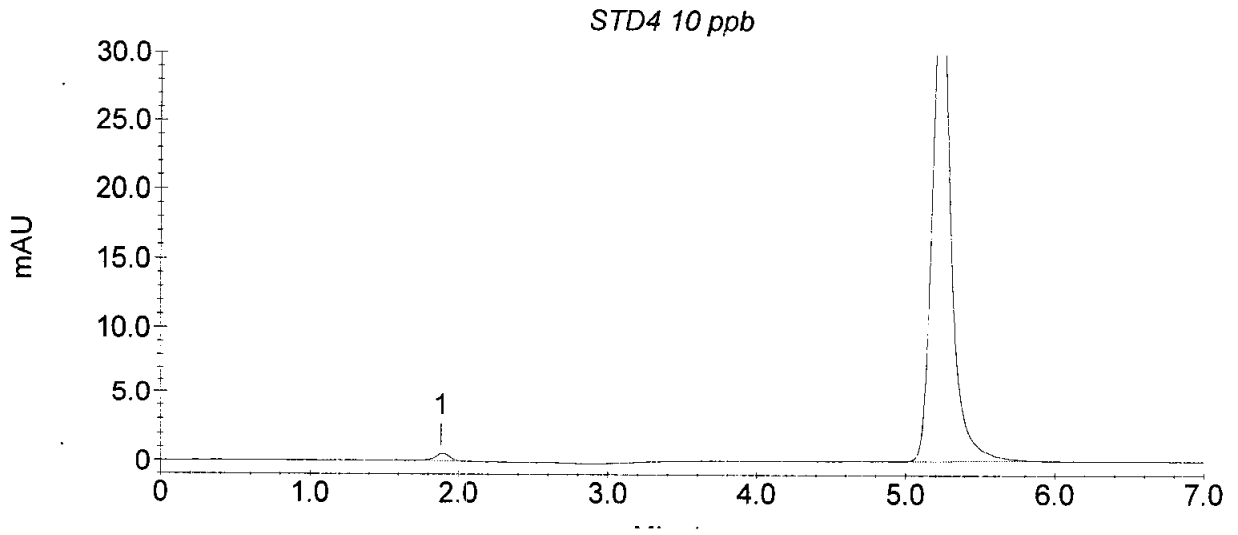
Calibration Update Report

Sample Name : STD4 10 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_004.DXD

Method File Name : C:\PEAKNET\METHOD\CRVI 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:51:28
Calibration Date : 2/15/06 09:01:29
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	316308	316308	316308



Current Date : 2/15/06

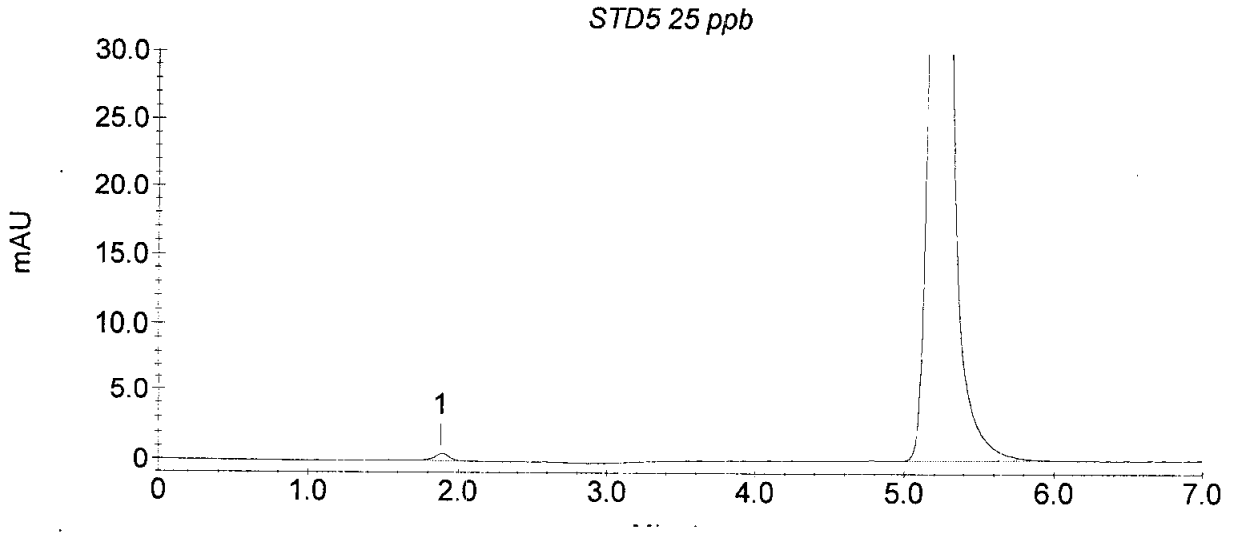
Calibration Update Report

Sample Name : STD5 25 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_005.DXD

Method File Name : c:\peaknet\method\crvi 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 09:01:00
Calibration Date : 2/15/06 09:10:29
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	0	790518	790518



Current Date : 2/15/06

STL Los Angeles Cr VI Sample Analysis Report

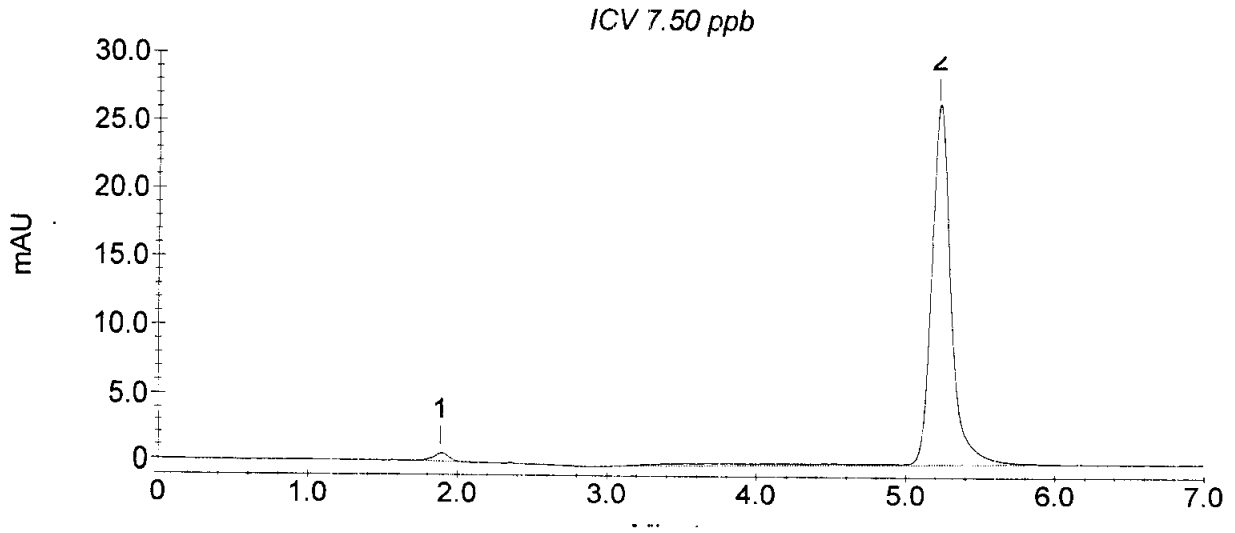
Sample Name : ICV 7.50 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_006.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 2/15/06 09:10:33
System Operator : YZ
Calibration Date : 2/15/06 09:10:29

Column Type : AS7-010224, NG1-017371
Injection Number : 6
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.88	0.00	3844	515
2	CRVI	5.22	7.88	249284	26256



Current Date : 2/15/06

STL Los Angeles Cr VI Sample Analysis Report

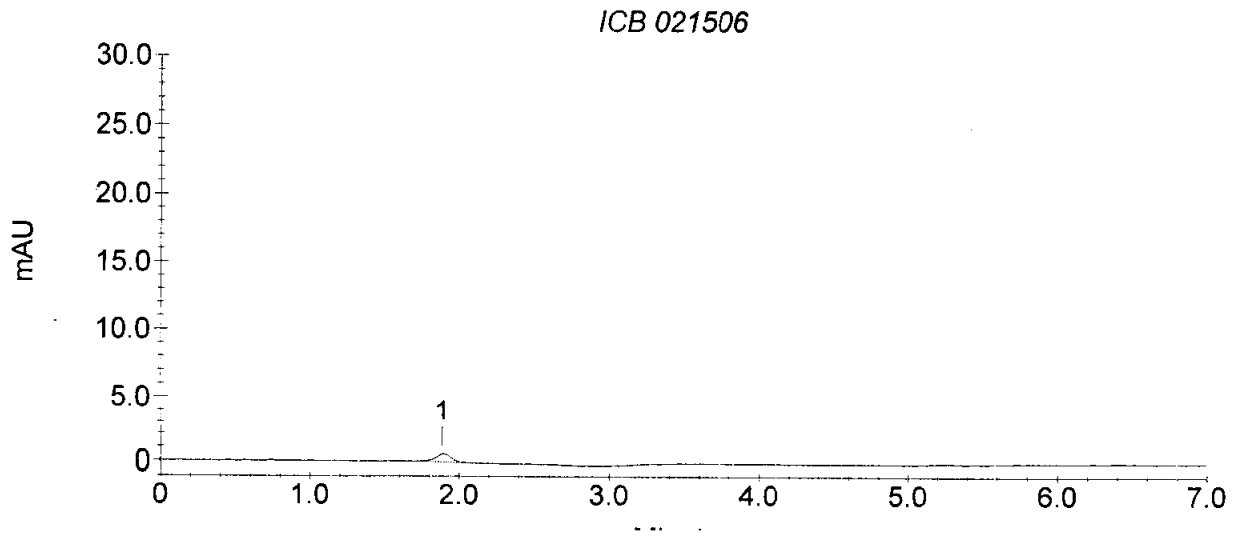
Sample Name : ICB 021506
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_007.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 2/15/06 09:20:05
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 7
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.88	0.00	3810	498



Current Date : 2/15/06

SEVERN TRENT STL

END OF RAW DATA

Cover Letter 2
Case Narrative 2
Chain of Custody 4
Analytical Report 8
QA/QC 15
STL Los Angeles Raw Data 23
Raw Data: Gen Chem 24

SEVERN TRENT STL

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921
www.stl-inc.com

April 27, 2006

STL LOT NUMBER: **E6D210398**
PO/CONTRACT: JH03 MR1A 01EA 5100

Keith Greene
Los Alamos National Laboratory
P.O. Box 1663
MS P240
Los Alamos, NM 87545

Dear Keith Greene,

This report contains the analytical results for the sample received under chain of custody by STL Los Angeles on April 21, 2006. This sample is associated with your LOS ALAMOS - CR+6 WATERS project. Preliminary data was provided on April 26, 2006.

STL Los Angeles certifies that the test results provided in this report meet all the requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA/E87652.

Any matrix related anomaly is footnoted within the report. A cooler receipt temperature between 2-6 degrees Celsius is within EPA acceptance criteria. The temperature(s) of the coolers received for this project can be found on the Project Receipt Checklist.

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report contains 000087 pages.

CASE NARRATIVE

Historical control limits for the LCS are used to define the estimate of uncertainty for a method.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

If you have any questions, please feel free to call me at 714.258.8610.

Sincerely,

Sabina Sudoko
Project Manager
CC: Project File

LOT NUMBER E6D210398

Nonconformance 05-16278

Affected Samples:
E6D210398 (1): SF06040G11R01

Affected Methods:
7199

Details:
Samples received did not meet the temperature criteria (10.1 degrees Celsius).

Nonconformance 05-16282

Affected Samples:
E6D210398 (1): SF06040G11R01

Affected Methods:
7199

Details:
The sample was received in the laboratory with less than 50% of the holding time left for SW 7199 on sample. It is STL Los Angeles policy to analyze all samples within holding times, but when they are received with less than half of their hold time remaining, this cannot be guaranteed.

E6D210398

********** **Quick Turnaround -- Please Expedite** ********** E6D210398

Los Alamos
NATIONAL LABORATORY

Request For Analytical Services
ENV-WQH

Matrix: Ground Water Coc Id: WG-03718-ST PO #: Program: Stwd Mon Cost Code: JH03 MR1A 01EA 5A00 Collection Date/ Time: 4/20/06 1045	Ship To: Severn Trent - Los Angeles 1721 South Grand Avenue Santa Ana, CA 92705	Contact: Jesse Bacwaden Phone: (714) 258-8610 Fax: (714) 258-8610	WQH Contact: Bart Vanden Plas Los Alamos National Laboratory MS K497 DDP 59011701U Los Alamos, NM 87545 Phone: 1-505-667-0675 Fax: 1-505-665-9344 Email: bartvan@lanl.gov Sampler Initials: AB Date: 4/20/06

Analysis Request

Sample Id: **SF06040G11R01** Field Prep: **F**

OSI	Order Suite Desc	Container Desc	Qty	Preservative Desc	TAT	WQH Comment	Analytical Lab Comments
9010	WG: Cr(VI)	250 ml poly	2	ammonium sulfate/ammoni	0	pH 9-9.5	
Total Containers:	2						

Grand Total: 2

Technique: Submersible pump

Comments: NA

Chain of Custody

Sampling Team: A. Baca, J. Jordan, A. Martinez

Relinquished By:		Date	Time	Received By	Date	Time	Reason for Transfer
A Baca	(sampler)	4/20/06	1112	[illegible]	4/20/06	1112	
				[illegible]	4/21/06	1000	

E6D210398

5

Sudoko, Sabina

From: ssudoko@stl-inc.com
Sent: Saturday, April 22, 2006 10:35 AM
To: kgreene@lanl.gov
Subject: Information for E6D210398

Sample
ıfirmation for E6D21

* *

Lot ID: E6D210398
Project Number: LOS ALAMOS - CR+6
Project Name/Site: LOS ALAMOS - CR+6 WATERS

Acknowledgment of samples received for CR+6

Note: Samples received did not meet the temperature criteria - 10.1 degrees C.

Please check the sample confirmation sheet.

Thank you..

Sabina Sudoko
(714)258-8610
ssudoko@stl-inc.com

This message and any files transmitted with it are confidential and intended solely for the use of the addressee. If you have received this message in error please notify the sender and destroy your copies of the message and any attached files.

[00257605]
Version: 2.1.10

STL LOS ANGELES - PROJECT RECEIPT CHECKLIST Date: 4/21/06

Single Cooler Only

LIMS Lot #: E6D210398 Quote #: 68506

Client Name: Los Alamos Project: STWD MON

Received by: SG Date/Time Received: 4/21/06 1000

Delivered by : ☐ Client ☐ STL ☐ DHL ☒ Fed Ex ☐ UPS ☐ Other

****

Initial / Date

Custody Seal Status Cooler: ☒ Intact ☐ Broken ☐ None ..... SG 4/21/06

Custody Seal Status Samples: ☐ Intact ☐ Broken ☒ None 4/21/06

Custody Seal #(s): N/A ☒ No Seal #.....

Sampler Signature on COC ☐ Yes ☐ No ☒ N/A.....

IR Gun # __A_ Correction Factor __-.3_°C IR passed daily verification ☒ Yes ☐ No .....

Temperature - **BLANK** 10.4 °C - .3 CF = 10.1 °C ...**Cooler #1 ID** N/A .....

Temperature – **COOLER** (____°C ____°C ____°C ____°C) = _____ avg °C -__.3 __ CF = _____ °C.....

Samples outside temperature criteria but received within 6 hours of final sampling ☐ Yes ☒ N/A...

Sample Container(s): ☐ STL-LA ☒ Client .....

pH measured: ☒ Yes ☐ Anomaly (if checked, notify lab and file NCM) ☐ N/A..

Anomalies: ☐ No ☒ Yes -- complete CUR and Create NCM .....

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☐ Yes ☒ No.....

Labeled by: CA .....

****

Turn Around Time: ☐ RUSH–24HR ☐ RUSH–48HR ☐ RUSH–72HR ☒ NORMAL..... SG 4/21/06

********** LEAVE NO BLANK SPACES ; USE N/A **********

Headspace Anomaly ☐ YES ☒ N/A SG 4/21/06

Lab ID	Container(s) #	Headspace	Lab ID	Container(s) #	Headspace
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm

LIMS Lot # E6D210398

PROJECT RECEIPT CHECKLIST Cont'd

Fraction	1													
VOAH														
500 PB ammon Sulfate	2													

4/21/06

H: HCL, S: H2SO4, N: HNO3, V: VOA, SL, Sleeve, E: Encore, PB: Poly Bottle, CGB: Clear Glass Bottle, AGJ: Amber Glass Jar, T: Terracore AGB: Amber Glass Bottle, n/f/l:HNO3-Lab filtered, n/f:HNO3-Field filtered, znna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

Condition Upon Receipt Anomaly Form

Anomalies ☒ YES ☐ N/A CA 4/21/06

- **COOLERS**
  - ☐ Not Received (received COC only)
  - ☐ Leaking
  - ☐ Other:
- **CUSTODY SEALS (COOLER(S)**
  - ☐ None
  - ☐ Not Intact
  - ☐ Other
- **CONTAINER(S)**
  - ☐ None
  - ☐ Not Intact
  - ☐ Other
- **TEMPERATURE (SPECS 4 ± 2°C)**
  - ☐ Cooler Temp(s)
  - ☒ Temperature ~~Blank(s)~~ Samples
- **CHAIN OF CUSTODY (COC)**
  - ☒ Not relinquished by Client; No date/time relinquished
  - ☒ Incomplete information provided
  - ☐ Other ☐ COC not received – notify PM
- **CONTAINERS**
  - ☐ Leaking ☐ Voa Vials with Bubbles > 6mm CA 4/21/06
  - ☐ Broken
  - ☐ Extra
  - ☐ Without Labels
  - ☐ Other:
- **LABELS**
  - ☐ Not the same ID/info as in COC
  - ☐ Incomplete Information
  - ☐ Markings/Info illegible
  - ☐ Torn
- **SAMPLES**
  - ☐ Samples NOT RECEIVED but listed on COC
  - ☐ Samples received but NOT LISTED on COC
  - ☐ Logged based on Label Information
  - ☐ Logged based on info from other samples on COC
  - ☐ Logged according to Work Plan
  - ☐ Logged on HOLD UNTIL FURTHER NOTICE
  - ☐ Will be noted on COC--Client to send samples with new COC
  - ☐ Mislabeled as to tests, preservatives, etc.
  - ☐ Holding time expired – list sample ID and test
  - ☐ Improper container used
  - ☐ Not preserved/Improper preservative used
  - ☐ Improper pH _____ Lab to preserve sample and document
  - ☐ Insufficient quantities for analysis ☐ Other

Comments:

Samples received out of temp. (10.1°C)
COC not relinquished by client.
~~No analysis listed on COC~~ CA 4/21/06

☐ Corrective Action Implemented:

☐ Client Informed: verbally on _____ By: _____ ☐ In writing on _____ By: _____

☐ Sample(s) on hold until: _____ ☐ Sample(s) processed "as is."

Logged by/Date: CA - 4/21/06 Logged in by other STL ☐ ____ **PM Review/Date:** 4/22 SL

SEVERN TRENT STL

Analytical Report

ANALYTICAL REPORT

PROJECT NO. LOS ALAMOS - CR+6

LOS ALAMOS - CR+6 WATERS

Lot #: E6D210398

Keith Greene

Los Alamos National Laboratory

SEVERN TRENT LABORATORIES, INC.

