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Water Pretreatment Record

Contract: 4184 Date: 30-NOV-11 H_2SO_4 Lot No. /

Analyst: MSW $Na_2S_2O_3$ Lot No.

LIMS I.D.	Bottle Number	Client ID	pH Adjustment		Residual Chlorine *		Other Preservative	
			Initial pH	Final pH	SLA-073 or SLA-110 pos or neg	Amt of $Na_2S_2O_3$ Added (80 mg/L)	/	Amount Added
L17223-1	1 of 2	MW-75-112911	7	—	neg	—		
L17223-2	1 of 2	DUP-112911-2	7	—	neg	—		
L17223-3	1 of 2	MW-10-112911	7	—	neg	—		
L17223-4	1 of 6	MW-13-112911	7	—	neg	—		
L17223-4	1 of 6	Duplicate.	7	—	neg	—		

* Determined by Starch/KI Test (SLA-73) or HACH Test (SLA-110).

For samples requiring pretreatment, were all available bottles for the sample pretreated? (Yes) No

Checked by: KDP

Date: 30-Nov-11

Comments

FWO-105 Rev 5, 23-Mar-2007

BATCH ID: WG38741

Method ID: MLA-017 R20.02	
Method ID:	
Method ID:	
Analyst:	
Start Date:	05-Jan-12
Batch List Author:	SDHESI
Checked By:	PT
Project Manager:	Cynthia
Glassware Type:	Regular
Glassware Treatment:	Regular
Rotovap Type:	Regular

Matrix:	Aqueous
Sample size:	1 L
Moistures required?	NO
Lipids required?	NO
Extraction Solvent:	DCM & 80:20 Toluene/Acetone 08 Jan 12 LA
FMS Program:	N/A dioxin alumina carbon - 01.dgf
Save FMS discards?	~~N/A~~ Yes
Biohazard Type:	None

Comments:
Sample size -1L

Please use 1L each of L17223-4 for MS & MSD

Calibration: | DX036D-CAL/

previous WG's associated with samples:
WG38427_ORIG

Contract #	Sample	Wt	Contract #	Sample	Wt
4184	L17223-1 R	1 L			
4184	L17223-2 R	1 L			
4184	L17223-3 R	1 L			
4184	L17223-4 R	1 L			

Spiking:

Product	Samples required:	Before Extraction: Surrogate	After Extraction: Cleanup Surrogate	Recovery	F.V.	U-vial	Instructions and Comments:
R:DX017.1613	L17223-1, 2, 3, 4. WG38741-101, 102, 103, 104	(7004) 05 #40 20uL DX041A-SUR/ 05	(7004) @ 432 20uL DX040A-SUR/ 04	(7004) #11 20uL DX018A-REC/04 #42	20 uL	GCMS	none

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BATCH ID: WG38741

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:
WG38741-101 BLANK	1L SEASTAR ULTRA PURE WATER OR ½ VOLUME OF SAMPLE IF >2L	R:DX017.1613		
WG38741-102 SPM	1L SEASTAR ULTRA PURE WATER OR ½ VOLUME OF SAMPLE IF >2L	R:DX017.1613	1000uL DX026A-AUT/06 #93	
WG38741-103 MS	USE 1L OF L17223-4	R:DX017.1613	1000uL DX026A-AUT/ 06 #94	
WG38741-104 MSD	USE 1L OF L17223-4	R:DX017.1613	1000uL DX026A-AUT/ 06 #95	

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:

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RWG38741

WorkGroup: WG38427

Sample	Contract	Product	Matrix	Lab Code	Additional Work Action	Reason	Requested by/date		Lab Completed by/Date		Inst. Completed by/Date		Tray No.	Tray Location	Tray Comments	Remedial Action
L17223-1	4184	DX017.1613	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	H18		
L17223-1	4184	DX017.1613-2	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	H18		
L17223-2	4184	DX017.1613	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	H19		
L17223-2	4184	DX017.1613-2	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	H19		
L17223-3	4184	DX017.1613	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	H20		
L17223-3	4184	DX017.1613-2	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	H20		
L17223-4	4184	DX017.1613	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	H21		
L17223-4	4184	DX017.1613-2	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	H21		
WG38427-101	BLANK	DX017.1613	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	H22		
WG38427-101	BLANK	DX017.1613-2	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	H22		
WG38427-102	SPM	DX017.1613	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	H23		
WG38427-103	MS	DX017.1613	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	I1		
WG38427-104	MSD	DX017.1613	AQ	R	REPEAT	contaminated blank	CVAILLANT	4/Jan/2012					HR-170	I2		

- not bio
- reg
- IL
- ms/msD - use IL of L17223-4

Reviewed by/Date _____

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Sample Labeling Information: Batch ID: WG38741 Date: 5 Jan 12 Analyst: PT Contract #: 4184

Method: MLA-017 R20.02

Sample ID	Sample Type and Description	Original Labeling
L17223-1 R	yellow cloudy water	MW-75-112911 2of2
L17223-2 R	yellow cloudy water	~~MW~~ DUP-112911-2 2of2 PT 5Jan12
L17223-3 R	clear water, very little particulate	MW-10-112911 2of2
L17223-4 R	yellow cloudy water	MW-13-112911 4/6

FWO-305 Rev 06, 22-Feb-2010

Reviewed by SB date 9 Jan 12

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Sample Labeling Information: Batch ID: WG38741 Date: 5Jan12 Analyst: PT Contract #: NONE

Method: MLA-017 R20.02

Sample ID	Sample Type and Description	Original Labeling
WG38741-103 (MS)	matrix spike of L17223-4 yellow cloudy water	MW-13-112911 5/6
WG38741-104 (MSD)	matrix spike duplicate of L17223-4 yellow cloudy water.	MW-13-112911 6/6

FWO-305 Rev 06, 22-Feb-2010

Reviewed by SB date 9Jan12

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Sample Labeling Information: Batch ID: WG38741 Date: 5Jan12 Analyst: PT Contract #: NONE

Method: MLA-017 R20.02

Sample ID	Sample Type and Description	Original Labeling
WG38741-101 (BLANK)	procedural blank, clean water	Jensta ultra pure water 12 Sep 2011
WG38741-102 (SPM)	spiked matrix, clean water	Jensta ultra pure water 12 Sep 2011

FWO-305 Rev 06, 22-Feb-2010

Reviewed by SB date 9Jan12

Page 1C of 6d 5SB9Jan12

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Sample Wt #2 : Batch ID: WG38741 Analyst PT Date: 5Jan12 Balance #: 2214

Method: MLA-017 R20.02

Sample ID	Sample wt (g) (Compositing SLA-084 ____)						Subsample required (SLA-084 (g) ____)				Sample Wt. (g)	Particulate Y/N	Upfront 100x dilution
	Container ____ + Sample	Container ____ + Sample	Container ____	Container ____	Sample wt ___	Sample wt ___	Bottle + cap + sample	Empty bottle	Total sample	Remaining sample			
L17223-1 R	1224.85		388.81								836.04	Y	
L17223-2 R	1291.38		388.94								902.44	Y	
L17223-3 R	1271.06		389.24								881.82	Y	
L17223-4 R	1280.91		389.39								891.52	Y	
WG38741-101 (BLANK)											1022.65	N	
WG38741-102 (SPM)											1018.08	~~N~~ Y AT 5Jan12	
WG38741-103 (MS)	1286.55		389.49								~~4897.06~~ 869.4 PT 5Jan12	Y	
WG38741-104 (MSD)	1258.24		388.84								869.4	Y	

Extraction Information: visible particulate: ✓ no visible particulate: _____

Stirring: Solvent used: DCM volume: 300 mL Analyst: PT

Start Date: 5Jan12 time: 948 end Date: 5Jan12 time: 1050

Shaking: Solvent used: DCM # of shakes: _____ volume: _____mL Analyst: _____

Date: _____ time: _____

Particulate (soxhlet extraction): Solvent: 80:20 volume: 300 mL Analyst: PT

Start Date: 5Jan12 time: 1110 end Date: 06-Jan-12 time: 1400

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Spiking Sheet - Standards Spiked into C-tube: Batch ID: WG38741 Method: MLA-017 R20.02

SLA-017 Witness name/initials: M. Gary / MKG

Sample ID	Before extraction Surr. ID: DX041A-SUR/05 Date: 05Jan12 Vol.: 20 µL Syringe#: 7004 Ampoule: 40 Analyst: PI		Before extraction Surr. ID: Date: Vol.: µL Syringe#: Ampoule: Analyst:		Before extraction Surr. ID: Date: Vol.: µL Syringe#: Ampoule: Analyst:		Before extraction Surr. ID: Date: Vol.: µL Syringe#: Ampoule: Analyst:		Addition of diluted Surr. to sample. Analyst: PI	
	Time	Witness	Time	Witness	Time	Witness	Time	Witness	Time	Witness
L17223-1 R	08:25	MKG							08:28	MKG
L17223-2 R	08:26	MKG							08:29	MKG
L17223-3 R	08:26	MKG							08:29	MKG
L17223-4 R	08:26	MKG							08:30	MKG
WG38741-101 (BLANK)	08:24	MKG							08:26	MKG
WG38741-102 (SPM)	08:24	MKG							08:27	MKG
WG38741-103 (MS)	08:25	MKG							08:27	MKG
WG38741-104 (MSD)	08:25	MKG							08:28	MKG

Sample ID	Aut. Std: DX026A-AUT/06 Date: 05Jan12 Vol.: 1000 µL Syringe#: — Ampoule#: 93, 94, 95 Analyst: PI		Aut. Std: Date: Vol.: µL Syringe#: Ampoule#: Analyst:		Aut. Std: Date: Vol.: µL Syringe#: Ampoule#: Analyst:		Aut. Std: Date: Vol.: µL Syringe#: Ampoule#: Analyst:		Addition of diluted Std. to sample Analyst: —	
	Time	Witness	Time	Witness	Time	Witness	Time	Witness	Time	Witness
WG38741-102SPM	08:21	MKG								
WG38741-103 MS	08:22	MKG								
WG38741-104 MSD	08:23	MKG								

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Spiking Sheet: Batch ID: WG38741 Method: MLA-017 R20.02

SLA-017 Witness name/ initials: _____

Sample ID	**Before extraction** Surr. ID: _____ Date: _____ Vol.: _____µL Syringe#: _____ Ampoule: _____ Analyst: _____		**Before extraction** Surr. ID: _____ Date: _____ Vol.: _____µL Syringe#: _____ Ampoule: _____ Analyst: _____		**Cleanup Std.** Surr.: DX640A-50/100 Date: 6 Jan 11 Vol.: 20 µL Syringe#: 7004 Ampoule: 32 Start time: 9:30 Fin. time: 9:40	**Cleanup Std.** Surr.: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule: _____ Start time: _____ Fin. time: _____	**Recovery** Surr.: DV01&A-REC/04 Date: 9 Jan 12 Vol.: 20 µL F.V.: 20 µL Syringe#: 7004 Ampoule: 11 Start time: 13:30 Fin. time: 13:35	**Recovery** Surr.: _____ Date: _____ Vol.: _____ µL F.V.: _____µL Syringe#: _____ Ampoule: _____ Start time: _____ Fin. time: _____
	Time	Witness	Time	Witness	Analyst: SB	Analyst:	Analyst: SB	Analyst:
L17223-1 R					✓		✓	
L17223-2 R					✓		✓	
L17223-3 R					✓		✓	
L17223-4 R					✓		✓	
WG38741-101 (BLANK)					✓		✓	
WG38741-102 (SPM)					✓		✓	
WG38741-103 (MS)					✓		✓	
WG38741-104 (MSD)					✓		✓	

Sample ID	Authentic Std:_____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule#:_____ Analyst: _____		Authentic Std:_____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule#:_____ Analyst: _____		Authentic Std:_____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule#:_____ Analyst: _____	
	Time	Witness	Time	Witness	Time	Witness

