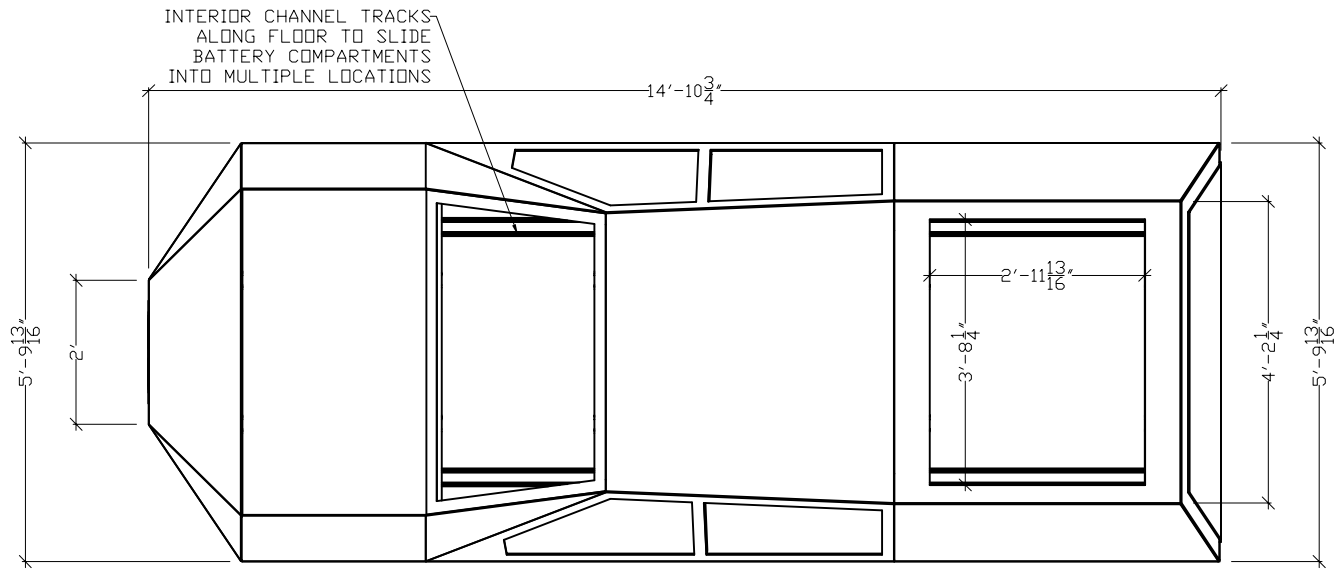
Appendix B VFT Design Drawings



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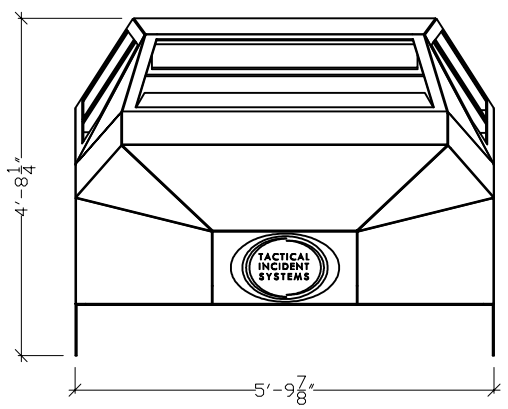

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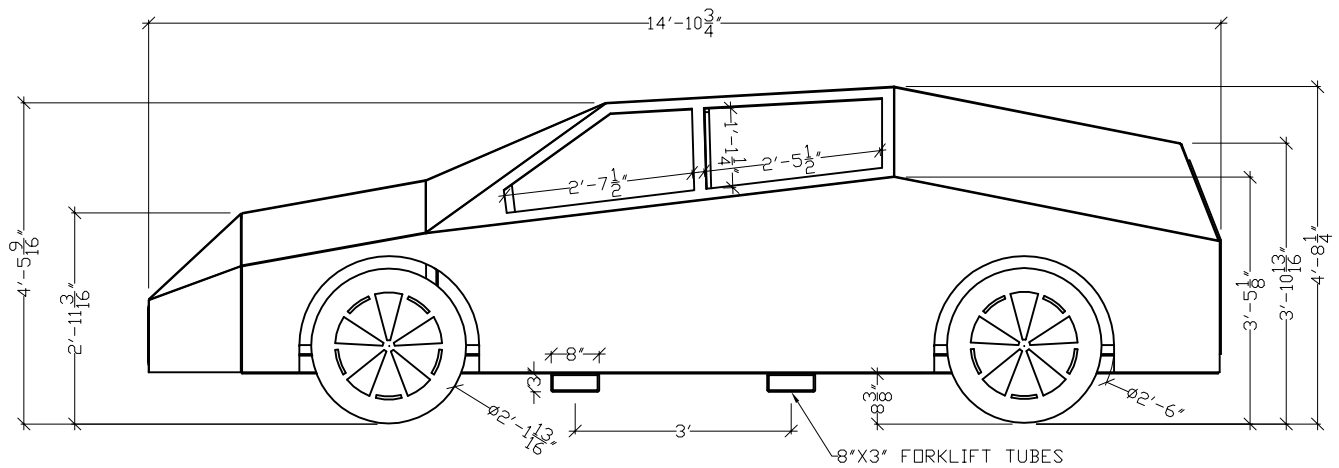

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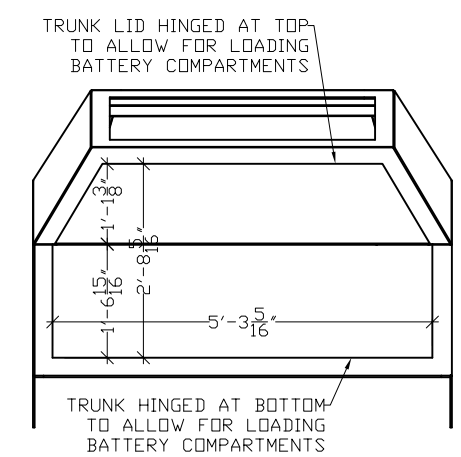

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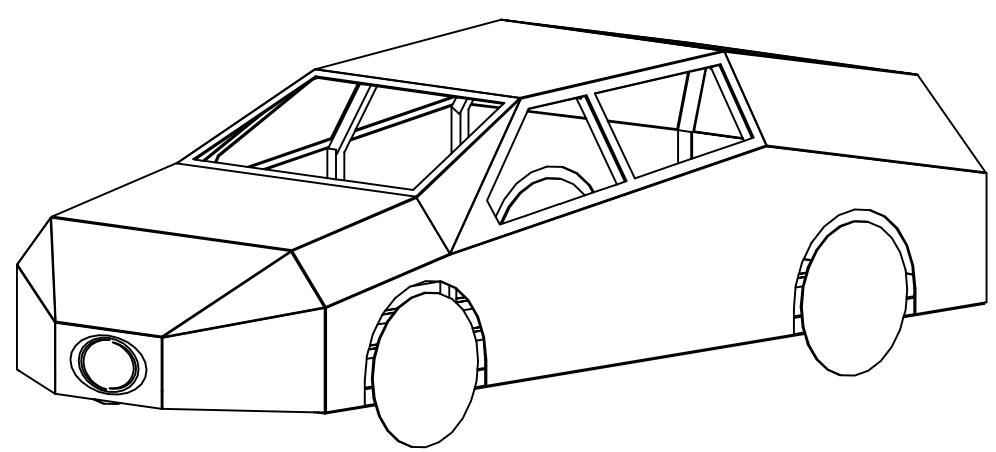

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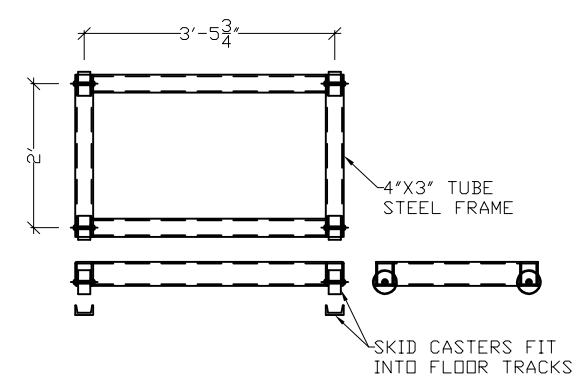

BATTERY SKID

CLASS "A" CAR PROP

NOT TO SCALE

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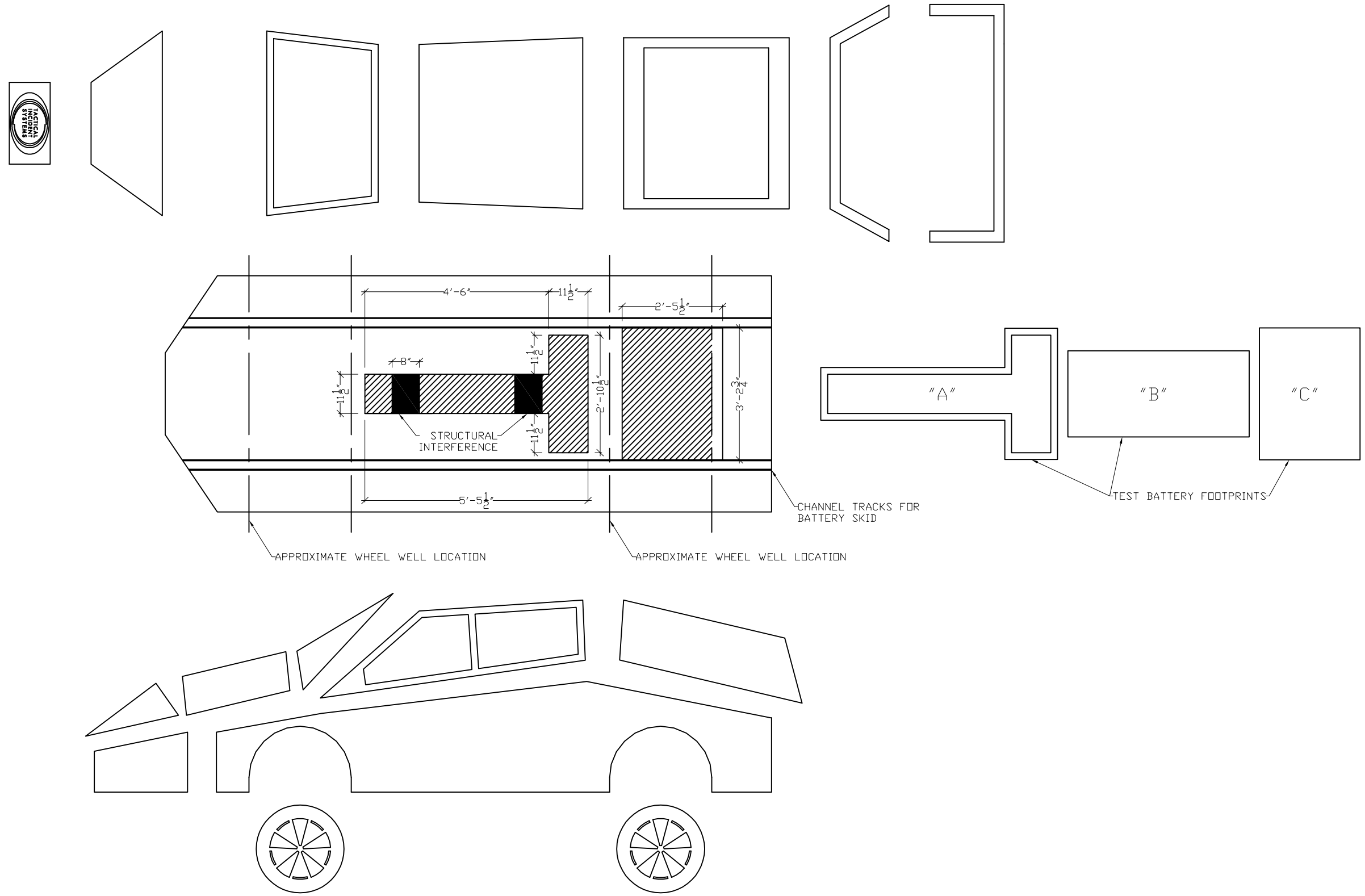
A DIV. OF J.S.C. INC
9121 BOND OVERLAND PARK, KS 66214
TEL: 913-385-3663 FAX: 913-385-7078
TOLL FREE 1-800-351-2525 www.trainingtowers.com

1ST ALARM - FOUR STORY FIRE TRAINING SIMULATOR

FIRE DEPARTMENT TRAINING SIMULATOR

PROJECT NUMBER:	00-W-000	REVISION	DATES
PROJECT ERECTOR:		1	1-24-13
DRAWN BY:	JPK	2	
REVIEWED BY:	REP	3	
PRINT DATE:	12-26-12	4	

CLASS "A" CAR PROP



CLASS "A" CAR PROP EXPLODED PART DETAILS

NOT TO SCALE

w|h|p trainingtowers.com
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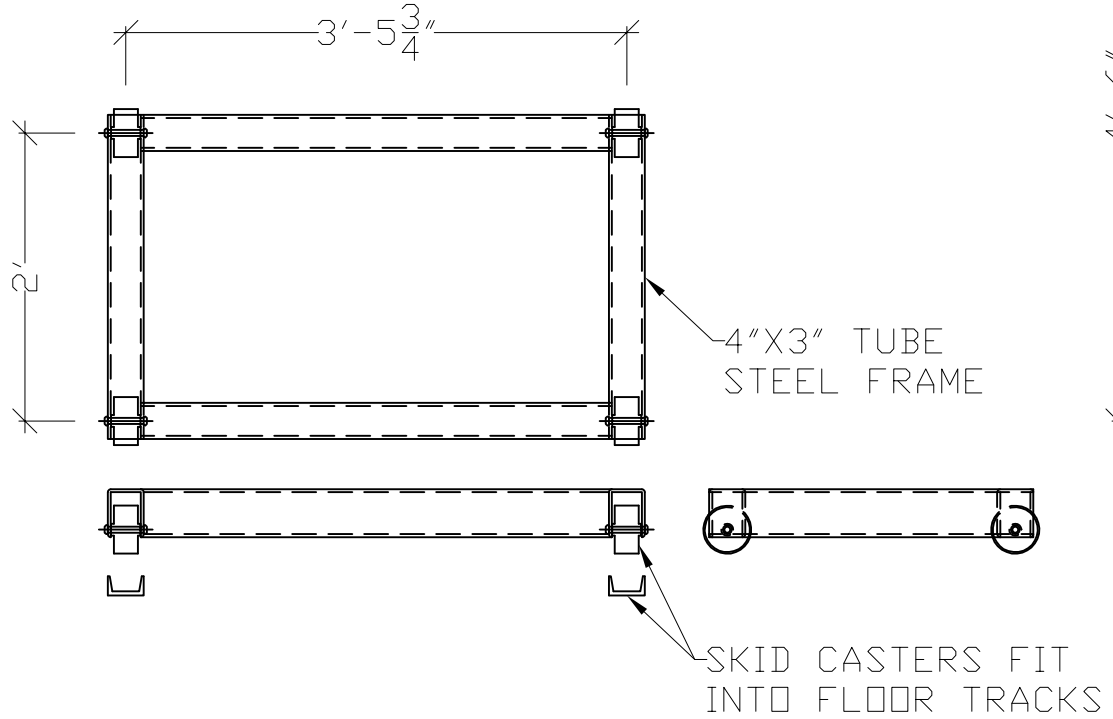
1ST ALARM - FOUR STORY FIRE TRAINING SIMULATOR

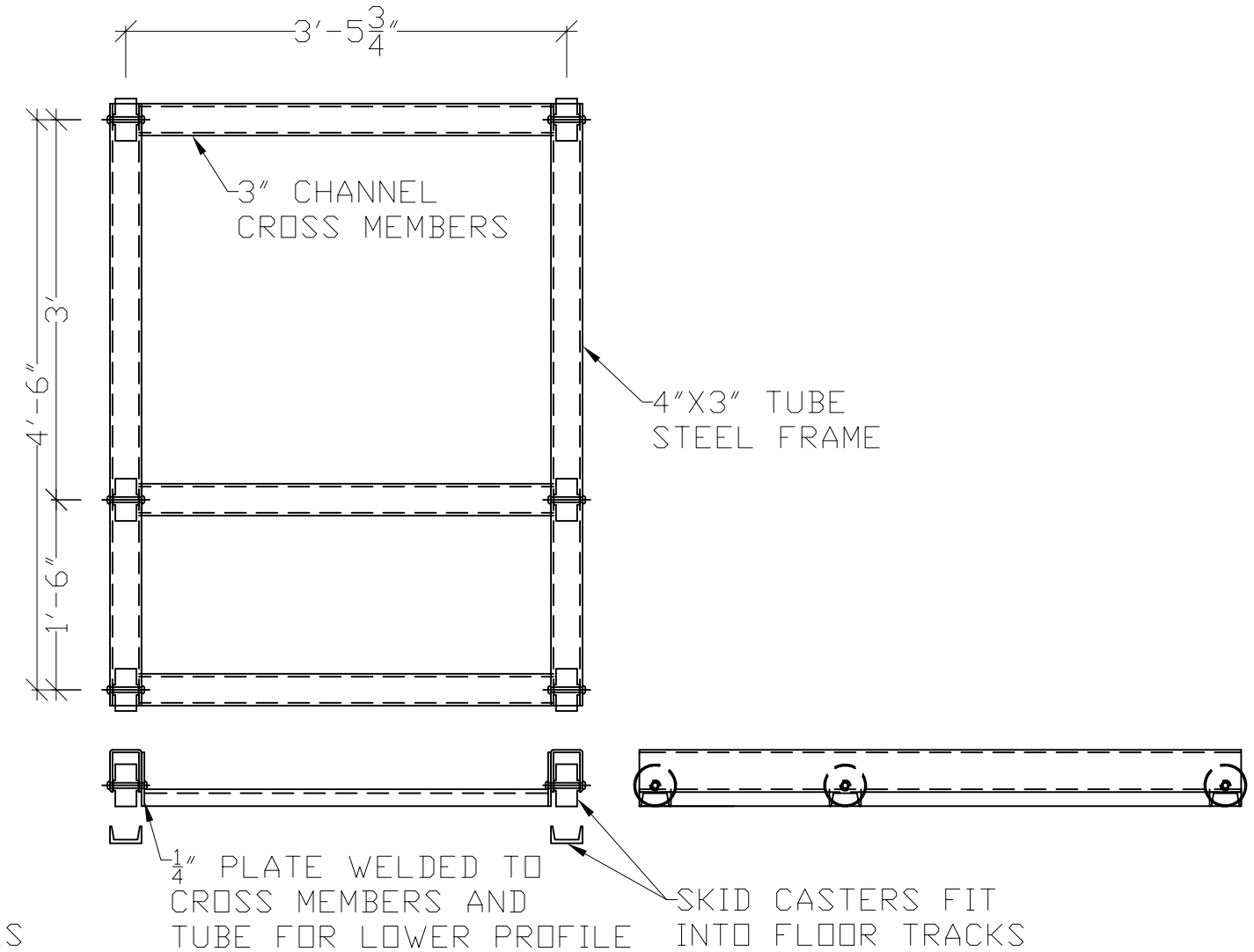
FIRE DEPARTMENT TRAINING SIMULATOR

PROJECT NUMBER:	00-W-000	REVISION DATES	
PROJECT DIRECTOR:	JPK	1	
DRAWN BY:	JPK	2	
REVIEWED BY:	REP	3	
PRINT DATE:	1-24-13	4	

CLASS "A" CAR PROP
EXPLODED COMPONENT DETAIL



BATTERY SKID #1



BATTERY SKID #2

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1ST ALARM - FOUR STORY FIRE TRAINING SIMULATOR

FIRE DEPARTMENT TRAINING SIMULATOR

PROJECT NUMBER:	00-W-000	REVISION DATES:	
PROJECT ERECTOR:		1	1-24-13
DRAWN BY:	JPK	2	
REVIEWED BY:	REP	3	
PRINT DATE:	12-26-12	4	

CLASS "A" CAR PROP

1

Appendix C Microbac Laboratories Report

Microbac Laboratories, Inc.

Baltimore Division

2101 Van Deman Street • Baltimore, MD 21224

Phone: 410-633-1800
Fax: 410-633-6553
www.microbac.com

COVER LETTER

Ben Cotts
Exponent
4901 Telsa Drvie Suite L
Bowie, MD 20715

April 23, 2013
Report No.: 13D1376

RE: General Analysis

The report of analyses contains test results for samples received at Microbac Laboratories, Inc., Baltimore Division on 04/17/2013 12:20.

The enclosed results were obtained from and applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report has been reviewed and meet the applicable project and certification specific requirements, unless otherwise noted.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories, Inc.

We appreciate the opportunity to service your analytical needs. If you have any questions, please feel free to contact us.