Sabina Sudoko
Project Manager

April 26, 2006

EXECUTIVE SUMMARY - Detection Highlights

E6D210398

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SF06040G11R01 04/20/06 10:45 001				
Dissolved Hexavalent Chromium	27.3	1.0	ug/L	SW846 7199

METHODS SUMMARY

E6D210398

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Hexavalent Chromium	SW846 7199	SW846 7199

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

E6D210398

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
H3VMM	001	SF06040G11R01	04/20/06	10:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Los Alamos National Laboratory

Client Sample ID: SF06040G11R01

General Chemistry

Lot-Sample #...: E6D210398-001 **Work Order #...:** H3VMM **Matrix.....:** WG
Date Sampled...: 04/20/06 10:45 **Date Received..:** 04/21/06 10:00

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium	**27.3**	**1.0**	**ug/L**	**SW846 7199**	**04/21/06**	**6111097**

Dilution Factor: 5 Analysis Time..: 11:10 Analyst ID.....: 000022
Instrument ID..: W18 MS Run #.....: 6111054 MDL.....: 0.25

SEVERN TRENT STL

QA/QC

QC DATA ASSOCIATION SUMMARY

E6D210398

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	WG	SW846 7199		6111097	6111054

METHOD BLANK REPORT

General Chemistry

Client Lot #...: E6D210398 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: H3Q7G1AA		MB Lot-Sample #:	E6D210000-097	
	ND	0.20	ug/L	SW846 7199	04/21/06	6111097

Dilution Factor: 1

Analysis Time..: 06:42 Analyst ID.....: 000022 Instrument ID..: W18

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E6D210398 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #: H3Q7G1AC	LCS Lot-Sample#: E6D210000-097		
	103	(90 - 110)	SW846 7199	04/21/06	6111097

Dilution Factor: 1 Analysis Time..: 06:33 Analyst ID.....: 000022
Instrument ID..: W18

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E6D210398 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium			Work Order #: H3Q7G1AC		LCS Lot-Sample#: E6D210000-097		
	7.50	7.69	ug/L	103	SW846 7199	04/21/06	6111097
			Dilution Factor: 1		Analysis Time..: 06:33	Analyst ID.....: 000022	
			Instrument ID..: W18				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: E6D210398 **Matrix.....:** WATER
Date Sampled...: 04/20/06 09:17 **Date Received..:** 04/20/06 15:55

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium		Work Order #...: H3QJ31AJ		MS Lot-Sample #:	E6D200378-005
	103	(80 - 120)	SW846 7199	04/21/06	6111097

Dilution Factor: 100 Analysis Time..: 08:58 Instrument ID..: W18
Analyst ID.....: 000022
MS Run #.....: 6111054

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E6D210398 **Matrix.....:** WATER
Date Sampled...: 04/20/06 09:17 **Date Received..:** 04/20/06 15:55

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium			Work Order #...: H3QJ31AJ			MS Lot-Sample #: E6D200378-005		
	930	1000	1960	ug/L	103	SW846 7199	04/21/06	6111097

Dilution Factor: 100 Analysis Time..: 08:58 Instrument ID..: W18
Analyst ID.....: 000022
MS Run #.....: 6111054

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: E6D210398 **Work Order #...:** H3QJ3-SMP H3QJ3-DUP **Matrix.....:** WATER

Date Sampled...: 04/20/06 09:17 **Date Received..:** 04/20/06 15:55

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Dissolved Hexavalent Chromium						SD Lot-Sample #:	E6D200378-005	
	930	940	ug/L	0.86	(0-20)	SW846 7199	04/21/06	6111097
			Dilution Factor: 50			Analysis Time..: 08:58	Analyst ID.....: 000022	
			Instrument ID..: W18			MS Run Number..: 6111054		

SEVERN TRENT STL

STL Los Angeles
Raw Data

SEVERN TRENT STL

Classical Chemistry
Extended Raw Data

Lot ID: E6D210398

I certify that, to the best of my knowledge, the attached package is a complete and accurate representation of the original data.

Signature / Date: 04/27/06

SEVERN TRENT STL

Classical Chemistry

Preparation Notes
Initial Calibration
Sample Raw Data

STL Los Angeles

Hexavalent Chromium by Ion Chromatography

SOP: SANA-WC-0009

Analytical Method: 7199 ✓

218.6____

IC File: CrVI042106

Calibration Check Standards (ug/L)

ICV 7.5

CCV 15

Analyst: YZ

Reviewer/Date:

Batch(s): 6111097 6112064

Date/Time Collected	Dilution Factor	Injection Number	Sample Name	For Soil Sample Data Reduction: Beaker Number	Sample Name	Wet Sample Weight (g)	Cr+6 ug/L	Average Cr+6 mg/L	Total Cr+6 mg/Kg	RPD <20% for 7199	Calibration Check % Recovery ICV/CCV
							EPA 218.6	SW 7199	SW 7199		
								Water	Soil		
4/21/06 06:33	1	1	ICV/LCS 7.50 ppb		#N/A	#N/A	7.685440304				102.5
4/21/06 06:42	1	2	ICB/MB 042106		#N/A	#N/A		0.0038	#N/A	100.00000	
4/21/06 06:51	200000	3	H3QJ9		#N/A	#N/A	522584.2723				
4/21/06 07:00	200000	4	H3QJ9		#N/A	#N/A	582222.7904	552.4035	#N/A	10.79619	
4/21/06 07:09	50000	5	H3QJ9 REF.		#N/A	#N/A	559168.7614				
4/21/06 07:18	50000	6	H3QJ9 REF.		#N/A	#N/A	429882.0244	494.5254	#N/A	26.14360	
4/21/06 07:27	50	7	H3QJ1 REF.		#N/A	#N/A	7472.490166				
4/21/06 07:36	50	8	H3QJ1 REF.		#N/A	#N/A	5735.639377	6.6041	#N/A	26.29972	
4/21/06 07:45	100	9	H3QJ3 REF.		#N/A	#N/A	1003.828532				
4/21/06 07:54	100	10	H3QJ3 REF.		#N/A	#N/A	1032.467798	1.0181	#N/A	2.81288	
4/21/06 08:03	10000	11	H3QJ9 REF.		#N/A	#N/A	505912.5052				
4/21/06 08:12	10000	12	H3QJ9 REF.		#N/A	#N/A	380586.1618	443.2493	#N/A	28.27446	
4/21/06 08:21	1	13	CCV 15.0 ppb		#N/A	#N/A	15.06381643				100.4
4/21/06 08:29	1	14	CCB		#N/A	#N/A		0.0075	#N/A	100.00000	
4/21/06 08:50	50	15	H3QJ3		#N/A	#N/A	982.1285286				
4/21/06 08:58	50	16	H3QJ3		#N/A	#N/A	872.3694988	0.9272	#N/A	11.83706	
4/21/06 09:07	50	17	H3QJ3X		#N/A	#N/A	941.9865654				
4/21/06 09:16	50	18	H3QJ3X		#N/A	#N/A	928.4909668	0.9352	#N/A	1.44301	
4/21/06 09:25	100	19	H3QJ3S		#N/A	#N/A	1956.047278				
4/21/06 09:34	100	20	H3QJ3S		#N/A	#N/A	1962.864419	1.9595	#N/A	0.34791	
4/21/06 09:42	500	21	H3QJ1		#N/A	#N/A	6662.288676				
4/21/06 09:51	500	22	H3QJ1		#N/A	#N/A	5841.709538	6.2520	#N/A	13.12507	
4/21/06 10:00	2000	23	H3QJ2		#N/A	#N/A	36596.32314				
4/21/06 10:08	2000	24	H3QJ2		#N/A	#N/A	36027.57339	36.3119	#N/A	1.56629	
4/21/06 10:34	1	25	CCV 15.0 ppb		#N/A	#N/A	14.16462432				94.4
4/21/06 10:43	1	26	CCB		#N/A	#N/A		0.0071	#N/A	100.00000	
4/21/06 11:01	5	27	H3VMM		#N/A	#N/A	27.34268224				

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E6D210398

STL Los Angeles

Hexavalent Chromium by Ion Chromatography

SOP: SANA-WC-0009

Analytical Method: 7199____

218.6____

IC File: CrVI042106

Calibration Check Standards (ug/L)

ICV 7.5

CCV 15

Analyst: YZ

Reviewer/Date:

Batch(s): 6111097 6112064

Date/Time Collected	Dilution Factor	Injection Number	Sample Name	Beaker Number	Sample Name	Wet Sample Weight (g)	Cr+6 ug/L	Average Cr+6 mg/L	Total Cr+6 mg/Kg	RPD <20% for 7199	Calibration Check % Recovery ICV/CCV
				For Soil Sample Data Reduction			EPA 218.6	SW 7199 Water	SW 7199 Soil		
4/21/06 11:10	5	28	H3VMM		#N/A	#N/A	27.16184061	0.0273	#N/A	0.66358	
4/21/06 11:18	100000	29	H3QJ4		#N/A	#N/A	305938.6371				
4/21/06 11:27	100000	30	H3QJ4		#N/A	#N/A	350820.7572	328.3797	#N/A	13.66775	
4/21/06 11:36	50000	31	H3QJ5		#N/A	#N/A	705046.0885				
4/21/06 11:45	50000	32	H3QJ5		#N/A	#N/A	782392.727	743.7194	#N/A	10.39998	
4/21/06 11:53	1	33	H3QKE REF.		#N/A	#N/A	0.694902721				
4/21/06 12:02	1	34	H3QKE REF.		#N/A	#N/A	0.134300018	0.0004	#N/A	135.21487	
4/21/06 12:12	1	35	H3QKE		#N/A	#N/A	0.187515148				
4/21/06 12:21	1	36	H3QKE		#N/A	#N/A	0.148329634	0.0002	#N/A	23.33549	
4/21/06 12:37	1	37	CCV 15.0 ppb		#N/A	#N/A	15.37593427				102.5
4/21/06 12:46	1	38	CCB		#N/A	#N/A		0.0077	#N/A	100.00000	
4/21/06 12:55	50000	39	H3QJ9 REF.		#N/A	#N/A	568931.9319				
4/21/06 13:03	50000	40	H3QJ9 REF.		#N/A	#N/A	560679.8864	564.8059	#N/A	1.46104	
4/21/06 13:12	50000	41	H3QJ0		#N/A	#N/A	273457.6584				
4/21/06 13:21	50000	42	H3QJ0		#N/A	#N/A	283876.7672	278.6672	#N/A	3.73891	
4/21/06 13:30	20000	43	H3QJ4 REF.		#N/A	#N/A	196233.5332				
4/21/06 13:38	20000	44	H3QJ4 REF.		#N/A	#N/A	204053.8739	200.1437	#N/A	3.90736	
4/21/06 13:47	20000	45	H3QJ4 REF.		#N/A	#N/A	293566.8713				
4/21/06 13:56	20000	46	H3QJ4 REF.		#N/A	#N/A	297172.2549	295.3696	#N/A	1.22063	
4/21/06 14:04	50000	47	H3QJ5 REF.		#N/A	#N/A	857508.7326				
4/21/06 14:13	50000	48	H3QJ5 REF.		#N/A	#N/A	748533.7862	803.0213	#N/A	13.57062	
4/21/06 14:22	1	49	CCV 15.0 ppb		#N/A	#N/A	15.31426848				102.1
4/21/06 14:30	1	50	CCB		#N/A	#N/A		0.0077	#N/A	100.00000	
4/21/06 15:22	5000	51	H3QJC REF.		#N/A	#N/A	450344.2189				
4/21/06 15:30	5000	52	H3QJC REF.		#N/A	#N/A	446993.2249	448.6687	#N/A	0.74687	
4/21/06 15:42	500000	53	H3QJC REF.		#N/A	#N/A	445307.6147				
4/21/06 15:51	500000	54	H3QJC REF.		#N/A	#N/A	412072.6692	428.6901	#N/A	7.75267	

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E6D210398

STL Los Angeles

Hexavalent Chromium by Ion Chromatography

SOP: SANA-WC-0009

Analytical Method: 7199 ✓

218.6____

IC File: CrVI042106

Calibration Check Standards (ug/L)

ICV 7.5

CCV 15

Analyst: YZ

Reviewer/Date:

Batch(s): 6111097 6112064

Date/Time Collected	Dilution Factor	Injection Number	Sample Name	Beaker Number	Sample Name	Wet Sample Weight (g)	Cr+6 ug/L	Average Cr+6 mg/L	Total Cr+6 mg/Kg	RPD <20% for 7199	Calibration Check % Recovery ICV/CCV
				For Soil Sample Data Reduction			EPA 218.6	SW 7199 Water	SW 7199 Soil		
4/21/06 15:59	50000	55	H3QJC		#N/A	#N/A	423399.3361				
4/21/06 16:08	50000	56	H3QJC		#N/A	#N/A	423444.7205	423.4220	#N/A	0.01072	
4/21/06 16:17	1	57	CCV 15.0 ppb		#N/A	#N/A	15.45585185				103.0
4/21/06 16:35	1	58	CCB		#N/A	#N/A		0.0077	#N/A	100.00000	
4/21/06 16:44	1	59	LCS-L		#N/A	#N/A	7.707579012				
4/21/06 16:52	1	60	MB-L		#N/A	#N/A		0.0039	#N/A	100.00000	
4/21/06 17:01	1	61	H2QEV		#N/A	#N/A	6.20261807				
4/21/06 17:10	1	62	H2QEV		#N/A	#N/A	6.202077253	0.0062	#N/A	0.00872	
4/21/06 17:18	1	63	H2QEVX		#N/A	#N/A	6.237546627				
4/21/06 17:27	1	64	H2QEVX		#N/A	#N/A	6.168796449	0.0062	#N/A	1.10831	
4/21/06 17:36	1	65	H2QEVS		#N/A	#N/A	15.67394975				
4/21/06 17:45	1	66	H2QEVS		#N/A	#N/A	15.68814067	0.0157	#N/A	0.09050	
4/21/06 17:53	1	67	CCV 15.0 ppb		#N/A	#N/A	15.02662024				100.2
4/21/06 18:02	1	68	CCB		#N/A	#N/A		0.0075	#N/A	100.00000	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					
					#N/A	#N/A		0.0000	#N/A	#DIV/0!	
					#N/A	#N/A					

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RQC050

Severn Trent Laboratories, Inc.
WET CHEM BATCHSHEET

Run Date: 4/22/06
Time: 9:41:26

STL Los Angeles

PRODUCTION FIGURES - WET CHEM

TOTAL NUMBER	SAMPLE NUMBER	QC	RE-RUN MATRIX	RE-RUN OTHER	MISC NUMBER	TOTAL HOURS	EXPANDED DELIVERABLE

METHOD: 2X Chromium, Hexavalent by Ion Chromatography (7199)
QC BATCH #: **6111097**
PREP DATE: 4/21/06 6:33
COMP DATE: 4/21/06 6:33
USER: ZAKHRABY

INITIALS:
PREP _____
ANAL _____

DATA ENTRY:
INITIALS _____
DATE _____

Work Order	Lab Number	Structured Analysis	Exp. Del.	Analysis Date	Sample ID:
H3QJC-1-AH	E-6D200378-001	XX I 87 2X 01	B		OBS-1
H3QJ0-1-AH	E-6D200378-002	XX I 87 2X 01	B		OBS-2
H3QJ1-1-AH	E-6D200378-003	XX I 87 2X 01	B		OBS-3A
H3QJ2-1-AH	E-6D200378-004	XX I 87 2X 01	B		OBS-3B
H3QJ3-1-AH	E-6D200378-005	XX I 87 2X 01	B		OBS-3C
H3QJ3-1-AJ	E-6D200378-005-S	XX I 87 2X 01	B		OBS-3C
H3QJ3-1-AK	E-6D200378-005-X	XX I 87 2X 01	B		OBS-3C DUP
H3QJ4-1-AH	E-6D200378-006	XX I 87 2X 01	B		OBS-4A
H3QJ5-1-AH	E-6D200378-007	XX I 87 2X 01	B		OBS-4B
H3QJ9-1-AH	E-6D200378-010	XX I 87 2X 01	B		DUP-1
H3QKE-1-AF	E-6D200378-011	XX I 87 2X 01	B		QCEB
H3Q7G-1-AA	E-6D210000-097-B	XX I 87 2X 01			INTRA-LAB BLANK
H3Q7G-1-AC	E-6D210000-097-C	XX I 87 2X 01			INTRA-LAB CHECK
H3VMM-1-AA	E-6D210398-001	XX I 87 2X 01	Y-D		SF06040G11R01

Control Limits

(80-120)

(90-110)

SEVERN TRENT STL

STL Los Angeles

Tracking Log for Cr^{+6} by Ion Chromatography

Method: CrV1021506
Calib. Date: 021506
Run Date: 042106

Standard Lot Numbers
ICV/LCS/MS, MSD: 2006-17-2-1
ICB/CCB/MB: 042106
CCV: ERA 10075.2

Instrument ID: W18
Instrument Serial #: 01070608
Analyst: [illegible]

Sample	Work Order	Date/Time Collected	Sample pH	Batch/Injection Number 218.6	Batch/Injection Number 7199	Comments
					6111097	
E6D200378-1	H3QJC	4/20 8:16	6.98		36	007
-2	H3QJD	14:12	6.88		42	007
-3	H3QJ1	10:05	6.96		22	007
-4	H3QJ2	10:41	7.01		24	007
-5	H3QJ3	9:17	9.53		16	007
-6	H3QJ4	11:25	7.26		30	007
-7	H3QJ5	12:17	7.10		32	007
-10	H3QJ9	13:20	6.99		4	007
-11	H3QKE	15:27	9.69		36	006
-5	H3QJ3X	9:17	9.53		18	007
-5	H3QJ3S	9:17	9.53		20	007
E6D210398-1	H3VMM	4/20 10:45	9.00		28	001

4/21/06

4/21/06

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02/24/06

SEVERN TRENT STL

STL Los Angeles

Hexavalent Chromium by Ion Chromatography
Standards and Reagent Log

Method EPA 218.6 _____ SW 846 7199 ✓
Analyst: X
Date: 4/21/06

Reagent Lot Numbers/Expiration Dates

Chromatographic Eluent: 2006-17-3-24 / 4/19/07
Post-column Reagent: 2006-17-4-21 / 4/23/06 / 2006-17-4-32 / 4/25/06
Buffer Solution: 2006-17-1-1 / 1/3/07
Dilution Water: 2 liters of DI water adjusted to a pH of 9.0 to 9.5 with buffer solution.
Final pH: 9.05

Preparation of Intermediate Calibration and Check (ICV/LCS) Standard:

Analyte	Stock Concentration (mg/L)	Volume of Stock (mL)	Final Volume (mL)	Final Concentration (mg/L)
Calibration	1000	0.1	1000	0.1
Check	1000	0.1	1000	0.1

Intermediate Standard Lot Numbers/Expiration Dates
Calibration Standard: 2006-17-6-16 / 4/26/06
Check (ICV/LCS) Standard: 2006-17-5-16 / 4/26/06

Preparation of Calibration and Check Standards:
All standards and blanks are prepared with dilution water at a pH of 9.0 to 9.5.

Standard Name	Standard Conc.	Source Conc. (mg/L)	Source Solution	mL of Source	Final Volume
Cal Blank	0 mg/L	NA	Dilution water	10	10 mL
Cal Std 1	0.0002 mg/L	0.1	Intermediate Calib Stock	0.02	10 mL
Cal Std 2	0.001 mg/L	0.1	Intermediate Calib Stock	0.1	10 mL
Cal Std 3	0.010 mg/L	0.1	Intermediate Calib Stock	1.0	10 mL
Cal Std 4	0.025 mg/L	0.1	Intermediate Calib Stock	2.5	10 mL
ICV/LCS	0.0075 mg/L	0.1	Intermediate ICV Stock	0.75	10 mL
ICB/CCB/MB	0 mg/L	NA	Dilution water	10	10 mL
CCV	0.015 mg/L	0.1	Intermediate Calib Stock	1.5	10 mL
MS/MSD	0.010 mg/L	0.1	Intermediate ICV Stock	1.0	10 mL Sample

ule File: C:\PeakNet\schedule\Cr VI Schedule\crvi042106.SCH

Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Comment
ICV/LCS 7.50 ppb	Sample		crvi 021506.met	crvi042106_001.dxd	1	1	
ICB/MB 042106	Sample		crvi 021506.met	crvi042106_002.dxd	1	1	
H3QJ9	Sample		crvi 021506.met	crvi042106_003.dxd	1	200000	
H3QJ9	Sample		crvi 021506.met	crvi042106_004.dxd	1	200000	
H3QJ9	Sample		crvi 021506.met	crvi042106_005.dxd	1	50000	
H3QJ9	Sample		crvi 021506.met	crvi042106_006.dxd	1	50000	
H3QJ1	Sample		crvi 021506.met	crvi042106_007.dxd	1	50	
H3QJ1	Sample		crvi 021506.met	crvi042106_008.dxd	1	50	
H3QJ3	Sample		crvi 021506.met	crvi042106_009.dxd	1	100	
H3QJ3	Sample		crvi 021506.met	crvi042106_010.dxd	1	100	
H3QJ9	Sample		crvi 021506.met	crvi042106_011.dxd	1	10000	
H3QJ9	Sample		crvi 021506.met	crvi042106_012.dxd	1	10000	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_013.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_014.dxd	1	1	
H3QJ3	Sample		crvi 021506.met	crvi042106_015.dxd	1	50	
H3QJ3	Sample		crvi 021506.met	crvi042106_016.dxd	1	50	
H3QJ3X	Sample		crvi 021506.met	crvi042106_017.dxd	1	50	
H3QJ3X	Sample		crvi 021506.met	crvi042106_018.dxd	1	50	
H3QJ3S	Sample		crvi 021506.met	crvi042106_019.dxd	1	100	
H3QJ3S	Sample		crvi 021506.met	crvi042106_020.dxd	1	100	
H3QJ1	Sample		crvi 021506.met	crvi042106_021.dxd	1	500	
H3QJ1	Sample		crvi 021506.met	crvi042106_022.dxd	1	500	
H3QJ2	Sample		crvi 021506.met	crvi042106_023.dxd	1	2000	
H3QJ2	Sample		crvi 021506.met	crvi042106_024.dxd	1	2000	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_025.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_026.dxd	1	1	
SF06040G11R01	Sample		crvi 021506.met	crvi042106_027.dxd	1	5	
SF06040G11R01	Sample		crvi 021506.met	crvi042106_028.dxd	1	5	
H3QJ4	Sample		crvi 021506.met	crvi042106_029.dxd	1	100000	
H3QJ4	Sample		crvi 021506.met	crvi042106_030.dxd	1	100000	
H3QJ5	Sample		crvi 021506.met	crvi042106_031.dxd	1	50000	
H3QJ5	Sample		crvi 021506.met	crvi042106_032.dxd	1	50000	
H3QKE	Sample		crvi 021506.met	crvi042106_033.dxd	1	1	
H3QKE	Sample		crvi 021506.met	crvi042106_034.dxd	1	1	
H3QKE	Sample		crvi 021506.met	crvi042106_035.dxd	1	1	
H3QKE	Sample		crvi 021506.met	crvi042106_036.dxd	1	1	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_037.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_038.dxd	1	1	
H3QJ9	Sample		crvi 021506.met	crvi042106_039.dxd	1	50000	
H3QJ9	Sample		crvi 021506.met	crvi042106_040.dxd	1	50000	
H3QJ0	Sample		crvi 021506.met	crvi042106_041.dxd	1	50000	
H3QJ0	Sample		crvi 021506.met	crvi042106_042.dxd	1	50000	
H3QJ4	Sample		crvi 021506.met	crvi042106_043.dxd	1	20000	
H3QJ4	Sample		crvi 021506.met	crvi042106_044.dxd	1	20000	
H3QJ4	Sample		crvi 021506.met	crvi042106_045.dxd	1	20000	
H3QJ4	Sample		crvi 021506.met	crvi042106_046.dxd	1	20000	
H3QJ5	Sample		crvi 021506.met	crvi042106_047.dxd	1	50000	
H3QJ5	Sample		crvi 021506.met	crvi042106_048.dxd	1	50000	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_049.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_050.dxd	1	1	
H3QJC	Sample		crvi 021506.met	crvi042106_051.dxd	1	5000	
H3QJC	Sample		crvi 021506.met	crvi042106_052.dxd	1	5000	

ule File: C:\PeakNet\schedule\Cr VI Schedule\crvi042106.SCH

Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Comment
H3QJC	Sample		crvi 021506.met	crvi042106_053.dxd	1	500000	
H3QJC	Sample		crvi 021506.met	crvi042106_054.dxd	1	500000	
H3QJC	Sample		crvi 021506.met	crvi042106_055.dxd	1	50000	
H3QJC	Sample		crvi 021506.met	crvi042106_056.dxd	1	50000	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_057.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_058.dxd	1	1	
LCS-L	Sample		crvi 021506.met	crvi042106_059.dxd	1	1	
MB-L	Sample		crvi 021506.met	crvi042106_060.dxd	1	1	
H2QEV	Sample		crvi 021506.met	crvi042106_061.dxd	1	1	
H2QEV	Sample		crvi 021506.met	crvi042106_062.dxd	1	1	
H2QEVX	Sample		crvi 021506.met	crvi042106_063.dxd	1	1	
H2QEVX	Sample		crvi 021506.met	crvi042106_064.dxd	1	1	
H2QEVS	Sample		crvi 021506.met	crvi042106_065.dxd	1	1	
H2QEVS	Sample		crvi 021506.met	crvi042106_066.dxd	1	1	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_067.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_068.dxd	1	1	

t Method Path: C:\PEAKNET\METHOD
t Data Path: C:\PEAKNET\CRVI\CRVI 2
ent:

ıle File: C:\PeakNet\schedule\Cr VI Schedule\crvi042106.SCH

Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Comment
ICV/LCS 7.50 ppb	Sample		crvi 021506.met	crvi042106_001.dxd	1	1	
ICB/MB 042106	Sample		crvi 021506.met	crvi042106_002.dxd	1	1	
H3QJ9	Sample		crvi 021506.met	crvi042106_003.dxd	1	200000	
H3QJ9	Sample		crvi 021506.met	crvi042106_004.dxd	1	200000	
H3QJ9	Sample		crvi 021506.met	crvi042106_005.dxd	1	50000	
H3QJ9	Sample		crvi 021506.met	crvi042106_006.dxd	1	50000	
H3QJ1	Sample		crvi 021506.met	crvi042106_007.dxd	1	50	
H3QJ1	Sample		crvi 021506.met	crvi042106_008.dxd	1	50	
H3QJ3	Sample		crvi 021506.met	crvi042106_009.dxd	1	100	
H3QJ3	Sample		crvi 021506.met	crvi042106_010.dxd	1	100	
H3QJ9	Sample		crvi 021506.met	crvi042106_011.dxd	1	10000	
H3QJ9	Sample		crvi 021506.met	crvi042106_012.dxd	1	10000	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_013.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_014.dxd	1	1	
H3QJ3	Sample		crvi 021506.met	crvi042106_015.dxd	1	50	
H3QJ3	Sample		crvi 021506.met	crvi042106_016.dxd	1	50	
H3QJ3X	Sample		crvi 021506.met	crvi042106_017.dxd	1	50	
H3QJ3X	Sample		crvi 021506.met	crvi042106_018.dxd	1	50	
H3QJ3S	Sample		crvi 021506.met	crvi042106_019.dxd	1	100	
H3QJ3S	Sample		crvi 021506.met	crvi042106_020.dxd	1	100	
H3QJ1	Sample		crvi 021506.met	crvi042106_021.dxd	1	500	
H3QJ1	Sample		crvi 021506.met	crvi042106_022.dxd	1	500	
H3QJ2	Sample		crvi 021506.met	crvi042106_023.dxd	1	2000	
H3QJ2	Sample		crvi 021506.met	crvi042106_024.dxd	1	2000	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_025.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_026.dxd	1	1	
H3VMM	Sample		crvi 021506.met	crvi042106_027.dxd	1	5	
H3VMM	Sample		crvi 021506.met	crvi042106_028.dxd	1	5	
H3QJ4	Sample		crvi 021506.met	crvi042106_029.dxd	1	100000	
H3QJ4	Sample		crvi 021506.met	crvi042106_030.dxd	1	100000	
H3QJ5	Sample		crvi 021506.met	crvi042106_031.dxd	1	50000	
H3QJ5	Sample		crvi 021506.met	crvi042106_032.dxd	1	50000	
H3QKE	Sample		crvi 021506.met	crvi042106_033.dxd	1	1	
H3QKE	Sample		crvi 021506.met	crvi042106_034.dxd	1	1	
H3QKE	Sample		crvi 021506.met	crvi042106_035.dxd	1	1	
H3QKE	Sample		crvi 021506.met	crvi042106_036.dxd	1	1	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_037.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_038.dxd	1	1	
H3QJ9	Sample		crvi 021506.met	crvi042106_039.dxd	1	50000	
H3QJ9	Sample		crvi 021506.met	crvi042106_040.dxd	1	50000	
H3QJ0	Sample		crvi 021506.met	crvi042106_041.dxd	1	50000	
H3QJ0	Sample		crvi 021506.met	crvi042106_042.dxd	1	50000	
H3QJ4	Sample		crvi 021506.met	crvi042106_043.dxd	1	20000	
H3QJ4	Sample		crvi 021506.met	crvi042106_044.dxd	1	20000	
H3QJ4	Sample		crvi 021506.met	crvi042106_045.dxd	1	20000	
H3QJ4	Sample		crvi 021506.met	crvi042106_046.dxd	1	20000	
H3QJ5	Sample		crvi 021506.met	crvi042106_047.dxd	1	50000	
H3QJ5	Sample		crvi 021506.met	crvi042106_048.dxd	1	50000	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_049.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_050.dxd	1	1	
H3QJC	Sample		crvi 021506.met	crvi042106_051.dxd	1	5000	
H3QJC	Sample		crvi 021506.met	crvi042106_052.dxd	1	5000	

lule File: C:\PeakNet\schedule\Cr VI Schedule\crvi042106.SCH

Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Comment
H3QJC	Sample		crvi 021506.met	crvi042106_053.dxd	1	500000	
H3QJC	Sample		crvi 021506.met	crvi042106_054.dxd	1	500000	
H3QJC	Sample		crvi 021506.met	crvi042106_055.dxd	1	50000	
H3QJC	Sample		crvi 021506.met	crvi042106_056.dxd	1	50000	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_057.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_058.dxd	1	1	
LCS-L	Sample		crvi 021506.met	crvi042106_059.dxd	1	1	
MB-L	Sample		crvi 021506.met	crvi042106_060.dxd	1	1	
H2QEV	Sample		crvi 021506.met	crvi042106_061.dxd	1	1	
H2QEV	Sample		crvi 021506.met	crvi042106_062.dxd	1	1	
H2QEVX	Sample		crvi 021506.met	crvi042106_063.dxd	1	1	
H2QEVX	Sample		crvi 021506.met	crvi042106_064.dxd	1	1	
H2QEVS	Sample		crvi 021506.met	crvi042106_065.dxd	1	1	
H2QEVS	Sample		crvi 021506.met	crvi042106_066.dxd	1	1	
CCV 15.0 ppb	Sample		crvi 021506.met	crvi042106_067.dxd	1	1	
CCB	Sample		crvi 021506.met	crvi042106_068.dxd	1	1	

lt Method Path: C:\PEAKNET\METHOD
lt Data Path: C:\PEAKNET\CRVI\CRVI 2
ıent:

STL Los Angeles Cr VI Sample Analysis Report

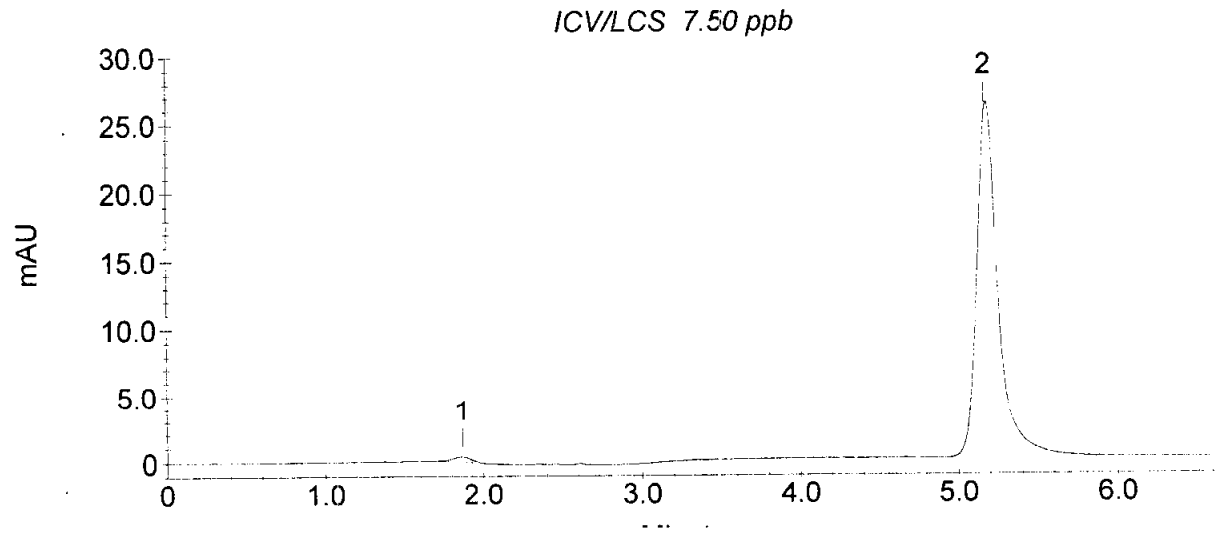
Sample Name : ICV/LCS 7.50 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_001.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 06:33:15
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 1
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2541	345
2	CRVI	5.17	7.69	243069	25505



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

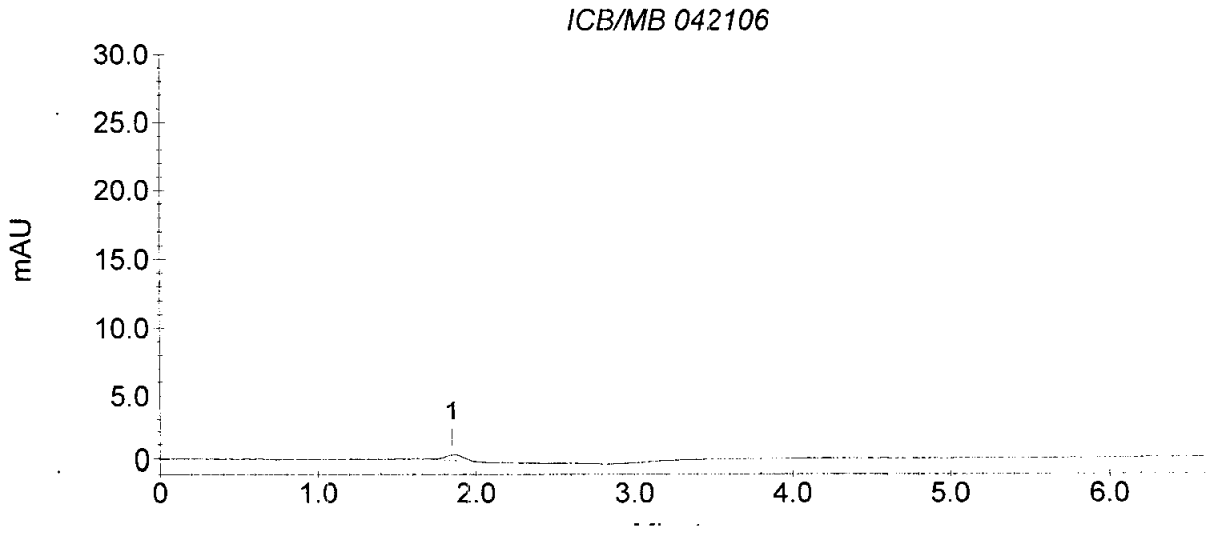
Sample Name : ICB/MB 042106
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_002.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 06:42:18
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 2
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3015	350



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

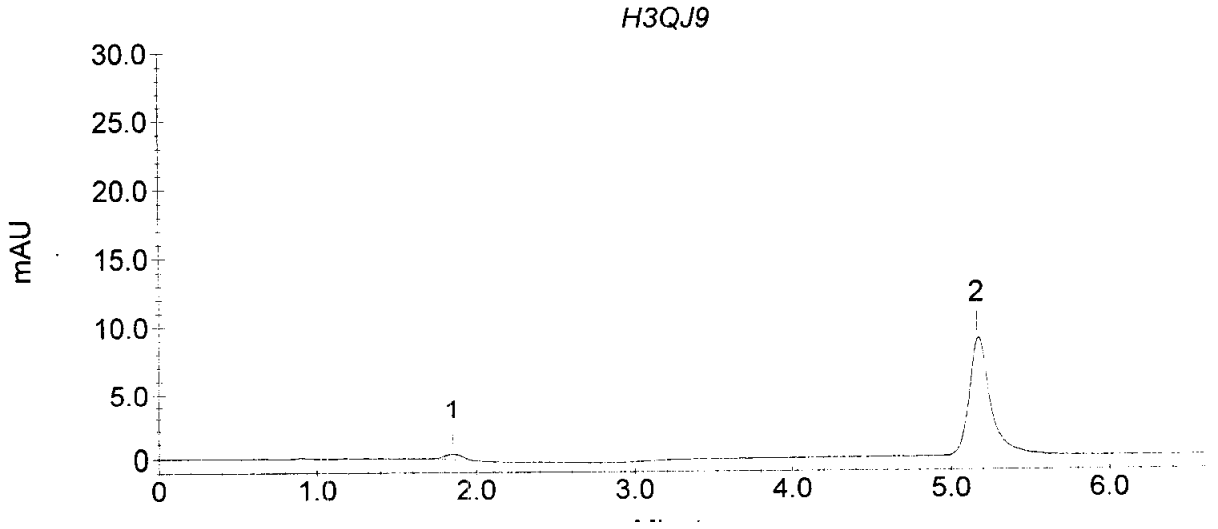
Sample Name : H3QJ9
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_003.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 06:51:25
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 3
Dilution Factor : 200000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2975	350
2	CRVI	5.17	522584.27	82682	8831



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

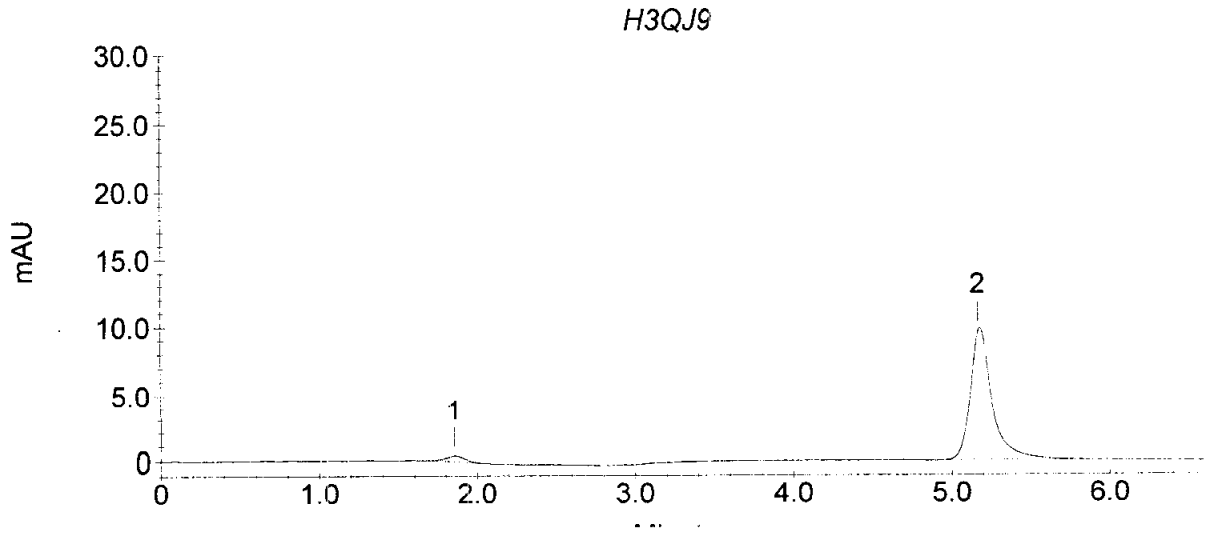
Sample Name : H3QJ9
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_004.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 07:00:30
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 4
Dilution Factor : 200000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3060	357
2	CRVI	5.17	582222.79	92110	9591



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

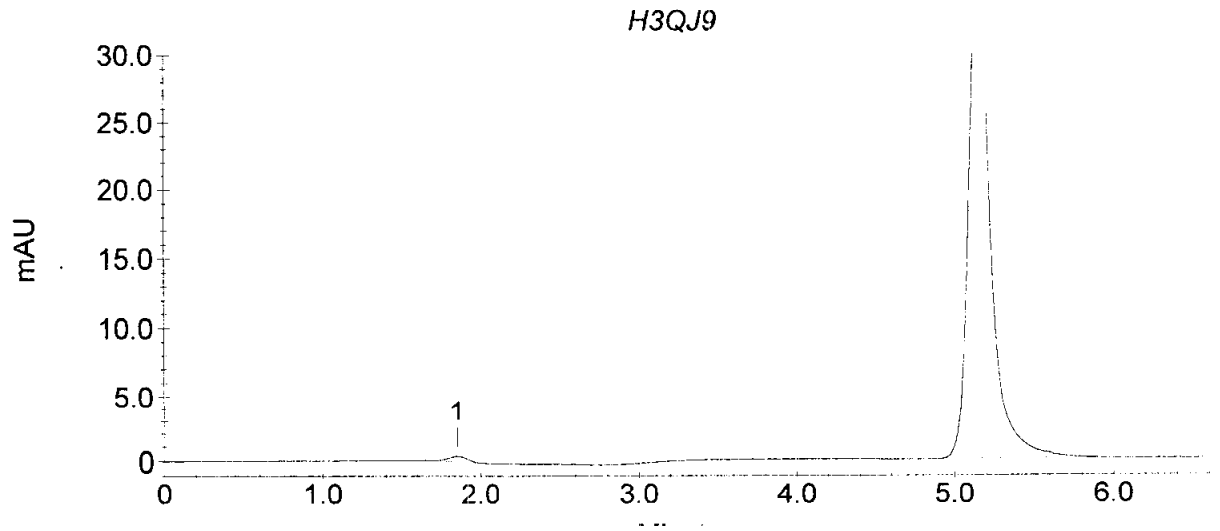
Sample Name : H3QJ9
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_005.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 07:09:38
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 5
Dilution Factor : 50000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3050	364
2	CRVI	5.15	559168.76	353669	38500