SB 9 Jan 12

AXYS Analytical Services Ltd

Cleanup Information Sheet: Batch ID: WG38741 Method: MLA-017 R20.02

Sample ID	Biobead #	Solvent exchange before FMS Analyst LA Portion ____ vol. 50 uL	Solvent exchange before ____ Analyst ____ Portion ____ vol. ____uL	Solvent exchange before ____ Analyst ____ Portion ____ vol. ____uL	SLA-045 (Cu test for sulphur) Cu test 1: Date: ____ Time: ____ Analyst: ____ Portion: ____ +ve ____ -ve	Cu test 2: Date: ____ Time: ____ Analyst: ____ Portion: ____ +ve ____ -ve
L17223-1 R		✓			+ve -ve	+ve -ve
L17223-2 R		✓			+ve -ve	+ve -ve
L17223-3 R		✓			+ve -ve	+ve -ve
L17223-4 R		✓			+ve -ve	+ve -ve
WG38741-101 (BLANK)		✓			+ve -ve	+ve -ve
WG38741-102 (SPM)		✓			+ve -ve	+ve -ve
WG38741-103 (MS)		✓			+ve -ve	+ve -ve
WG38741-104 (MSD)		✓			+ve -ve	+ve -ve
					+ve -ve	+ve -ve
					+ve -ve	+ve -ve
					+ve -ve	+ve -ve
					+ve -ve	+ve -ve
					+ve -ve	+ve -ve
					+ve -ve	+ve -ve
					+ve -ve	+ve -ve
					+ve -ve	+ve -ve
					+ve -ve	+ve -ve

Cleanup Type	Portion	Batch #	Date	Time	Column Size / Solvent (batch # for mixed reagents)	Elution vol. (mL)	Pre-elute	Analyst
Biobead		N/A			F1 1:1 DCM/Hex. ____ F2 1:1 DCM/Hex. ____	F1 F2		
A/B Silica (PCB/BE)					PB___ BE___ ____g 44% Hexane ____			
A/B/$AgNO_3$ Silica (DX)	DX	—	6 Jan 12	15:00	DX ✓ $AgNO_3$ ✓ 20 g 44% Hexane ✓	150	✓	SB
5% Silica (PAH/HC)			✓		F1 Pentane___ F2 DCM ____	F1 F2		
Florisil (HR PCB/BE)					E1 15% DCM/Hex. ____ E2 DCM ____	E1 E2		
Florisil (Pest/LR PCB)					E1 10% DCM/Hex. ____ E2 DCM ____	E1 E2		
Florisil (DX)					F1 5% DCM/Hex. ____ F2 DCM ____	F1 F2		
Alumina (PCB)					F1 Hex. ____ F2 1:1 DCM:Hex. ____	F1 F2		
Alumina (BE)					F1 Hex. ___ F2 Hex. ___ F3 1:1 DCM/Hex.__	F1 F2 F3		
Alumina (DX)					F1 Hex. ___ 2% DCM/Hex ___ 1:1 DCM/Hexane ___	F1 F2 F3		
2% Alumina (PAH)					F1 Hex. ____ F2 DCM ____	F1 F2		
Carbon Celite					For DX ___ with Al___ For Toxic PCBs ___ Toluene __			
Derivatizing - Sterols					1. Pyridine ____ 3. 99:1 BSTFA:TMCS ____	1. 50 µL x2 2. 50 µL x2		
Acetylation - Nonylphenols		N/A			1. Hex. ____ 2. Pyridine ____ 3. Acetic Anhydride	1. 200µL 2: 50µL 3: 50µL		
Extraction after Acetylation		N/A			1. K_2C0_3 ____ 2. 3x Hexane ____	1. 2.		
						F1 F2 F3		

Reviewed by SB Date 9 Jan 12

SB 9 Jan 12

AXYS Analytical Services Ltd

GPC or FMS Cleanup: Batch#: WG38741 Method: MLA-017 R20.03

Sample ID	Valve Module # Or Run order	Valve Drive Module #	J Si lot#	Sm A/B Si lot#	Fl lot#	Al lot#	C lot#
L17223-1R	M6A	14				L103 10-25-11	C103 11-28-11 08 Jan 12 LA
L17223-2R	M18	17					
L17223-3R	M7	15					
WG38741-101 BLK	08 Jan 12 LA M12	7					
L17223-4R	M7	15				L103 10-25-11	C102 11-22-11
WG38741-102 SPM	12	7					
WG38741-103 MS	M6A	14					
WG38741-104 MSD	M18	17					

Program(s):
GPC
FMS diosil alumina carbon-01

Run #: 1
Date: 08 Jan 12
Analyst: LA
Ben:
Jerry: ✓
Control Module #: B2
Power Supply #: A1

Run #: 2
Date: 08 Jan 12
Analyst: LA
Ben:
Jerry: ✓
Control Module #: B2
Power Supply #: A1

Run #:
Date:
Analyst:
Ben:
Jerry:
Control Module #:
Power Supply #:

Run #:
Date:
Analyst:
Ben:
Jerry:
Control Module #:
Power Supply #:

Mres cleanup:

Solvent exchange to 500µL ____

bulk to 1mL 1:2:1 ethyl acetate:acetonitrile:toluene prior to columning ____

Aminopropyl 1g SPE column
lot# ____
date: ____
analyst: ____
# of columns run: ____

Pre-elution:
2 column volumes 1:2:1 ethyl acetate:acetonitrile:toluene ___
Elution:
load sample & 1mL rinse 1:2:1 ethyl acetate:acetonitrile:toluene ___
elute with 11mL 1:2:1 ethyl acetate:acetonitrile:toluene ___

Reduce and solvent exchange to 100µL ____

u-Silica column
(0.75g 10% deactivated silica)
batch# ____
date: ____
analyst: ____
elute with 5mL 10% MeOH in DCM ____
add 5mL acetone and 1mL iso-octane to r.b. rotovap to 1mL __

Reviewed by SB Date 9 Jan 12

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Dxn-GPC File- C:\DMS6000\Routine use\Dioxin-Aumina-Carbon-01.dgf

wg38741 Dioxin-Aumina-Carbon-01.dgf 08 jan 12 la

Step	Flow	Vol	M1 - M8	M9 - M16	Smpl#	Description
1	10.0000	10.0000	01222006	00000000		Flush bypass w\hexane
2	10.0000	30.0000	01212006	00000000		Wet Alumina
3	10.0000	20.0000	01221226	00000000		Wet Carbon
4	10.0000	12.0000	05222006	00000000		Change to toluene
5	10.0000	40.0000	05221226	00000000		Pre-Elute Carbon W\toluene
6	10.0000	12.0000	04222006	00000000		Change to Ethyl Acetate & Toluene
7	10.0000	10.0000	04221226	00000000		Pre-Elute Carbon W\Ethyl Acetate & Tolu
8	10.0000	12.0000	03222005	00000000		Change to 50% DCM/Hexane
9	10.0000	20.0000	03221225	00000000		Pre-Elute Carbon W\50% DCM&Hexane
10	10.0000	12.0000	01222006	00000000		Change to Hexane
11	10.0000	30.0000	01221226	00000000		Pre-Elute Carbon W\Hexane
12	10.0000	12.0000	02222005	00000000		Change to 2% DCM in Hexane
13	0.05000	5.00000	01112006	00000000	0	Load sample
14	10.0000	60.0000	02212005	00000000	0	Elute Alumina W\2% DCM in Hexane
15	10.0000	12.0000	03222005	00000000		Change to 50% DCM&Hexane
16	10.0000	120.000	03211225	00000000		Elute W\50% DCM&Hexane
17	10.0000	12.0000	04222006	00000000		Change to Etyl Acetate & Toluene
18	10.0000	4.00000	04221226	00000000		Elute Carbon W\Ethyl Acetate & Toluene
19	10.0000	12.0000	01222006	00000000		Change to Hexane
20	10.0000	10.0000	01221226	00000000		Flush Carbon W\Hexane
21	10.0000	12.0000	05222006	00000000		Change to Toluene
22	5.00000	100.000	05221111	00000000	0	Elute PCDD/PCDF w/ Toluene
23	0.50000	0.05000	00000000	00000000		Shut Off Valves

4 Samples 1st run EDL 08JAN12

4 Samples 2nd run EDL 08JAN12

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Notes: Batch ID: WG38741 Method: MLA-017 R20.02

Date:	Analyst	Fraction	Notes:

AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-7S-112911
Sample Collection:
29-Nov-2011 08:21

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	128296.07		
Contract No.:	4184	**Lab Sample I.D.:**	L17223-1 R
Matrix:	AQUEOUS	**Sample Size:**	0.836 L
Sample Receipt Date:	30-Nov-2011	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 12:49:55	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg/L		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	U		0.598 (Q)		
1,2,3,7,8-PECDD [4]	U		0.598 (Q)		
1,2,3,4,7,8-HXCDD	U		0.598 (Q)		
1,2,3,6,7,8-HXCDD	U		0.598 (Q)		
1,2,3,7,8,9-HXCDD	U		0.598 (Q)		
1,2,3,4,6,7,8-HPCDD	K J	5.28	0.598 (Q)	0.74	1.000
OCDD		140	0.598 (Q)	0.83	1.000
2,3,7,8-TCDF	U		0.598 (Q)		
1,2,3,7,8-PECDF	U		0.598 (Q)		
2,3,4,7,8-PECDF	U		0.598 (Q)		
1,2,3,4,7,8-HXCDF	U		0.598 (Q)		
1,2,3,6,7,8-HXCDF	U		0.598 (Q)		
1,2,3,7,8,9-HXCDF	U		0.598 (Q)		
2,3,4,6,7,8-HXCDF	U		0.598 (Q)		
1,2,3,4,6,7,8-HPCDF	K J	1.79	0.598 (Q)	1.43	1.000
1,2,3,4,7,8,9-HPCDF	K J	0.703	0.598 (Q)	1.46	1.000
OCDF	J	5.80	0.598 (Q)	0.88	1.002
TOTAL TETRA-DIOXINS		4.69	0.598 (Q)		
TOTAL PENTA-DIOXINS	U		0.598 (Q)		
TOTAL HEXA-DIOXINS	U		0.598 (Q)		
TOTAL HEPTA-DIOXINS		4.50	0.598 (Q)		
TOTAL TETRA-FURANS		5.15	0.598 (Q)		
TOTAL PENTA-FURANS	U		0.598 (Q)		
TOTAL HEXA-FURANS		0.882	0.598 (Q)		
TOTAL HEPTA-FURANS		3.89	0.598 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_L17223-1_Form1A_DX2M_008S6_SJ1408670.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-7S-112911
Sample Collection:
29-Nov-2011 08:21

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	128296.07		
Contract No.:	4184	**Lab Sample I.D.:**	L17223-1 R
Matrix:	AQUEOUS	**Sample Size:**	0.836 L
Sample Receipt Date:	30-Nov-2011	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 12:49:55	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1360	68.1	0.80	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1490	74.7	0.62	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1270	63.4	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1270	63.7	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1170	58.7	1.03	1.094
13C-OCDD		4000	1910	47.8	0.88	1.178
13C-2,3,7,8-TCDF		2000	1410	70.5	0.76	0.966
13C-1,2,3,7,8-PECDF		2000	1350	67.5	1.54	1.285
13C-2,3,4,7,8-PECDF		2000	1410	70.5	1.51	1.353
13C-1,2,3,4,7,8-HXCDF		2000	1280	64.1	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1280	63.8	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1270	63.4	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1260	63.0	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1150	57.5	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1130	56.3	0.43	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	166	83.0		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_L17223-1_Form2_DX2M_008S6_SJ1408670.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
MW-7S-112911

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4184	**Sample Collection:**	29-Nov-2011 08:21
Matrix:	AQUEOUS	**Project No.**	128296.07
Sample Size:	0.836 L	**Lab Sample I.D.:**	L17223-1 R
Concentration Units:	pg/L	**GC Column ID:**	DB5
		Sample Data Filename:	**DX2M_008 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.598	1	0.00e+00	2.99e-01	
1,2,3,7,8-PECDD	U		0.598	1	0.00e+00	2.99e-01	
1,2,3,4,7,8-HXCDD	U		0.598	0.1	0.00e+00	2.99e-02	
1,2,3,6,7,8-HXCDD	U		0.598	0.1	0.00e+00	2.99e-02	
1,2,3,7,8,9-HXCDD	U		0.598	0.1	0.00e+00	2.99e-02	
1,2,3,4,6,7,8-HPCDD	U		0.598	0.01	0.00e+00	2.99e-03	
OCDD		140	0.598	0.0003	4.20e-02	4.20e-02	
2,3,7,8-TCDF	U		0.598	0.1	0.00e+00	2.99e-02	
1,2,3,7,8-PECDF	U		0.598	0.03	0.00e+00	8.97e-03	
2,3,4,7,8-PECDF	U		0.598	0.3	0.00e+00	8.97e-02	
1,2,3,4,7,8-HXCDF	U		0.598	0.1	0.00e+00	2.99e-02	
1,2,3,6,7,8-HXCDF	U		0.598	0.1	0.00e+00	2.99e-02	
1,2,3,7,8,9-HXCDF	U		0.598	0.1	0.00e+00	2.99e-02	
2,3,4,6,7,8-HXCDF	U		0.598	0.1	0.00e+00	2.99e-02	
1,2,3,4,6,7,8-HPCDF	U		0.598	0.01	0.00e+00	2.99e-03	
1,2,3,4,7,8,9-HPCDF	U		0.598	0.01	0.00e+00	2.99e-03	
OCDF		5.80	0.598	0.0003	1.74e-03	1.74e-03	
			TOTAL TEQ		0.0437	0.989	