This Data Package contains the following:

- This Cover Page
- Sample Summary
- Test Results
- Certifications/Notes and Definitions
- Cooler Receipt Log
- Chain of Custody

4/23/2013

Final report reviewed by: Mark B. Horan/Laboratory Director Report issue date

All samples received in proper condition and results conform to ISO 17025 and TNI NELAC standards unless otherwise noted.

If we have not met or exceeded your expectations, please contact Mark Horan, Managing Director, at 410-633-1800 You may also contact Sean Hyde, Chief Operating Officer at sean.hyde@microbac.com or James Nokes, President james.nokes@microbac.com

Microbac Laboratories, Inc.

Baltimore Division

2101 Van Deman Street • Baltimore, MD 21224

Phone: 410-633-1800
Fax: 410-633-6553
www.microbac.com

CERTIFICATE OF ANALYSIS

Exponent 4901 Telsa Drvie Suite L Bowie, MD 20715	Project: General Analysis Project Number: FPRF Response, 1205174.000 Project Manager: Ben Cotts	Report: 13D1376 Reported: 04/23/2013 13:38

SAMPLE SUMMARY

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
Control Water Sample	13D1376-01	Water	Not Specified	03/27/2013 15:00	04/17/2013 12:20

Microbac Laboratories, Inc.

Baltimore Division

2101 Van Deman Street • Baltimore, MD 21224

Phone: 410-633-1800
Fax: 410-633-6553
www.microbac.com

CERTIFICATE OF ANALYSIS

Exponent 4901 Telsa Drvie Suite L Bowie, MD 20715	Project: General Analysis Project Number: FPRF Response, 1205174.000 Project Manager: Ben Cotts	Report: 13D1376 Reported: 04/23/2013 13:38

Control Water Sample

13D1376-01 (Water) Sampled: 03/27/2013 15:00; Type: Not Specified

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Microbac Laboratories, Inc., Baltimore Division								
Wet Chemistry								
Conductivity	**190**	10	umhos/cm	042213 1010	042213 1010	VAS	SM (20) 2510B	

Microbac Laboratories, Inc.

Baltimore Division

2101 Van Deman Street • Baltimore, MD 21224

Phone: 410-633-1800
Fax: 410-633-6553
www.microbac.com

CERTIFICATE OF ANALYSIS

Exponent 4901 Telsa Drvie Suite L Bowie, MD 20715	Project: General Analysis Project Number: FPRF Response, 1205174.000 Project Manager: Ben Cotts	Report: 13D1376 Reported: 04/23/2013 13:38

Project Requested Certification(s):

State of Pennsylvania (NELAC)

Analyte Certification Exception Summary

No certification exceptions

All analysis performed were analyzed under the required certification unless otherwise noted in the above summary.

Certification List

Below is a list of certifications maintained by Microbac Laboratories, Inc. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. A complete list of individual analytes pursuant to each certification below is available upon request.

Code	Description	Certification Number	Expires
Microbac Laboratories, Inc., Baltimore Division			
A2LA1	A2LA (Biology)	410.02	04/30/2013
A2LA2	A2LA (Environmental)	410.01	04/30/2013
VA-B	Commonwealth of Virginia (NELAC) - Baltimore	460170-1829	06/14/2013
CPSC	CPSC Testing of Childrens Products and Jewelry	1115	04/30/2013
Pb	Environmental Lead (ELLAP)	410.01	04/30/2013
NJ	New Jersey	NLC120001	06/30/2013
MD	State of Maryland (Drinking Water)	109	06/30/2013
PA	State of Pennsylvania (NELAC)	68-00339	08/31/2013
USDA	US Department of Agriculture	P330-09-00021	02/19/2012
WV	West Virginia	054	08/31/2013
Microbac Laboratories, Inc., Richmond Division			
VA-R	Commonwealth of Virginia (NELAC) - Richmond	460022-1834	06/14/2013

Microbac Laboratories, Inc., Baltimore Division

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mark B. Horan, Laboratory Director

Original Lab Report

Microbac Laboratories, Inc.
Baltimore Division
2101 Van Deman Street • Baltimore, MD 21224

Phone: 410-633-1800
Fax: 410-633-6553
www.microbac.com

CERTIFICATE OF ANALYSIS

Exponent 4901 Telsa Drvie Suite L Bowie, MD 20715	Project: General Analysis Project Number: FPRF Response, 1205174.000 Project Manager: Ben Cotts	Report: 13D1376 Reported: 04/23/2013 13:38

Qualifiers/Notes and Definitions

General Definitions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Microbac Laboratories, Inc.

Baltimore Division

2101 Van Deman Street • Baltimore, MD 21224

Phone: 410-633-1800
Fax: 410-633-6553
www.microbac.com

Cooler Receipt Log

Cooler ID: Default Cooler **Cooler Temp:** 23.20 °C **Work Order:** 13D1376

Custody Seals Intact:	Yes	COC/Containers Agree:	Yes
Containers Intact:	Yes	Correct Preservation:	Yes
Received On Ice:	Yes	Correct Number of Containers Received:	Yes
Radiation Scan Acceptable:	Yes	Sufficient Sample Volume for Testing:	Yes
COC Present:	Yes	Samples Received in Proper Condition:	Yes

Comments:

Microbac

Microbac Laboratories Inc., Baltimore Division
2101 Van Deman St, Baltimore, MD 21224
Tel: 410-633-1800
Fax: 410-633-6553
www.microbac.com

Chain of Custody Record

Instructions for completing the Chain of Custody Record on back.

Page 1 of 2

Customer
Name: Benjamin Cotts
Address: 17000 Science Drive, Suite 200
Bowie, MD 20715

Project Manager
Name: Andrew Blum
Phone: (301) 291-2515
Email: ablum@exponent.com

Turn Around Time: (●) Normal ( ) RUSH*
Needed By:

Compliance: ( ) Yes (●) No
Agency:

QC Level: (●) I ( ) II** ( ) III** ( ) IV**

13D1376

Project Information
Name: FPRF Response
Number: 1205174.000
PO:

Sampler
Name:
Phone:
Cert ID:***

Report Options
[ ] EDD
[✓] Email ablum@exponent.com
[ ] Fax

Client Sample ID	Matrix****	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Water Conductivity									Comments
Control Water Sample					03/27/13	15:00	1	✓									

Requested Analysis

Possible Hazard Identification ( ) Hazardous (●) Non-Hazardous [ ] Radioactive

Sample Disposition (●) Dispose as appropriate ( ) Return ( ) Archive

Number of Containers:	Sampled By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Cooler Number:	Benjamin Cotts	Benjamin Cotts/ Exponent Inc	4/11/2013	FedEx	
Temp upon receipt(°C): 23.2	**Relinquished By (signature)**	**Printed Name/Affiliation**	**Date/Time**	**Received By (signature)**	**Printed Name/Affiliation**
Sample Received on Ice or Refrigerated from Client: (Yes) No	FedEx		4/17/13 1220	Melanie Dusynke	MLI
Radiation Scan Acceptable Yes / No	**Relinquished By (signature)**	**Printed Name/Affiliation**	**Date/Time**	**Received for Lab By (signature)**	**Printed Name/Affiliation**

* Please notify lab prior to drop off.
** Surcharge May Apply to add'l QC Packages
*** Sampler certification ID needed for some agencies.
**** Matrix Types: Air(A), Childrens Product(CP), Food(F), Paint(P), Soil/Solid (S), Oil(O), Wipe(WI), Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

WHITE - ORIGINAL LAB YELLOW - RECEIPT

rev.121112

Tel: 480.814.8200
Fax: 480.814.8201
www.analyzeinc.com

MATERIALS CHARACTERIZATION REPORT

Report No.: 1304.17 **Date:** April 15, 2013

Customer: Elizabeth Keller
Exponent
17000 Science Drive
Bowie, MD 20715

Customer P.O.: 1205174

Samples: Three Aqueous Samples

- Control 3/27/13
- Test 3 3/28/13
- Test 6 4/3/13

Objective: Determine and Compare the pH, Total Organic, Total Inorganic Carbon, Chloride, Fluoride and the Metals Concentrations of the Three Aqueous Solutions

318 South Bracken Lane • Chandler, Arizona 85224

SUMMARY

The pH and elemental analysis results found for the three aqueous solutions are listed in the Summary Table.

Summary Table

Element/Assay	Concentration (ppm)		
	Control	Test 3	Test 6
pH	7.82	6.18	7.31
Total Organic C	1.3	150	360
Total Inorganic C	7.3	7.7	21
Chloride	34	143	60
Fluoride	0.7	27	33
Li	< 0.005	0.25	3.60
P	< 1.0	7.5	11
Ca	23	72	42
Na	13	19	17
Mg	4.8	6.9	7.0
K	2.4	6.0	4.8
Sr	0.08	4.5	0.44
Al	0.01	3.0	1.0
Fe	0.09	0.72	0.17
Ba	0.02	0.61	0.27
B	0.01	0.05	1.8
Zn	< 0.005	29.0	2.7
Mn	< 0.005	0.27	4.6
Sb	< 0.002	0.70	0.70
Ni	< 0.010	0.05	0.69
Co	< 0.005	0.02	0.76
Cu	< 0.005	0.15	0.14
As	< 0.010	< 0.010	< 0.010
V	< 0.002	0.002	0.003

The majority of elemental concentrations have been rounded to two significant figures to simplify the comparison. All solids were filtered from the solution before analyses of the filtrate. And are not included these results.

The elements are grouped as carbon, chloride/fluoride anion (not total Cl/F), lithium/phosphorus and roughly descending amounts of the metals.

Only the Test 3 solution exhibits a slightly acidic pH (6.2) value. While it is possible that the low levels of chloride (143 ppm) and fluoride (27 ppm) might have been initially present as HCl and

INTRODUCTION

Three aqueous samples, identified as Control 3/27/13, Test 3 3/28/13 and Test 6 4/3/13, were received from E Keller on April 9th.

The objective is to determine and compare the pH, total organic, total inorganic carbon, chloride, fluoride and the metals concentrations of the three aqueous solutions.

ANALYSIS

Sample Preparation. The samples were delivered in glass bottles. The Control is clear, colorless solution while Test 3 and Test 6 have a significant loading of dark particulates. All samples were filtered prior to analyses.

pH. Measurements for pH were obtained with a Fisher Scientific Accumet Excel XL15 pH meter. Samples were filtered prior to analysis. Samples were then stirred for at least one minute before the measurement. A 7.00 pH buffer standard was measured with the samples. A value of 6.99 was obtained. The pH results are listed in the Summary Table.

Ion Chromatography (IC). IC is a very effective and sensitive method for the screening and routine analysis of many cations and anions in aqueous solutions. This well-known liquid chromatographic technique separates analytes according to their affinity for the separation column packed with an ion-exchange resin of low capacity. During the analysis, the effluent from the separation column is passed through a suppressor column to neutralize the counter-ions of the eluent and thus lower its conductivity. With the high background conductivity reduced, the sample ions are detected with high sensitivity (ppb range) using conductivity detection. The separated ions are identified qualitatively based on their relative retention times within the column and quantitatively through integration of signal intensity, which is proportional to the analyte concentration.

Instrumentation. All analyses were performed in duplicate using a Dionex ICS-2000 Ion Chromatograph under the following conditions:

Anions:	Column:	IonPac® AS9-HC + IonPac® AG9-HC
	Eluent:	9.0 mM Sodium carbonate
	Flow rate:	1.0 mL/min
	Detection:	Suppressed Conductivity ASRS® 300, AutoSuppression™ Recycle Mode
	Injection volume:	250 μL

Samples were diluted 2X to nearly 1000X with deionized water. A 0.2530 ppm anion standard run with the samples and met quality control parameters of ±10% (100-106% recovery). All individual chromatograms are collected in the IC Appendix. The sample data is collected in Table I and the final results listed in the Summary Table.

Table I – Sample Data Analyses

Analyte	Run 1	Run 2	Average	Dilution	Total (ppm)
Control					
Fluoride	0.3287	0.3352	0.3320	2.060	0.6838
Chloride	0.1703	0.1741	0.1722	199.6	34.37
Test 3					
Fluoride	0.2748	0.2713	0.2731	98.27	26.83
Chloride	0.1510	0.1570	0.1540	930.7	143.3
Test 6					
Fluoride	0.3707	0.3701	0.3704	88.46	32.76
Chloride	0.0758	0.0713	0.0736	813.4	59.83

Elemental Analyses. The ICP-MS/AES survey and total organic and inorganic carbon were performed by AnalysisNow! (Chandler, AZ). All samples were filtered prior to analysis. The

The AnalysisNow! reports are included in the Elemental Analysis Appendix.

The concentrations of only the detected elements expressed in ppm are listed in the Summary Table. No detectable amounts (> 0.002 to 0.010 ppm) of the following elements were present in any of the samples: Be, Ti, Cr, Ga, Ge, Zr, Nb, Mo, Ag, Cd, Sn, Ta, W, Au, Tl, Pb, Bi, Th and U.

As questions arise during your review of this report, please do not hesitate to call us.

ANALYZE Inc.

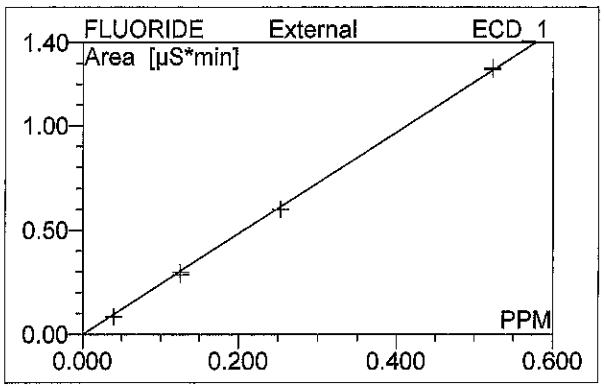
David De La Cruz
Consulting Chemist & Operations Manager

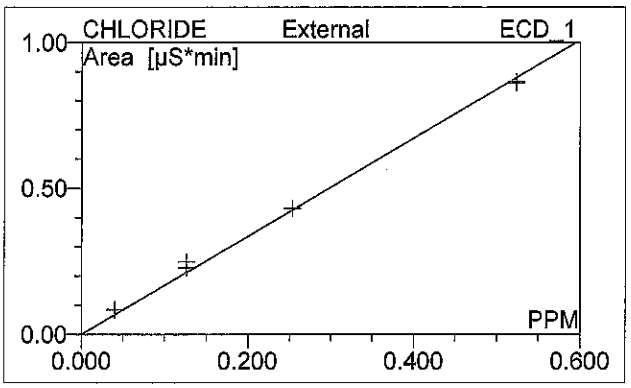
Steven J. Valenty, Ph.D.
Consulting Chemist & President

APPENDIX

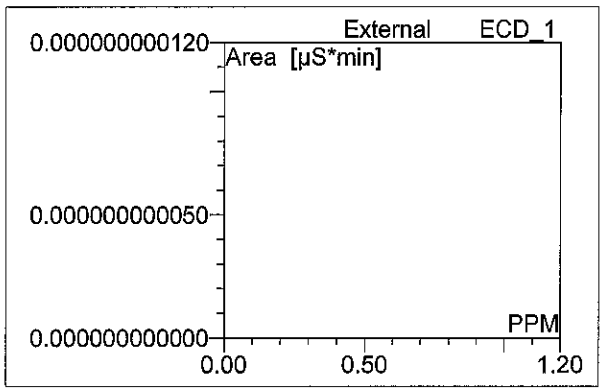
Ion Chromatography

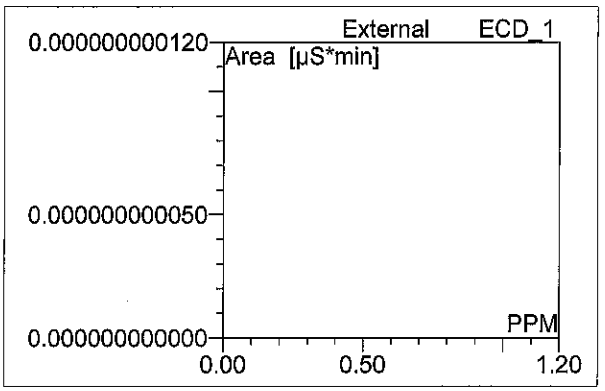
CALIBRATION CURVES

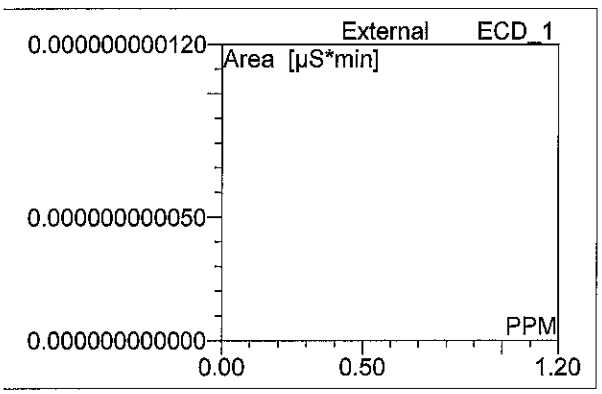




No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	4.08	FLUORIDE	Lin	8	99.9926	0.0000	2.4233	0.0000
2	6.19	CHLORIDE	Lin	8	99.9627	0.0000	1.6806	0.0000
Average:					99.9777	0.0000	2.0520	0.0000

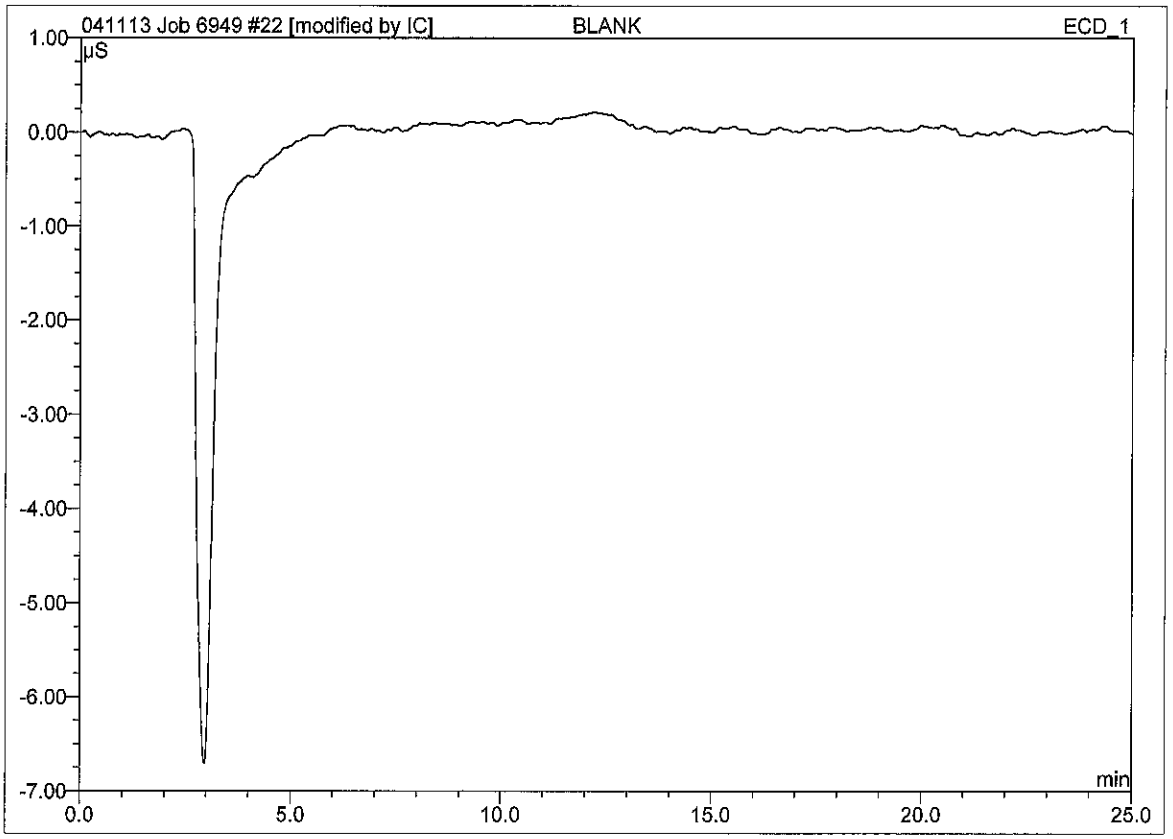






22 BLANK

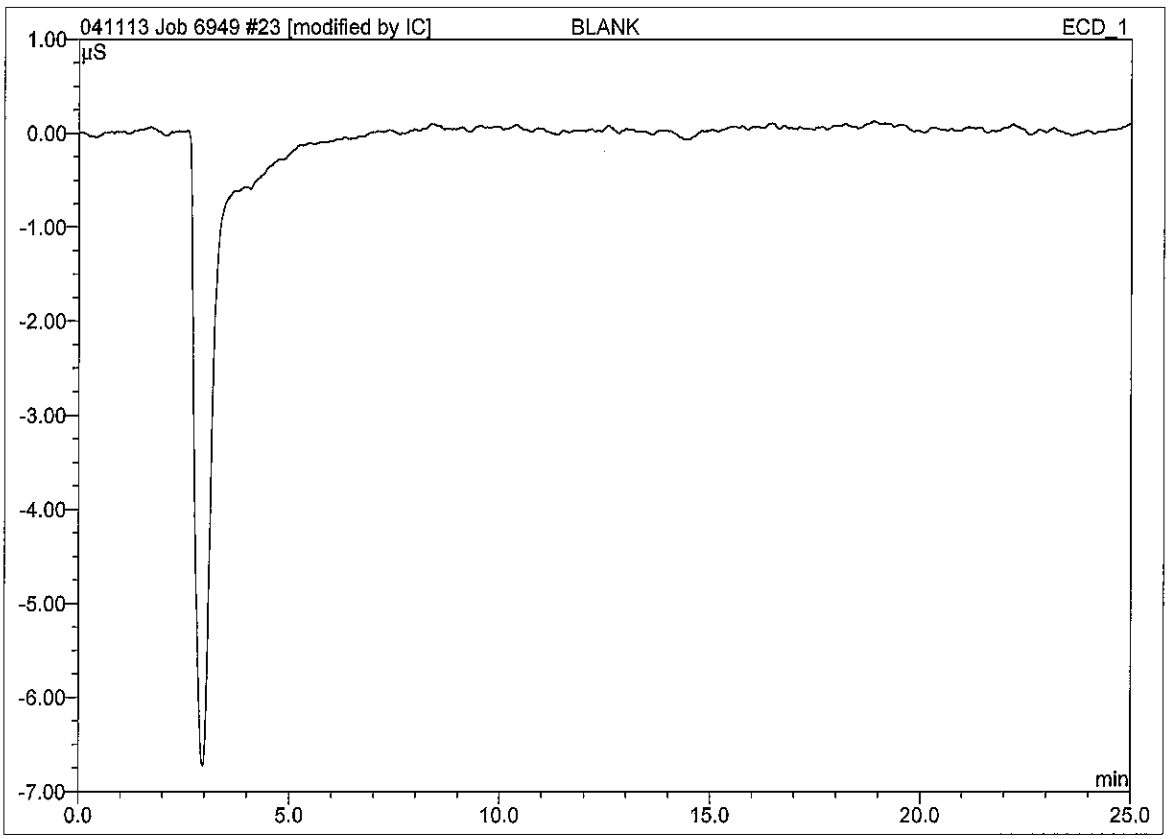
Sample Name:	**BLANK**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**blank**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 9:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type