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

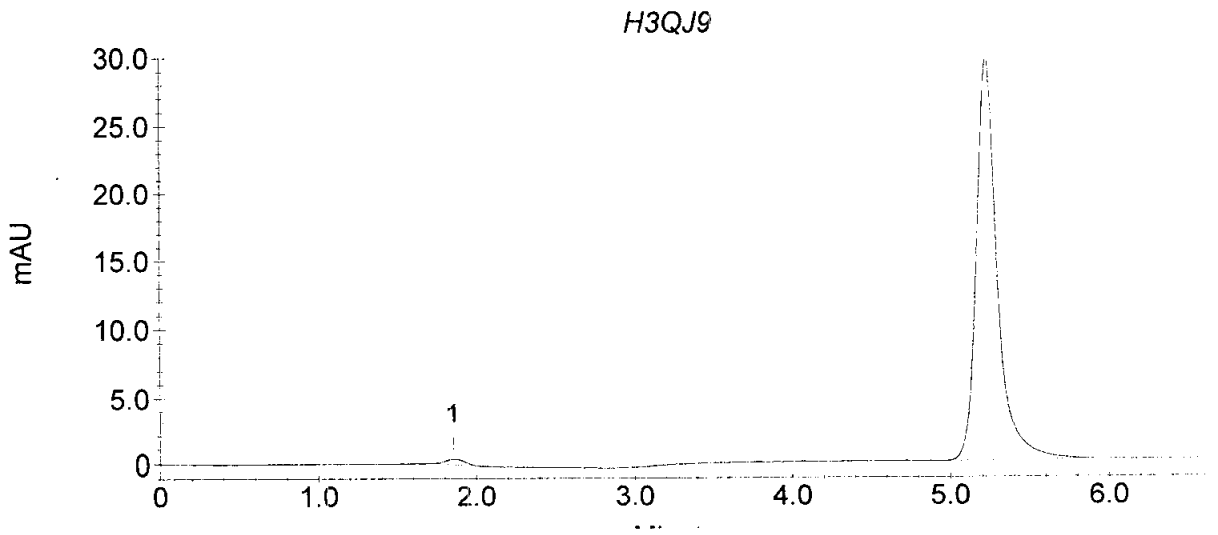
Sample Name : H3QJ9
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_006.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 07:18:44
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 6
Dilution Factor : 50000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2966	347
2	CRVI	5.22	429882.02	271912	29337



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

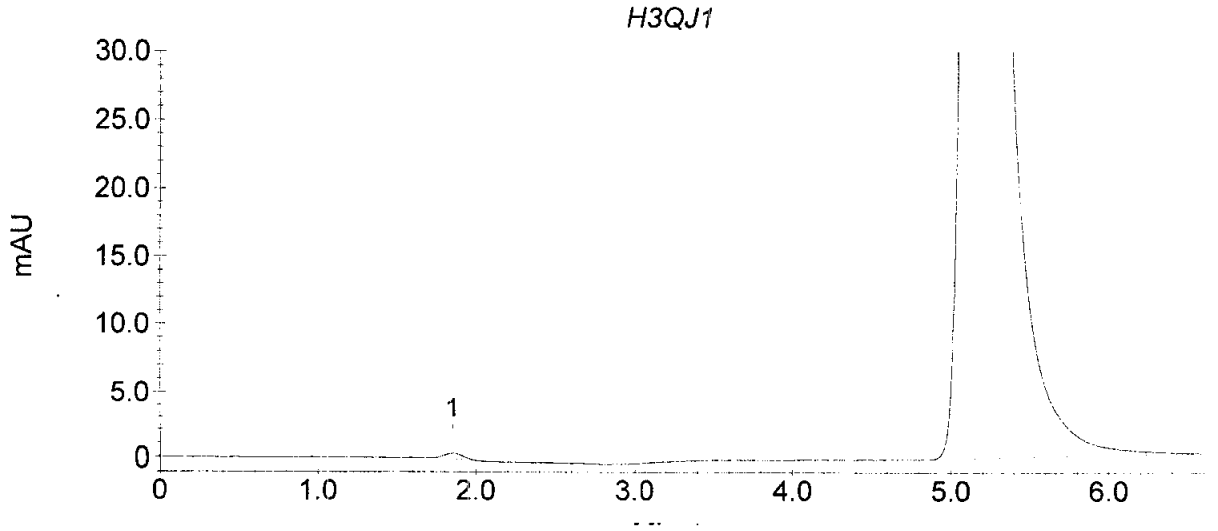
Sample Name : H3QJ1
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_007.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 07:27:51
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 7
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2771	368
2	CRVI	5.17	7472.49	4725492	508515



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Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

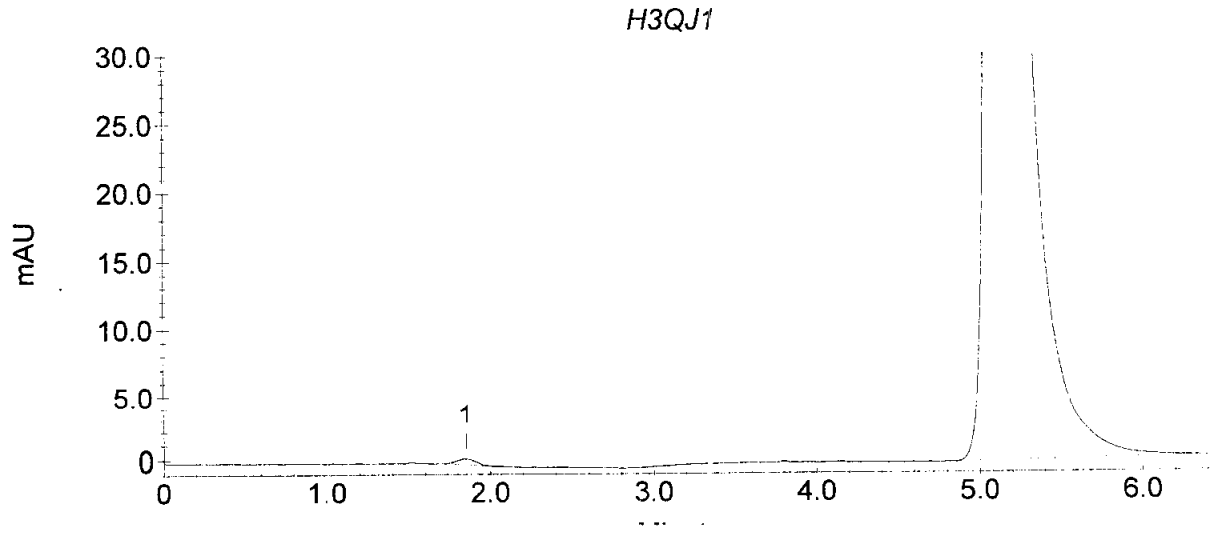
Sample Name : H3QJ1
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_008.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 07:36:58
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 8
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2894	379
2	CRVI	5.13	5735.64	3627148	383182



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Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

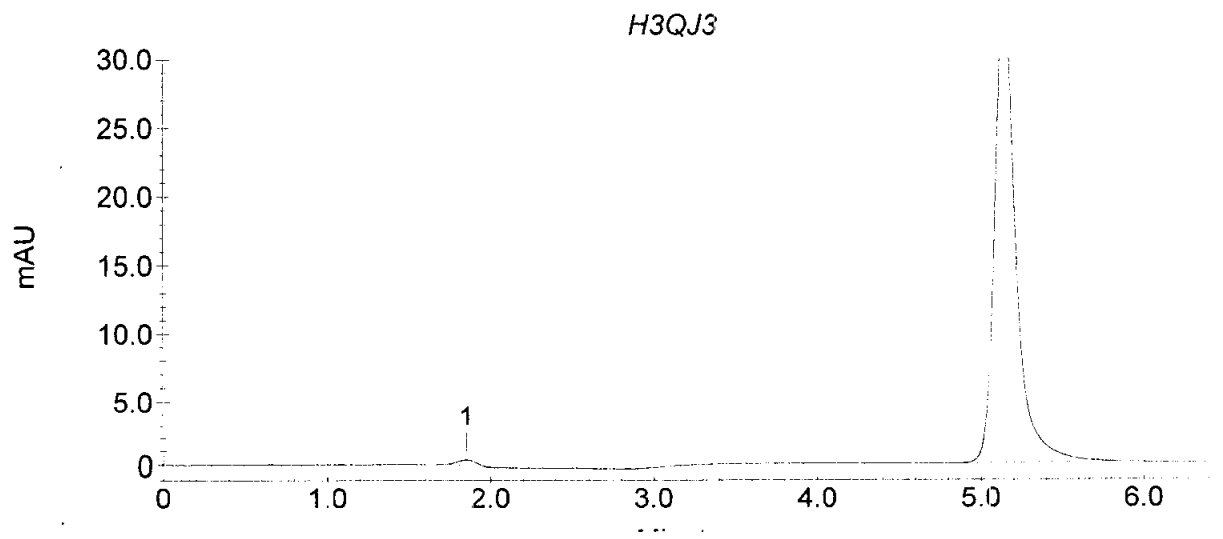
Sample Name : H3QJ3
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_009.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/21/06 07:45:51
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 9
Dilution Factor : 100.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3111	382
2	CRVI	5.13	1003.83	317463	33828



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

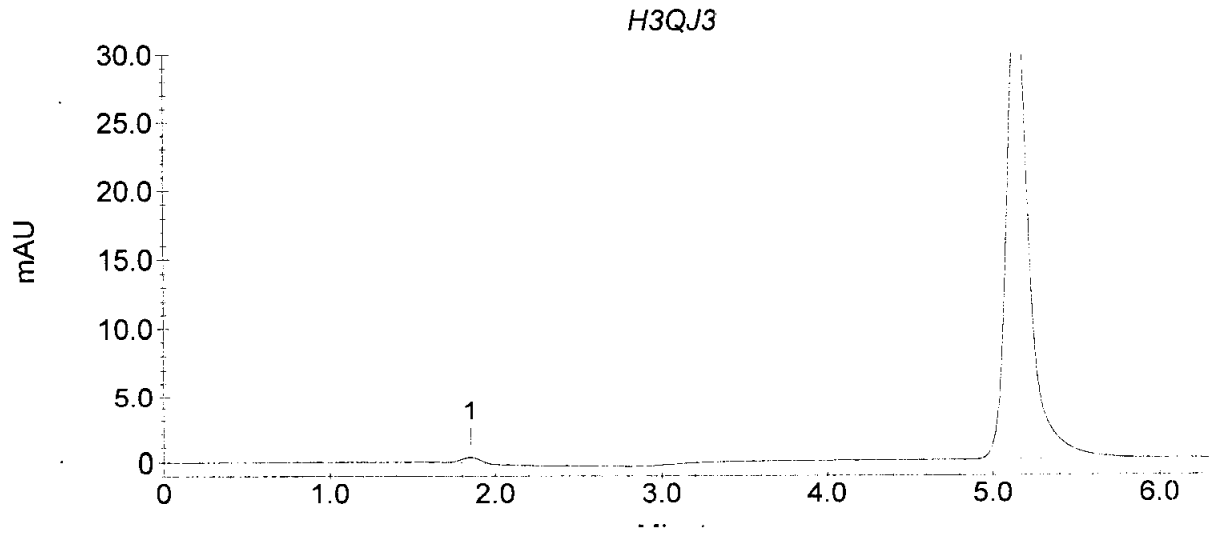
Sample Name : H3QJ3
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_010.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/21/06 07:54:47
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 10
Dilution Factor : 100.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3143	389
2	CRVI	5.13	1032.47	326518	34562



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

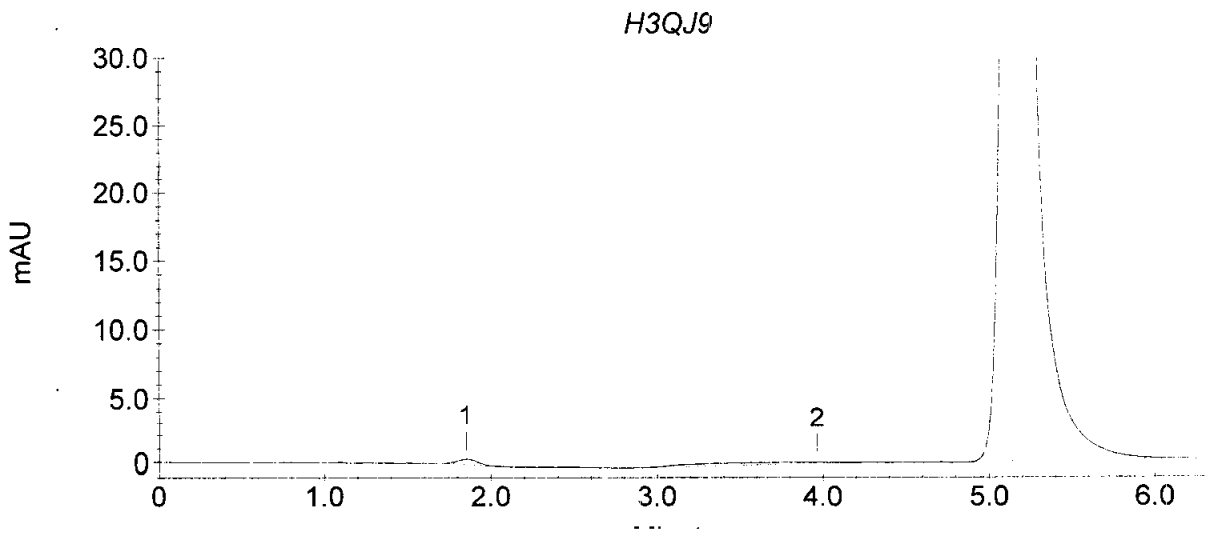
Sample Name : H3QJ9
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_011.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/21/06 08:03:34
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 11
Dilution Factor : 10000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2986	366
2		3.97	0.00	7684	99
3	CRVI	5.15	505912.51	1599700	172153



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

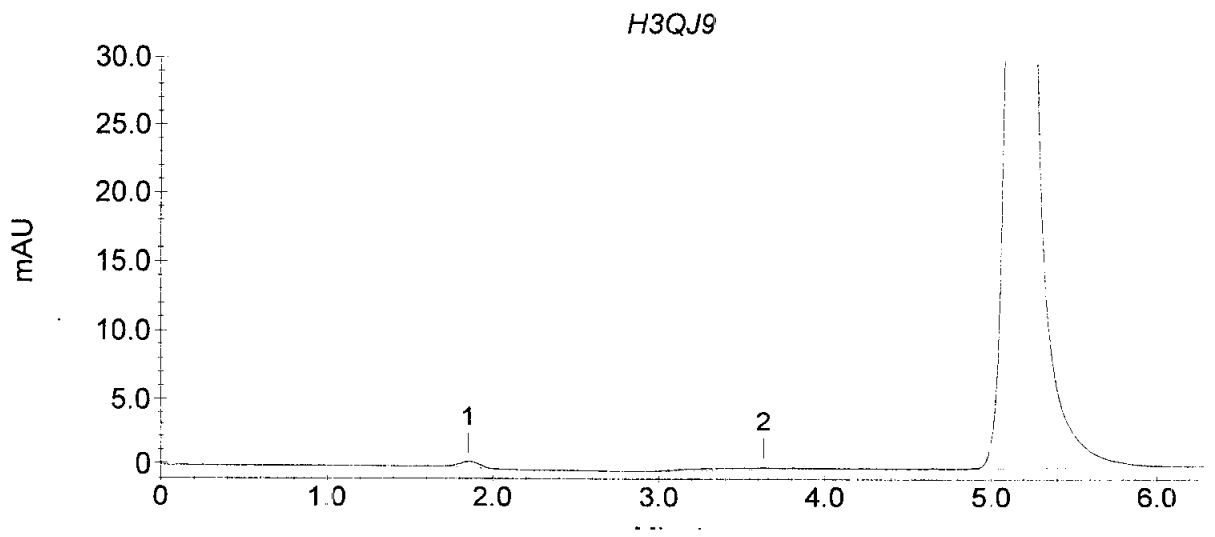
Sample Name : H3QJ9
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_012.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/21/06 08:12:22
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 12
Dilution Factor : 10000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3339	382
2		3.63	0.00	5838	122
3	CRVI	5.17	380586.16	1203433	131970



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

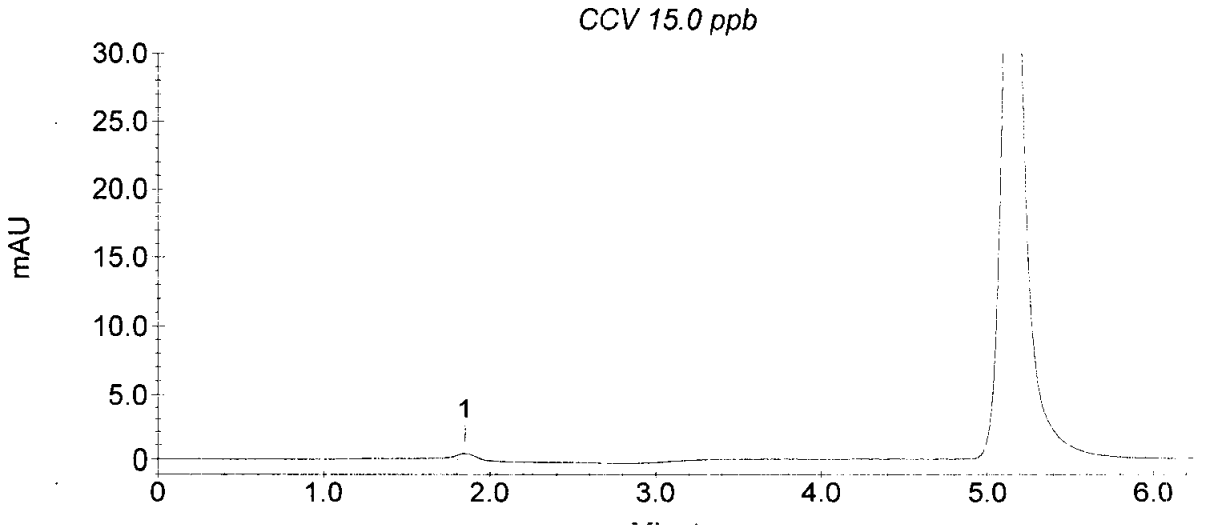
Sample Name : CCV 15.0 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_013.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 08:21:08
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 13
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3371	400
2	CRVI	5.13	15.06	476364	49720



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

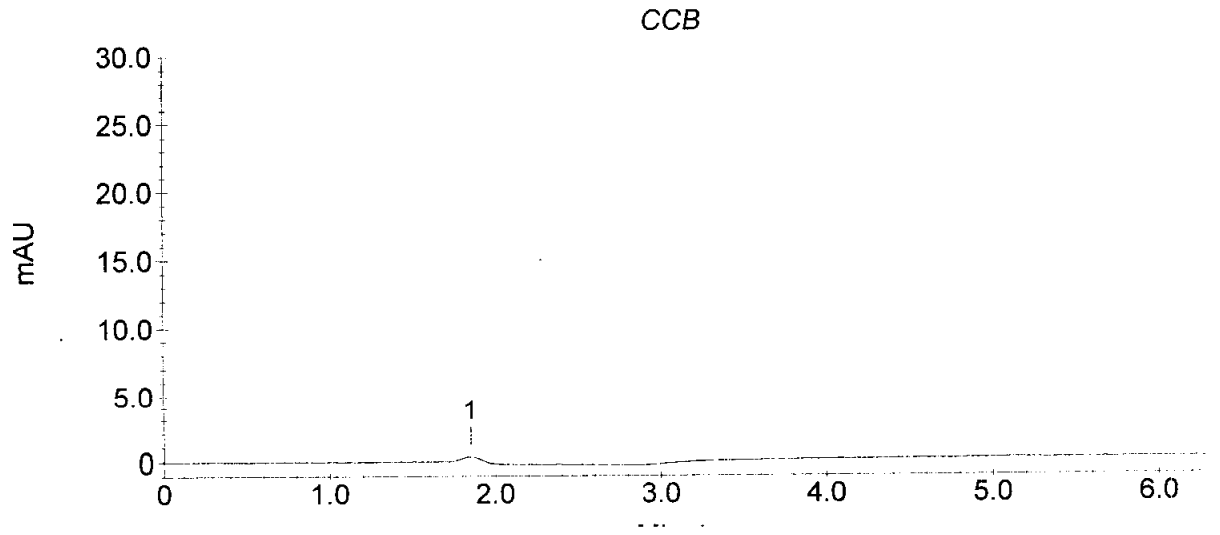
Sample Name : CCB
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_014.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 08:29:56
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 14
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3339	397