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Shelley Facchin_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 13-Jan-2012 13:56:51; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613-TEQ_L17223-1_TEQ_SJ1408670.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
DUP-112911-2
Sample Collection:
29-Nov-2011 05:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	128296.07		
Contract No.:	4184	**Lab Sample I.D.:**	L17223-2 R
Matrix:	AQUEOUS	**Sample Size:**	0.902 L
Sample Receipt Date:	30-Nov-2011	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 13:45:07	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg/L		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	U		0.554 (Q)		
1,2,3,7,8-PECDD [4]	U		0.554 (Q)		
1,2,3,4,7,8-HXCDD	U		0.554 (Q)		
1,2,3,6,7,8-HXCDD	U		0.554 (Q)		
1,2,3,7,8,9-HXCDD	U		0.554 (Q)		
1,2,3,4,6,7,8-HPCDD	J	17.7	0.628 (S)	0.95	1.000
OCDD		1100	2.10 (S)	0.88	1.000
2,3,7,8-TCDF	U		0.554 (Q)		
1,2,3,7,8-PECDF	U		0.554 (Q)		
2,3,4,7,8-PECDF	U		0.554 (Q)		
1,2,3,4,7,8-HXCDF	U		0.554 (Q)		
1,2,3,6,7,8-HXCDF	U		0.554 (Q)		
1,2,3,7,8,9-HXCDF	U		0.554 (Q)		
2,3,4,6,7,8-HXCDF	U		0.554 (Q)		
1,2,3,4,6,7,8-HPCDF	K J	1.56	0.917 (S)	2.55	1.001
1,2,3,4,7,8,9-HPCDF	U		0.917 (S)		
OCDF	K J	7.36	0.554 (Q)	0.67	1.002
TOTAL TETRA-DIOXINS		7.68	0.554 (Q)		
TOTAL PENTA-DIOXINS	U		0.554 (Q)		
TOTAL HEXA-DIOXINS		2.52	0.554 (Q)		
TOTAL HEPTA-DIOXINS		39.1	0.628 (S)		
TOTAL TETRA-FURANS		7.49	0.554 (Q)		
TOTAL PENTA-FURANS	U		0.554 (Q)		
TOTAL HEXA-FURANS	U		0.554 (Q)		
TOTAL HEPTA-FURANS	U		0.917 (S)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_L17223-2_Form1A_DX2M_008S7_SJ1408671.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
DUP-112911-2
Sample Collection:
29-Nov-2011 05:30

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	128296.07		
Contract No.:	4184	**Lab Sample I.D.:**	L17223-2 R
Matrix:	AQUEOUS	**Sample Size:**	0.902 L
Sample Receipt Date:	30-Nov-2011	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 13:45:07	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 7**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1110	55.3	0.76	1.013
13C-1,2,3,7,8-PECDD [4]		2000	989	49.4	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		2000	773	38.7	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	713	35.6	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	578	28.9	1.01	1.094
13C-OCDD		4000	894	22.3	0.92	1.178
13C-2,3,7,8-TCDF		2000	1180	59.2	0.75	0.966
13C-1,2,3,7,8-PECDF		2000	914	45.7	1.54	1.286
13C-2,3,4,7,8-PECDF		2000	1010	50.3	1.57	1.354
13C-1,2,3,4,7,8-HXCDF		2000	800	40.0	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	761	38.0	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	755	37.7	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	814	40.7	0.51	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	622	31.1	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	581	29.0	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	152	76.1		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_L17223-2_Form2_DX2M_008S7_SJ1408671.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
DUP-112911-2

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Sample Collection:	29-Nov-2011 05:30		
Contract No.:	4184	**Project No.**	128296.07
Matrix:	AQUEOUS	**Lab Sample I.D.:**	L17223-2 R
Sample Size:	0.902 L	**GC Column ID:**	DB5
Concentration Units:	pg/L	**Sample Data Filename:**	**DX2M_008 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.554	1	0.00e+00	2.77e-01	
1,2,3,7,8-PECDD	U		0.554	1	0.00e+00	2.77e-01	
1,2,3,4,7,8-HXCDD	U		0.554	0.1	0.00e+00	2.77e-02	
1,2,3,6,7,8-HXCDD	U		0.554	0.1	0.00e+00	2.77e-02	
1,2,3,7,8,9-HXCDD	U		0.554	0.1	0.00e+00	2.77e-02	
1,2,3,4,6,7,8-HPCDD		17.7	0.628	0.01	1.77e-01	1.77e-01	
OCDD		1100	2.10	0.0003	3.30e-01	3.30e-01	
2,3,7,8-TCDF	U		0.554	0.1	0.00e+00	2.77e-02	
1,2,3,7,8-PECDF	U		0.554	0.03	0.00e+00	8.31e-03	
2,3,4,7,8-PECDF	U		0.554	0.3	0.00e+00	8.31e-02	
1,2,3,4,7,8-HXCDF	U		0.554	0.1	0.00e+00	2.77e-02	
1,2,3,6,7,8-HXCDF	U		0.554	0.1	0.00e+00	2.77e-02	
1,2,3,7,8,9-HXCDF	U		0.554	0.1	0.00e+00	2.77e-02	
2,3,4,6,7,8-HXCDF	U		0.554	0.1	0.00e+00	2.77e-02	
1,2,3,4,6,7,8-HPCDF	U		0.917	0.01	0.00e+00	4.59e-03	
1,2,3,4,7,8,9-HPCDF	U		0.917	0.01	0.00e+00	4.59e-03	
OCDF	U		0.554	0.0003	0.00e+00	8.31e-05	
			TOTAL TEQ		0.507	1.38	

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 13-Jan-2012 13:56:51; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613-TEQ_L17223-2_TEQ_SJ1408671.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-10-112911
Sample Collection:
29-Nov-2011 10:50

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	128296.07		
Contract No.:	4184	**Lab Sample I.D.:**	L17223-3 R
Matrix:	AQUEOUS	**Sample Size:**	0.882 L
Sample Receipt Date:	30-Nov-2011	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 14:40:16	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg/L		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	K J	0.879	0.567 (Q)	0.19	0.999
1,2,3,7,8-PECDD [4]	U		0.567 (Q)		
1,2,3,4,7,8-HXCDD	U		0.567 (Q)		
1,2,3,6,7,8-HXCDD	K J	1.14	0.567 (Q)	1.58	1.001
1,2,3,7,8,9-HXCDD	J	0.704	0.567 (Q)	1.28	1.000
1,2,3,4,6,7,8-HPCDD	J	16.9	0.567 (Q)	0.99	1.000
OCDD		369	0.628 (S)	0.86	1.000
2,3,7,8-TCDF	U		0.567 (Q)		
1,2,3,7,8-PECDF	U		0.567 (Q)		
2,3,4,7,8-PECDF	K J	0.624	0.567 (Q)	1.09	1.000
1,2,3,4,7,8-HXCDF	K J	3.88	0.567 (Q)	0.97	1.000
1,2,3,6,7,8-HXCDF	J	0.719	0.567 (Q)	1.21	1.001
1,2,3,7,8,9-HXCDF	U		0.567 (Q)		
2,3,4,6,7,8-HXCDF	U		0.567 (Q)		
1,2,3,4,6,7,8-HPCDF	J	11.1	0.567 (Q)	1.16	1.000
1,2,3,4,7,8,9-HPCDF	K J	1.68	0.567 (Q)	1.65	1.000
OCDF	K J	17.0	0.567 (Q)	0.68	1.002
TOTAL TETRA-DIOXINS	U		0.567 (Q)		
TOTAL PENTA-DIOXINS	U		0.567 (Q)		
TOTAL HEXA-DIOXINS		2.74	0.567 (Q)		
TOTAL HEPTA-DIOXINS		28.2	0.567 (Q)		
TOTAL TETRA-FURANS		1.29	0.567 (Q)		
TOTAL PENTA-FURANS		1.70	0.567 (Q)		
TOTAL HEXA-FURANS		12.6	0.567 (Q)		
TOTAL HEPTA-FURANS		33.0	0.567 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_L17223-3_Form1A_DX2M_008S8_SJ1408672.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-10-112911
Sample Collection:
29-Nov-2011 10:50

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	128296.07		
Contract No.:	4184	**Lab Sample I.D.:**	L17223-3 R
Matrix:	AQUEOUS	**Sample Size:**	0.882 L
Sample Receipt Date:	30-Nov-2011	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 14:40:16	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1420	71.0	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1540	77.2	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1300	64.8	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1290	64.6	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1190	59.3	1.04	1.094
13C-OCDD		4000	1910	47.7	0.87	1.178
13C-2,3,7,8-TCDF		2000	1450	72.3	0.77	0.966
13C-1,2,3,7,8-PECDF		2000	1400	70.2	1.53	1.285
13C-2,3,4,7,8-PECDF		2000	1460	72.8	1.54	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1340	67.2	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1330	66.6	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1350	67.5	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1350	67.4	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1210	60.3	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1180	59.0	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	167	83.5		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_L17223-3_Form2_DX2M_008S8_SJ1408672.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
MW-10-112911

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4184	**Sample Collection:**	29-Nov-2011 10:50
Matrix:	AQUEOUS	**Project No.**	128296.07
Sample Size:	0.882 L	**Lab Sample I.D.:**	L17223-3 R
Concentration Units:	pg/L	**GC Column ID:**	DB5
		Sample Data Filename:	**DX2M_008 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.567	1	0.00e+00	2.84e-01	
1,2,3,7,8-PECDD	U		0.567	1	0.00e+00	2.84e-01	
1,2,3,4,7,8-HXCDD	U		0.567	0.1	0.00e+00	2.84e-02	
1,2,3,6,7,8-HXCDD	U		0.567	0.1	0.00e+00	2.84e-02	
1,2,3,7,8,9-HXCDD		0.704	0.567	0.1	7.04e-02	7.04e-02	
1,2,3,4,6,7,8-HPCDD		16.9	0.567	0.01	1.69e-01	1.69e-01	
OCDD		369	0.628	0.0003	1.11e-01	1.11e-01	
2,3,7,8-TCDF	U		0.567	0.1	0.00e+00	2.84e-02	
1,2,3,7,8-PECDF	U		0.567	0.03	0.00e+00	8.51e-03	
2,3,4,7,8-PECDF	U		0.567	0.3	0.00e+00	8.51e-02	
1,2,3,4,7,8-HXCDF	U		0.567	0.1	0.00e+00	2.84e-02	
1,2,3,6,7,8-HXCDF		0.719	0.567	0.1	7.19e-02	7.19e-02	
1,2,3,7,8,9-HXCDF	U		0.567	0.1	0.00e+00	2.84e-02	
2,3,4,6,7,8-HXCDF	U		0.567	0.1	0.00e+00	2.84e-02	
1,2,3,4,6,7,8-HPCDF		11.1	0.567	0.01	1.11e-01	1.11e-01	
1,2,3,4,7,8,9-HPCDF	U		0.567	0.01	0.00e+00	2.84e-03	
OCDF	U		0.567	0.0003	0.00e+00	8.51e-05	
			TOTAL TEQ		0.533	1.37	