23 BLANK

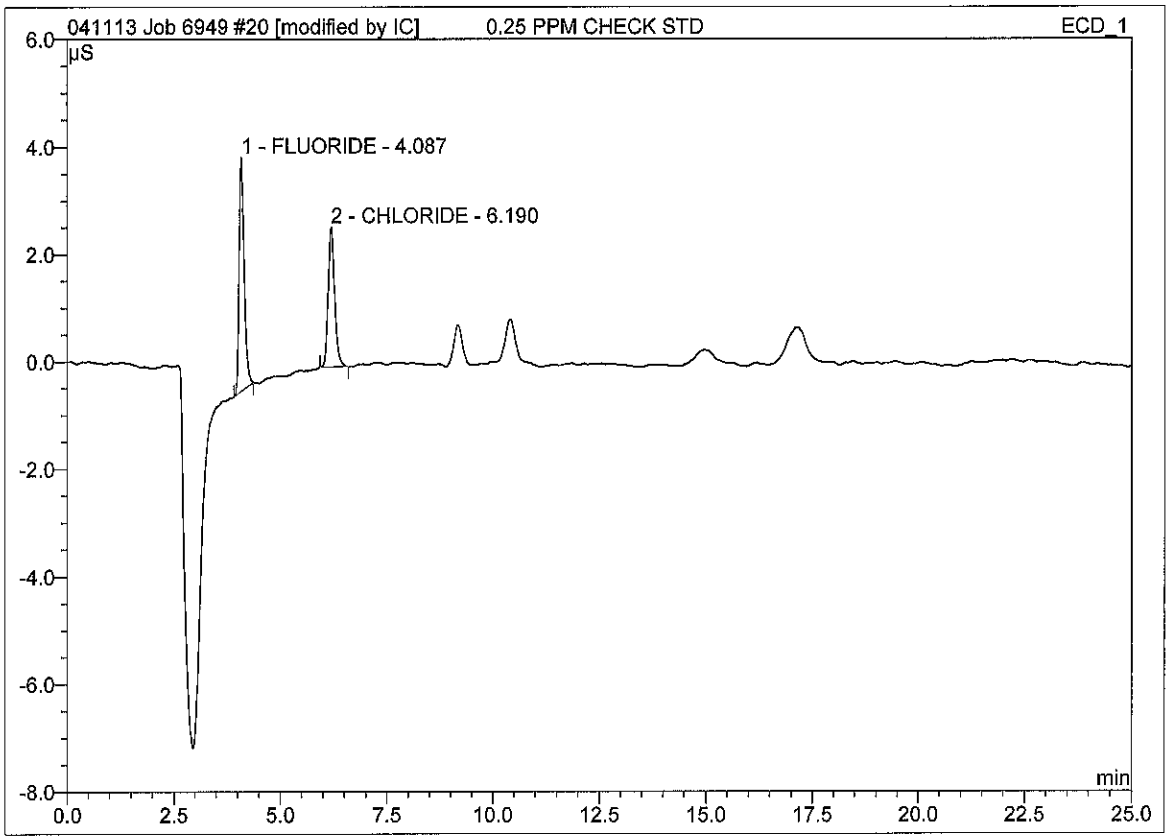
Sample Name:	**BLANK**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**blank**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 10:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type

20 0.25 PPM CHECK STD

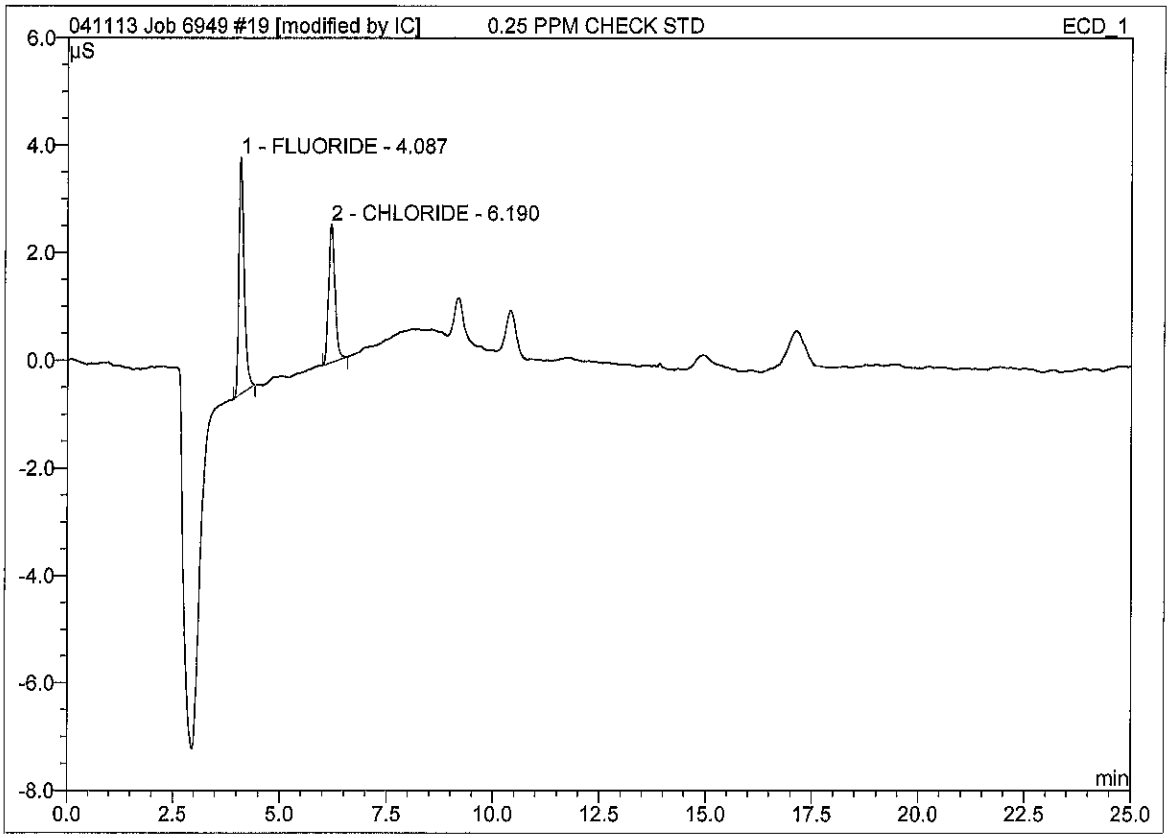
Sample Name:	**0.25 PPM CHECK STD**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/11/2013 20:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.09	FLUORIDE	4.360	0.604	56.84	0.2492	BMB*
2	6.19	CHLORIDE	2.604	0.459	43.16	0.2729	BMB*

19 0.25 PPM CHECK STD

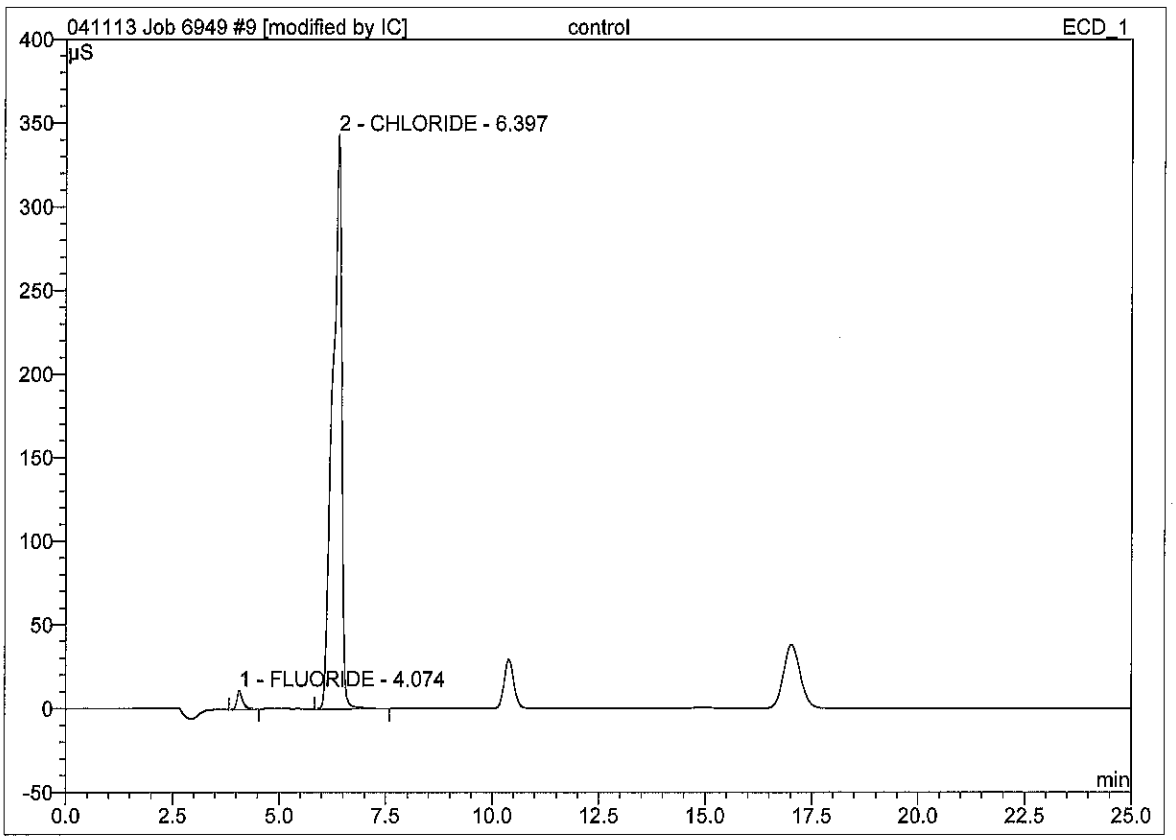
Sample Name:	**0.25 PPM CHECK STD**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/11/2013 20:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.09	FLUORIDE	4.401	0.625	58.64	0.2578	BMB*
2	6.19	CHLORIDE	2.571	0.441	41.36	0.2622	BMB

9 control

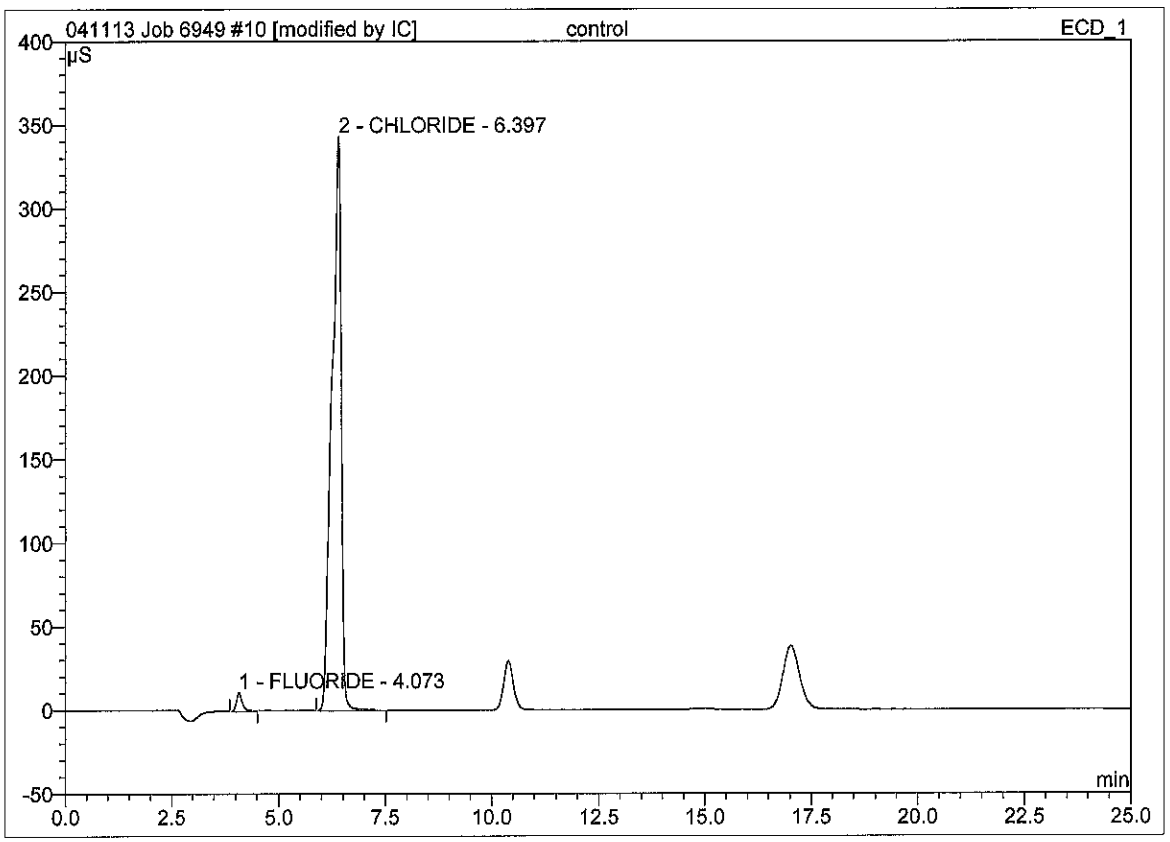
Sample Name:	**control**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/11/2013 16:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.07	FLUORIDE	11.065	1.743	1.98	0.7192	BMB*
2	6.40	CHLORIDE	342.929	86.185	98.02	51.2828	BMB

10 control

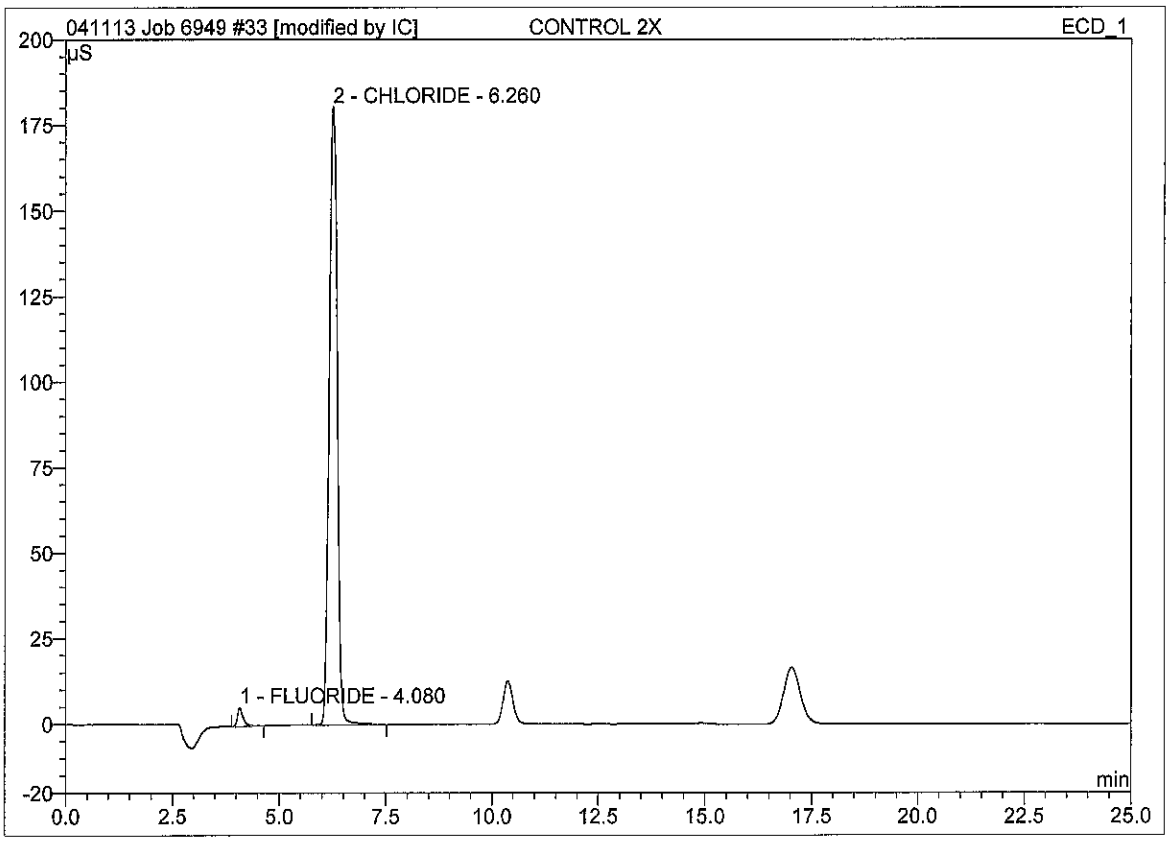
Sample Name:	**control**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/11/2013 17:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.07	FLUORIDE	11.039	1.733	1.97	0.7151	BMB*
2	6.40	CHLORIDE	342.904	86.315	98.03	51.3603	BMB*