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

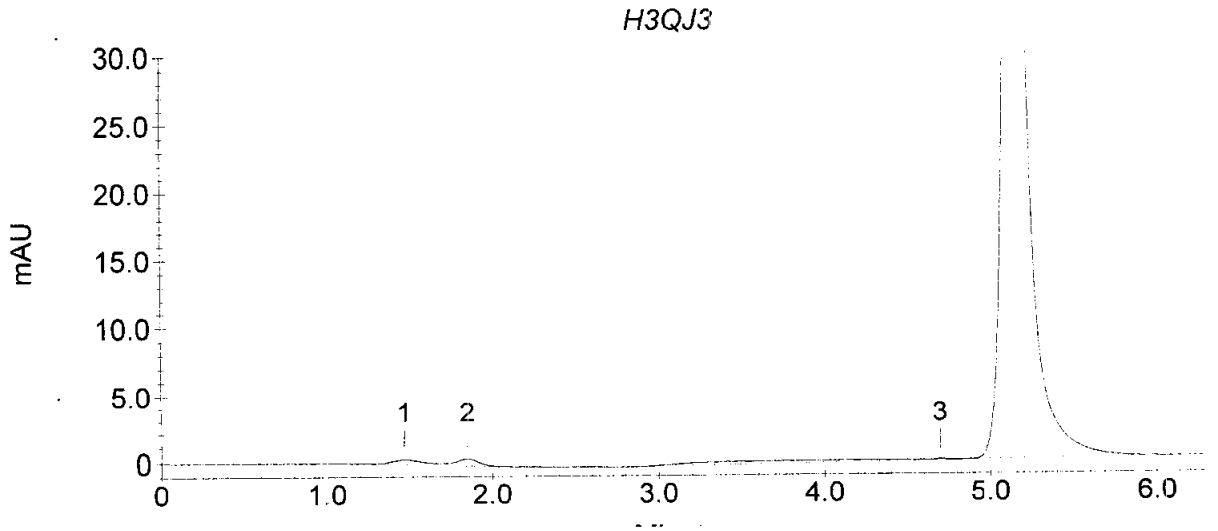
Sample Name : H3QJ3
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_015.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/21/06 08:50:07
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 15
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.47	0.00	3820	306
2		1.85	0.00	4183	438
3		4.70	0.00	12875	83
4	CRVI	5.15	982.13	621139	68205



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

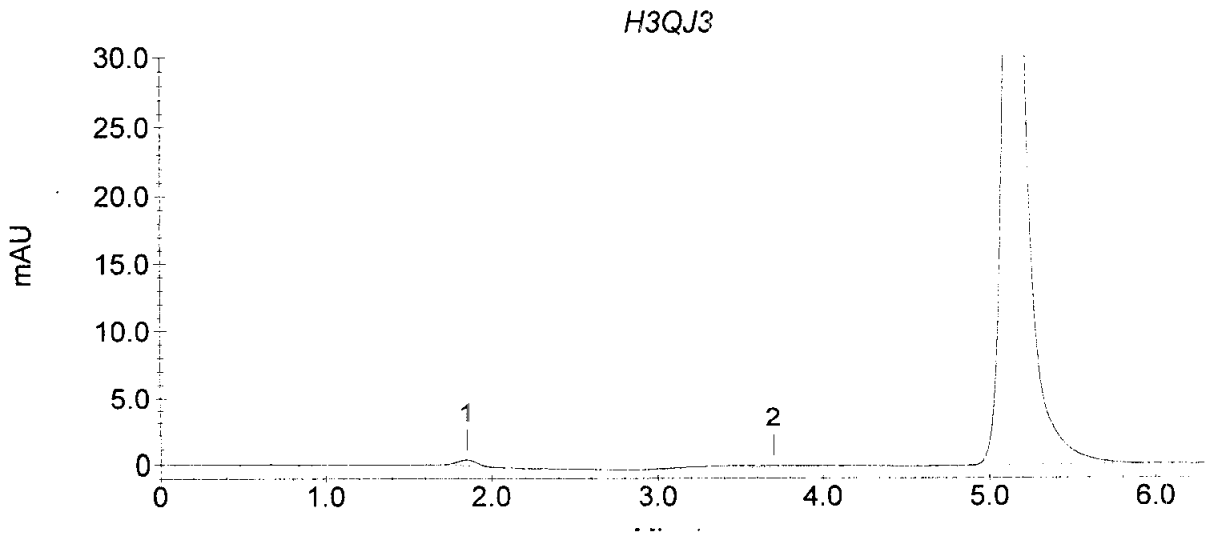
Sample Name : H3QJ3
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_016.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 08:58:58
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 16
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3131	397
2		3.70	0.00	5072	100
3	CRVI	5.13	872.37	551730	58740



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

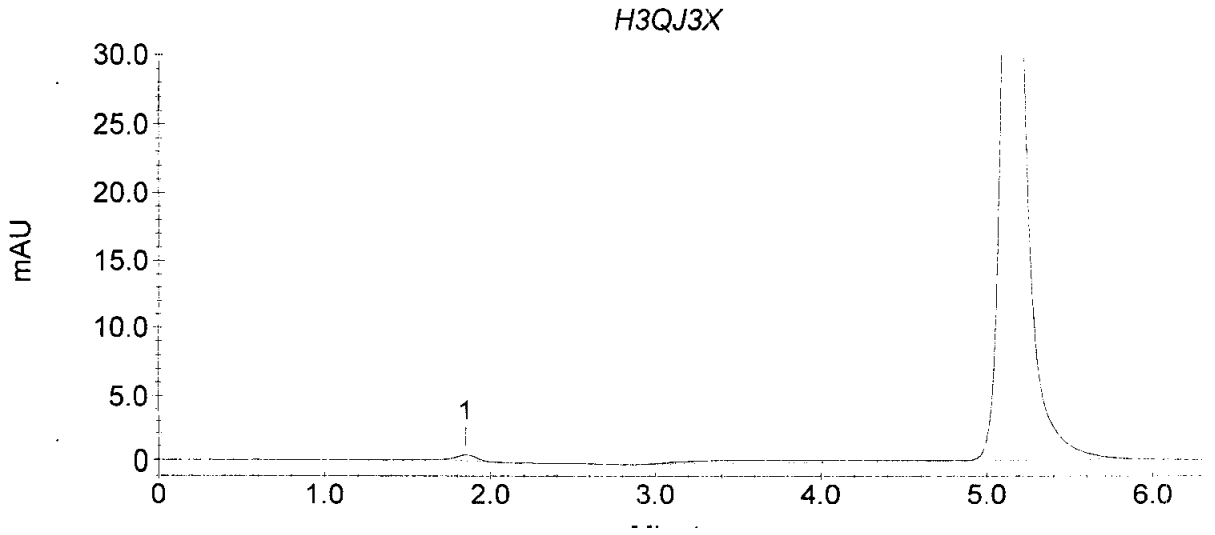
Sample Name : H3QJ3X
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_017.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 09:07:48
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 17
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3209	393
2	CRVI	5.13	941.99	595754	61412



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

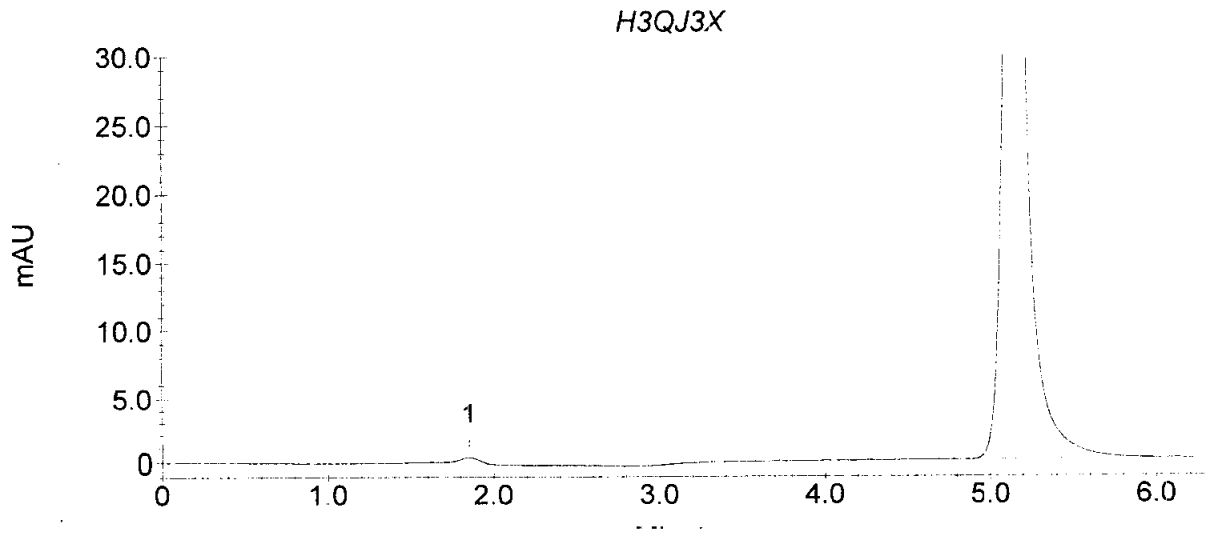
Sample Name : H3QJ3X
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_018.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 09:16:34
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 18
Dilution Factor : 50.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3218	393
2	CRVI	5.13	928.49	587220	63095



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

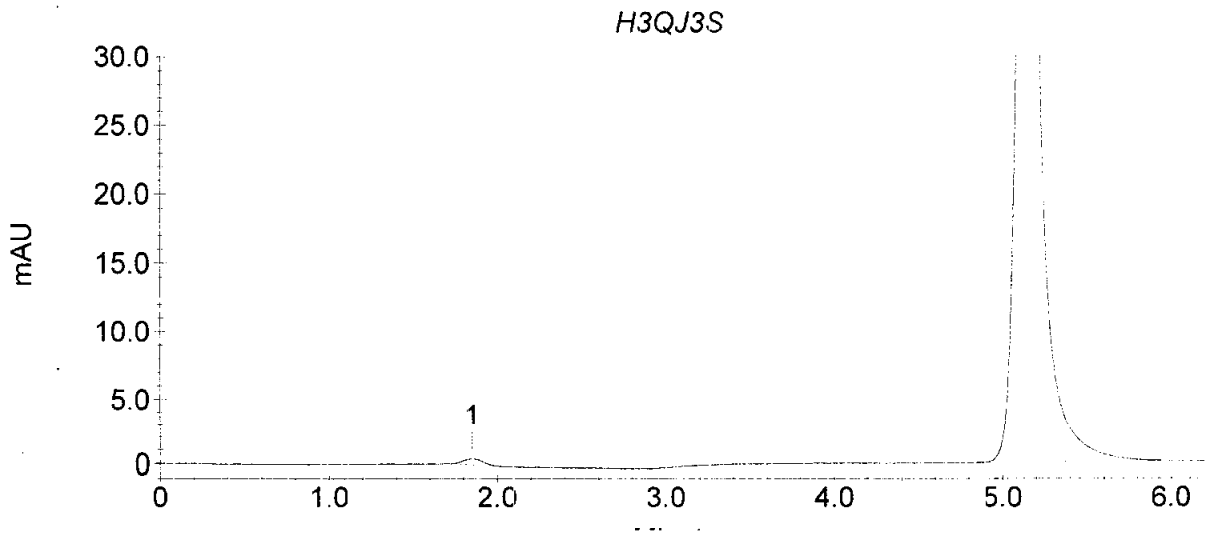
Sample Name : H3QJ3S
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_019.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 09:25:26
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 19
Dilution Factor : 100.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3117	388
2	CRVI	5.13	1956.05	618543	65587



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

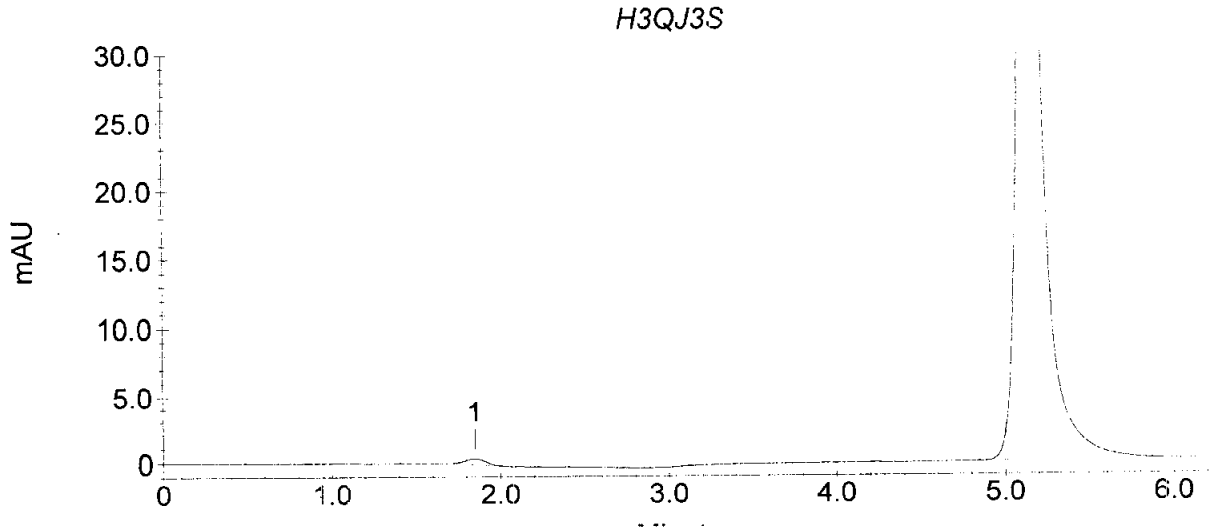
Sample Name : H3QJ3S
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_020.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 09:34:06
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 20
Dilution Factor : 100.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3323	397
2	CRVI	5.13	1962.86	620699	66668



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

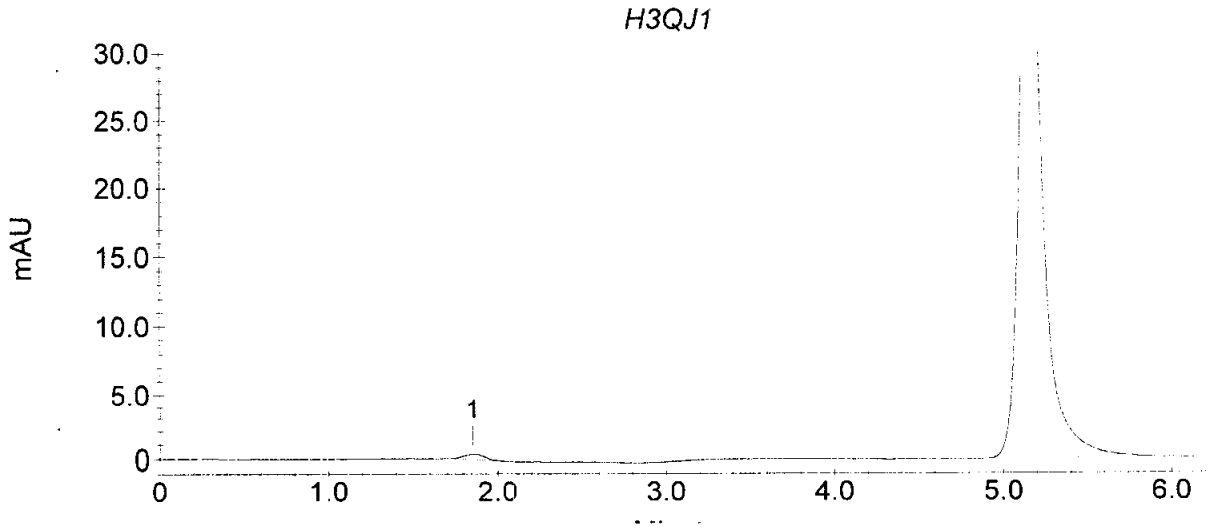
Sample Name : H3QJ1
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_021.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 09:42:45
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 21
Dilution Factor : 500.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3135	373
2	CRVI	5.15	6662.29	421372	45393



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

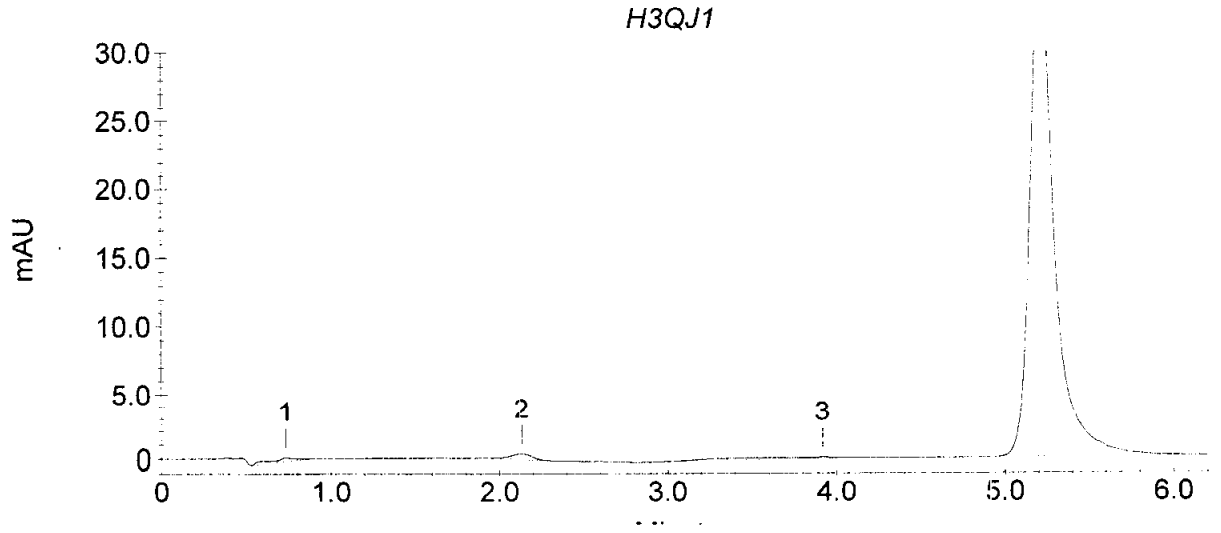
Sample Name : H3QJ1
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_022.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 09:51:27
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 22
Dilution Factor : 500.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		0.73	0.00	2667	253
2		2.13	0.00	3319	385
3		3.92	0.00	5057	94
4	CRVI	5.20	5841.71	369480	36699



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

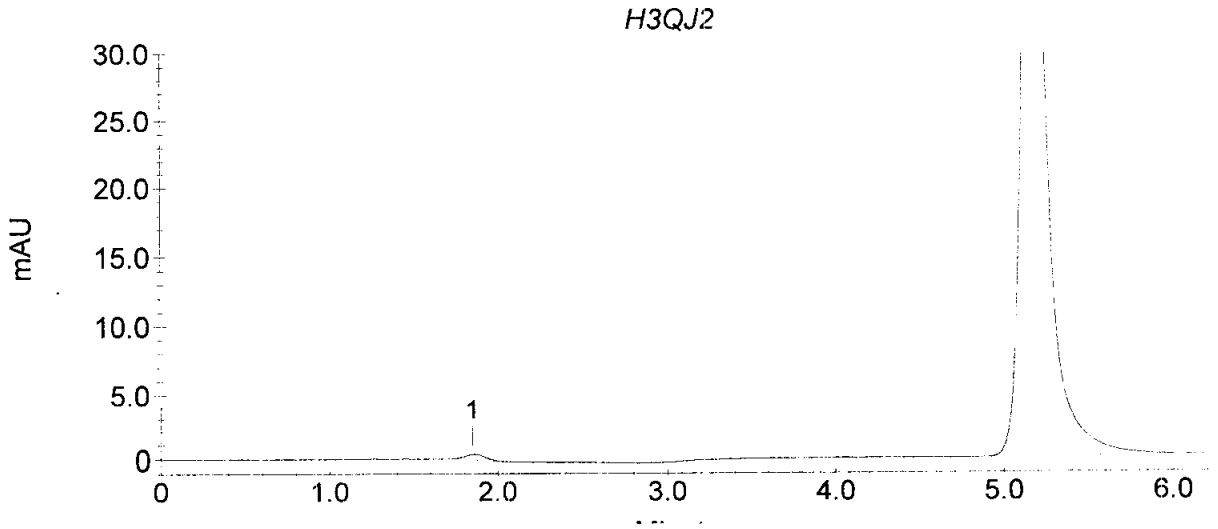
Sample Name : H3QJ2
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_023.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 10:00:06
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 23
Dilution Factor : 2000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3188	375
2	CRVI	5.17	36596.32	578631	61685



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

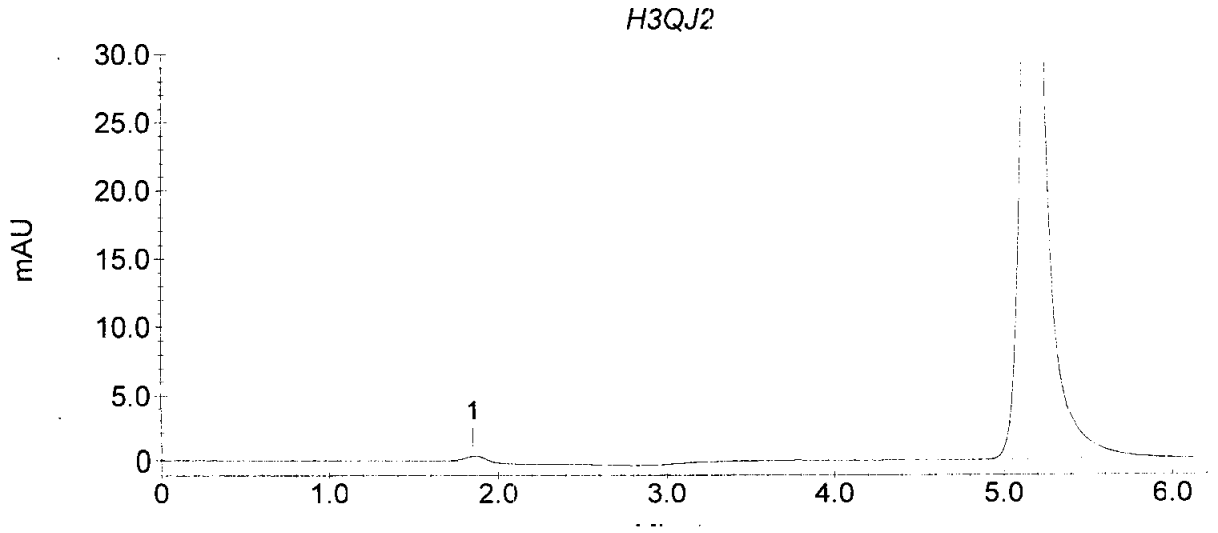
Sample Name : H3QJ2
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_024.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 10:08:46
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 24
Dilution Factor : 2000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3387	382
2	CRVI	5.15	36027.57	569639	58445