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Shelley Facchin_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 13-Jan-2012 13:56:51; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613-TEQ_L17223-3_TEQ_SJ1408672.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-13-112911
Sample Collection:
29-Nov-2011 12:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	128296.07		
Contract No.:	4184	**Lab Sample I.D.:**	L17223-4 R (A)
Matrix:	AQUEOUS	**Sample Size:**	0.892 L
Sample Receipt Date:	30-Nov-2011	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 15:35:30	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg/L		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	K J	0.633	0.561 (Q)	0.04	1.001
1,2,3,7,8-PECDD [4]	U		0.561 (Q)		
1,2,3,4,7,8-HXCDD	U		0.561 (Q)		
1,2,3,6,7,8-HXCDD	K J	0.716	0.561 (Q)	0.64	1.000
1,2,3,7,8,9-HXCDD	U		0.561 (Q)		
1,2,3,4,6,7,8-HPCDD	J	20.2	0.561 (Q)	0.99	1.000
OCDD		3110	0.685 (S)	0.87	1.000
2,3,7,8-TCDF	U		0.561 (Q)		
1,2,3,7,8-PECDF	U		0.561 (Q)		
2,3,4,7,8-PECDF	U		0.561 (Q)		
1,2,3,4,7,8-HXCDF	U		0.561 (Q)		
1,2,3,6,7,8-HXCDF	U		0.561 (Q)		
1,2,3,7,8,9-HXCDF	U		0.561 (Q)		
2,3,4,6,7,8-HXCDF	U		0.561 (Q)		
1,2,3,4,6,7,8-HPCDF	J	6.37	0.561 (Q)	0.94	1.000
1,2,3,4,7,8,9-HPCDF	K J	1.21	0.561 (Q)	0.58	1.000
OCDF	J	81.0	0.561 (Q)	0.87	1.002
TOTAL TETRA-DIOXINS		0.634	0.561 (Q)		
TOTAL PENTA-DIOXINS	U		0.561 (Q)		
TOTAL HEXA-DIOXINS		1.15	0.561 (Q)		
TOTAL HEPTA-DIOXINS		40.2	0.561 (Q)		
TOTAL TETRA-FURANS	U		0.561 (Q)		
TOTAL PENTA-FURANS	U		0.561 (Q)		
TOTAL HEXA-FURANS		2.77	0.561 (Q)		
TOTAL HEPTA-FURANS		16.0	0.561 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_L17223-4_Form1A_DX2M_008S9_SJ1408673.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-13-112911
Sample Collection:
29-Nov-2011 12:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	128296.07		
Contract No.:	4184	**Lab Sample I.D.:**	L17223-4 R (A)
Matrix:	AQUEOUS	**Sample Size:**	0.892 L
Sample Receipt Date:	30-Nov-2011	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 15:35:30	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 9**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg absolute		

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Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1420	71.2	0.79	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1600	80.0	0.62	1.383
13C-1,2,3,4,7,8-HXCDD		2000	1400	69.9	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1420	70.8	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1270	63.6	1.03	1.094
13C-OCDD		4000	2110	52.6	0.87	1.178
13C-2,3,7,8-TCDF		2000	1420	71.2	0.76	0.966
13C-1,2,3,7,8-PECDF		2000	1470	73.5	1.53	1.285
13C-2,3,4,7,8-PECDF		2000	1470	73.4	1.53	1.353
13C-1,2,3,4,7,8-HXCDF		2000	1430	71.3	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1430	71.6	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1450	72.5	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1410	70.6	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1270	63.5	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1250	62.5	0.43	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	174	86.8		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_L17223-4_Form2_DX2M_008S9_SJ1408673.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
MW-13-112911

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4184	**Sample Collection:**	29-Nov-2011 12:25
Matrix:	AQUEOUS	**Project No.**	128296.07
Sample Size:	0.892 L	**Lab Sample I.D.:**	L17223-4 R (A)
Concentration Units:	pg/L	**GC Column ID:**	DB5
		Sample Data Filename:	**DX2M_008 S: 9**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.561	1	0.00e+00	2.81e-01	
1,2,3,7,8-PECDD	U		0.561	1	0.00e+00	2.81e-01	
1,2,3,4,7,8-HXCDD	U		0.561	0.1	0.00e+00	2.81e-02	
1,2,3,6,7,8-HXCDD	U		0.561	0.1	0.00e+00	2.81e-02	
1,2,3,7,8,9-HXCDD	U		0.561	0.1	0.00e+00	2.81e-02	
1,2,3,4,6,7,8-HPCDD		20.2	0.561	0.01	2.02e-01	2.02e-01	
OCDD		3110	0.685	0.0003	9.33e-01	9.33e-01	
2,3,7,8-TCDF	U		0.561	0.1	0.00e+00	2.81e-02	
1,2,3,7,8-PECDF	U		0.561	0.03	0.00e+00	8.42e-03	
2,3,4,7,8-PECDF	U		0.561	0.3	0.00e+00	8.42e-02	
1,2,3,4,7,8-HXCDF	U		0.561	0.1	0.00e+00	2.81e-02	
1,2,3,6,7,8-HXCDF	U		0.561	0.1	0.00e+00	2.81e-02	
1,2,3,7,8,9-HXCDF	U		0.561	0.1	0.00e+00	2.81e-02	
2,3,4,6,7,8-HXCDF	U		0.561	0.1	0.00e+00	2.81e-02	
1,2,3,4,6,7,8-HPCDF		6.37	0.561	0.01	6.37e-02	6.37e-02	
1,2,3,4,7,8,9-HPCDF	U		0.561	0.01	0.00e+00	2.81e-03	
OCDF		81.0	0.561	0.0003	2.43e-02	2.43e-02	
			TOTAL TEQ		1.22	2.10	

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 13-Jan-2012 13:56:51; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613-TEQ_L17223-4_TEQ_SJ1408673.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4184	**Project No.**	N/A
Matrix:	AQUEOUS	**Lab Sample I.D.:**	WG38741-101
Sample Receipt Date:	N/A	**Sample Size:**	1.00 L
Extraction Date:	05-Jan-2012	**Initial Calibration Date:**	14-Dec-2011
Analysis Date:	10-Jan-2012 **Time:** 11:54:49	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX2M_008 S: 5**
Dilution Factor:	N/A	**Blank Data Filename:**	DX2M_008 S: 5
Concentration Units:	pg/L	**Cal. Ver. Data Filename:**	DX2M_008 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD	K J	0.504	0.500 (Q)	0.14	1.002
1,2,3,7,8-PECDD [4]	U		0.500 (Q)		
1,2,3,4,7,8-HXCDD	U		0.500 (Q)		
1,2,3,6,7,8-HXCDD	U		0.500 (Q)		
1,2,3,7,8,9-HXCDD	K J	0.533	0.500 (Q)	2.35	1.000
1,2,3,4,6,7,8-HPCDD	K J	0.975	0.500 (Q)	1.26	1.000
OCDD	K J	2.73	0.500 (Q)	1.07	1.000
2,3,7,8-TCDF	U		0.500 (Q)		
1,2,3,7,8-PECDF	U		0.500 (Q)		
2,3,4,7,8-PECDF	U		0.500 (Q)		
1,2,3,4,7,8-HXCDF	U		0.500 (Q)		
1,2,3,6,7,8-HXCDF	U		0.500 (Q)		
1,2,3,7,8,9-HXCDF	U		0.500 (Q)		
2,3,4,6,7,8-HXCDF	U		0.500 (Q)		
1,2,3,4,6,7,8-HPCDF	K J	0.637	0.500 (Q)	2.26	1.000
1,2,3,4,7,8,9-HPCDF	U		0.500 (Q)		
OCDF	J	1.62	0.500 (Q)	0.95	1.002
TOTAL TETRA-DIOXINS	U		0.500 (Q)		
TOTAL PENTA-DIOXINS	U		0.500 (Q)		
TOTAL HEXA-DIOXINS	U		0.500 (Q)		
TOTAL HEPTA-DIOXINS	U		0.500 (Q)		
TOTAL TETRA-FURANS	U		0.500 (Q)		
TOTAL PENTA-FURANS	U		0.500 (Q)		
TOTAL HEXA-FURANS	U		0.500 (Q)		
TOTAL HEPTA-FURANS	U		0.500 (Q)		

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_WG38741-101_Form1A_DX2M_008S5_SJ1408668.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4184	**Lab Sample I.D.:**	WG38741-101
Matrix:	AQUEOUS	**Sample Size:**	1.00 L
Sample Receipt Date:	N/A	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 11:54:49	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1310	65.3	0.77	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1490	74.4	0.61	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1340	66.9	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1350	67.3	1.22	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1160	58.2	1.05	1.094
13C-OCDD		4000	1770	44.2	0.86	1.178
13C-2,3,7,8-TCDF		2000	1390	69.4	0.76	0.966
13C-1,2,3,7,8-PECDF		2000	1310	65.7	1.54	1.286
13C-2,3,4,7,8-PECDF		2000	1350	67.7	1.53	1.354
13C-1,2,3,4,7,8-HXCDF		2000	1370	68.6	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1370	68.4	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1340	66.9	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1350	67.7	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1210	60.6	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1170	58.5	0.43	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	157	78.7		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_WG38741-101_Form2_DX2M_008S5_SJ1408668.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
Lab Blank

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4184	**Sample Collection:**	N/A
Matrix:	AQUEOUS	**Project No.**	N/A
Sample Size:	1.00 L	**Lab Sample I.D.:**	WG38741-101
Concentration Units:	pg/L	**GC Column ID:**	DB5
		Sample Data Filename:	**DX2M_008 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	REPORTING LIMIT (RL)	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 RL	TEQ ND=RL
2,3,7,8-TCDD	U		0.500	1	0.00e+00	2.50e-01	
1,2,3,7,8-PECDD	U		0.500	1	0.00e+00	2.50e-01	
1,2,3,4,7,8-HXCDD	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,6,7,8-HXCDD	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,7,8,9-HXCDD	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,4,6,7,8-HPCDD	U		0.500	0.01	0.00e+00	2.50e-03	
OCDD	U		0.500	0.0003	0.00e+00	7.50e-05	
2,3,7,8-TCDF	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDF	U		0.500	0.03	0.00e+00	7.50e-03	
2,3,4,7,8-PECDF	U		0.500	0.3	0.00e+00	7.50e-02	
1,2,3,4,7,8-HXCDF	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,6,7,8-HXCDF	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,7,8,9-HXCDF	U		0.500	0.1	0.00e+00	2.50e-02	
2,3,4,6,7,8-HXCDF	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,4,6,7,8-HPCDF	U		0.500	0.01	0.00e+00	2.50e-03	
1,2,3,4,7,8,9-HPCDF	U		0.500	0.01	0.00e+00	2.50e-03	
OCDF		1.62	0.500	0.0003	4.86e-04	4.86e-04	
			TOTAL TEQ		0.000486	0.791	

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Shelley Facchin_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 13-Jan-2012 13:56:51; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613-TEQ_WG38741-101_TEQ_SJ1408668.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4184	**OPR Data Filename:**	**DX2M_008 S: 2**
Matrix:	AQUEOUS	**Lab Sample I.D.:**	WG38741-102
Extraction Date:	05-Jan-2012	**Analysis Date:**	10-Jan-2012 **Time:** 09:11:17

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.77	10.0	10.7	6.70 - 15.8	107
1,2,3,7,8-PECDD [4]		0.60	52.0	57.7	36.4 - 73.8	111
1,2,3,4,7,8-HXCDD		1.21	56.5	61.0	39.6 - 92.7	108
1,2,3,6,7,8-HXCDD		1.25	55.5	61.9	42.2 - 74.4	111
1,2,3,7,8,9-HXCDD		1.18	54.0	60.7	34.6 - 87.5	112
1,2,3,4,6,7,8-HPCDD		1.02	47.5	50.4	33.3 - 66.5	106
OCDD		0.88	100	105	78.0 - 144	105
2,3,7,8-TCDF		0.74	10.7	11.2	8.03 - 16.9	105
1,2,3,7,8-PECDF		1.52	46.0	48.8	36.8 - 61.6	106
2,3,4,7,8-PECDF		1.52	47.0	50.0	32.0 - 75.2	106
1,2,3,4,7,8-HXCDF		1.21	50.0	53.9	36.0 - 67.0	108
1,2,3,6,7,8-HXCDF		1.23	47.5	51.2	39.9 - 61.8	108
1,2,3,7,8,9-HXCDF		1.24	52.5	55.6	41.0 - 68.3	106
2,3,4,6,7,8-HXCDF		1.22	53.0	57.0	37.1 - 82.7	107
1,2,3,4,6,7,8-HPCDF		0.99	50.0	56.8	41.0 - 61.0	114
1,2,3,4,7,8,9-HPCDF		0.98	50.0	54.4	39.0 - 69.0	109
OCDF		0.89	104	110	65.5 - 177	106