33 CONTROL 2X

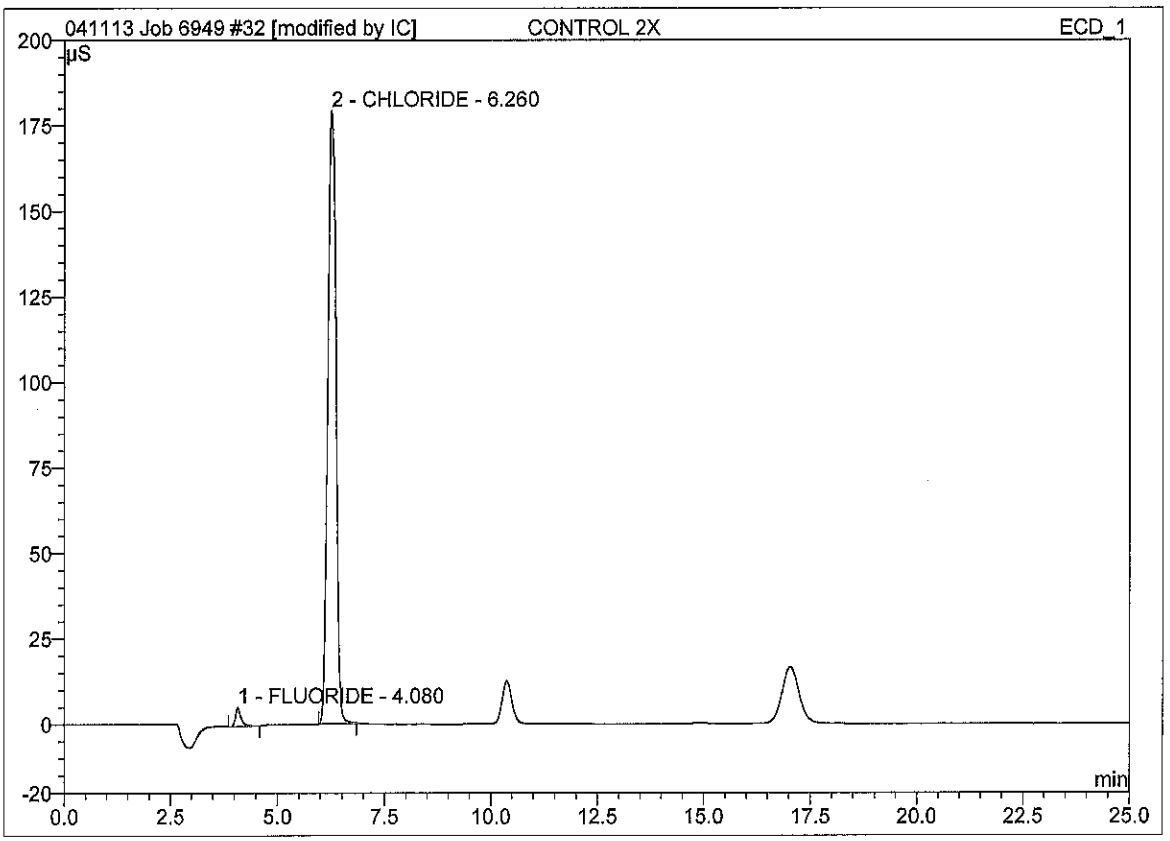
Sample Name:	**CONTROL 2X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 15:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.08	FLUORIDE	5.383	0.812	2.02	0.3352	BMB*
2	6.26	CHLORIDE	180.370	39.409	97.98	23.4498	BMB*

32 CONTROL 2X

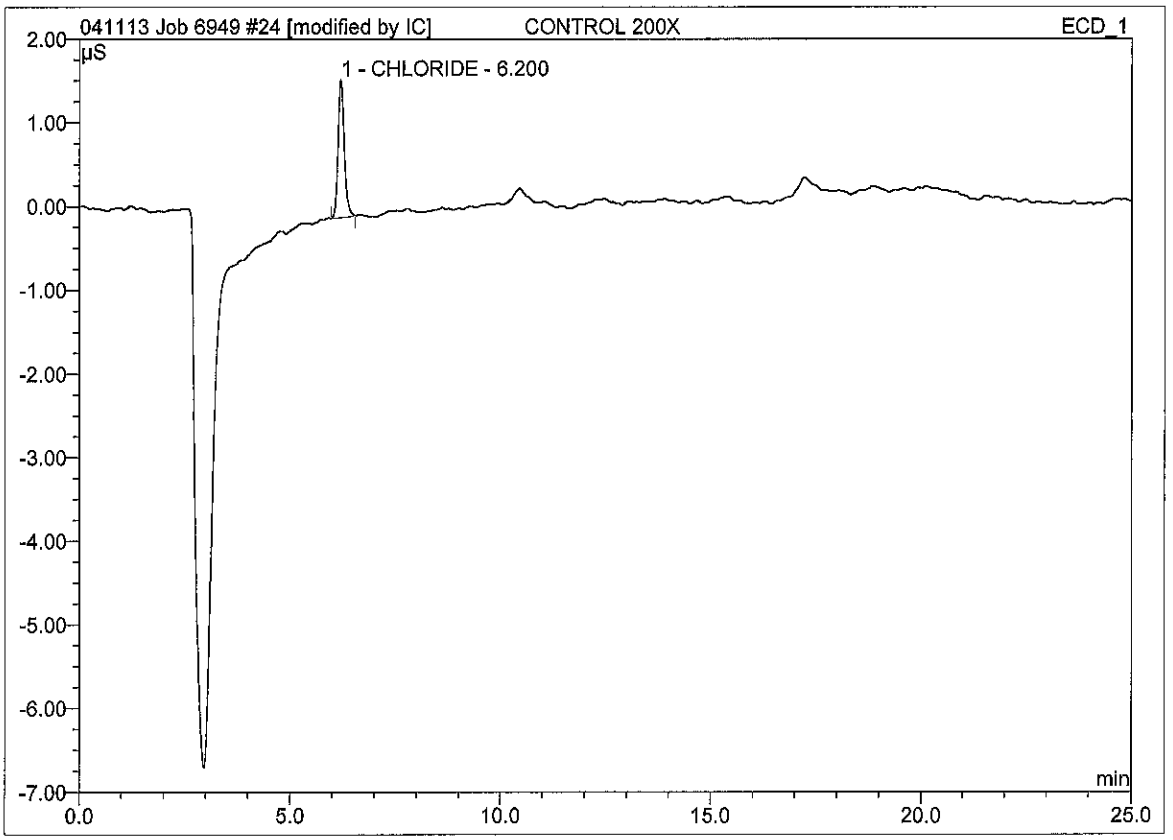
Sample Name:	**CONTROL 2X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 15:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.08	FLUORIDE	5.370	0.796	2.00	0.3287	BMB*
2	6.26	CHLORIDE	178.936	38.963	98.00	23.1841	BMB*

24 CONTROL 200X

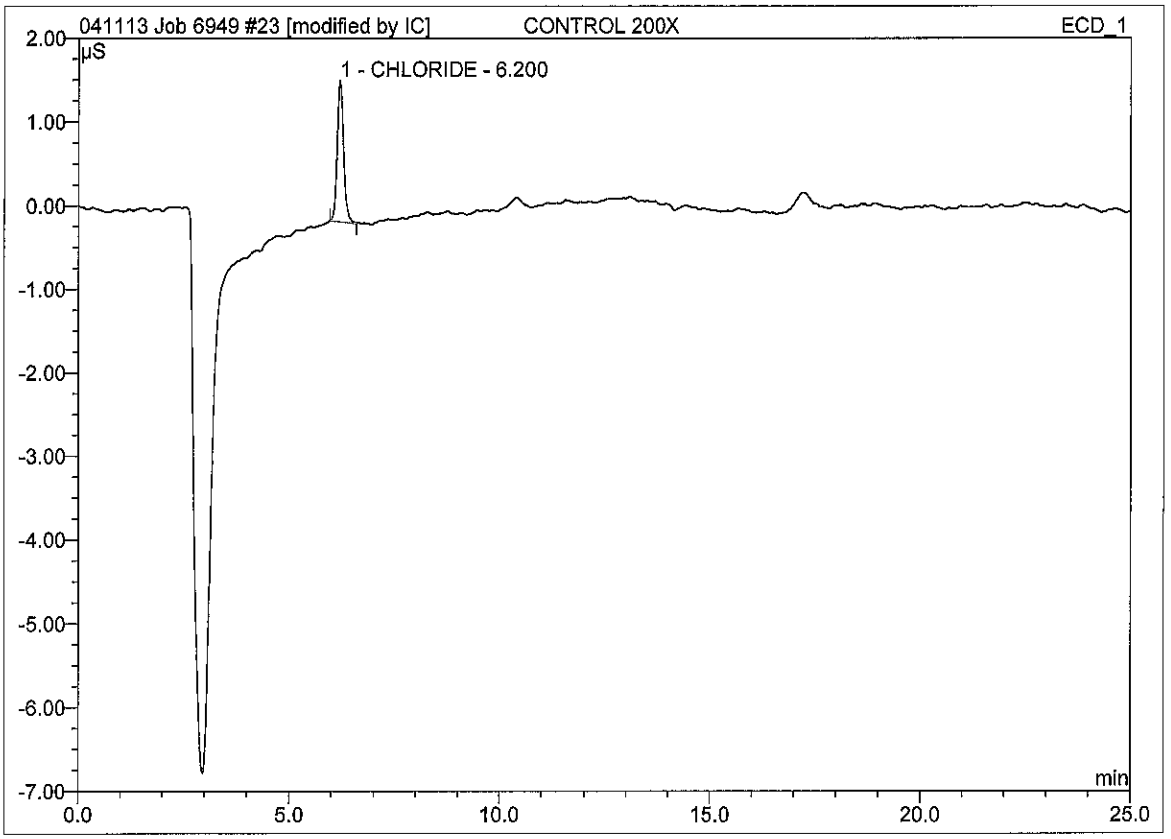
Sample Name:	**CONTROL 200X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 10:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	6.20	CHLORIDE	1.641	0.286	100.00	0.1703	BMB

23 CONTROL 200X

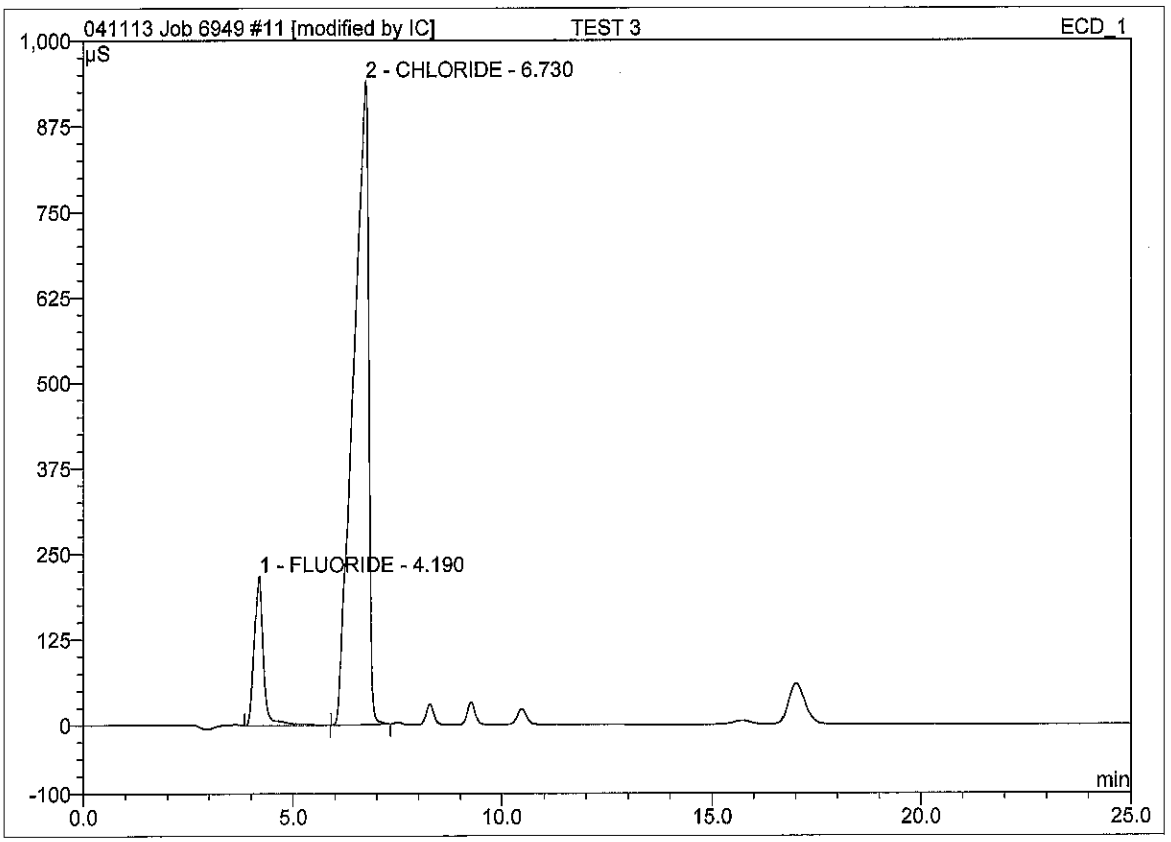
Sample Name:	**CONTROL 200X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 11:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	6.20	CHLORIDE	1.674	0.293	100.00	0.1741	BMB*

11 TEST 3

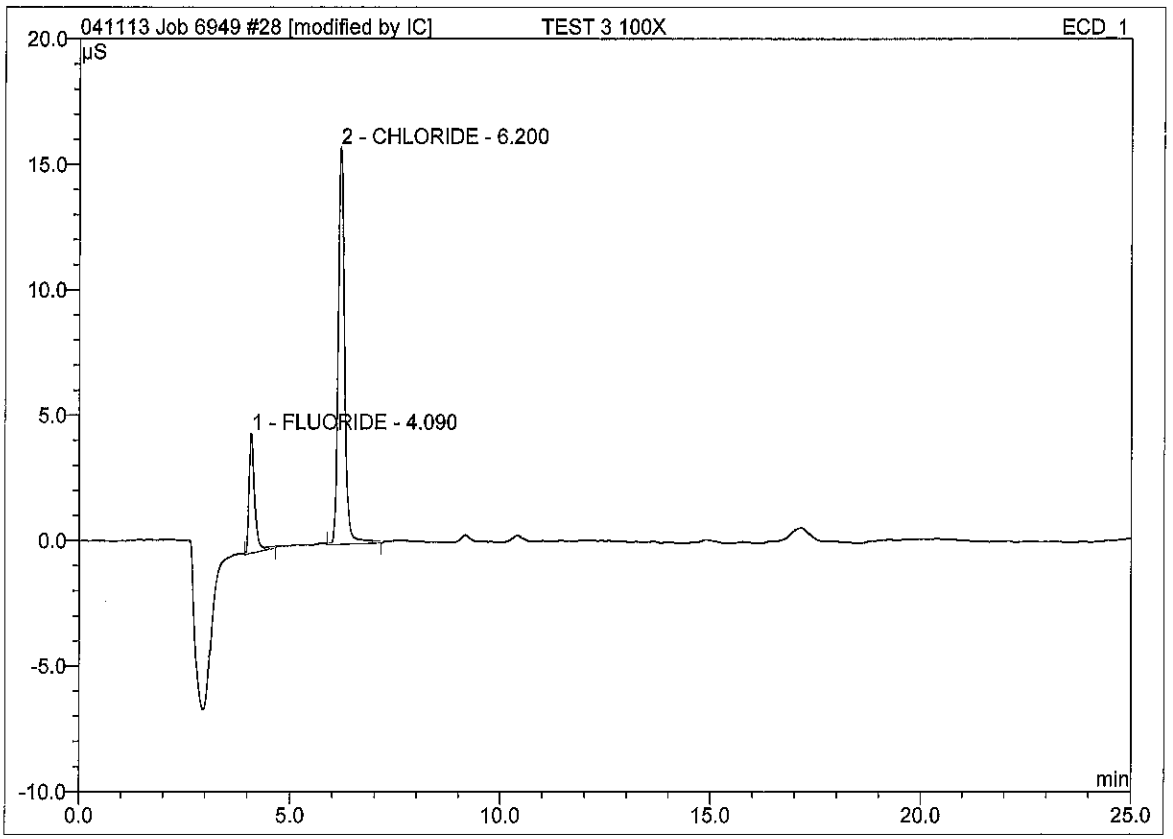
Sample Name:	**TEST 3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/11/2013 17:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.19	FLUORIDE	216.799	54.832	12.24	22.6266	BMB*
2	6.73	CHLORIDE	939.147	393.218	87.76	233.9767	BMB*

28 TEST 3 100X

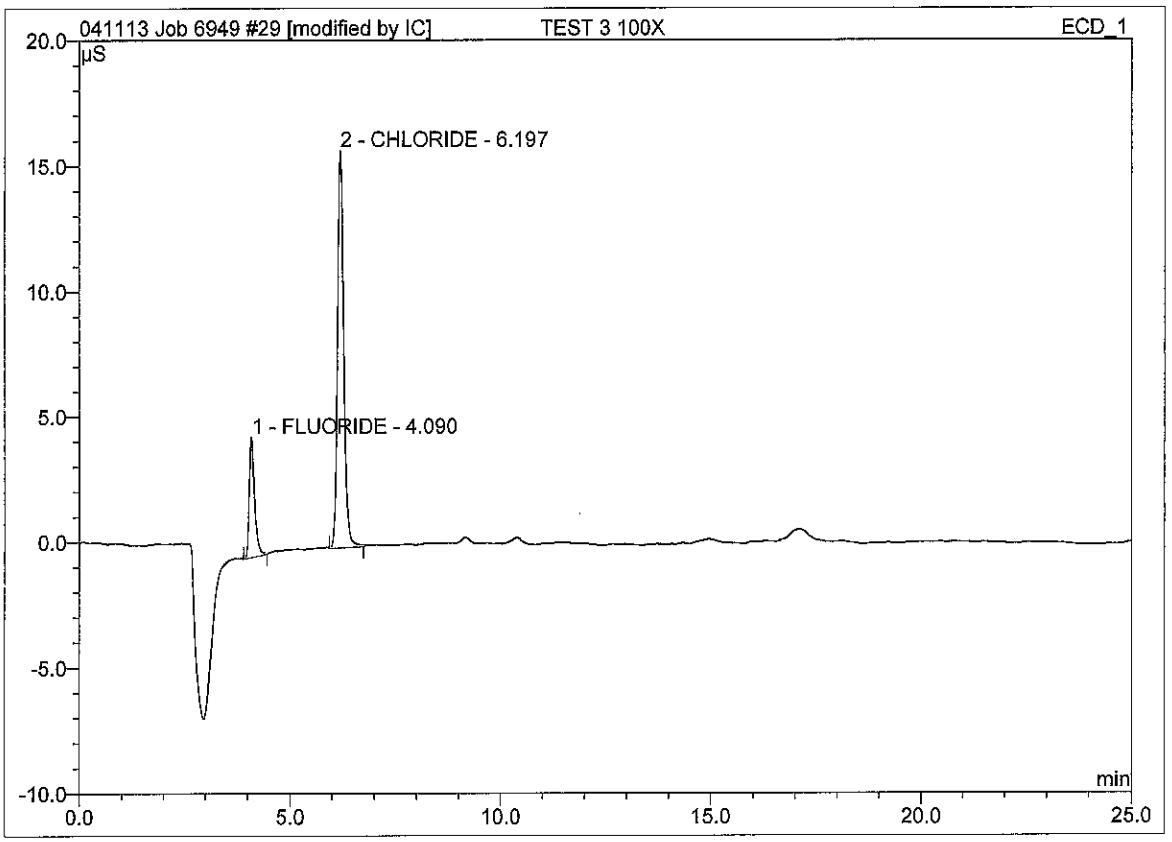
Sample Name:	**TEST 3 100X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 13:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.09	FLUORIDE	4.720	0.666	19.74	0.2748	BMB*
2	6.20	CHLORIDE	15.768	2.708	80.26	1.6112	BMB*

29 TEST 3 100X

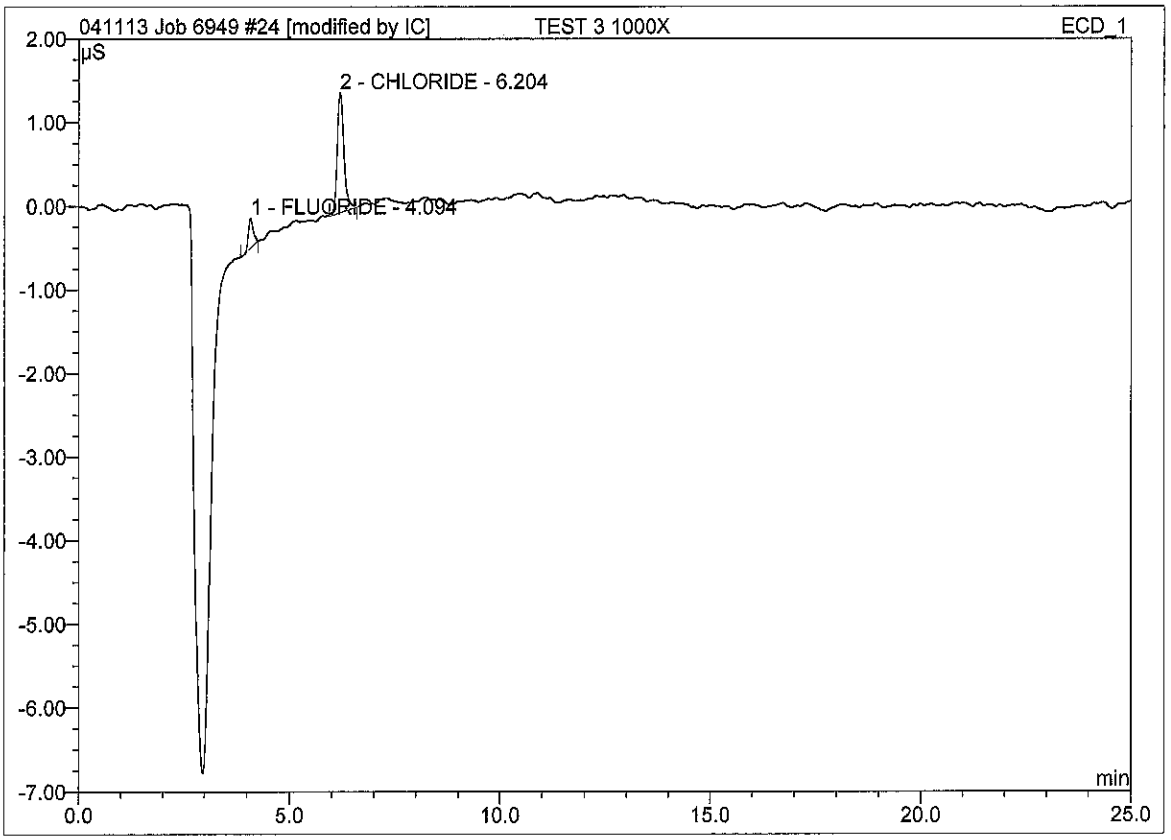
Sample Name:	**TEST 3 100X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 13:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.09	FLUORIDE	4.734	0.657	19.83	0.2713	BMB
2	6.20	CHLORIDE	15.790	2.658	80.17	1.5816	BMB