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

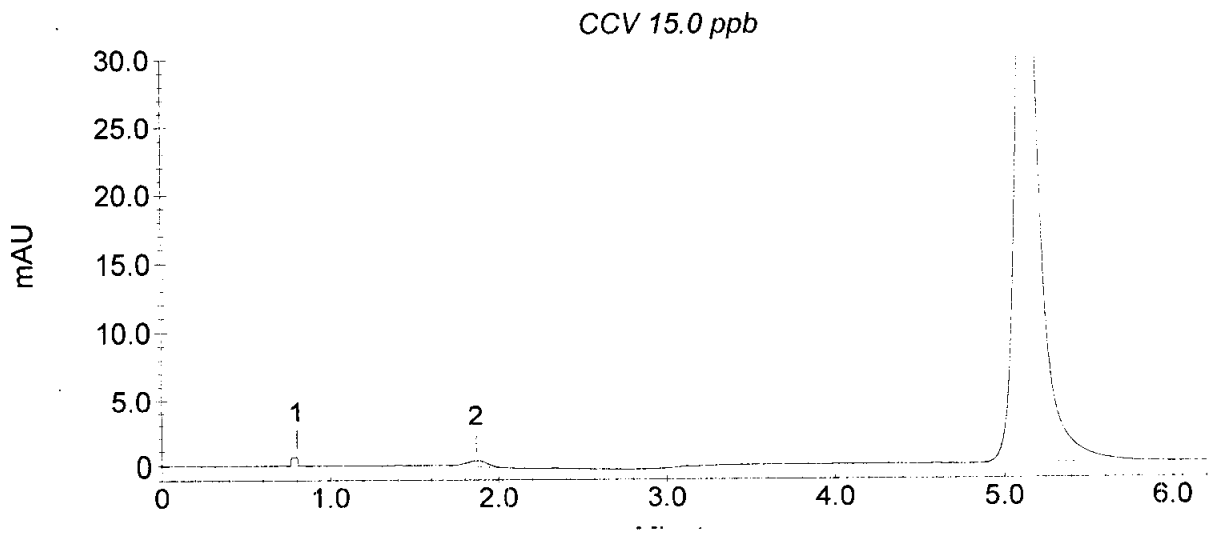
Sample Name : CCV 15.0 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_025.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 10:34:51
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 25
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		0.80	0.00	1511	576
2		1.87	0.00	3390	383
3	CRVI	5.12	14.16	447933	46663



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

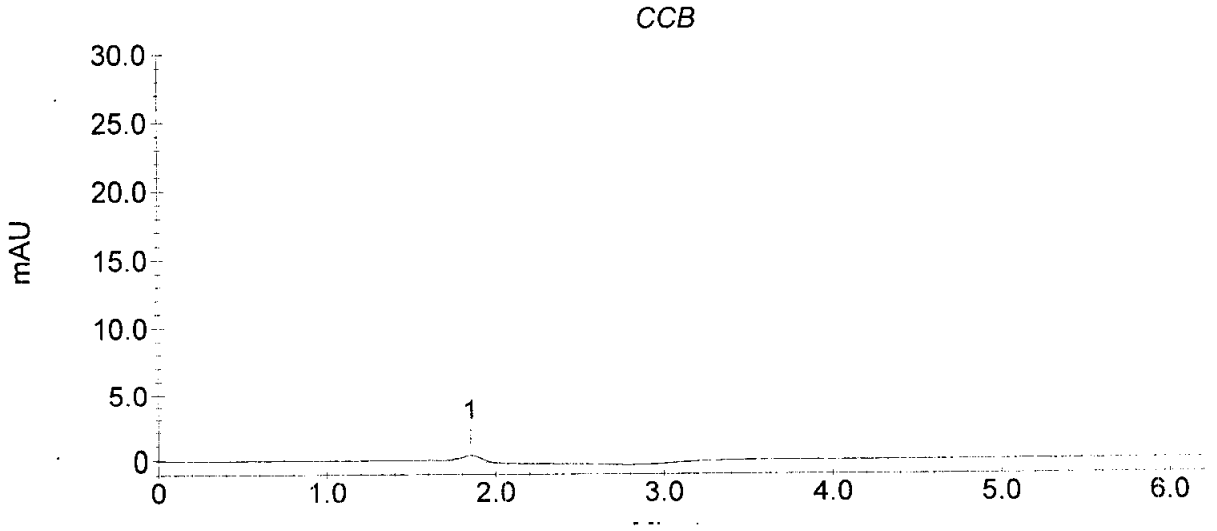
Sample Name : CCB
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_026.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 10:43:32
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 26
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3339	398



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

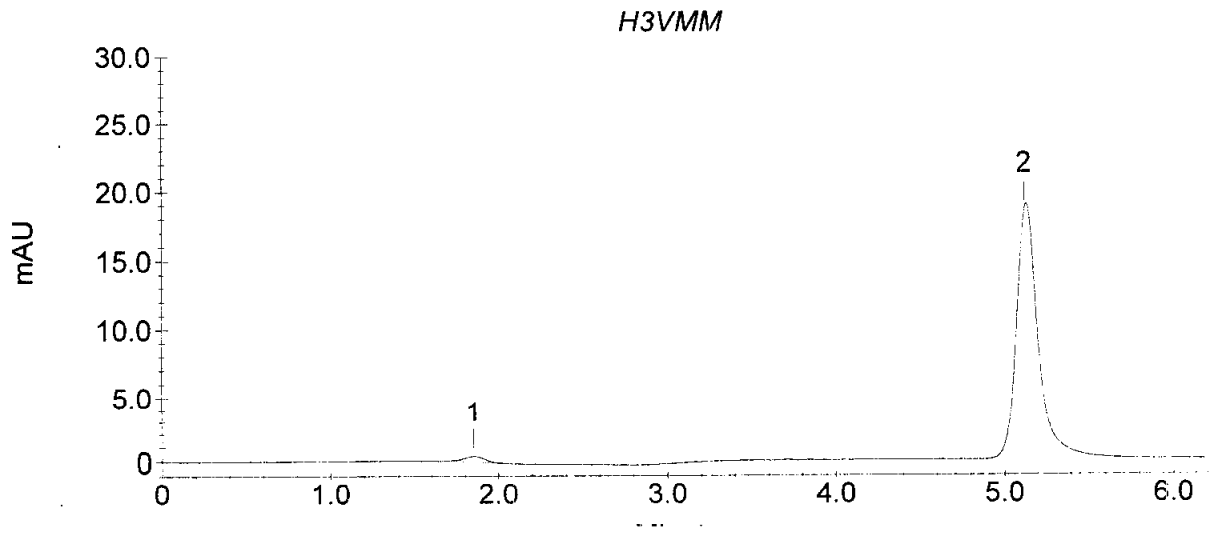
Sample Name : H3VMM
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_027.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/21/06 11:01:31
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 27
Dilution Factor : 5.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3493	395
2	CRVI	5.12	27.34	172973	18388



Current Date : 4/22/06

STL Los Angeles Cr VI Sample Analysis Report

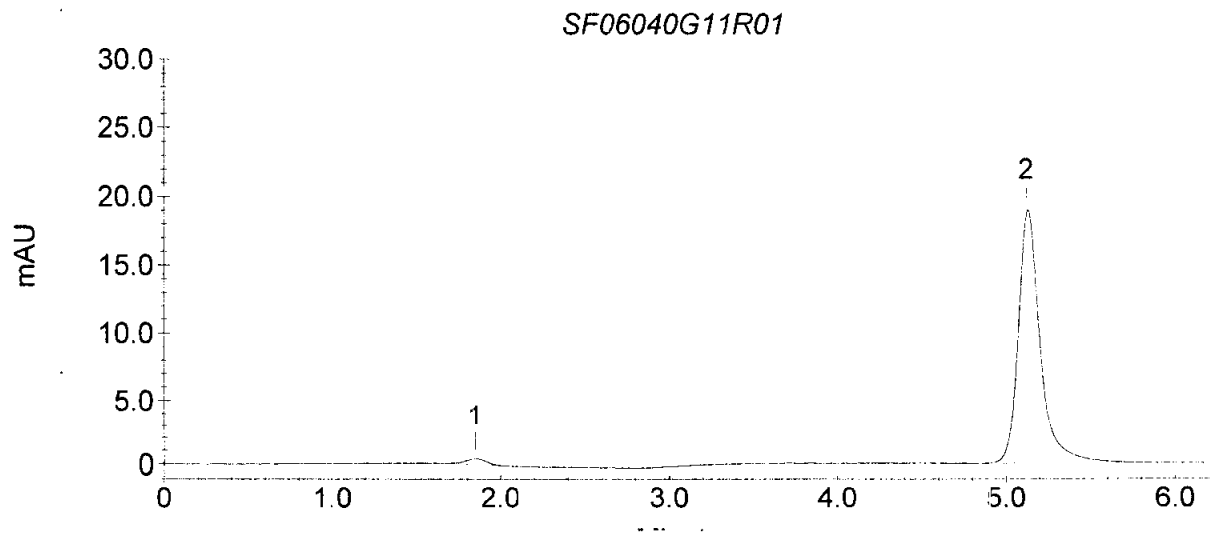
Sample Name : SF06040G11R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_027.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 11:01:31
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 27
Dilution Factor : 5.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3493	395
2	CRVI	5.12	27.34	172973	18388



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

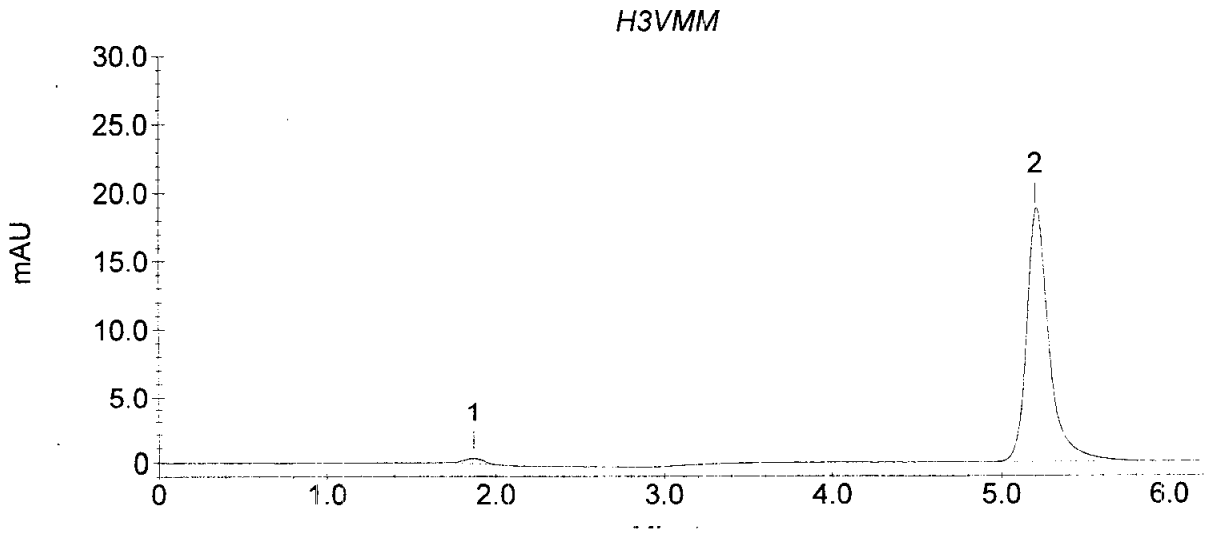
Sample Name : H3VMM
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_028.DXD

Method File Name : ...\CRVI 021506.met
Date Time Collected : 4/21/06 11:10:14
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 28
Dilution Factor : 5.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2711	340
2	CRVI	5.20	27.16	171829	18541



Current Date : 4/22/06

STL Los Angeles Cr VI Sample Analysis Report

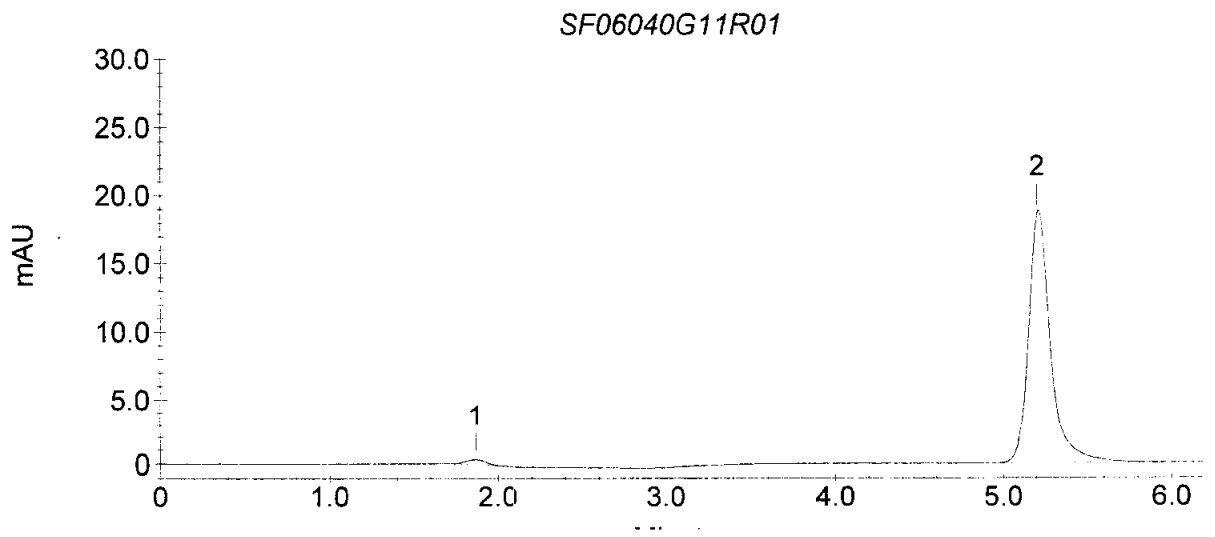
Sample Name : SF06040G11R01
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_028.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 11:10:14
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 28
Dilution Factor : 5.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2711	340
2	CRVI	5.20	27.16	171829	18541



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

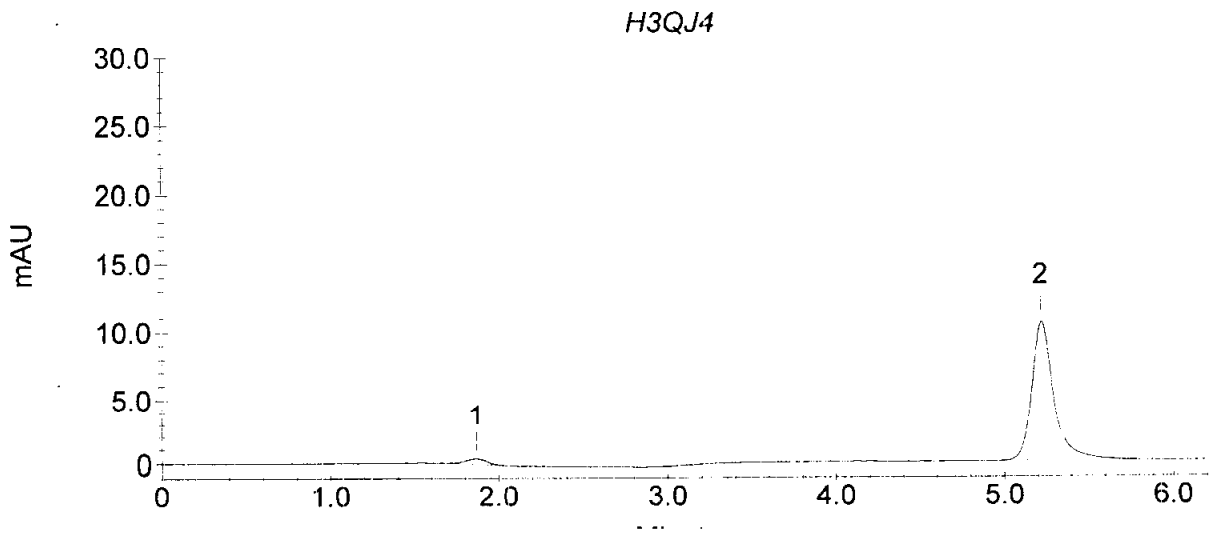
Sample Name : H3QJ4
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_029.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 11:18:57
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 29
Dilution Factor : 100000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	3108	364
2	CRVI	5.22	305938.64	96798	10536



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

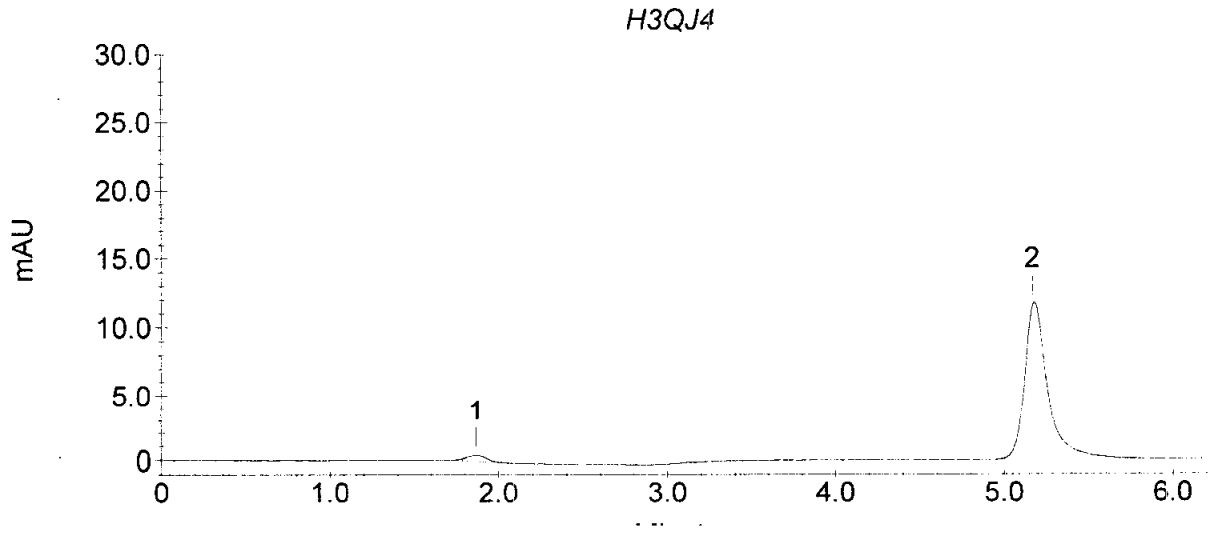
Sample Name : H3QJ4
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_030.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 11:27:41
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 30
Dilution Factor : 100000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	3305	394
2	CRVI	5.17	350820.76	110990	11443



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

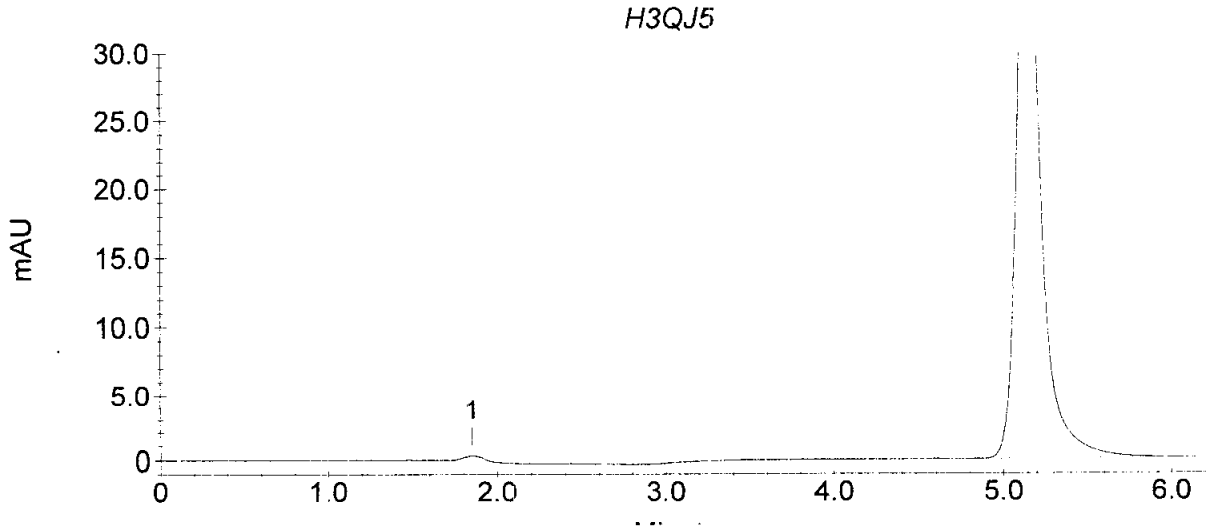
Sample Name : H3QJ5
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_031.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 11:36:23
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 31
Dilution Factor : 50000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3030	373
2	CRVI	5.13	705046.09	445919	48030