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under OPR.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_WG38741-102_Form8A_SJ1408664.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4184 **OPR Data Filename:** **DX2M_008 S: 2**

Matrix: AQUEOUS **Lab Sample I.D.:** WG38741-102

Extraction Date: 05-Jan-2012 **Analysis Date:** 10-Jan-2012 **Time:** 09:11:17

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.75	100	63.8	20.0-175	63.8
13C-1,2,3,7,8-PECDD [4]		0.63	100	72.5	21.0-227	72.5
13C-1,2,3,4,7,8-HXCDD		1.24	100	63.4	21.0-193	63.4
13C-1,2,3,6,7,8-HXCDD		1.24	100	62.9	25.0-163	62.9
13C-1,2,3,4,6,7,8-HPCDD		1.03	100	58.1	26.0-166	58.1
13C-OCDD		0.87	200	91.7	26.0-397	45.8
13C-2,3,7,8-TCDF		0.76	100	67.1	22.0-152	67.1
13C-1,2,3,7,8-PECDF		1.55	100	64.6	21.0-192	64.6
13C-2,3,4,7,8-PECDF		1.51	100	67.0	13.0-328	67.0
13C-1,2,3,4,7,8-HXCDF		0.50	100	64.5	19.0-202	64.5
13C-1,2,3,6,7,8-HXCDF		0.53	100	63.6	21.0-159	63.6
13C-1,2,3,7,8,9-HXCDF		0.51	100	64.7	17.0-205	64.7
13C-2,3,4,6,7,8-HXCDF		0.50	100	63.5	22.0-176	63.5
13C-1,2,3,4,6,7,8-HPCDF		0.44	100	58.7	21.0-158	58.7
13C-1,2,3,4,7,8,9-HPCDF		0.45	100	57.7	20.0-186	57.7
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	8.25	3.10-19.1	82.5

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_WG38741-102_Form8B_SJ1408664.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 8C
PCDD/PCDF MATRIX SPIKE (MS)
ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-13-112911 (MS)
Sample Collection:
29-Nov-2011 12:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.		128296.07	
Contract No.:	4184	**Lab Sample I.D.:**	WG38741-103 (MS)
Matrix:	AQUEOUS	**Sample Size:**	0.897 L
Extraction Date:	05-Jan-2012	**Initial Calibration Date:**	14-Dec-2011
Analysis Date:	10-Jan-2012 **Time:** 16:30:36	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**MS Data Filename:**	**DX2M_008 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX2M_008 S: 5
		Cal. Ver. Data Filename:	DX2M_008 S: 1

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS ON SAMPLE SIZE BASIS

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC (pg/L)	SAMPLE LAB FLAG [1]	SAMPLE CONC (pg/L)	CONC. FOUND (pg/L)	MS R% [2]	REL % DIFF
2,3,7,8-TCDD		0.76	223	K J	0.633	239	107	4.34
1,2,3,7,8-PECDD		0.62	1160	U		1250	108	2.12
1,2,3,4,7,8-HXCDD		1.22	1260	U		1440	115	5.92
1,2,3,6,7,8-HXCDD		1.20	1240	K J	0.716	1430	115	5.30
1,2,3,7,8,9-HXCDD		1.22	1200	U		1430	119	5.18
1,2,3,4,6,7,8-HPCDD		1.01	1060	J	20.2	1220	113	4.20
OCDD		0.87	2230		3110	5880	124	133
2,3,7,8-TCDF		0.75	239	U		247	104	1.75
1,2,3,7,8-PECDF		1.51	1030	U		1130	110	4.73
2,3,4,7,8-PECDF		1.50	1050	U		1140	108	3.88
1,2,3,4,7,8-HXCDF		1.20	1110	U		1260	113	6.51
1,2,3,6,7,8-HXCDF		1.20	1060	U		1200	113	5.91
1,2,3,7,8,9-HXCDF		1.21	1170	U		1360	116	6.58
2,3,4,6,7,8-HXCDF		1.17	1180	U		1320	112	4.63
1,2,3,4,6,7,8-HPCDF		1.01	1110	J	6.37	1300	116	3.82
1,2,3,4,7,8,9-HPCDF		1.02	1110	K J	1.21	1310	117	7.77
OCDF		0.89	2320	J	81.0	2760	116	6.40

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: MS.xsl; Created: 13-Jan-2012 13:58:45; Application: XMLTransformer-1.12.3;
Report Filename: MS_DIOXINS_1613-MS-MSD_WG38741-103_L17223-4_Form8C.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-13-112911 (MS)
Sample Collection:
29-Nov-2011 12:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	128296.07		
Contract No.:	4184	**Lab Sample I.D.:**	WG38741-103 (MS)
Matrix:	AQUEOUS	**Sample Size:**	0.897 L
Sample Receipt Date:	30-Nov-2011	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 16:30:36	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg/L		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD		239	0.566 (S)	0.76	1.001
1,2,3,7,8-PECDD [4]		1250	0.470 (S)	0.62	1.001
1,2,3,4,7,8-HXCDD		1440	0.871 (S)	1.22	1.000
1,2,3,6,7,8-HXCDD		1430	0.894 (S)	1.20	1.000
1,2,3,7,8,9-HXCDD		1430	0.866 (S)	1.22	1.000
1,2,3,4,6,7,8-HPCDD		1220	0.886 (S)	1.01	1.000
OCDD		5880	0.128 (S)	0.87	1.000
2,3,7,8-TCDF		247	0.413 (S)	0.75	1.001
1,2,3,7,8-PECDF		1130	0.712 (S)	1.51	1.001
2,3,4,7,8-PECDF		1140	0.636 (S)	1.50	1.001
1,2,3,4,7,8-HXCDF		1260	0.695 (S)	1.20	1.001
1,2,3,6,7,8-HXCDF		1200	0.630 (S)	1.20	1.000
1,2,3,7,8,9-HXCDF		1360	0.827 (S)	1.21	1.000
2,3,4,6,7,8-HXCDF		1320	0.683 (S)	1.17	1.000
1,2,3,4,6,7,8-HPCDF		1300	0.905 (S)	1.01	1.000
1,2,3,4,7,8,9-HPCDF		1310	1.18 (S)	1.02	1.000
OCDF		2760	0.403 (S)	0.89	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_WG38741-103_Form1A_DX2M_008S10_SJ1408660.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-13-112911 (MS)
Sample Collection:
29-Nov-2011 12:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	128296.07		
Contract No.:	4184	**Lab Sample I.D.:**	WG38741-103 (MS)
Matrix:	AQUEOUS	**Sample Size:**	0.897 L
Sample Receipt Date:	30-Nov-2011	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 16:30:36	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1390	69.3	0.75	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1570	78.3	0.61	1.384
13C-1,2,3,4,7,8-HXCDD		2000	1330	66.6	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1300	65.0	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1190	59.6	1.03	1.094
13C-OCDD		4000	1950	48.8	0.89	1.178
13C-2,3,7,8-TCDF		2000	1440	72.2	0.75	0.966
13C-1,2,3,7,8-PECDF		2000	1390	69.3	1.54	1.285
13C-2,3,4,7,8-PECDF		2000	1430	71.7	1.54	1.353
13C-1,2,3,4,7,8-HXCDF		2000	1350	67.4	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1320	66.2	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1350	67.3	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1350	67.7	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1210	60.4	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1190	59.4	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	183	91.3		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_WG38741-103_Form2_DX2M_008S10_SJ1408660.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 8E
PCDD/PCDF MATRIX SPIKE DUPLICATE (MSD)
ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-13-112911 (MSD)
Sample Collection:
29-Nov-2011 12:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.			128296.07
Contract No.:	4184	**Lab Sample I.D.:**	WG38741-104 (MSD)
Matrix:	AQUEOUS	**Sample Size:**	0.869 L
Extraction Date:	05-Jan-2012	**Initial Calibration Date:**	14-Dec-2011
Analysis Date:	10-Jan-2012 **Time:** 17:25:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**MSD Data Filename:**	**DX2M_008 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX2M_008 S: 5
		Cal. Ver. Data Filename:	DX2M_008 S: 1

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS ON SAMPLE SIZE BASIS

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO	SPIKE CONC (pg/L)	SAMPLE LAB FLAG [1]	SAMPLE CONC (pg/L)	CONC. FOUND (pg/L)	MSD R% [2]	REL % DIFF
2,3,7,8-TCDD		0.75	230	K J	0.633	237	103	4.34
1,2,3,7,8-PECDD		0.59	1200	U		1260	106	2.12
1,2,3,4,7,8-HXCDD		1.23	1300	U		1400	108	5.92
1,2,3,6,7,8-HXCDD		1.22	1280	K J	0.716	1400	109	5.30
1,2,3,7,8,9-HXCDD		1.23	1240	U		1400	113	5.18
1,2,3,4,6,7,8-HPCDD		1.01	1090	J	20.2	1210	109	4.20
OCDD		0.87	2300		3110	17300	615	133
2,3,7,8-TCDF		0.74	246	U		259	105	1.75
1,2,3,7,8-PECDF		1.53	1060	U		1110	105	4.73
2,3,4,7,8-PECDF		1.51	1080	U		1130	104	3.88
1,2,3,4,7,8-HXCDF		1.22	1150	U		1220	106	6.51
1,2,3,6,7,8-HXCDF		1.22	1090	U		1170	107	5.91
1,2,3,7,8,9-HXCDF		1.21	1210	U		1310	109	6.58
2,3,4,6,7,8-HXCDF		1.20	1220	U		1300	107	4.63
1,2,3,4,6,7,8-HPCDF		0.98	1150	J	6.37	1290	112	3.82
1,2,3,4,7,8,9-HPCDF		1.02	1150	K J	1.21	1250	108	7.77
OCDF		0.89	2390	J	81.0	2680	108	6.40

(1) Where applicable, custom lab flags have been used on this report; U = not detected at RL; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than lowest calibration equivalent.
(2) R% = percent recovery.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested.

For Axys Internal Use Only [XSL Template: MS.xsl; Created: 13-Jan-2012 13:58:45; Application: XMLTransformer-1.12.3;
Report Filename: MS_DIOXINS_1613-MS-MSD_WG38741-104_L17223-4_Form8E.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-13-112911 (MSD)
Sample Collection:
29-Nov-2011 12:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4184	**Project No.**	128296.07
Matrix:	AQUEOUS	**Lab Sample I.D.:**	WG38741-104 (MSD)
Sample Receipt Date:	30-Nov-2011	**Sample Size:**	0.869 L
Extraction Date:	05-Jan-2012	**Initial Calibration Date:**	14-Dec-2011
Analysis Date:	10-Jan-2012 **Time:** 17:25:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX2M_008 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DX2M_008 S: 5
Concentration Units:	pg/L	**Cal. Ver. Data Filename:**	DX2M_008 S: 1

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	REPORTING LIMIT (RL)[2]	ION ABUND. RATIO [3]	RRT [3]
2,3,7,8-TCDD		237	0.500 (S)	0.75	1.001
1,2,3,7,8-PECDD [4]		1260	0.730 (S)	0.59	1.001
1,2,3,4,7,8-HXCDD		1400	0.771 (S)	1.23	1.000
1,2,3,6,7,8-HXCDD		1400	0.787 (S)	1.22	1.000
1,2,3,7,8,9-HXCDD		1400	0.764 (S)	1.23	1.000
1,2,3,4,6,7,8-HPCDD		1210	1.07 (S)	1.01	1.000
OCDD		17300	0.734 (S)	0.87	1.000
2,3,7,8-TCDF		259	0.442 (S)	0.74	1.001
1,2,3,7,8-PECDF		1110	1.07 (S)	1.53	1.001
2,3,4,7,8-PECDF		1130	0.952 (S)	1.51	1.001
1,2,3,4,7,8-HXCDF		1220	1.66 (S)	1.22	1.000
1,2,3,6,7,8-HXCDF		1170	1.47 (S)	1.22	1.000
1,2,3,7,8,9-HXCDF		1310	1.94 (S)	1.21	1.000
2,3,4,6,7,8-HXCDF		1300	1.67 (S)	1.20	1.000
1,2,3,4,6,7,8-HPCDF		1290	0.652 (S)	0.98	1.000
1,2,3,4,7,8,9-HPCDF		1250	0.837 (S)	1.02	1.000
OCDF		2680	0.611 (S)	0.89	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Reporting Limit (Code): S = sample detection limit; M = method detection limit; L = lowest calibration level equivalent; Q = contract defined limit.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_1613DB5_WG38741-104_Form1A_DX2M_008S11_SJ1408661.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
MW-13-112911 (MSD)
Sample Collection:
29-Nov-2011 12:25

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	128296.07		
Contract No.:	4184	**Lab Sample I.D.:**	WG38741-104 (MSD)
Matrix:	AQUEOUS	**Sample Size:**	0.869 L
Sample Receipt Date:	30-Nov-2011	**Initial Calibration Date:**	14-Dec-2011
Extraction Date:	05-Jan-2012	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Jan-2012 **Time:** 17:25:51	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX2M_008 S: 11**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX2M_008 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX2M_008 S: 1
Concentration Units:	pg absolute		

This page is part of a total report that contains information necessary for accreditation compliance.
Results are compliant with NELAP accreditation described in the total report. Sample results relate only to the sample tested.