24 TEST 3 1000X

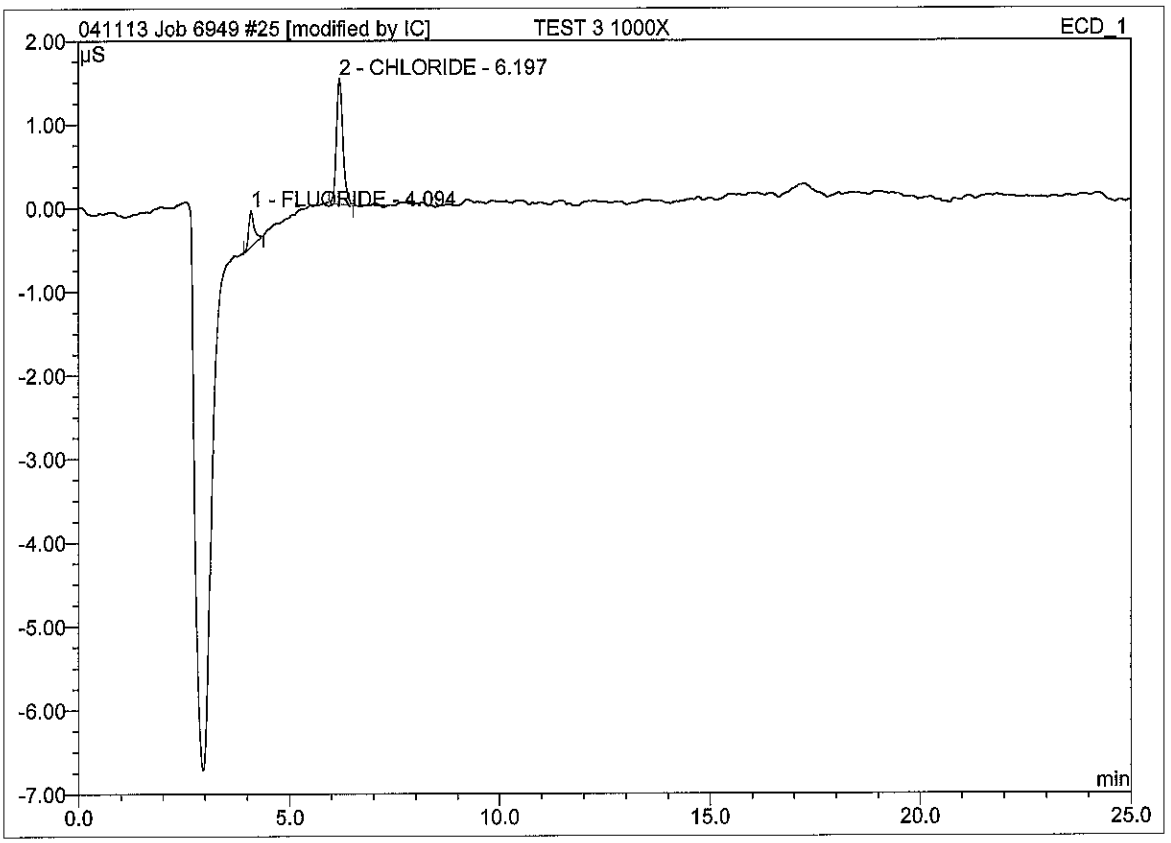
Sample Name:	**TEST 3 1000X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 11:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.09	FLUORIDE	0.354	0.047	15.58	0.0193	BMB*
2	6.20	CHLORIDE	1.419	0.254	84.42	0.1510	BMB*

25 TEST 3 1000X

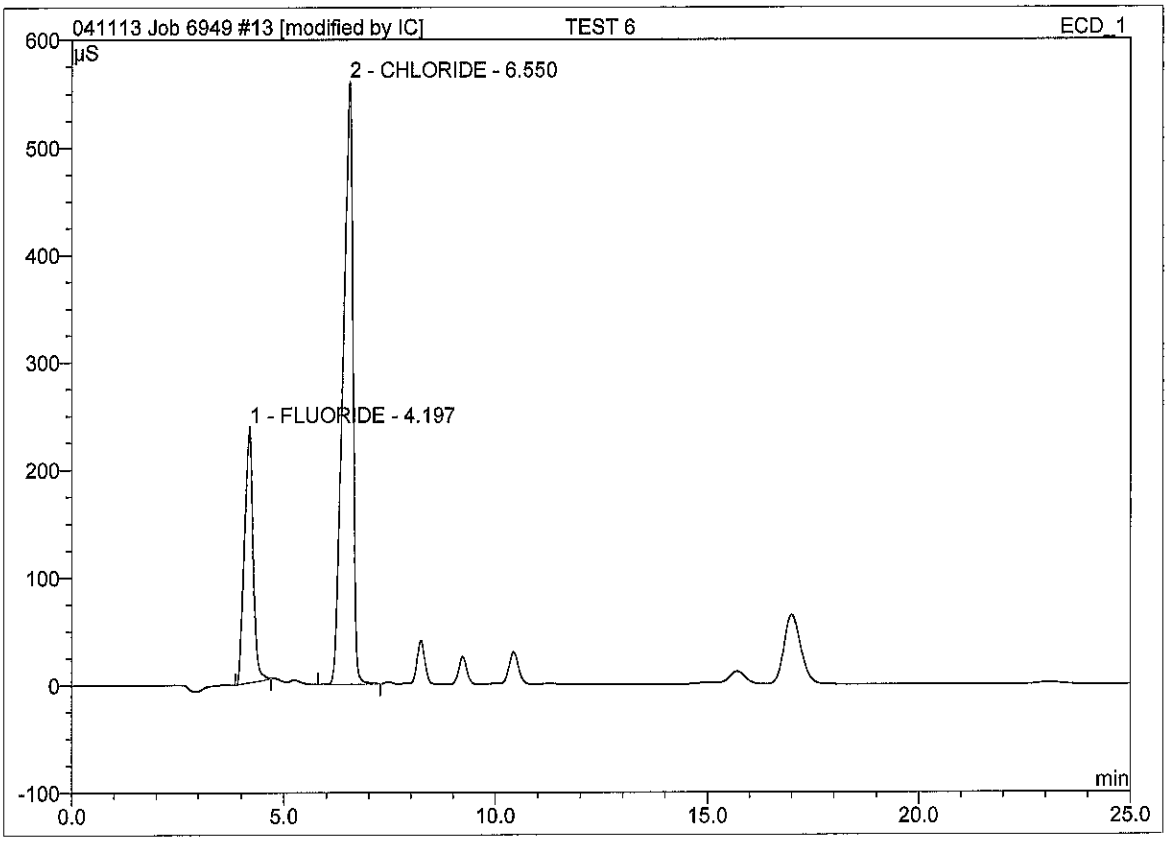
Sample Name:	**TEST 3 1000X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 12:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.09	FLUORIDE	0.424	0.062	18.97	0.0255	BMB*
2	6.20	CHLORIDE	1.486	0.264	81.03	0.1570	BMB*

13 TEST 6

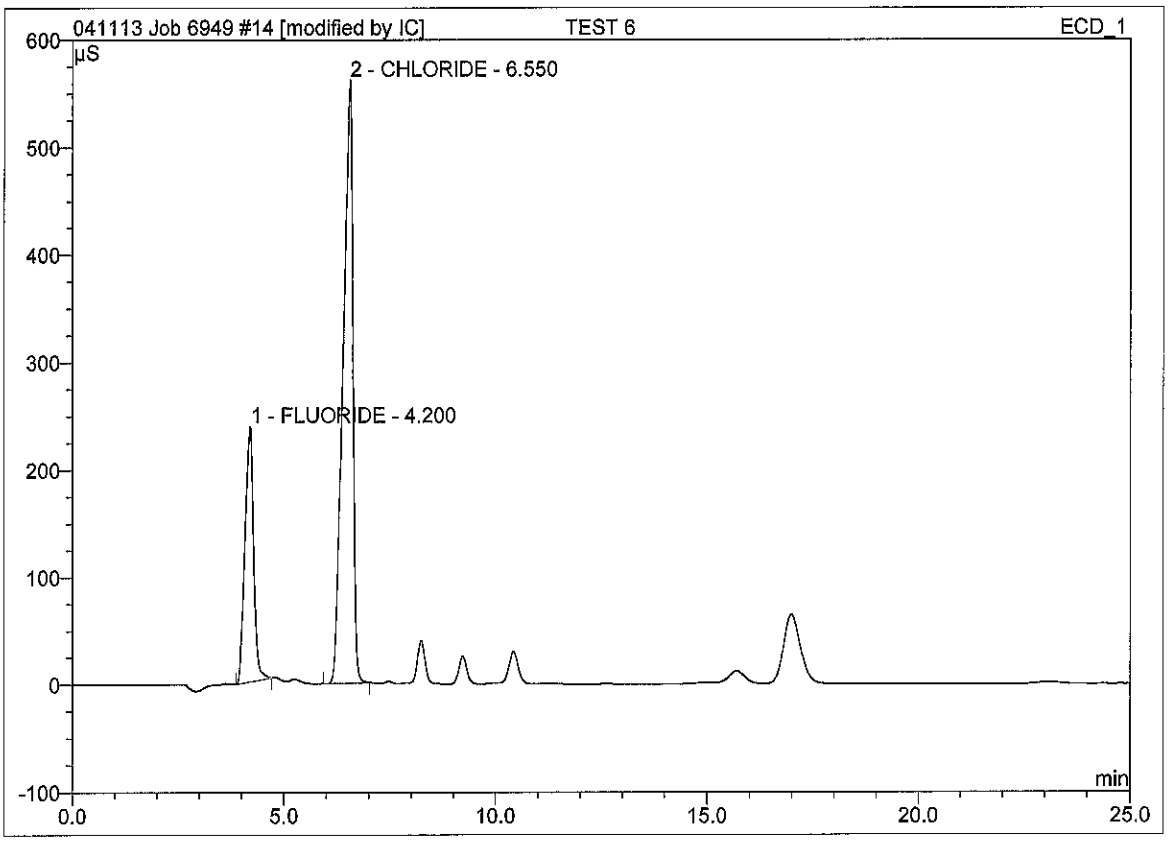
Sample Name:	**TEST 6**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/11/2013 18:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.20	FLUORIDE	237.064	56.168	27.23	23.1780	BMB*
2	6.55	CHLORIDE	559.984	150.088	72.77	89.3072	BMB*

14 TEST 6

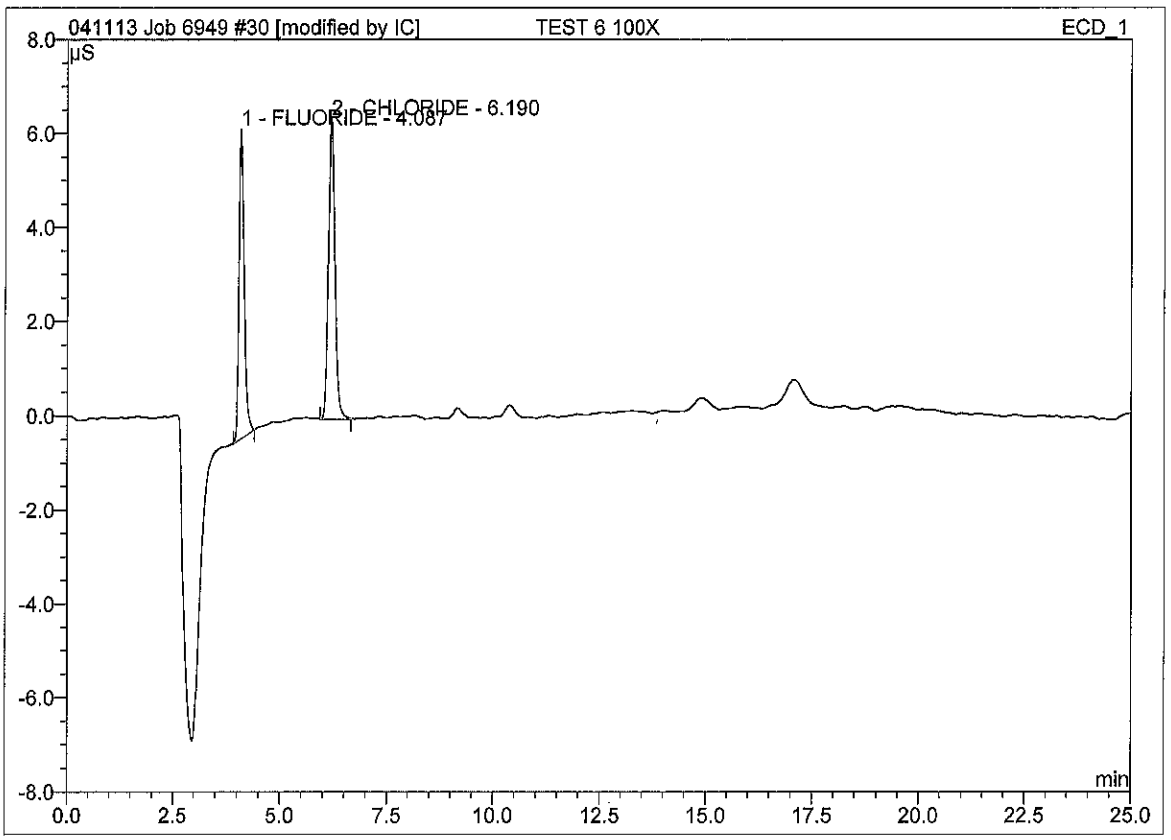
Sample Name:	**TEST 6**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/11/2013 18:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.20	FLUORIDE	237.323	56.093	27.30	23.1469	BMB*
2	6.55	CHLORIDE	560.460	149.357	72.70	88.8721	BMB*

30 TEST 6 100X

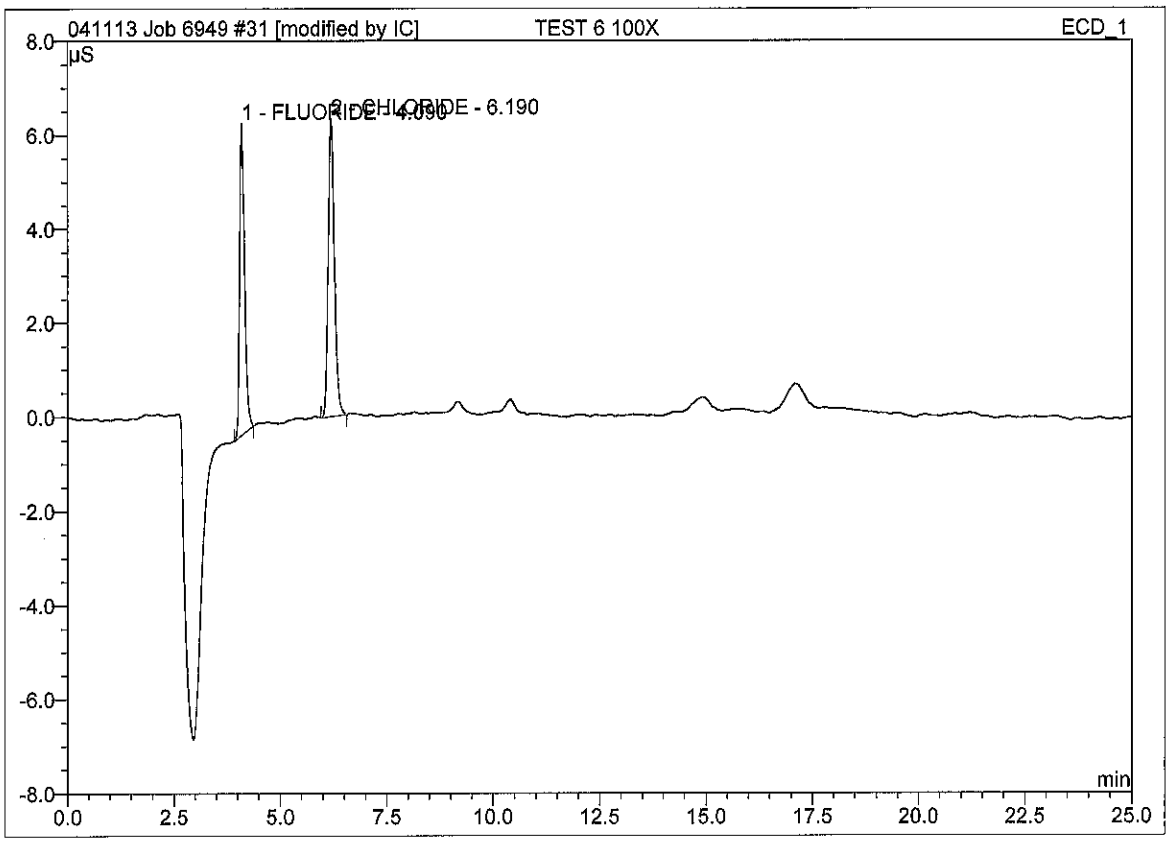
Sample Name:	**TEST 6 100X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 14:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.09	FLUORIDE	6.567	0.898	45.04	0.3707	BMB
2	6.19	CHLORIDE	6.362	1.096	54.96	0.6522	BMB

31 TEST 6 100X

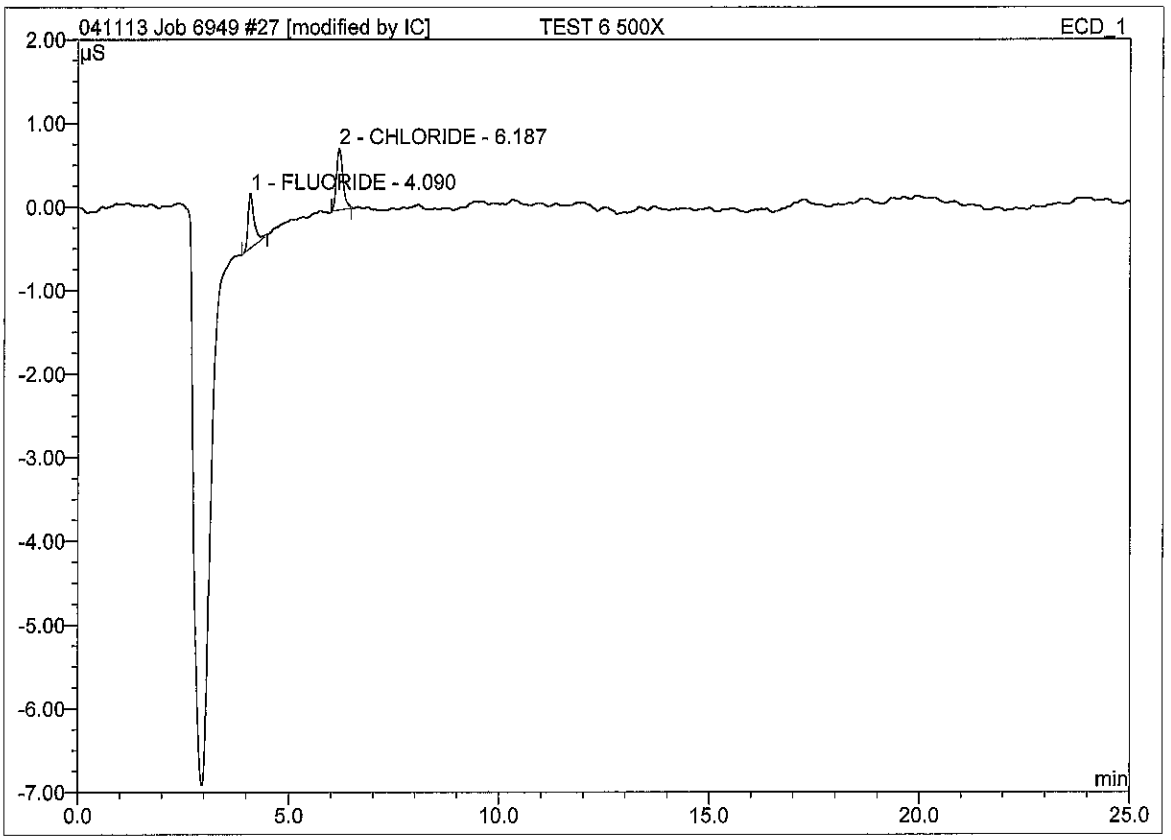
Sample Name:	**TEST 6 100X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 14:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.09	FLUORIDE	6.626	0.897	45.53	0.3701	BMB*
2	6.19	CHLORIDE	6.323	1.073	54.47	0.6386	BMB*