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

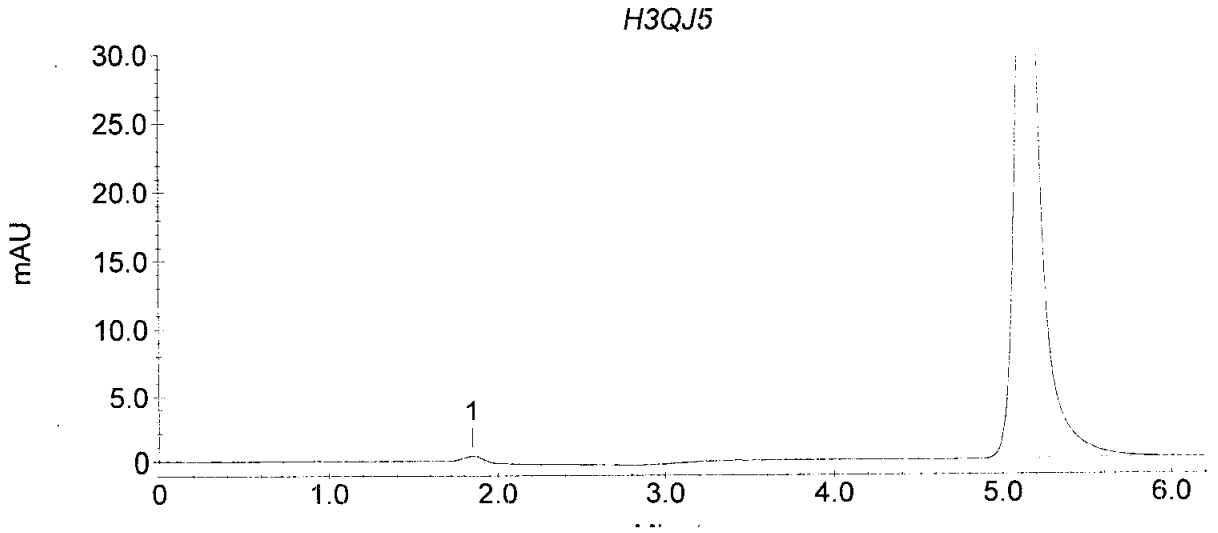
Sample Name : H3QJ5
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_032.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 11:45:03
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 32
Dilution Factor : 50000.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3210	406
2	CRVI	5.13	782392.73	494831	52613



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

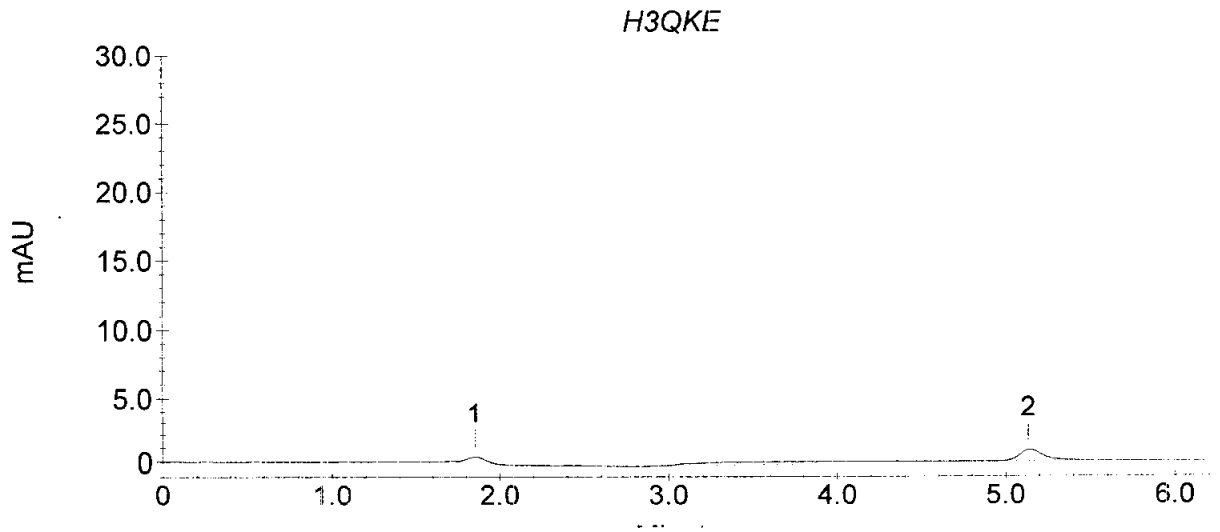
Sample Name : H3QKE
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_033.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 11:53:42
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 33
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	2951	388
2	CRVI	5.13	0.69	22036	801



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

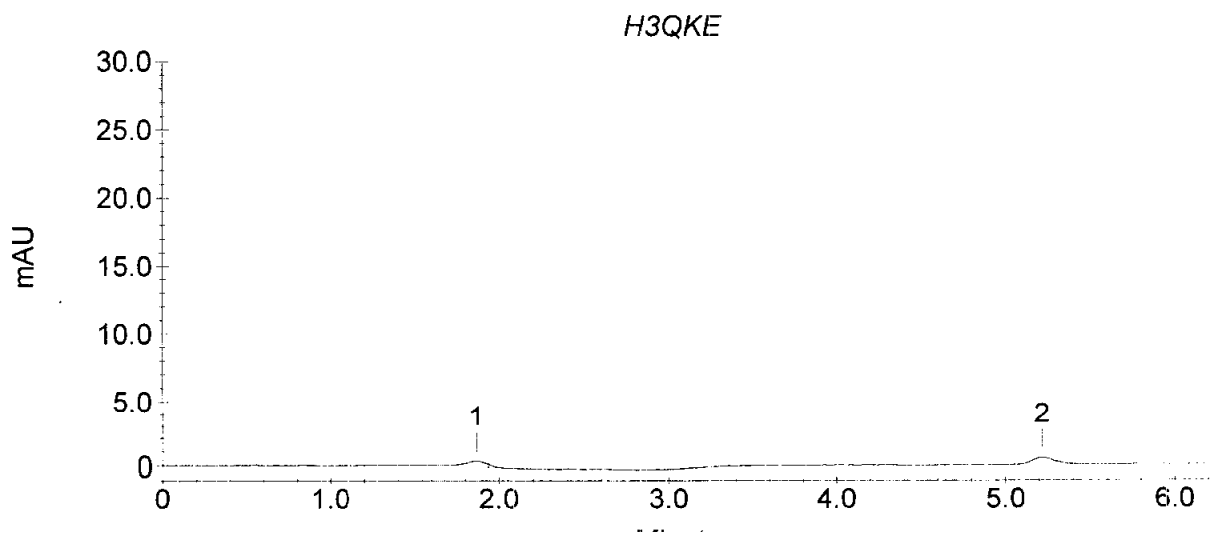
Sample Name : H3QKE
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_034.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 12:02:35
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 34
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.87	0.00	2925	367
2	CRVI	5.22	0.13	4311	490



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

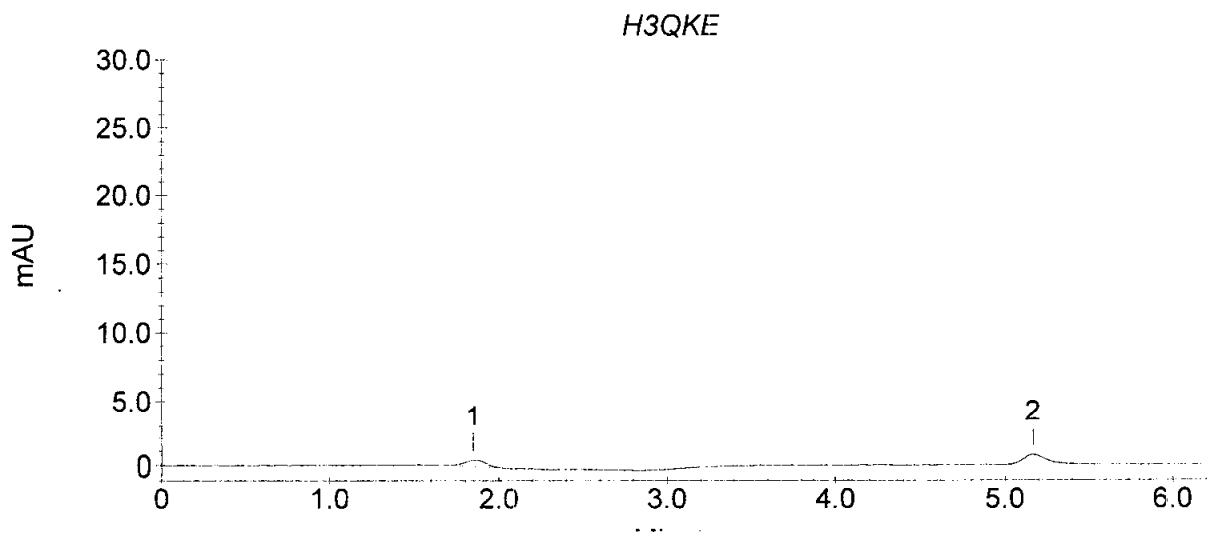
Sample Name : H3QKE
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_035.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 12:12:53
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 35
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3394	386
2	CRVI	5.17	0.19	5993	673



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

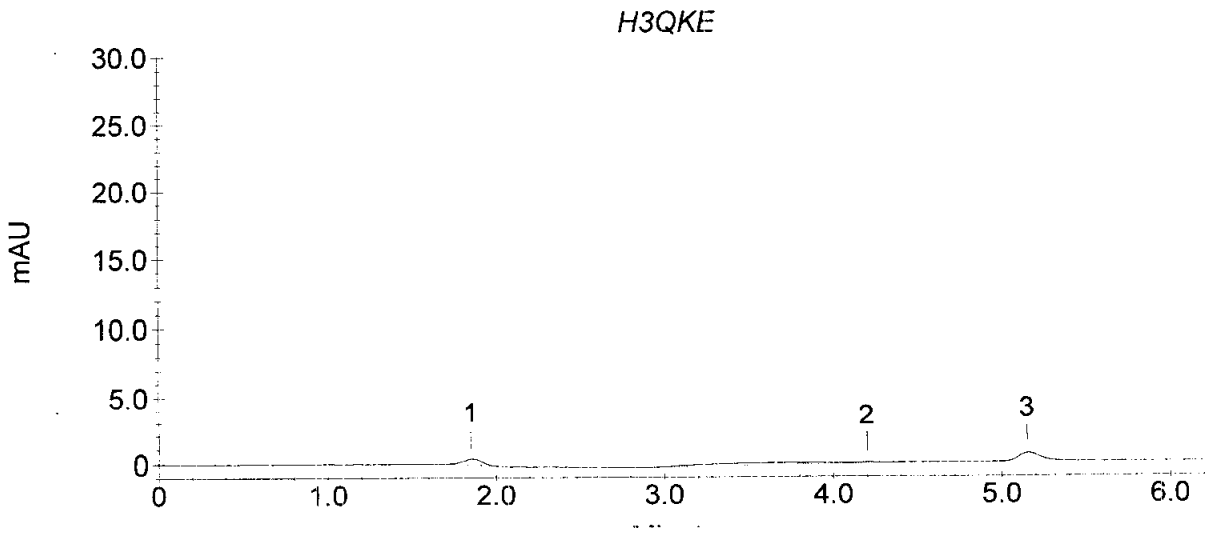
Sample Name : H3QKE
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_036.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 12:21:35
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 36
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3213	383
2		4.20	0.00	8704	85
3	CRVI	5.15	0.15	4754	540



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

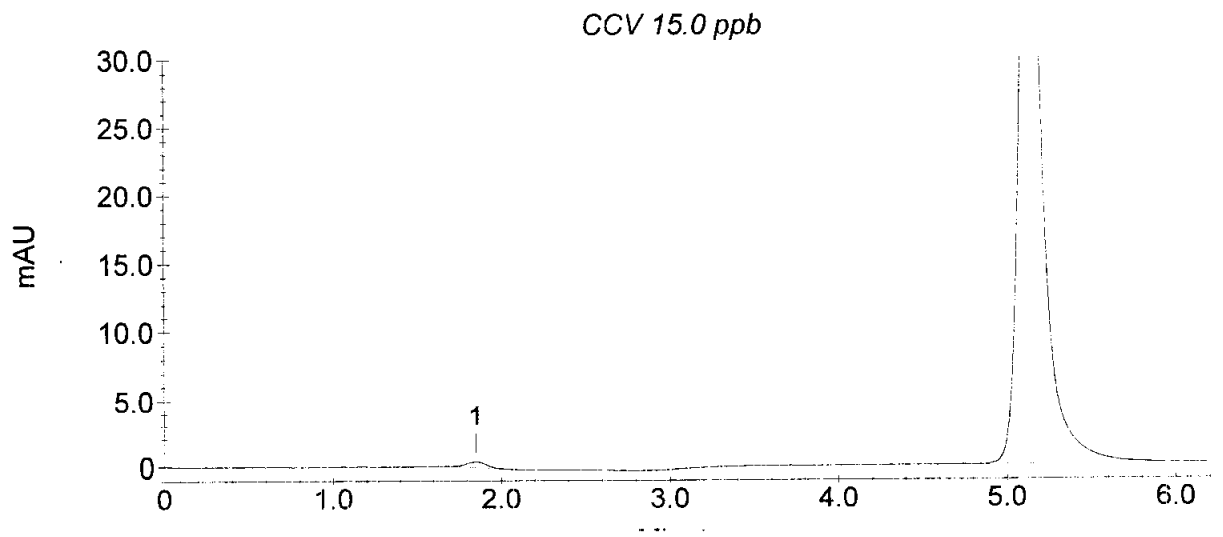
Sample Name : CCV 15.0 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_037.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 12:37:49
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 37
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3194	395
2	CRVI	5.13	15.38	486233	53234



Current Date : 4/21/06

STL Los Angeles Cr VI Sample Analysis Report

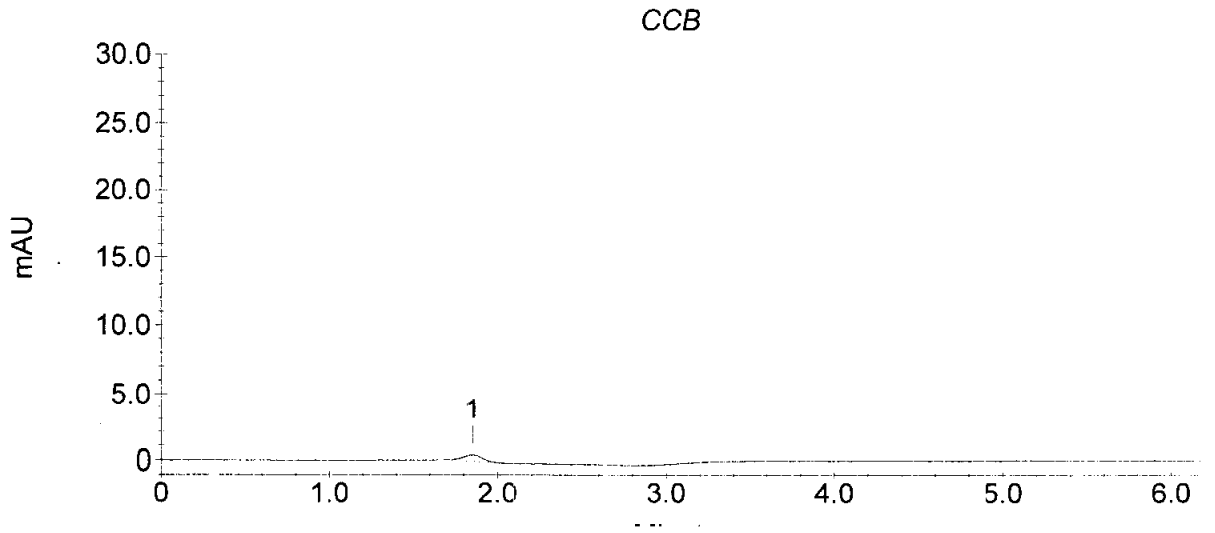
Sample Name : CCB
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI042106_038.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 4/21/06 12:46:33
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 38
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.85	0.00	3087	399



Current Date : 4/21/06

SEVERN TRENT STL

STL Los Angeles

Hexavalent Chromium by Ion Chromatography
Standards and Reagent Log

Method EPA 218.6 _____ SW 846 7199 ✓
Analyst: [illegible]
Date: 2/15/01

Reagent Lot Numbers/Expiration Dates

Chromatographic Eluent: 2006-17-3-11 / 2/13/07
Post-column Reagent: 2006-17-4-14 / 2/19/06
Buffer Solution: 2006-17-1-11 / 1/3/07
Dilution Water: 2 liters of DI water adjusted to a pH of 9.0 to 9.5 with buffer solution.
Final pH: 9.03

Preparation of Intermediate Calibration and Check (ICV/LCS) Standard:

Analyte	Stock Concentration (mg/L)	Volume of Stock (mL)	Final Volume (mL)	Final Concentration (mg/L)
Calibration	1000	0.1	1000	0.1
Check	1000	0.1	1000	0.1

Intermediate Standard Lot Numbers/Expiration Dates
Calibration Standard: 2006-17-6-8 / 2/22/06
Check (ICV/LCS) Standard: 2006-17-5-8 / 2/22/06

Preparation of Calibration and Check Standards:
All standards and blanks are prepared with dilution water at a pH of 9.0 to 9.5.

Standard Name	Standard Conc.	Source Conc. (mg/L)	Source Solution	mL of Source	Final Volume
Cal Blank	0 mg/L	NA	Dilution water	10	10 mL
Cal Std 1	0.0002 mg/L	0.1	Intermediate Calib Stock	0.02	10 mL
Cal Std 2	0.001 mg/L	0.1	Intermediate Calib Stock	0.1	10 mL
Cal Std 3	0.010 mg/L	0.1	Intermediate Calib Stock	1.0	10 mL
Cal Std 4	0.025 mg/L	0.1	Intermediate Calib Stock	2.5	10 mL
ICV/LCS	0.0075 mg/L	0.1	Intermediate ICV Stock	0.75	10 mL
ICB/CCB/MB	0 mg/L	NA	Dilution water	10	10 mL
CCV	0.015 mg/L	0.1	Intermediate Calib Stock	1.5	10 mL
MS/MSD	0.010 mg/L	0.1	Intermediate ICV Stock	1.0	10 mL Sample

Method Report - CRVI 021506.met

Method Information : Select Module(s)

System Name : CRVI
System Number : 2
Method Type : Ion Chromatography
Column : AS7-010224, NG1-017371
Analyst : YZ
Comment : Comment: 4 point plus blank
Calibration 02/15/06
Eluent 2006-17-3-10
Post-Column Reagent 2006-17-4-13
Calibration Source: ERA 09073.3
ICV Source: 2006-17-2-1
Curve: linear
Cr 6+ (0.2 - 25 ppb)

AD25 Timed Events

Module Name :
Module Serial Number :
UV Lamp : Off
Visible Lamp : On
Offset Level: 10%
Calibration: Off
Polarity: Positive
TTL1 : TTL 1
TTL2 : TTL 2
Relay1 : RLY 1
Relay2 : RLY 2

AD25 Detector Parameters

Detector Type : AD25
Data collection time (minutes) : 7.00
Data Collection Rate (Hz.) : 5.00
Rise Time (Sec.) : 2.00
Real time plot scale maximum (mAU) : 30.000
Real time plot scale minimum (mAU) : -1.000

AD25 Integration Parameters

Peak detection algorithm : Standard
Starting peak width (seconds) : 10.00
Peak threshold : 0.50
Peak area reject (area counts) : 1000.00
Reference peak area reject (area counts) : 1000.00

AD25 Smoothing Parameters

Filter Type : No filter

AD25 Report Data

Report Format File : C:\PeakNet\method\DEFAULT.RPT
Print Sample Analysis : Yes
Print Calibration Update : Yes
Print Check Standard : Yes
System Suitability Tests :
No system suitability tests selected.