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1020	50.8	0.75	1.012
13C-1,2,3,7,8-PECDD [4]		2000	1110	55.3	0.62	1.384
13C-1,2,3,4,7,8-HXCDD		2000	956	47.8	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		2000	942	47.1	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	900	45.0	1.04	1.094
13C-OCDD		4000	1600	39.9	0.88	1.178
13C-2,3,7,8-TCDF		2000	1030	51.4	0.76	0.966
13C-1,2,3,7,8-PECDF		2000	998	49.9	1.54	1.285
13C-2,3,4,7,8-PECDF		2000	1020	50.9	1.47	1.353
13C-1,2,3,4,7,8-HXCDF		2000	951	47.6	0.53	0.954
13C-1,2,3,6,7,8-HXCDF		2000	944	47.2	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	975	48.7	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	958	47.9	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	880	44.0	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	879	44.0	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	125	62.3		1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
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Calibration: G:\Masslynx\Inst_M\Projects\111213DX.pro\CurveDB\DX1M_179B-A.cdb 15 Dec 2011 09:14:12

Compound name: -

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1	DX1M_179BS1	DX036D-CAL,,/02-08	1,,1.0uL CS-3 Win/Res	14-Dec-11	09:07:08
2	DX1M_179BS2	DX036C-CAL,,/01-04	1,,1.0uL CS-2	14-Dec-11	10:01:07
3	DX1M_179BS3	DX036B-CAL,,/01-04	1,,1.0uL CS-1	14-Dec-11	10:54:47
4	DX1M_179BS4	DX036B2-CAL,,/01-03	1,,1.0uL CS-1	14-Dec-11	11:49:57
5	DX1M_179BS5	DX036A-CAL,,/02-03	1,,1.0uL CS-0.2 Sens	14-Dec-11	12:45:03
6	DX1M_179BS6	DX036A-CAL,,/02-03	1,,1.0uL CS-0.2 Sens	14-Dec-11	13:44:15
7	DX1M_179BS7	DX036F-CAL,,/02-02	1,,1.0uL CS-5	14-Dec-11	14:38:26
8	DX1M_179BS8	DX036E-CAL,,/01-04	1,,1.0uL CS-4	14-Dec-11	15:31:57
9	DX1M_179BS9	DX036D-CAL,,/02-08	1,,1.0uL CS-3 Win/Res	14-Dec-11	17:08:21
10	DX1M_179BS10	DX042A-SUR,,/01	1,,1.0uL Inst Blank	14-Dec-11	18:00:49
11	DX1M_179BS11	DX042A-SUR,,/01	1,,1.0uL Inst Blank	14-Dec-11	18:55:58
12	DX1M_179BS12	L16731-22,NK,	100,WG38356,1.0/20uL	14-Dec-11	19:52:48
13	DX1M_179BS13	L17177-1,W,	30,WG38356,1.0/600uL	14-Dec-11	20:46:14
14	DX1M_179BS14	L16731-9,NK,	500;WG38356,1.0/50uL	14-Dec-11	21:41:21
15	DX1M_179BS15	DX036D-CAL,,/02-08	1,,1.0uL CS-3 Win/Res	14-Dec-11	22:36:29
16	DX1M_179BS16	DX042A-SUR,,/02	1,,1.0uL Inst Blank	14-Dec-11	23:38:01
17	DX1M_179BS17	DX042A-SUR,,/02	1,,1.0uL Inst Blank	15-Dec-11	00:30:30
18	DX1M_179BS18	WG38553-101,,BLK	1,WG38553,1.0/20uL	15-Dec-11	01:25:38
19	DX1M_179BS19	L7837-76,,PRF	1,WG38553,1.0/20uL	15-Dec-11	02:20:45
20	DX1M_179BS20	L5940-31,,PRF	1,WG38553,1.0/20uL	15-Dec-11	03:15:53
21	DX1M_179BS21	DX042A-SUR,,/02	1,,1.0uL Inst Blank	15-Dec-11	04:11:01
22	DX1M_179BS22	WG38549-101,,CUTPT	1,WG38549,1.0/20uL	15-Dec-11	05:06:08
23	DX1M_179BS23	WG38549-102,,SAR	1,WG38549,1.0/20uL	15-Dec-11	06:01:17
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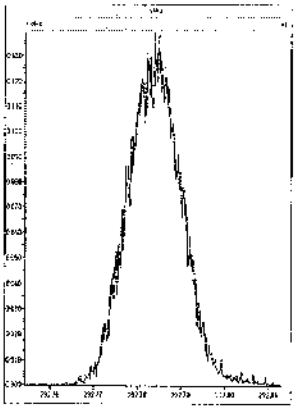
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Experiment Calibration Report **MassLynx 4.1** DXM-179B S:1 CAL 1

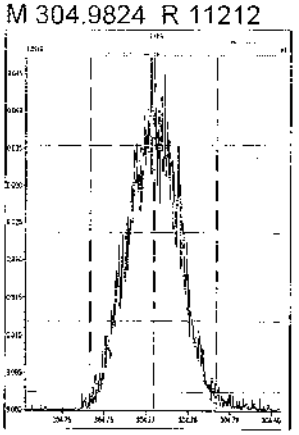
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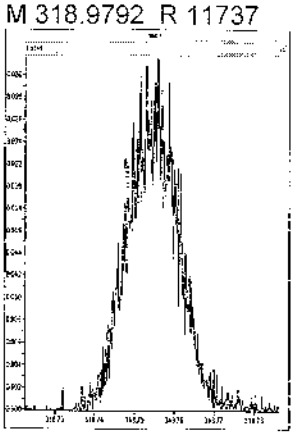
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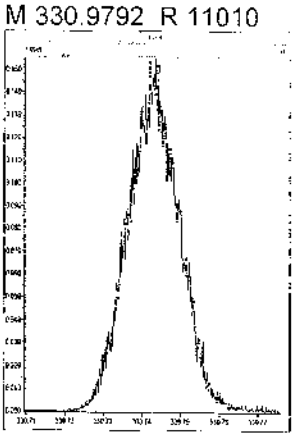
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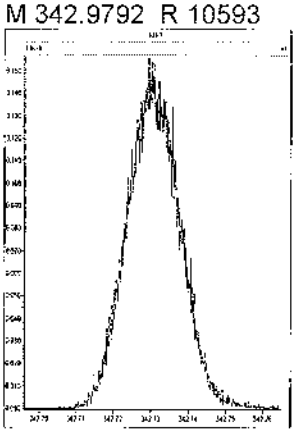
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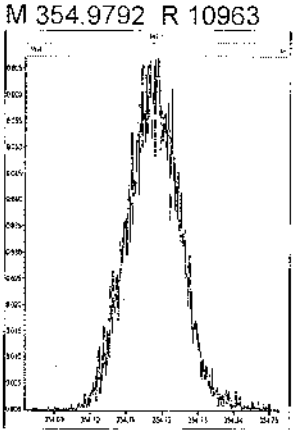
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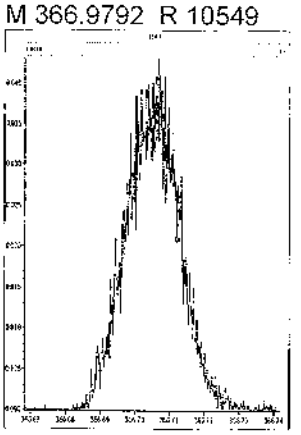
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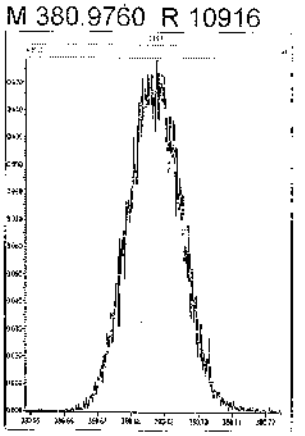
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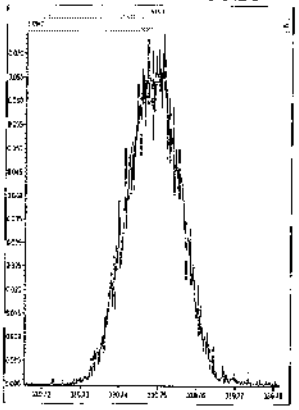


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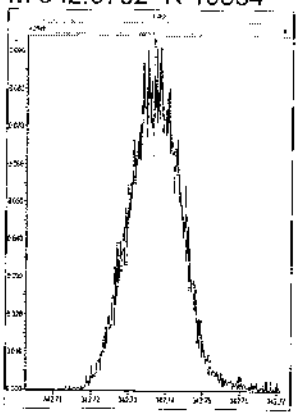
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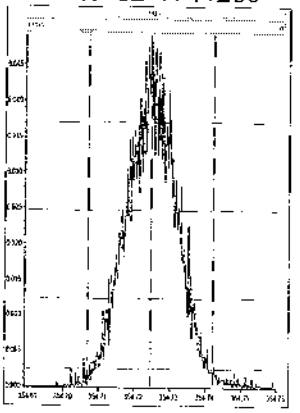
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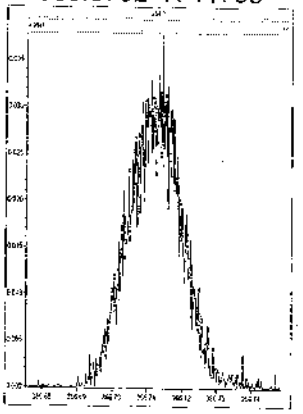
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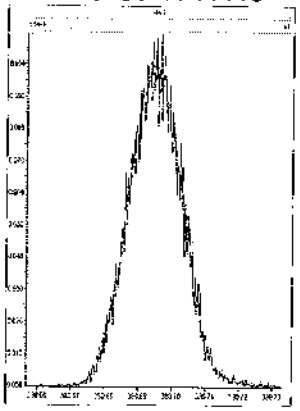
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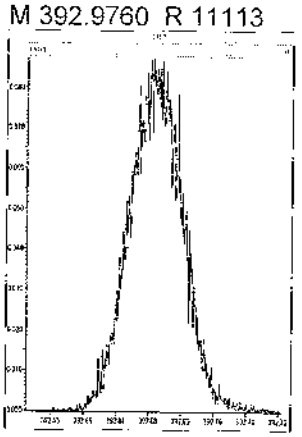
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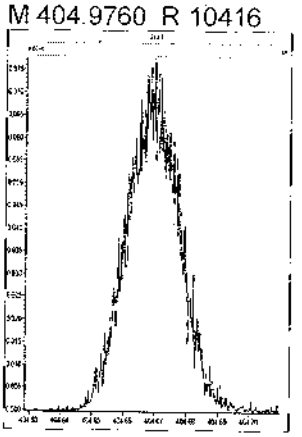
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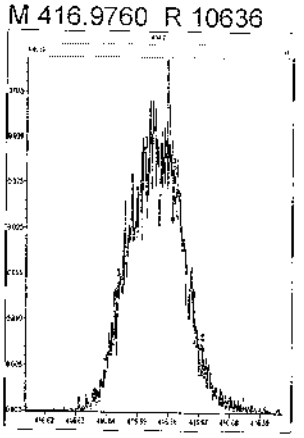
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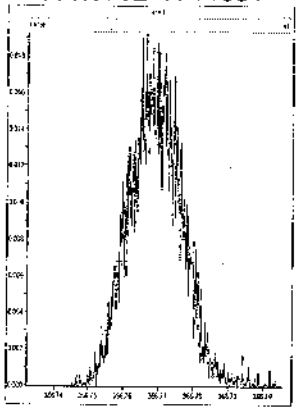