27 TEST 6 500X

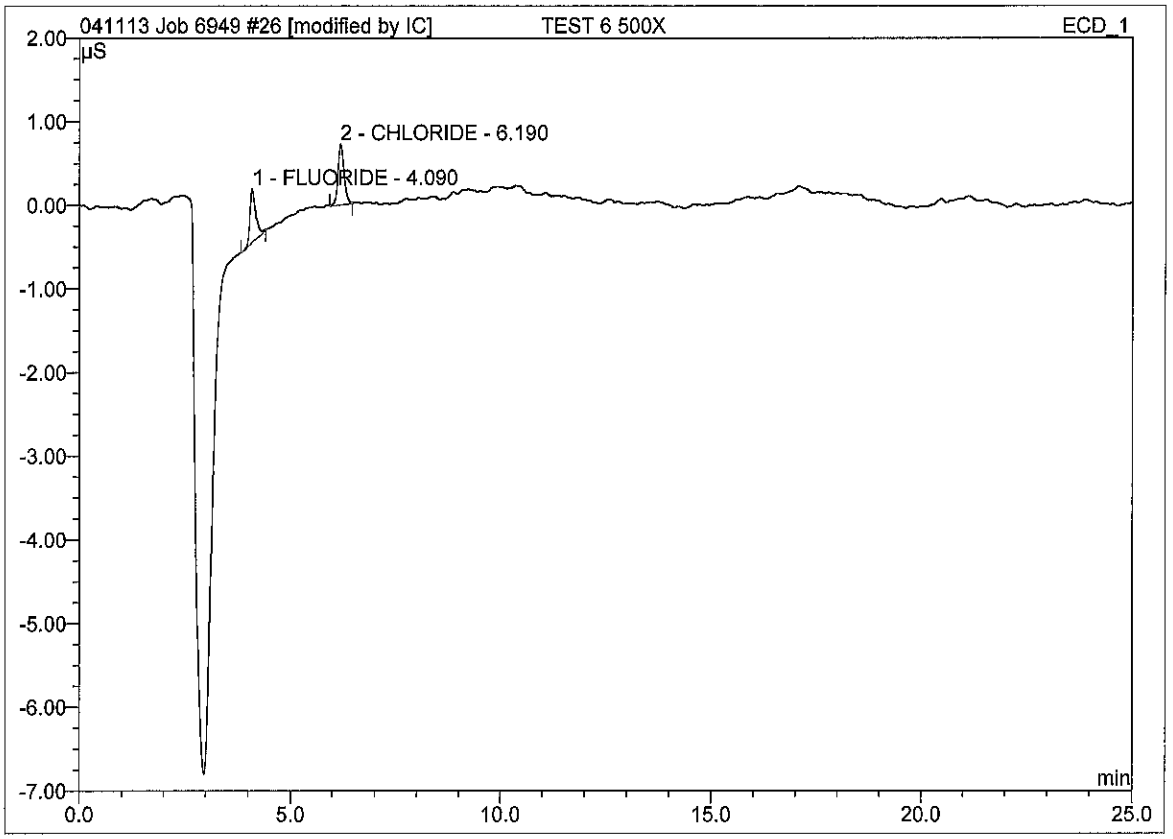
Sample Name:	**TEST 6 500X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 12:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.09	FLUORIDE	0.648	0.104	44.87	0.0428	BMB
2	6.19	CHLORIDE	0.734	0.127	55.13	0.0758	BMB*

26 TEST 6 500X

Sample Name:	**TEST 6 500X**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Anions 2000**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anions 2000**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/12/2013 12:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**25.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount PPM	Type
1	4.09	FLUORIDE	0.641	0.099	45.21	0.0408	BMB*
2	6.19	CHLORIDE	0.717	0.120	54.79	0.0713	BMB*

Appendix D Analyze, Inc. Report

APPENDIX

Elemental Analyses

3400 N. Arizona Ave. Suite 114
Chandler, AZ 85225

Phone: 480.892.1120 Fax: 480.892.1113
www.analysisnow.com

AnalysisNow!

Customer:	ANALYZE	**Sample Number:**	42436
Address:	318 S. Bracken Lane	**Purchase Order:**	3112-6949
City:	Chandler	**Sample Type:**	Process Solution
State:	AZ	**Date/Time In:**	4/11/2013 11:16:15 AM
Zip:	85224	**Date/Time Out:**	04/15/2013 11:55 AM

E-mail transmission

Trace Elements, ppb

Li: < 5	**Zn:** < 5	**Ta:** < 2
Be: < 2	**Ga:** < 2	**W:** < 5
B: 11	**Ge:** < 5	**Au:** < 5
Mg: 4800	**As:** < 10	**Tl:** < 2
Al: 8.5	**Sr:** 82	**Pb:** < 2
Ti: < 10	**Zr:** < 2	**Bi:** < 2
V: < 2	**Nb:** < 2	**Th:** < 5
Cr: < 5	**Mo:** < 5	**U:** < 5
Mn: < 5	**Ag:** < 5	**Fe:** 90
Ni: < 10	**Cd:** < 5	**Na:** 13000
Co: < 5	**Sn:** < 5	**Ca:** 23000
Cu: < 5	**Sb:** < 2	**K:** 2400
	Ba: 24	

Comments: Control; 3/27/13; AFB
P = <1.0ppm; TIC = 7.3ppm; TOC = 1.3ppm

(signature on file)

Kirsten B. Smith
Laboratory Manager

3400 N. Arizona Ave. Suite 114
Chandler, AZ 85225

Phone: 480.892.1120 Fax: 480.892.1113
www.analysisnow.com

AnalysisNow!

Customer:	ANALYZE	**Sample Number:**	42437
Address:	318 S. Bracken Lane	**Purchase Order:**	3112-6949
City:	Chandler	**Sample Type:**	Process Solution
State:	AZ	**Date/Time In:**	4/11/2013 11:19:25 AM
Zip:	85224	**Date/Time Out:**	04/15/2013 11:55 AM

E-mail transmission

Trace Elements, ppb

Li:	250	**Zn:**	29000	**Ta:**	< 2
Be:	< 2	**Ga:**	< 2	**W:**	< 5
B:	53	**Ge:**	< 5	**Au:**	< 5
Mg:	6900	**As:**	< 10	**Tl:**	< 2
Al:	3000	**Sr:**	4500	**Pb:**	< 2
Ti:	< 10	**Zr:**	< 2	**Bi:**	< 2
V:	2	**Nb:**	< 2	**Th:**	< 5
Cr:	< 5	**Mo:**	< 5	**U:**	< 5
Mn:	270	**Ag:**	< 5	**Fe:**	720
Ni:	51	**Cd:**	< 5	**Na:**	19000
Co:	16	**Sn:**	< 5	**Ca:**	72000
Cu:	150	**Sb:**	700	**K:**	6000
		Ba:	610		

Comments: Test 3; 3/28/13; AFB
P = 7.5ppm; TIC = 7.7ppm; TOC = 150ppm

(signature on file)

Kirsten B. Smith
Laboratory Manager

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Chandler, AZ 85225

Phone: 480.892.1120 Fax: 480.892.1113
www.analysisnow.com

AnalysisNow!

Customer:	ANALYZE	**Sample Number:**	42438
Address:	318 S. Bracken Lane	**Purchase Order:**	3112-6949
City:	Chandler	**Sample Type:**	Process Solution
State:	AZ	**Date/Time In:**	4/11/2013 11:20:12 AM
Zip:	85224	**Date/Time Out:**	04/15/2013 11:55 AM

E-mail transmission

Trace Elements, ppb

Li:	3600	**Zn:**	2700	**Ta:**	< 2
Be:	< 2	**Ga:**	< 2	**W:**	< 5
B:	1800	**Ge:**	< 5	**Au:**	< 5
Mg:	7000	**As:**	< 10	**Tl:**	< 2
Al:	1000	**Sr:**	440	**Pb:**	< 2
Ti:	< 10	**Zr:**	2	**Bi:**	< 2
V:	2.9	**Nb:**	< 2	**Th:**	< 5
Cr:	< 5	**Mo:**	5	**U:**	< 5
Mn:	4600	**Ag:**	< 5	**Fe:**	170
Ni:	690	**Cd:**	< 5	**Na:**	17000
Co:	760	**Sn:**	< 5	**Ca:**	42000
Cu:	140	**Sb:**	700	**K:**	4800
		Ba:	270		

Comments: Test 6; 4/3/13; AFB
P = 11ppm; TIC = 21ppm; TOC = 360ppm

(signature on file)

Kirsten B. Smith
Laboratory Manager

Appendix E Electrical Measurements

Appendix E Electrical Measurements

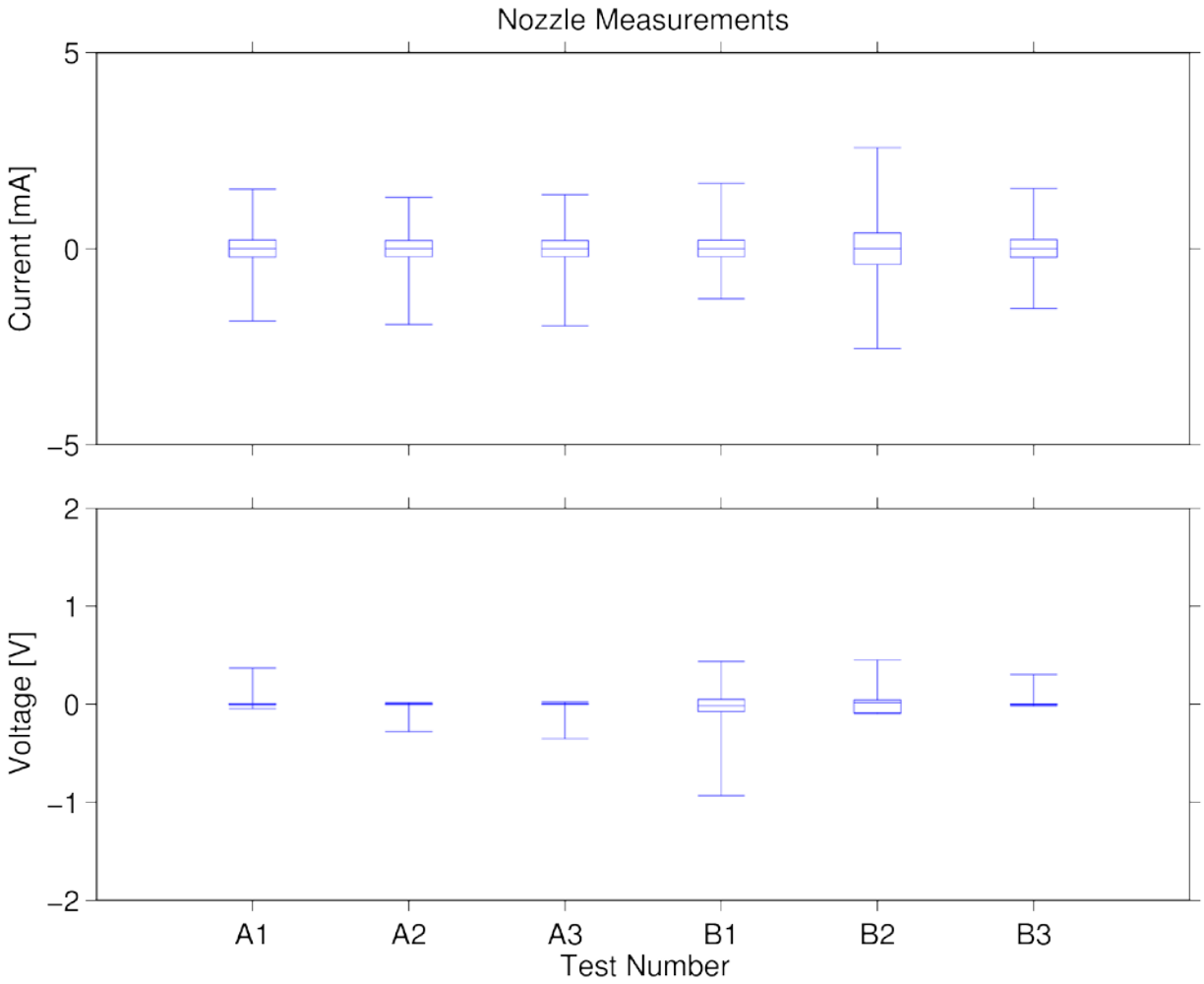

Figure E.1 Box plot indicating the maximum, minimum, median, first quartile and third quartile measurement for nozzle voltage and current measurements

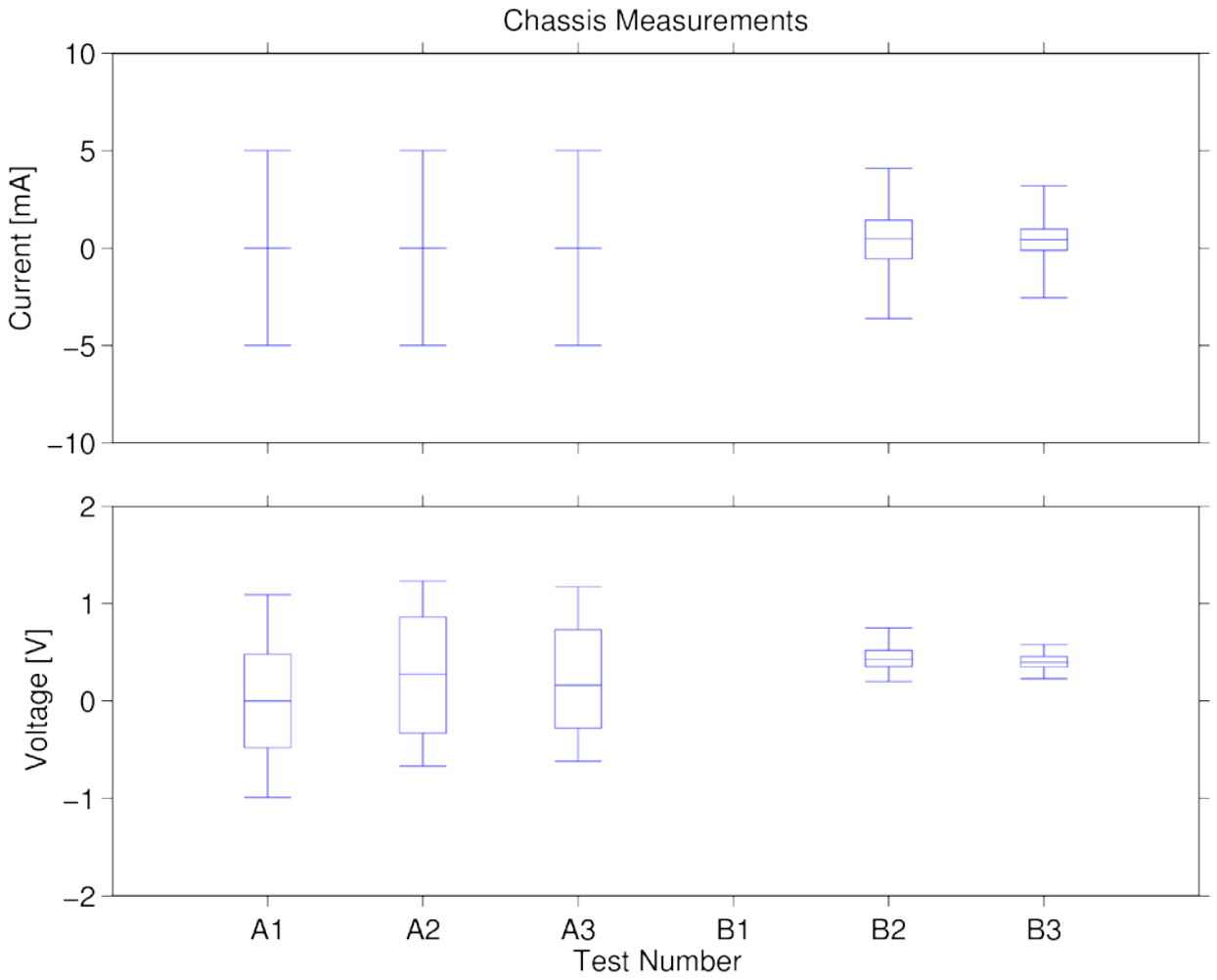

Figure E.2 Box plot indicating the maximum, minimum, median, first quartile and third quartile measurement for chassis voltage and current measurements