AD25 Integration Data Events

AD25 Calibration Parameters

External or internal calibration : EXTERNAL
Number of replicates for calibration : 1
Rejection : Manual
Level Weighting : Equal
Calibration standard volume : 1.00
Default sample volume : 1.00
Amount units : PPB
Replace retention time : Yes
Update response : Yes
Default dilution factor : 1.00
Default response factor for unknown peaks : 0.00
Calculate unknowns by area or height : Area

AD25 Component Identification Table

Component	Retention	Tolerance	Reference
CRVI	5.22 min	1.00 min	

AD25 Component Quantitation Table

Component	Retention	Low Limit	High Limit
CRVI	5.22 min	0	0

AD25 Component Calibration Table

Component	Retention Time	Curve Fit	Origin	Cal. by	Response Component	Relative Factor
CRVI	5.22 min	Linear	Include	Area		0.00

AD25 Component = CRVI Levels Table

Retention Time : 5.22 min
Amount units : PPB
Replicate unit type : Area
Number of levels : 5
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	0
2	0.20	6583.8
3	1.00	31512.9
4	10.00	316308
5	25.00	790518

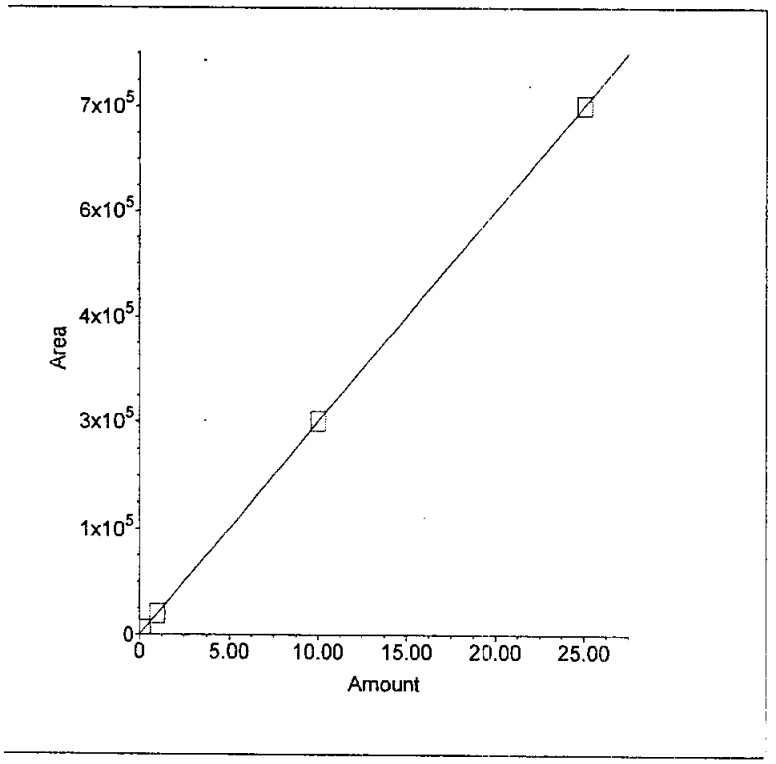
AD25 XY Data Parameters

IP25 Timed Events

Module Name :
Module Serial Number :
Description :
Low Pressure Limit : 20.0
High Pressure Limit : 3000.0
Piston Size : Standard
Pressure Unit : psi
Oven Temperature : Oven Not Installed

Time	Flow	Valve	Column	TTL1	TTL2	Relay1	Relay2
Init	1.00	Load	B	Low	Low	Open	Open
0.00	1.00	Load	B	Low	Low	Closed	Open
2.40	1.00	Inject	B	Low	Low	Open	Open

1. Component:CRVI
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=1.000000
Amt=3.163e-005*Resp+-0.00203



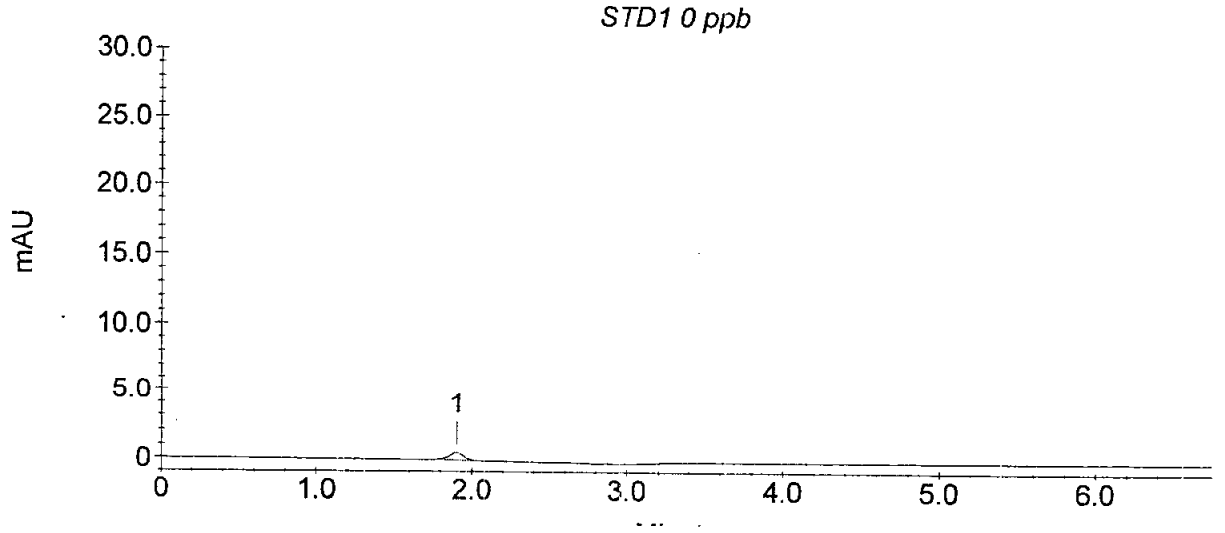
Calibration Update Report

Sample Name : STD1 0 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_001.DXD

Method File Name : c:\peaknet\method\crvi 021306a.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:23:11
Calibration Date : 2/15/06 08:32:19
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1		1.90			



Current Date : 2/15/06

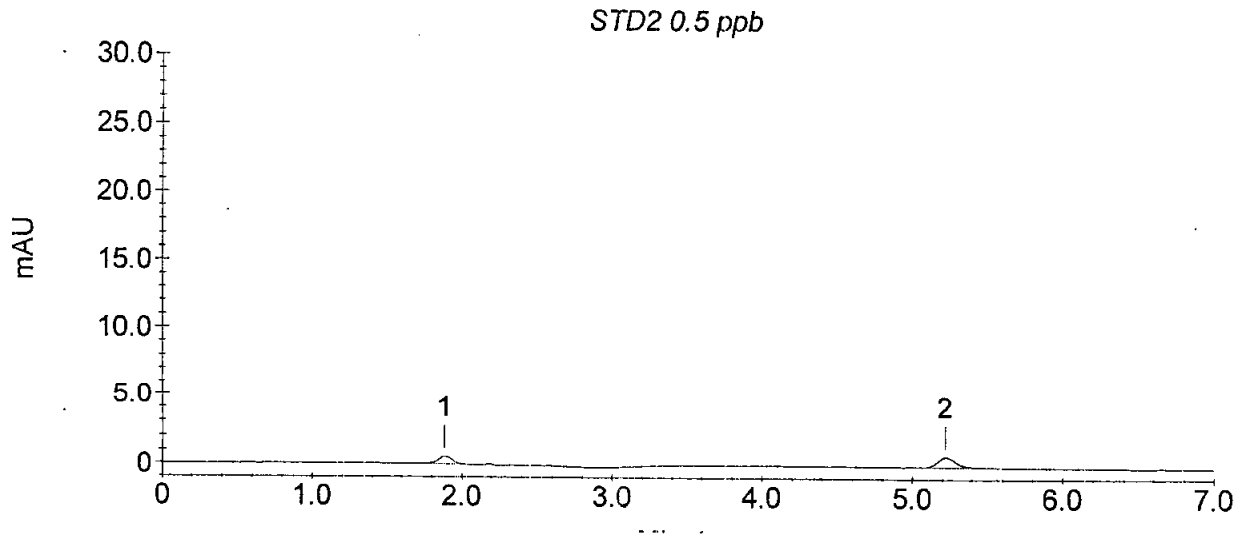
Calibration Update Report

Sample Name : STD2 0.5 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_002.DXD

Method File Name : c:\peaknet\method\crvi 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:32:24
Calibration Date : 2/15/06 08:41:52
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	0	6584	6584



Current Date : 2/15/06

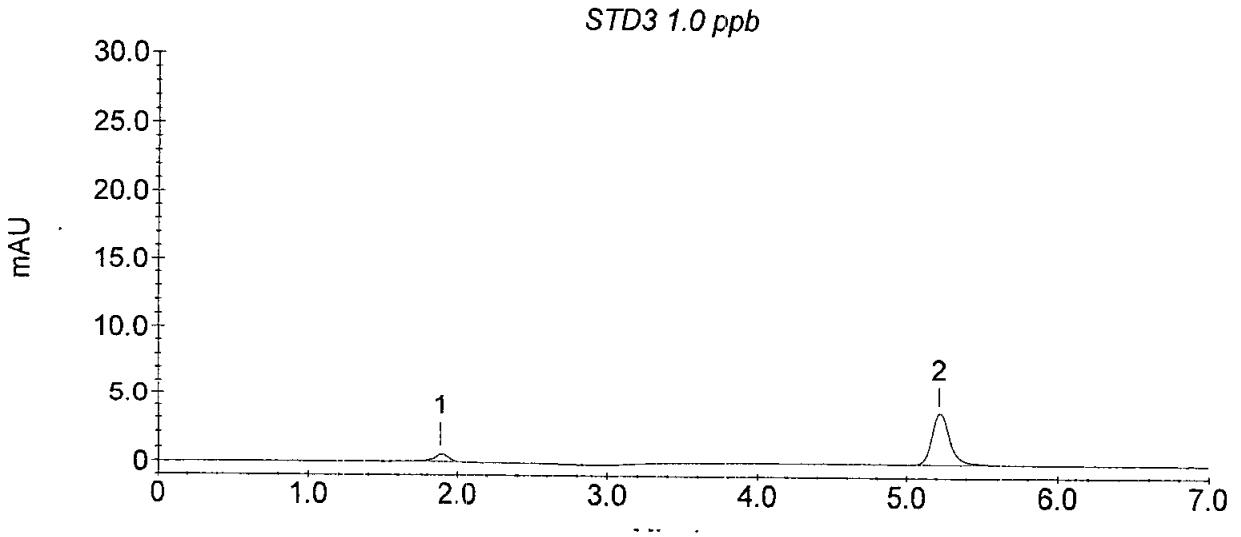
Calibration Update Report

Sample Name : STD3 1.0 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_003.DXD

Method File Name : c:\peaknet\method\crvi 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:41:56
Calibration Date : 2/15/06 08:51:24
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	0	31513	31513



Current Date : 2/15/06

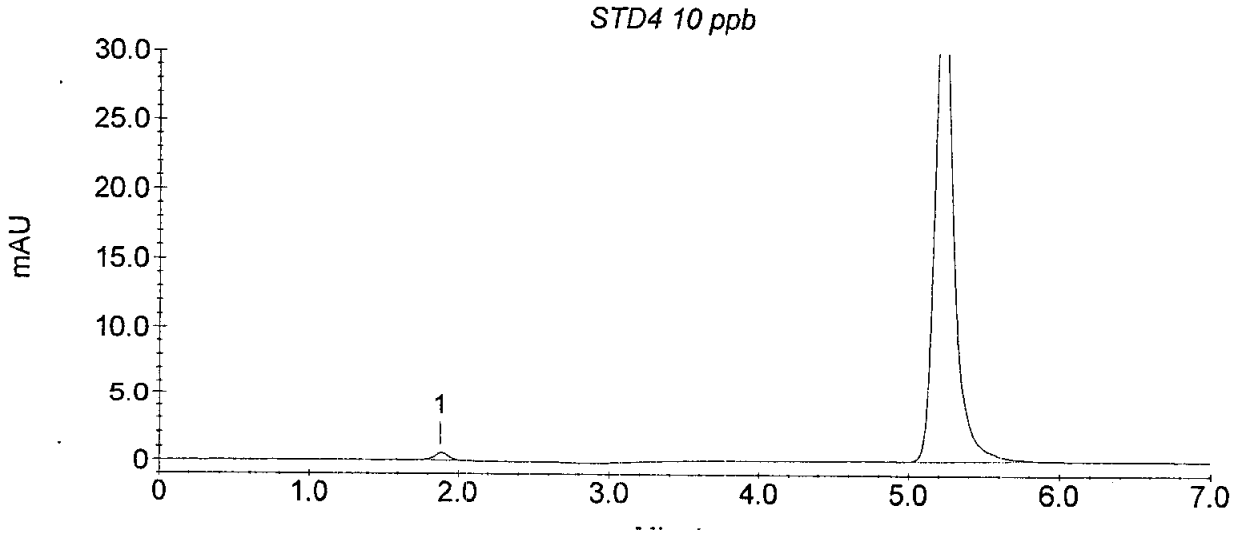
Calibration Update Report

Sample Name : STD4 10 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_004.DXD

Method File Name : C:\PEAKNET\METHOD\CRVI 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 08:51:28
Calibration Date : 2/15/06 09:01:29
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	316308	316308	316308



Current Date : 2/15/06

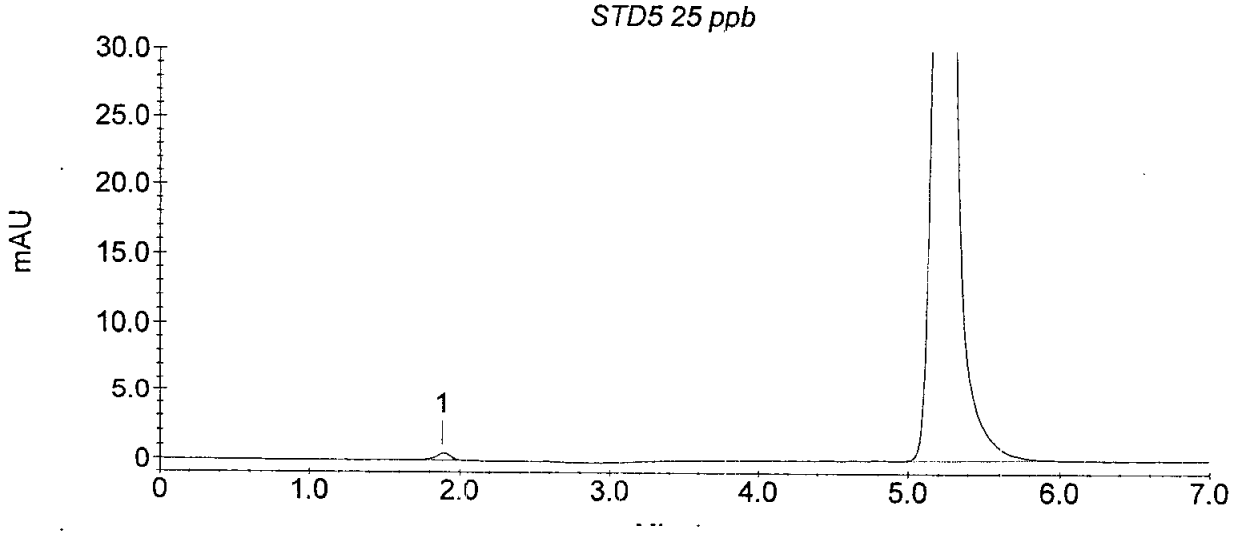
Calibration Update Report

Sample Name : STD5 25 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_005.DXD

Method File Name : c:\peaknet\method\crvi 021506.met
Schedule File Name : c:\peaknet\schedule\cr vi schedule\cal crvi021506.sch
Date Time Collected : 2/15/06 09:01:00
Calibration Date : 2/15/06 09:10:29
System Operator : YZ

Peak Information : All Components

Peak #	Component	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	CRVI	5.22	0	790518	790518



Current Date : 2/15/06

STL Los Angeles Cr VI Sample Analysis Report

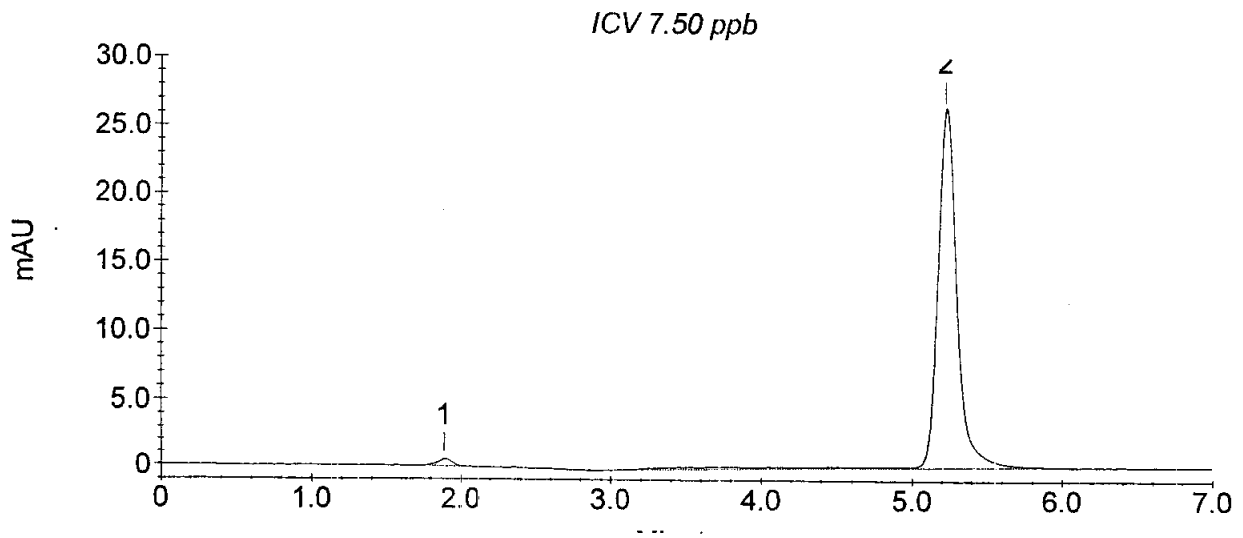
Sample Name : ICV 7.50 ppb
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_006.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 2/15/06 09:10:33
System Operator : YZ
Calibration Date : 2/15/06 09:10:29

Column Type : AS7-010224, NG1-017371
Injection Number : 6
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.88	0.00	3844	515
2	CRVI	5.22	7.88	249284	26256



Current Date : 2/15/06

STL Los Angeles Cr VI Sample Analysis Report

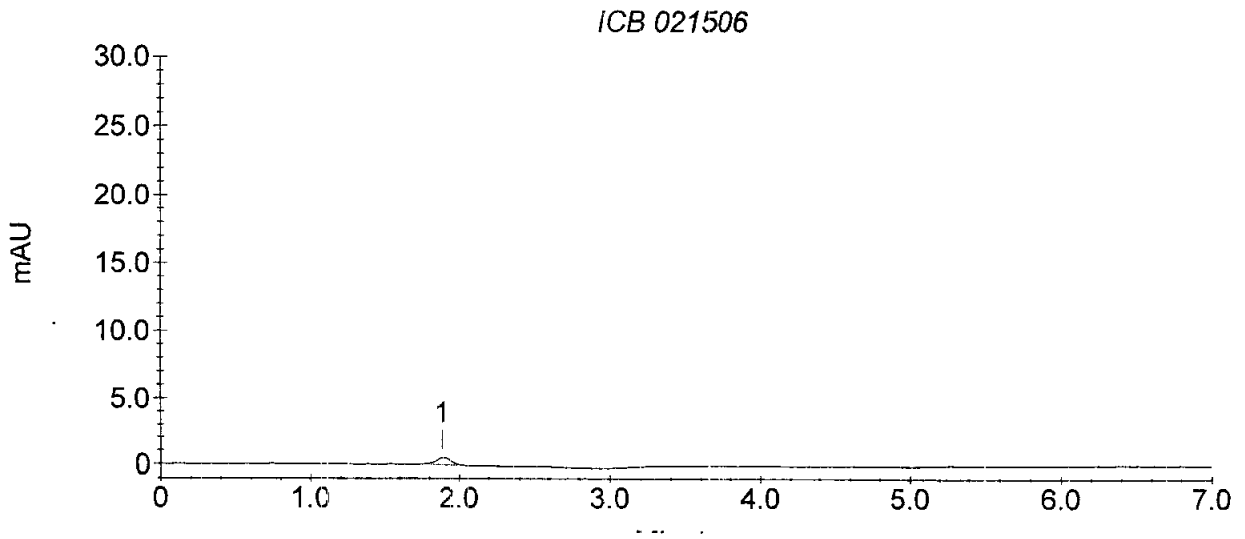
Sample Name : ICB 021506
Data File Name : C:\PEAKNET\CRVI\CRVI 2\CrVI021506_007.DXD

Method File Name : ...\crvi 021506.met
Date Time Collected : 2/15/06 09:20:05
System Operator : YZ
Calibration Date : 2/15/06 09:10:52

Column Type : AS7-010224, NG1-017371
Injection Number : 7
Dilution Factor : 1.00

Peak Information : All Peaks

Peak #	Component	Retention Time	Amount (PPB)	Peak Area	Peak Height
1		1.88	0.00	3810	498



Current Date : 2/15/06

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END OF RAW DATA