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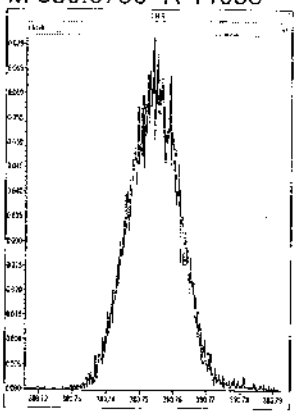
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Printed: Wednesday, December 14, 2011 09:02:58 Pacific Standard Time

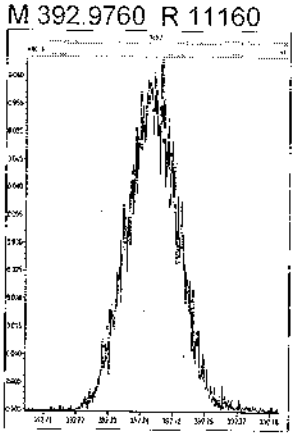
M 366.9792 R 11631



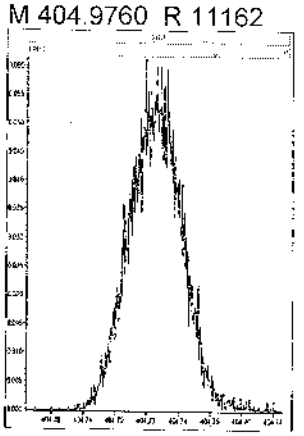
M 380.9760 R 11058



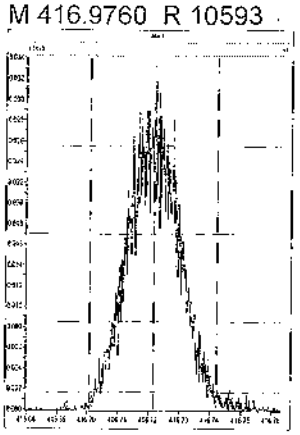
M 392.9760 R 11160



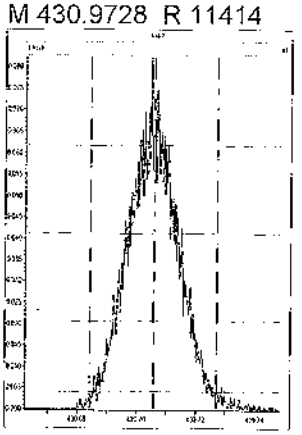
M 404.9760 R 11162



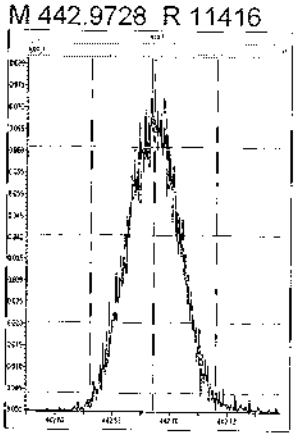
M 416.9760 R 10593



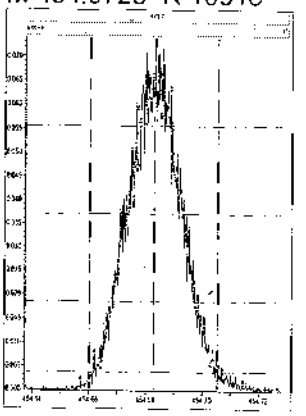
M 430.9728 R 11414



M 442.9728 R 11416



M 454.9728 R 10916

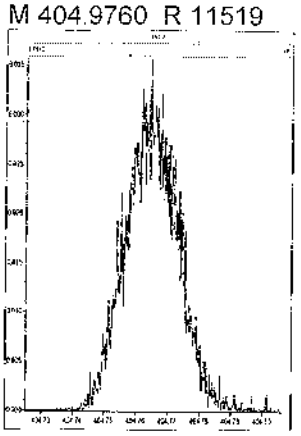


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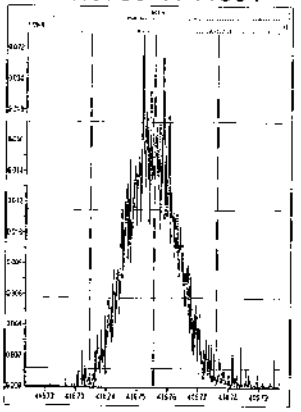
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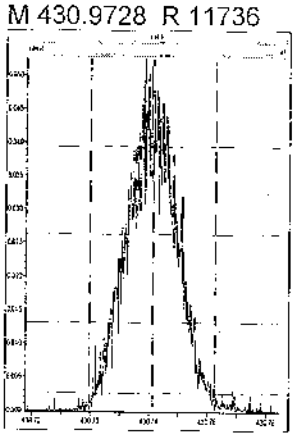
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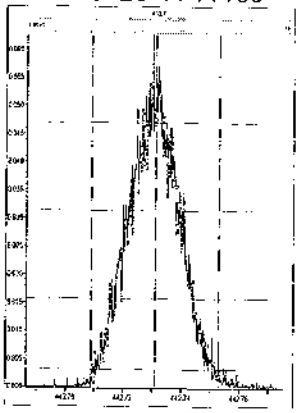
M 416.9760 R 11901



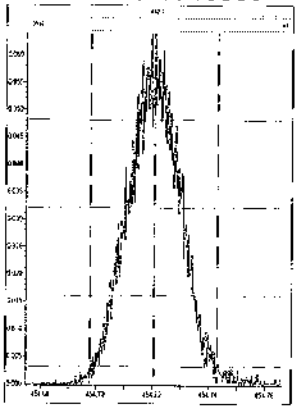
M 430.9728 R 11736



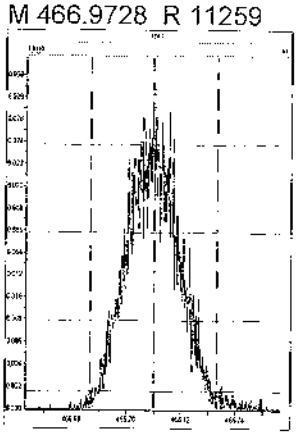
M 442.9728 R 11109



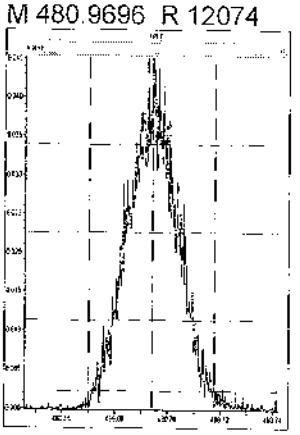
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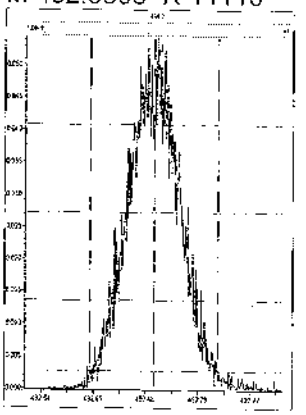
M 466.9728 R 11259



M 480.9696 R 12074



M 492.9696 R 11110

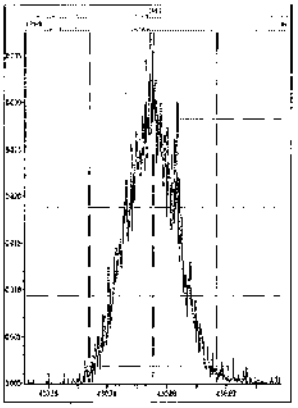


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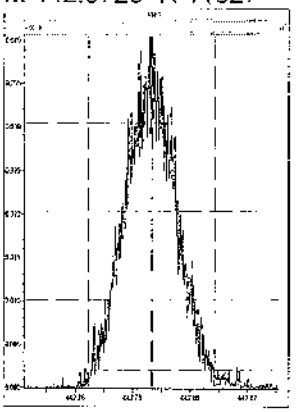
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Printed: Wednesday, December 14, 2011 09:03:36 Pacific Standard Time

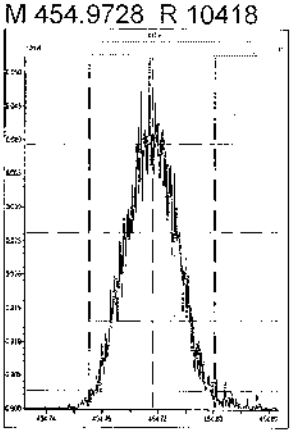
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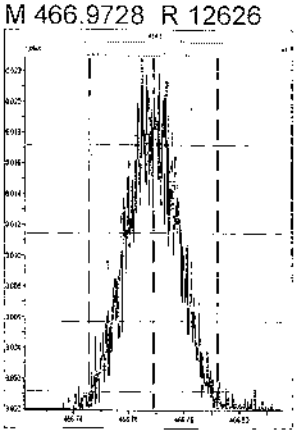
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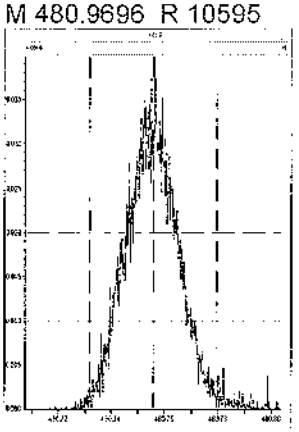
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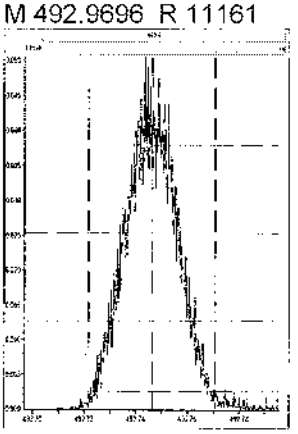
M 466.9728 R 12626



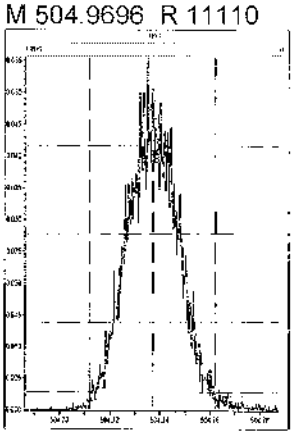
M 480.9696 R 10595



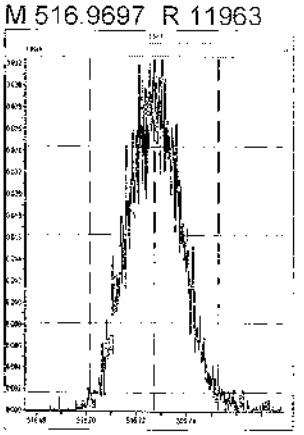
M 492.9696 R 11161



M 504.9696 R 11110



M 516.9697 R 11963



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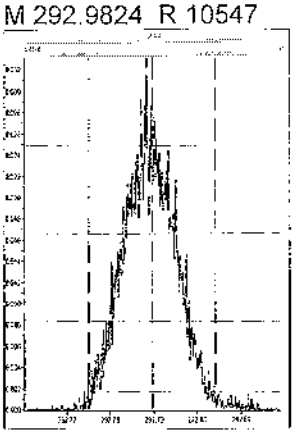
Experiment Calibration Report **MassLynx 4.1** DXIM-179 BCAL2 S:9

File: Experiment: DX_DB5_1_01.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