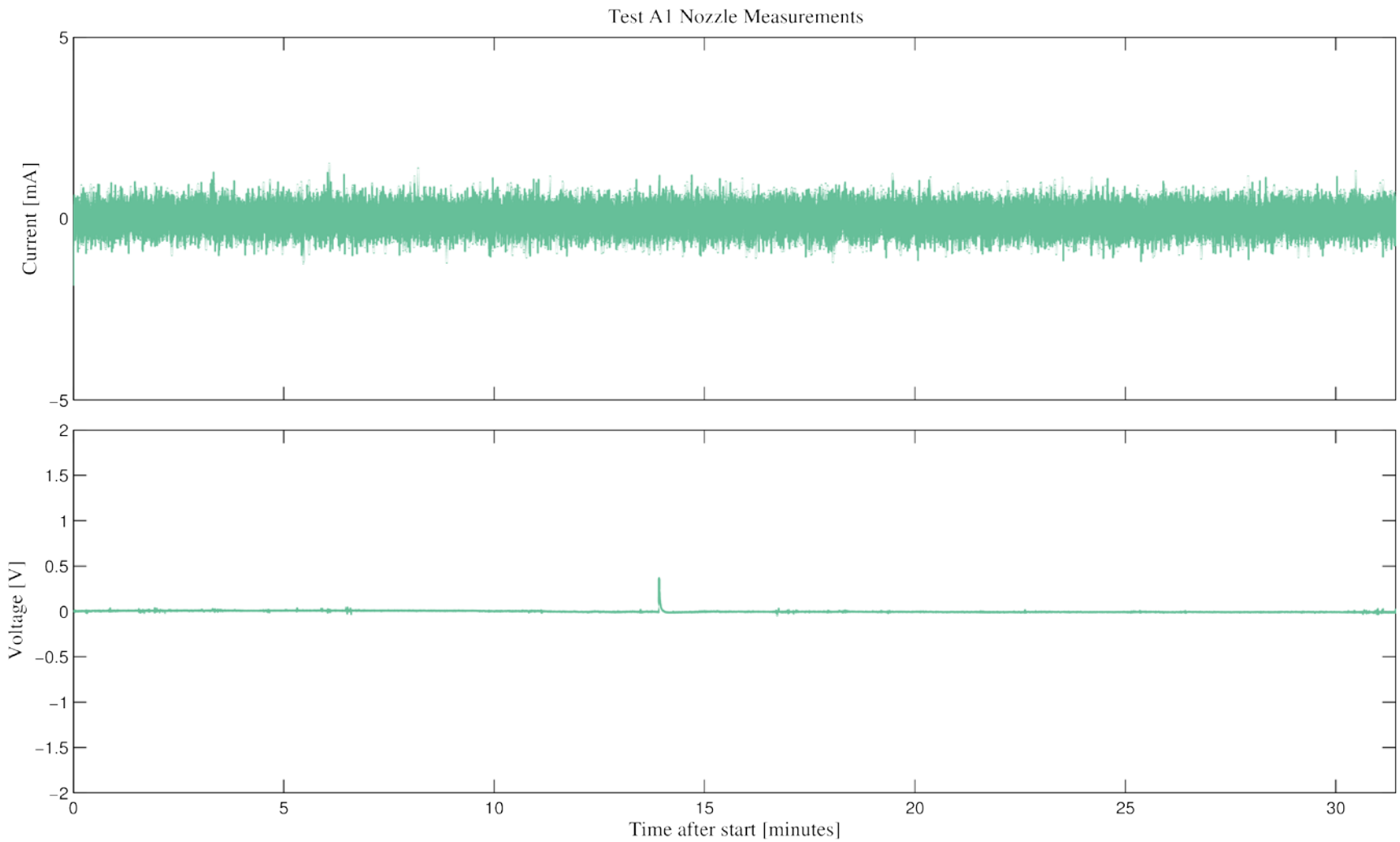

Figure E.3 Nozzle voltage and current measurements for Test A1

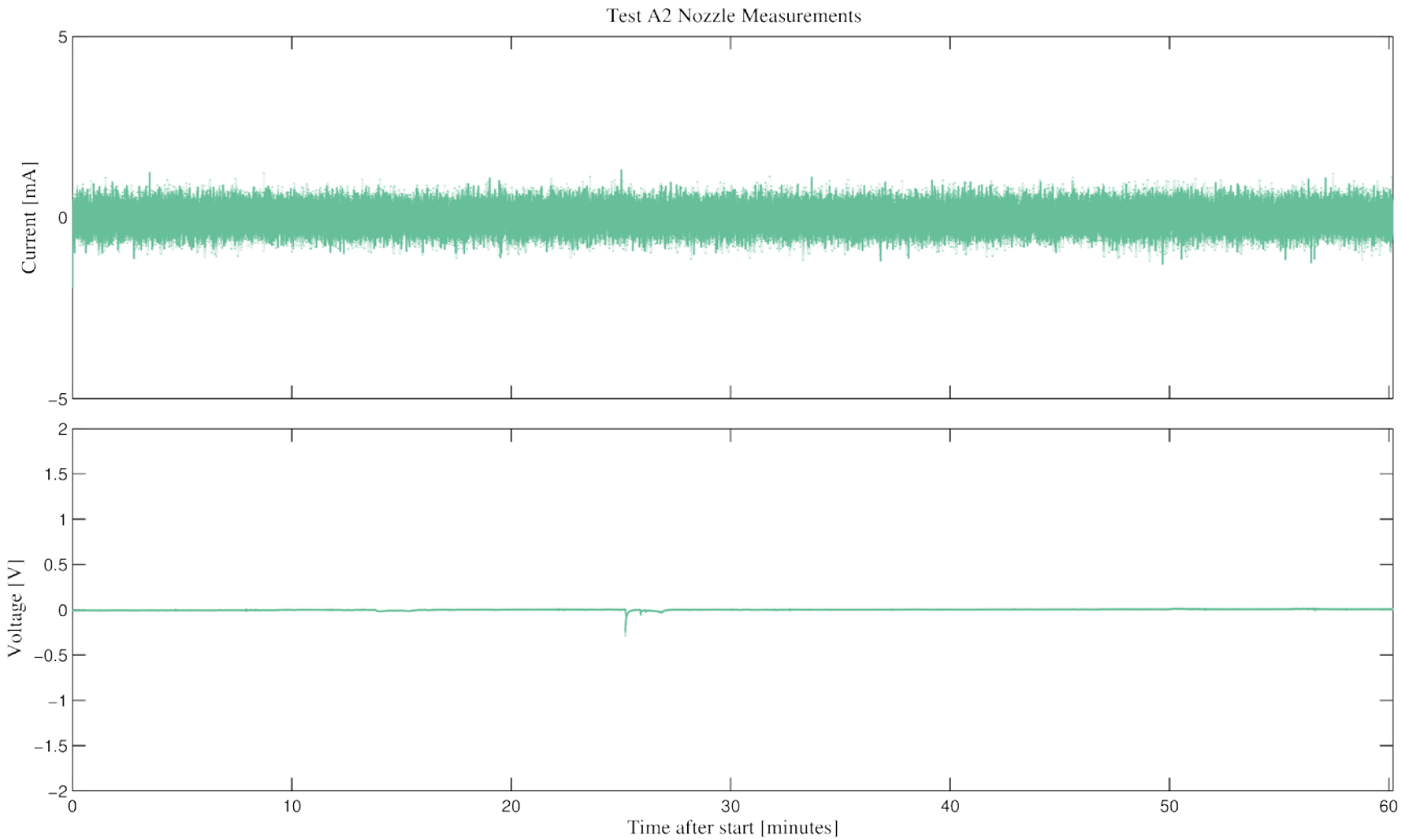

Figure E.4 Nozzle voltage and current measurements for Test A2

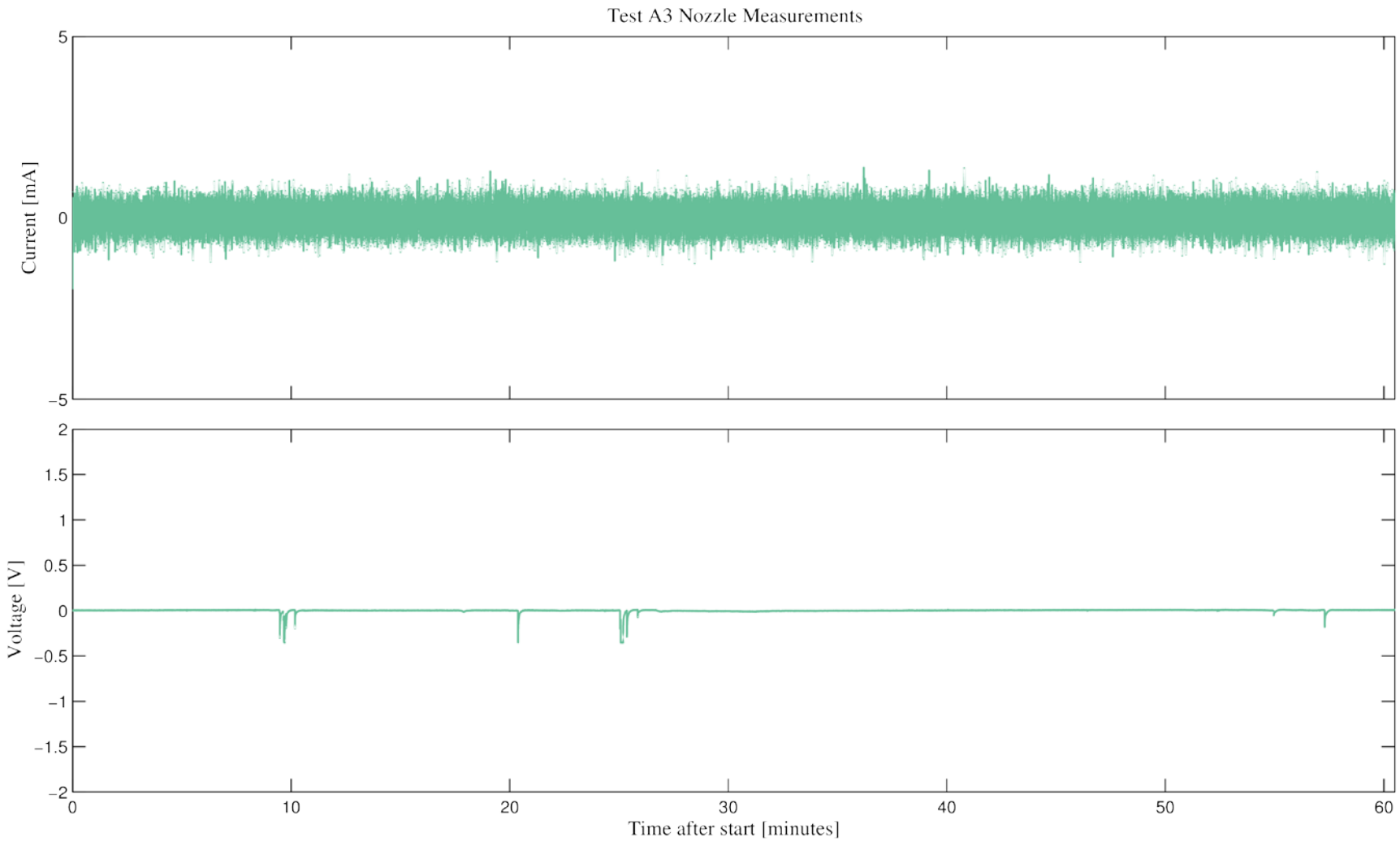

Figure E.5 Nozzle voltage and current measurements for Test A3

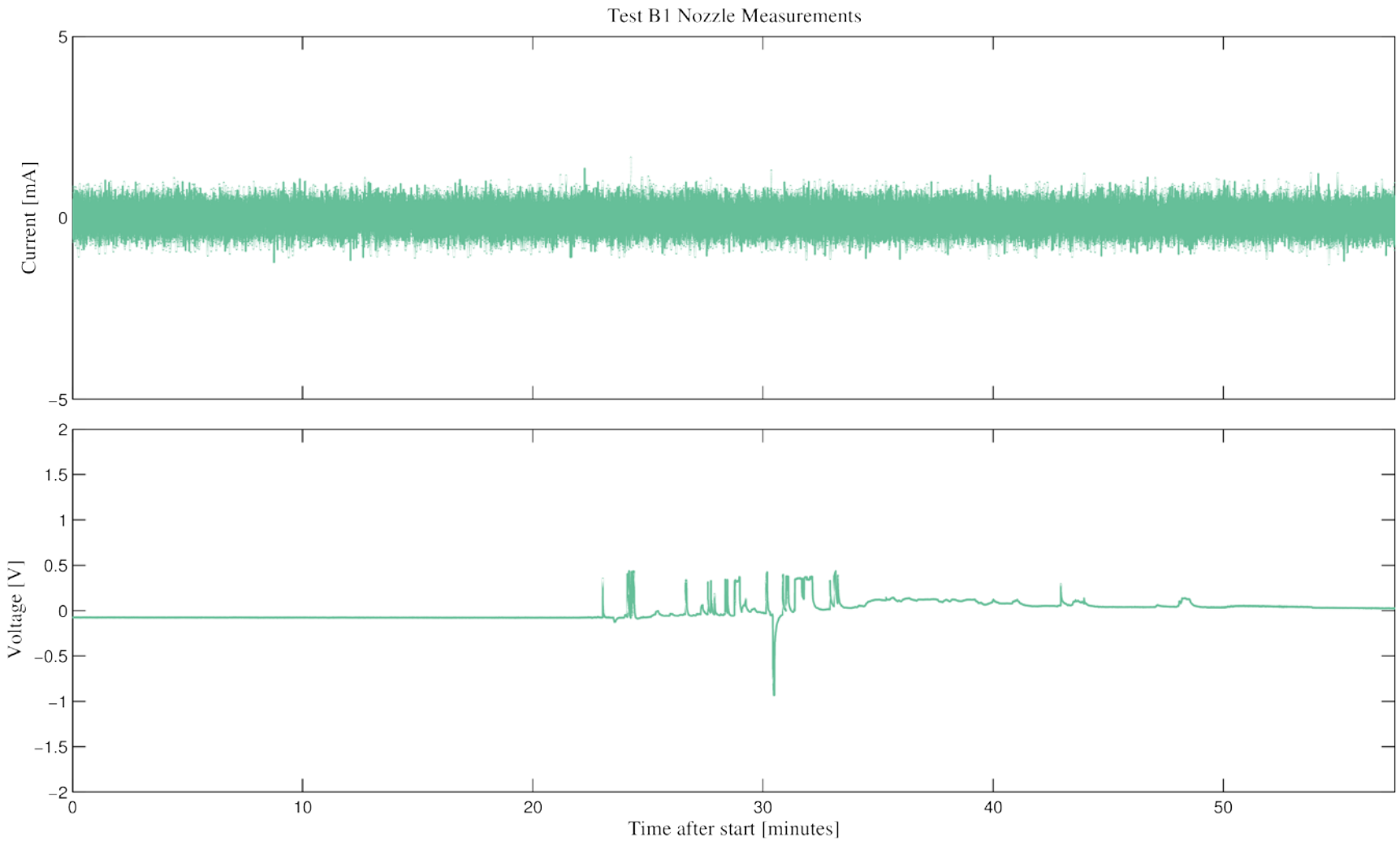

Figure E.6 Nozzle voltage and current measurements for Test B1

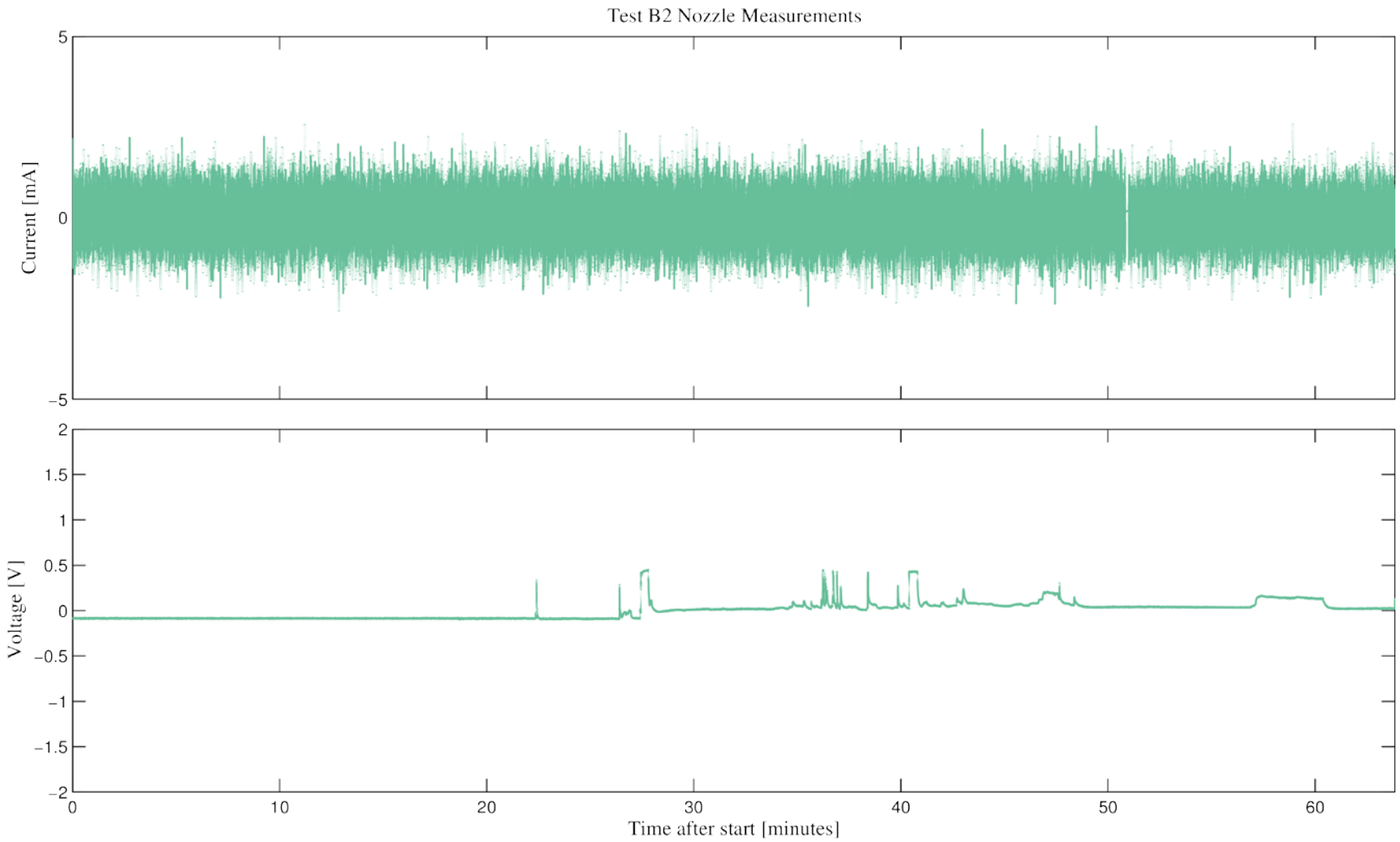

Figure E.7 Nozzle voltage and current measurements for Test B2

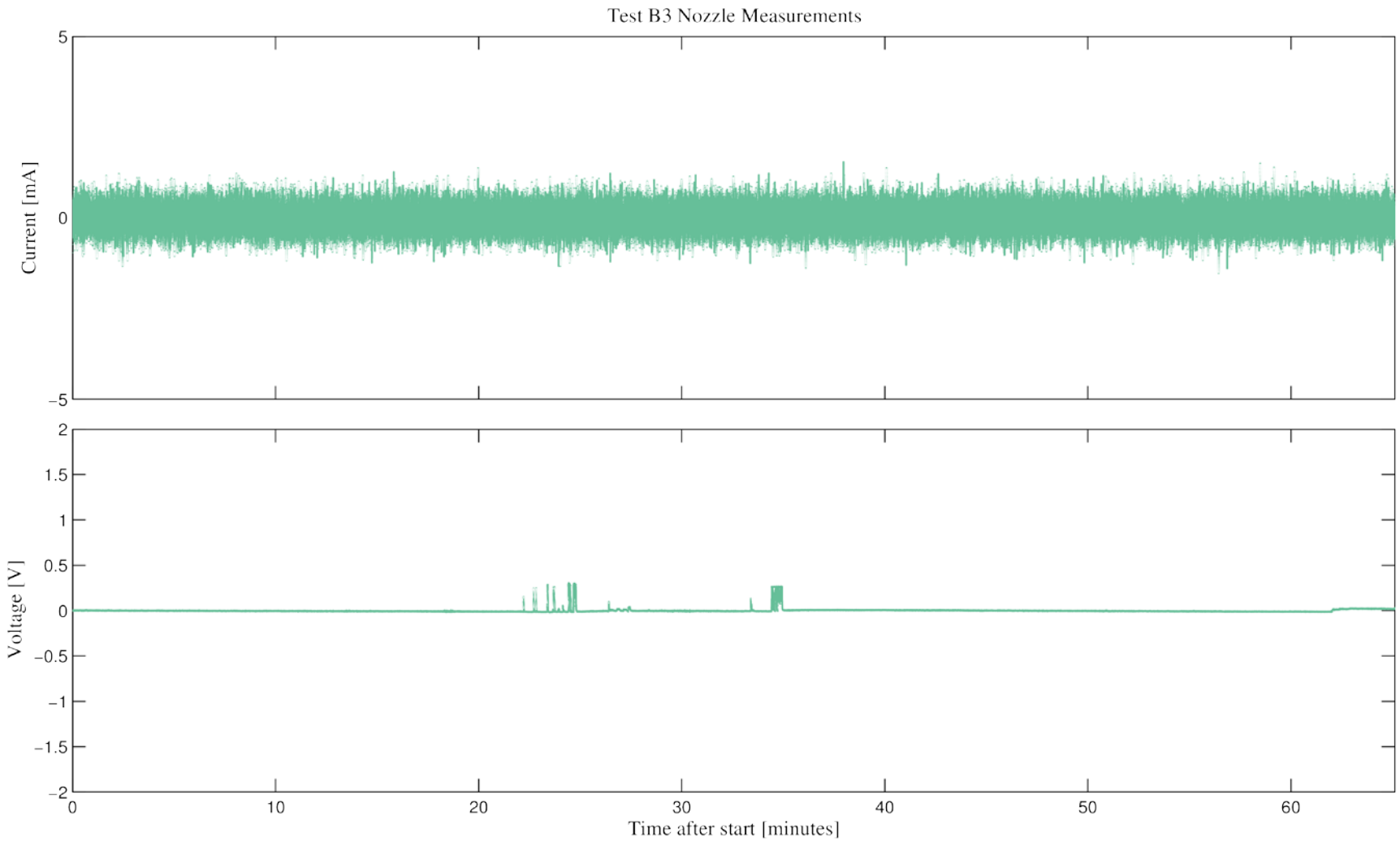

Figure E.8 Nozzle voltage and current measurements for Test B3

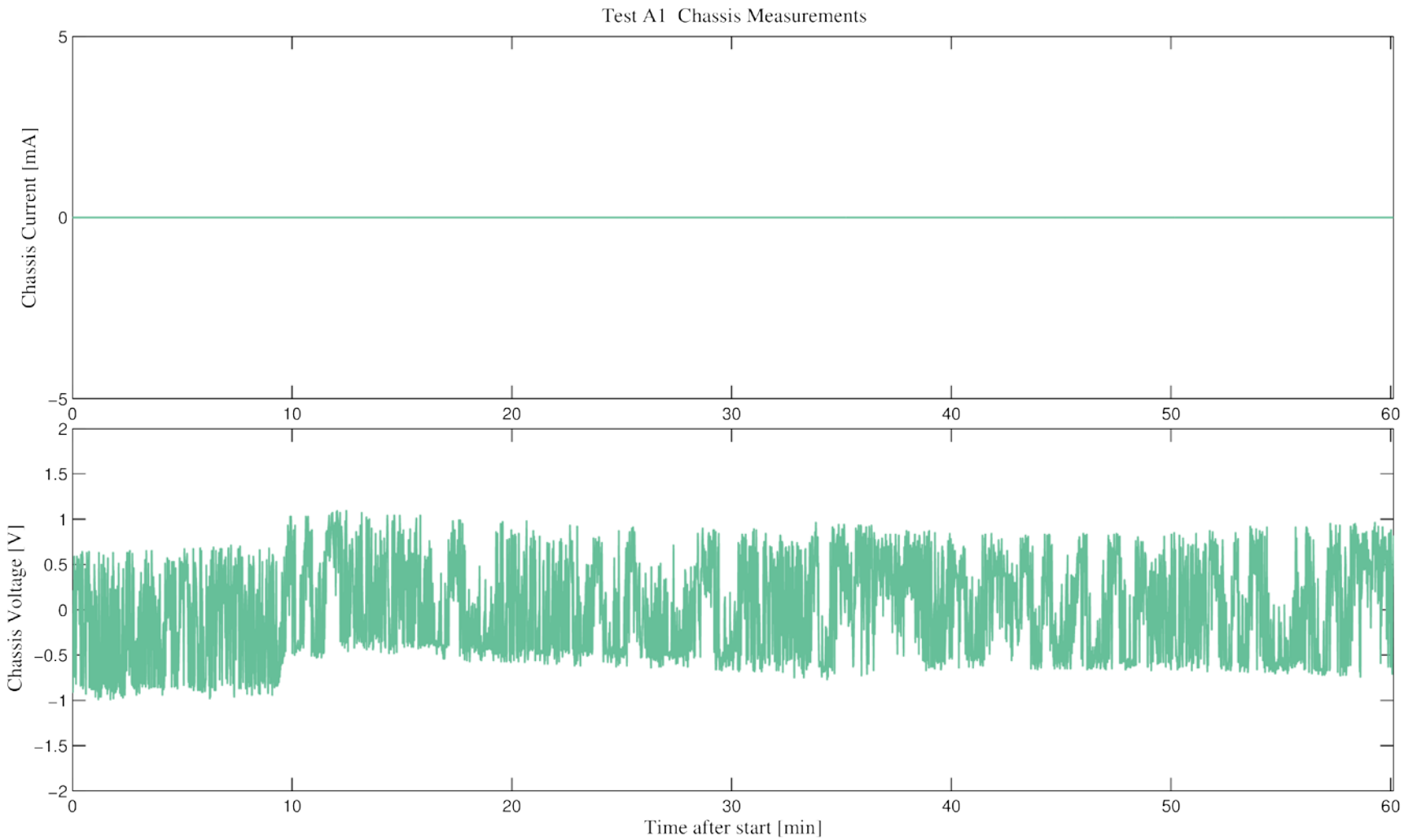

Figure E.9 Chassis voltage and current measurements for Test A1

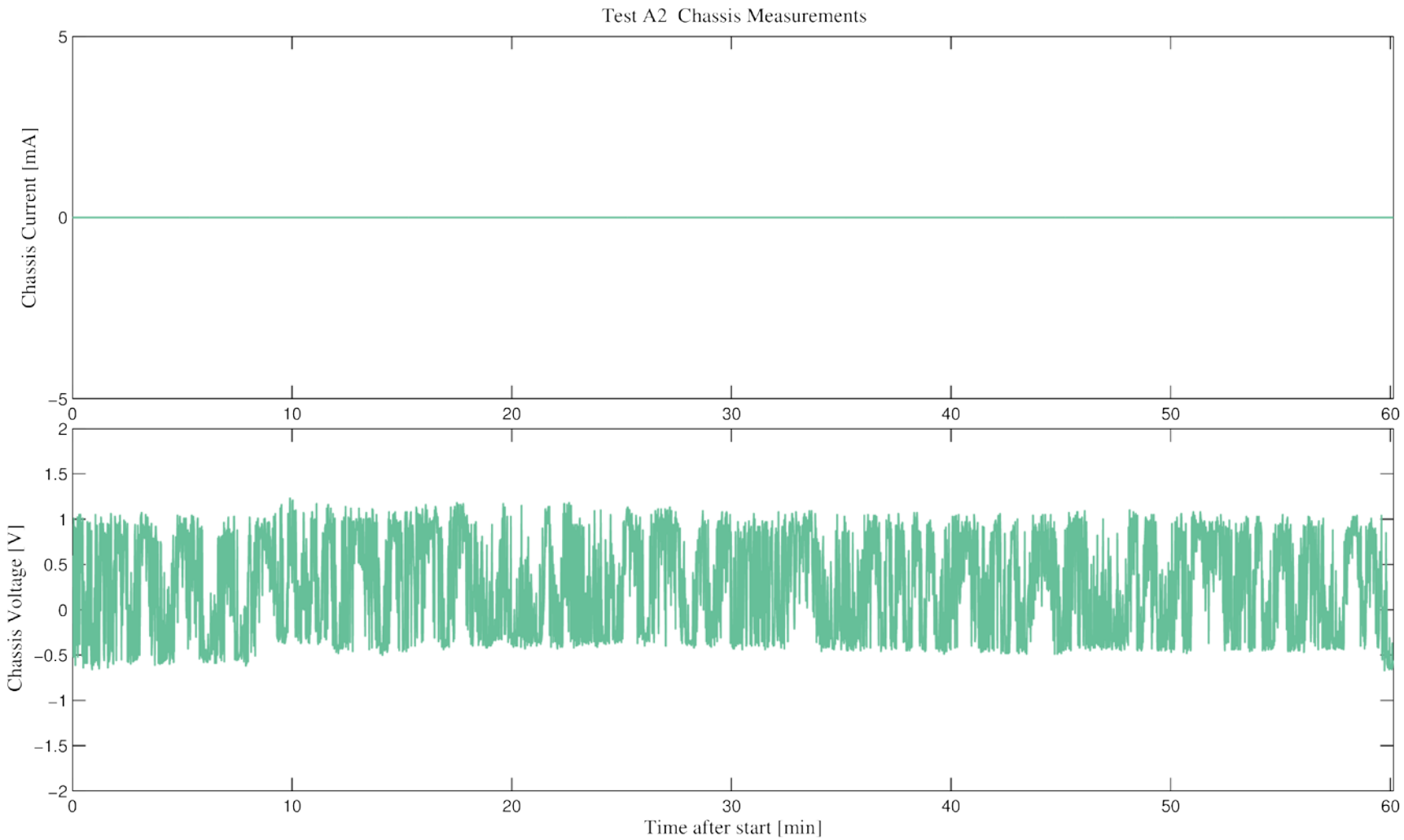

Figure E.10 Chassis voltage and current measurements for Test A2

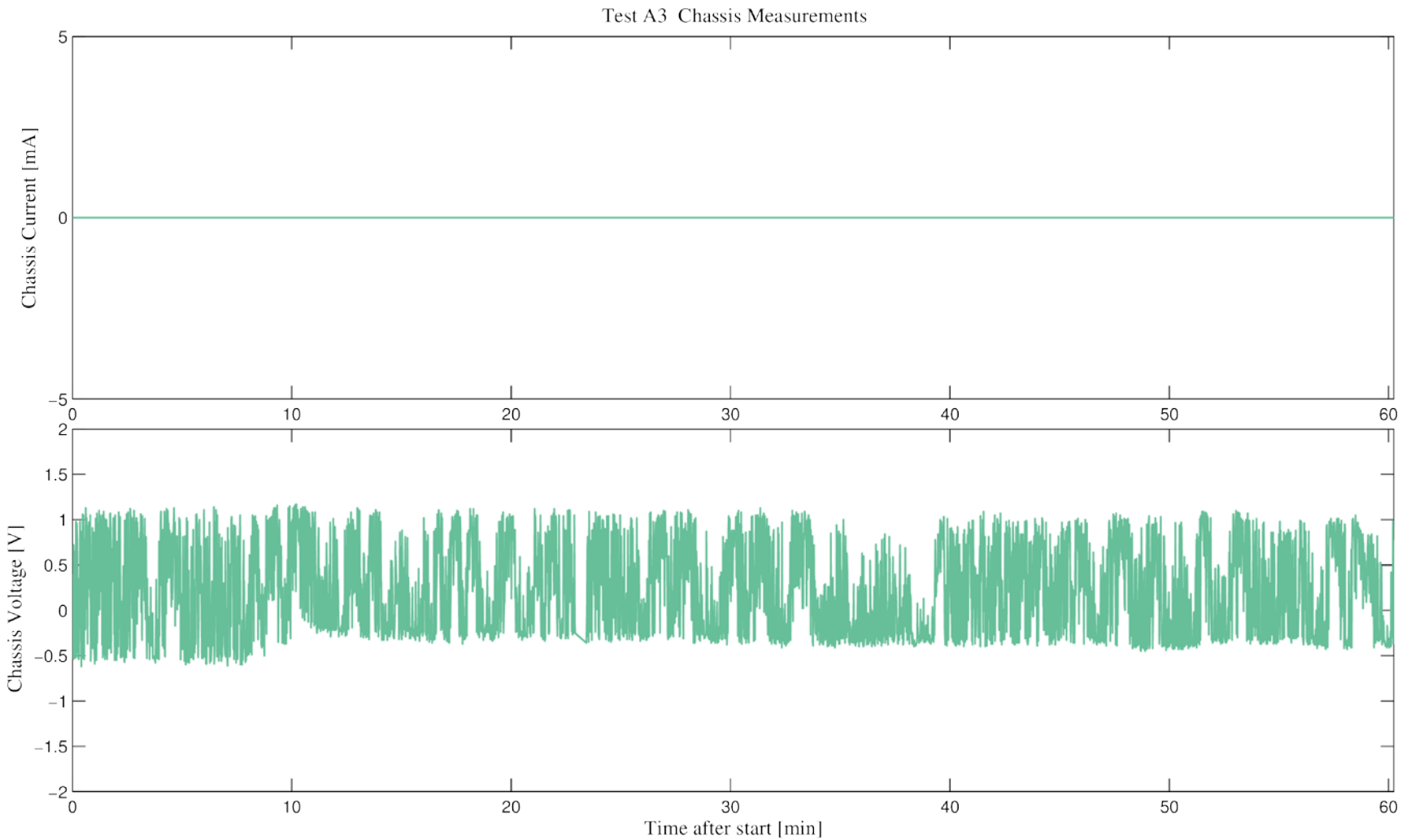

Figure E.11 Chassis voltage and current measurements for Test A3

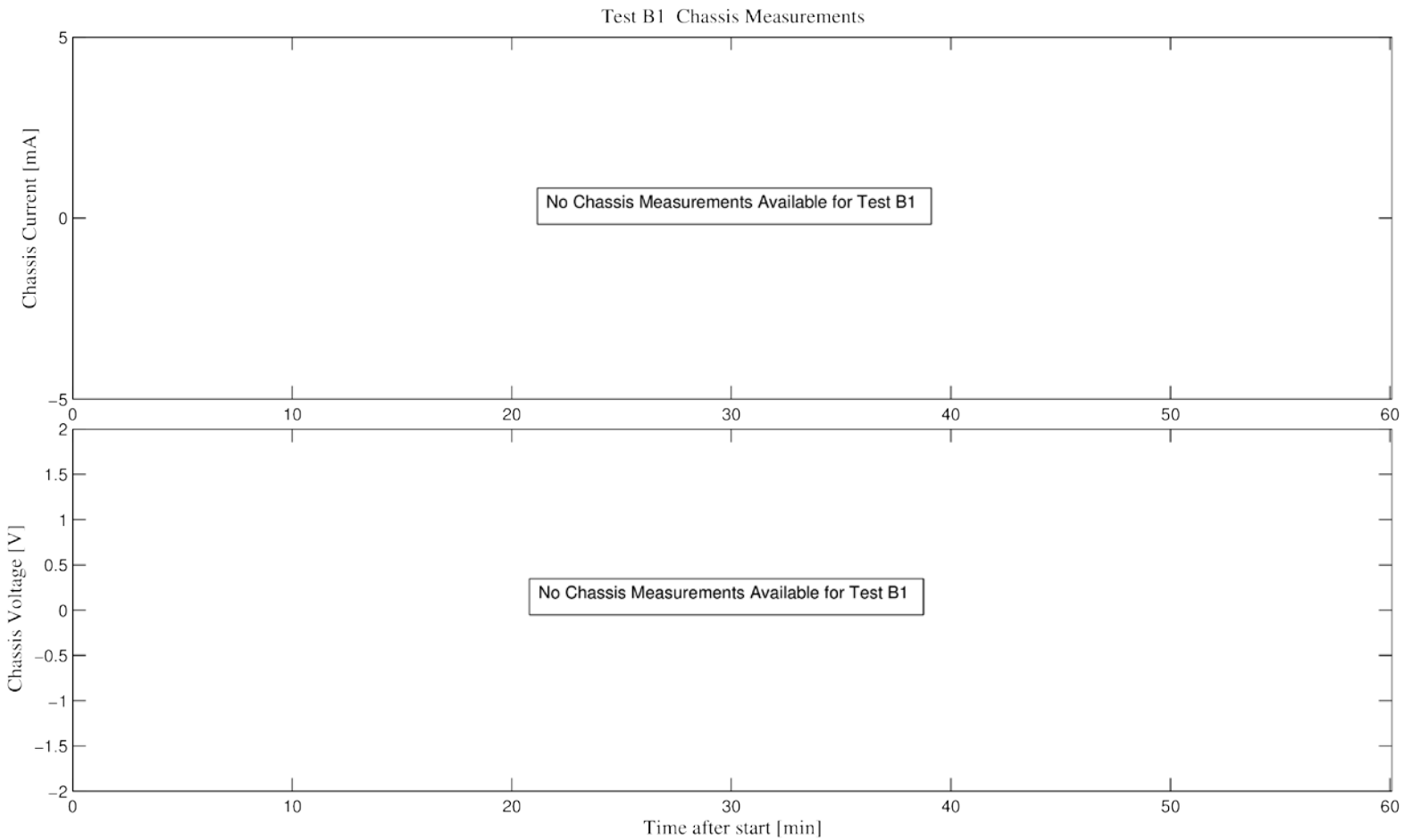

Figure E.12 Chassis voltage and current measurements for Test B1

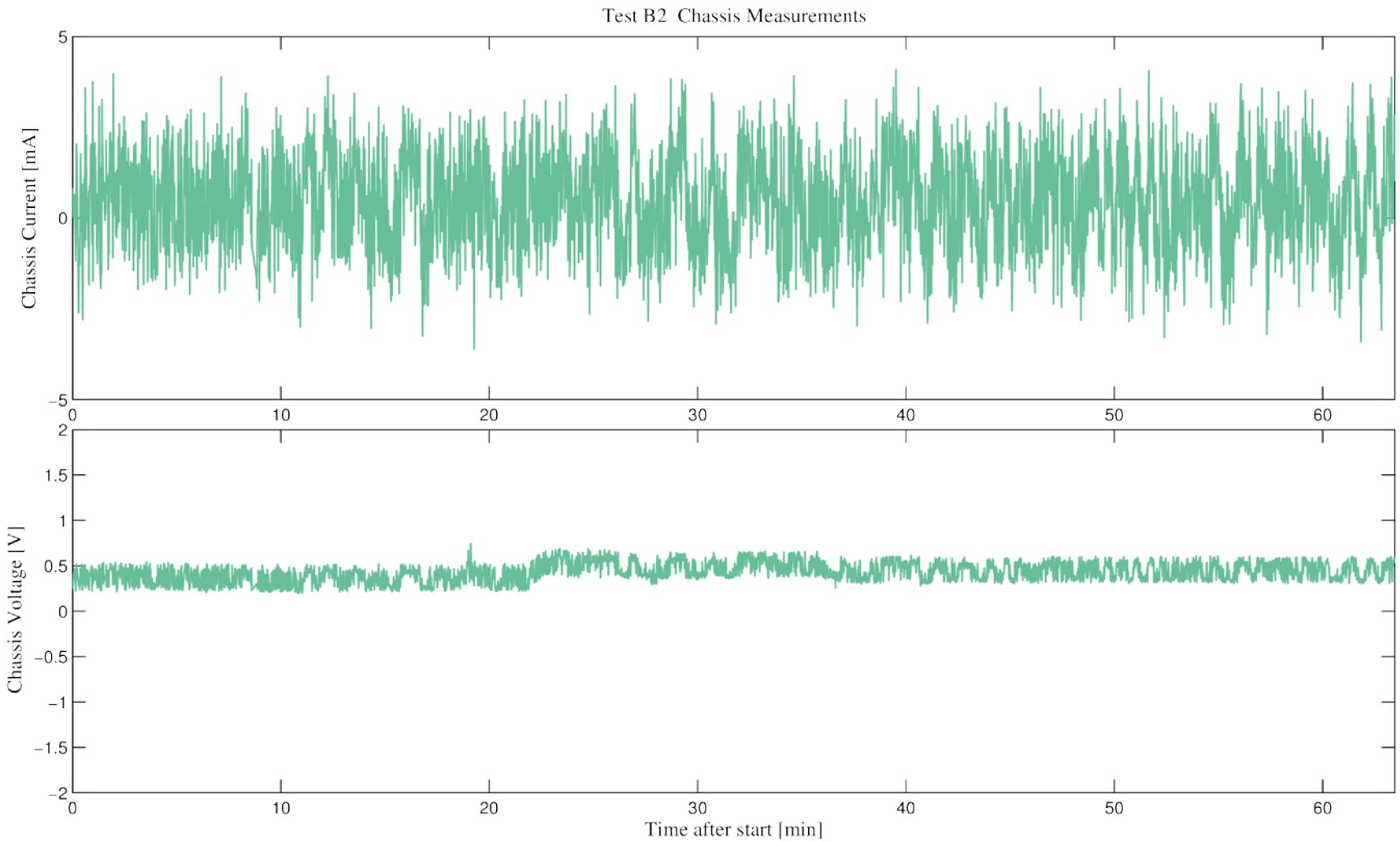

Figure E.13 Chassis voltage and current measurements for Test B2

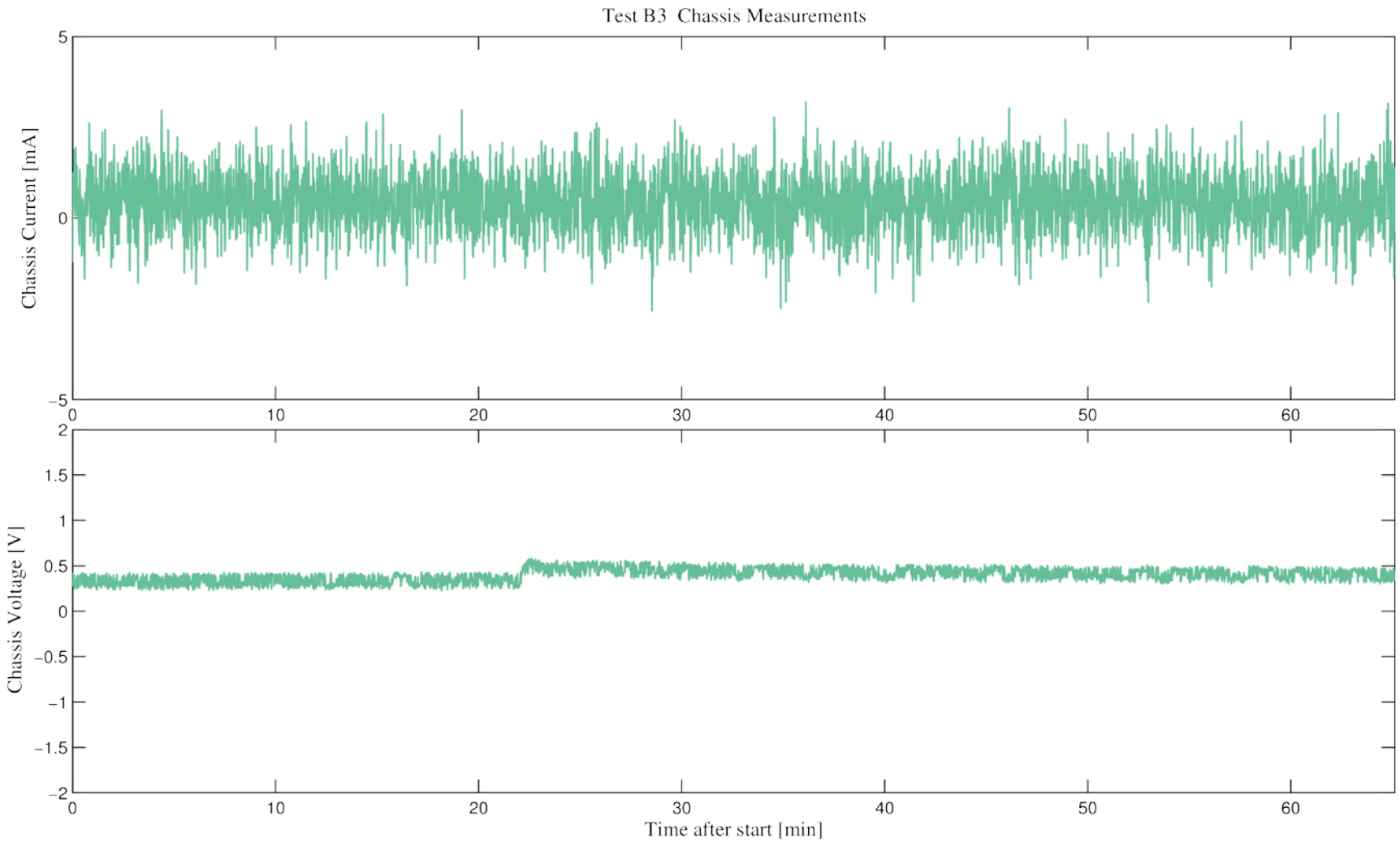

Figure E.14 Chassis voltage and current measurements for Test B3