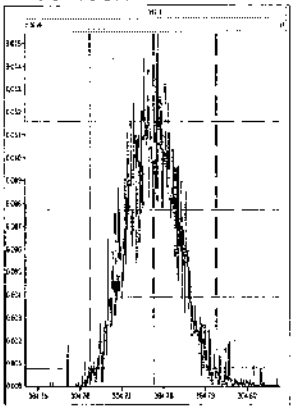
Printed: Wednesday, December 14, 2011 17:04:40 Pacific Standard Time

approved by m
14 Dec 2011

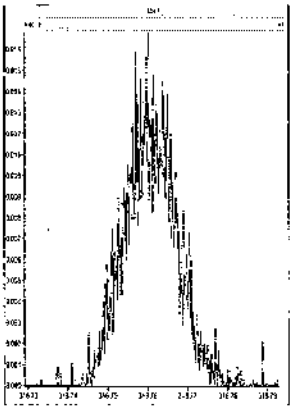
M 292.9824 R 10547



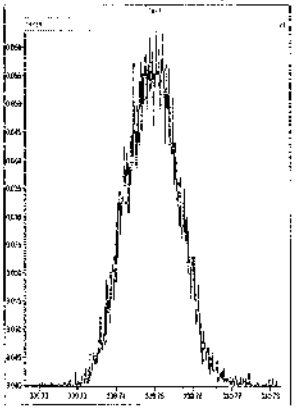
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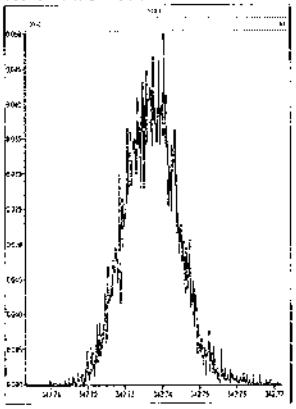
M 318.9792 R 11013



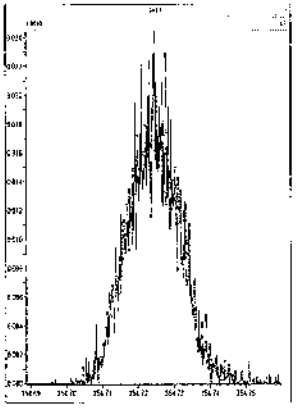
M 330.9792 R 10914



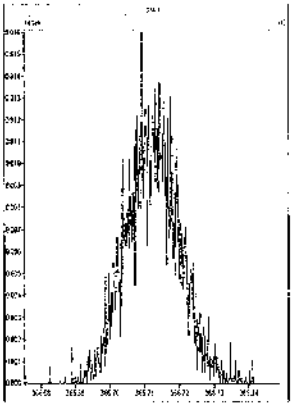
M 342.9792 R 11521



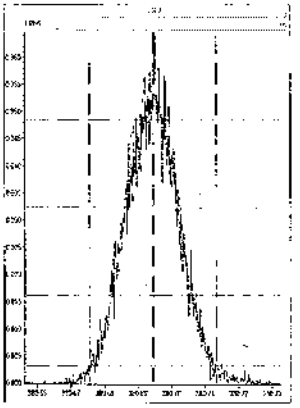
M 354.9792 R 11310



M 366.9792 R 12020



M 380.9760 R 11160



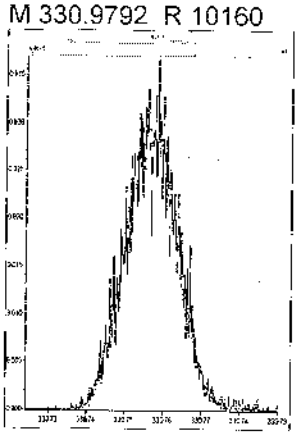
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Experiment Calibration Report **MassLynx 4.1**

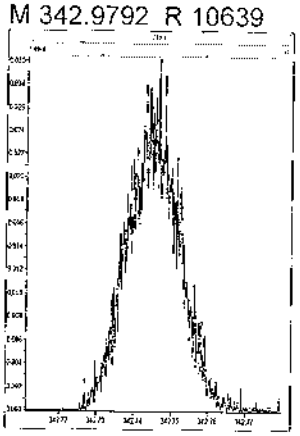
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Printed: Wednesday, December 14, 2011 17:05:05 Pacific Standard Time

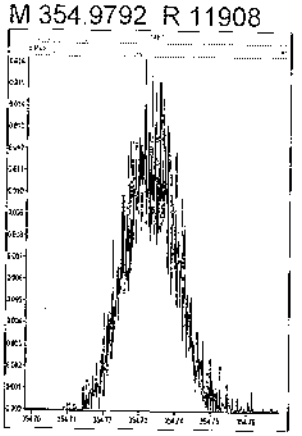
M 330.9792 R 10160



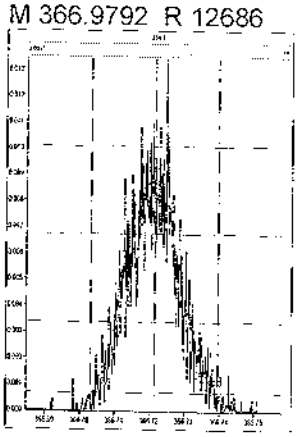
M 342.9792 R 10639



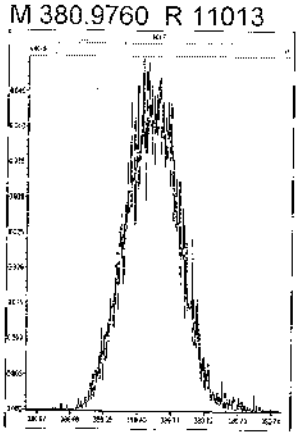
M 354.9792 R 11908



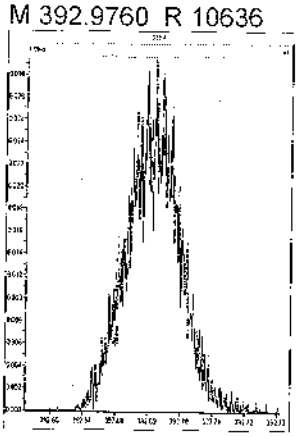
M 366.9792 R 12686



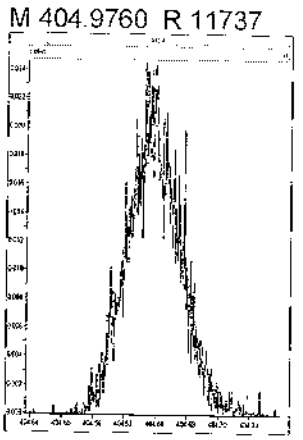
M 380.9760 R 11013



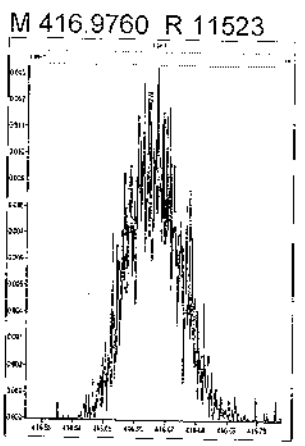
M 392.9760 R 10636



M 404.9760 R 11737



M 416.9760 R 11523

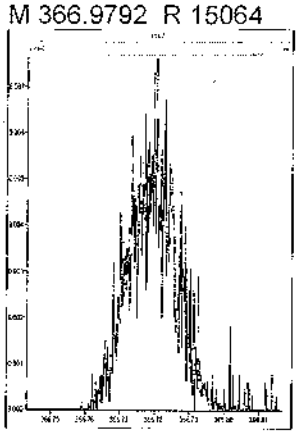


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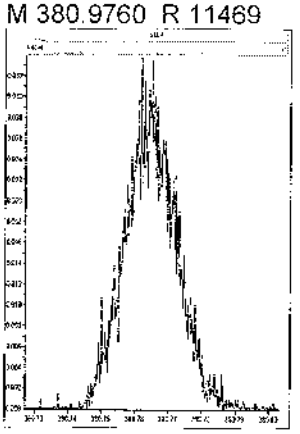
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Printed: Wednesday, December 14, 2011 17:05:22 Pacific Standard Time

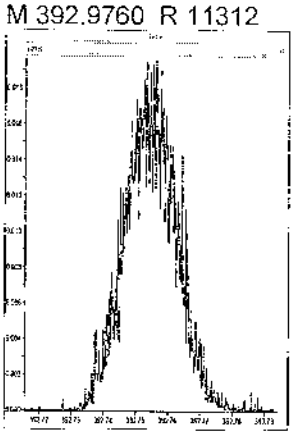
M 366.9792 R 15064



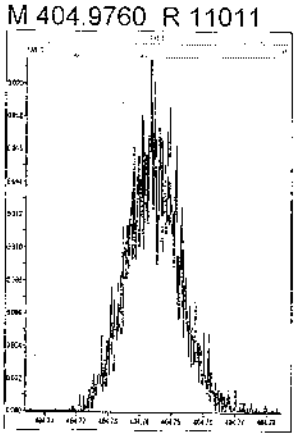
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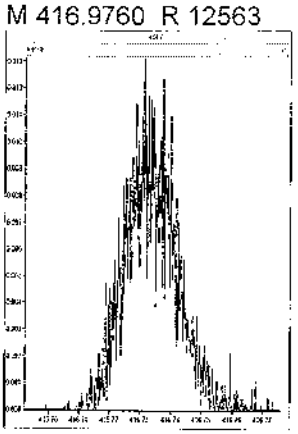
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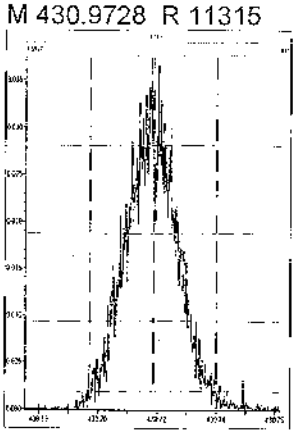
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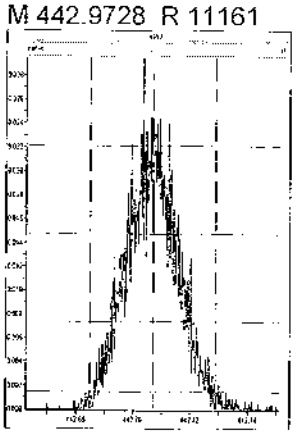
M 416.9760 R 12563



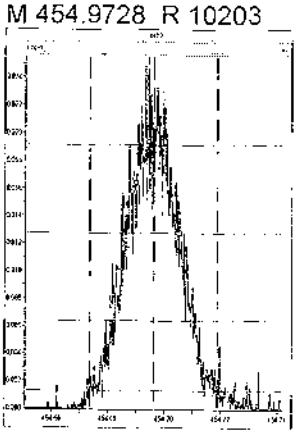
M 430.9728 R 11315



M 442.9728 R 11161



M 454.9728 R 10203

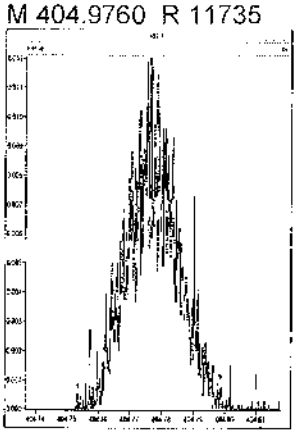


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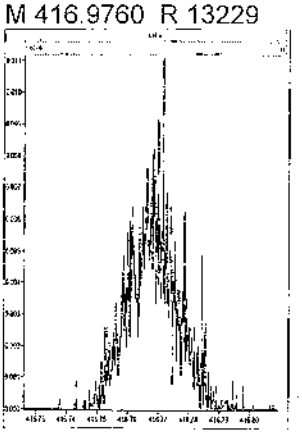
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Printed: Wednesday, December 14, 2011 17:05:47 Pacific Standard Time

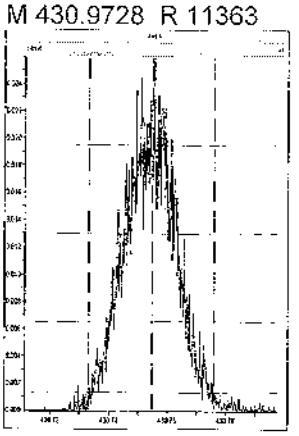
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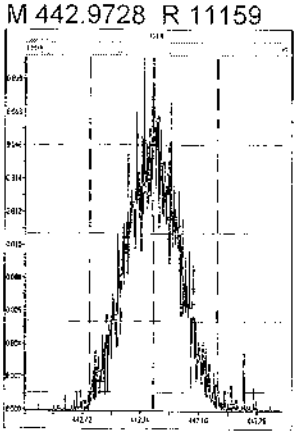
M 416.9760 R 13229



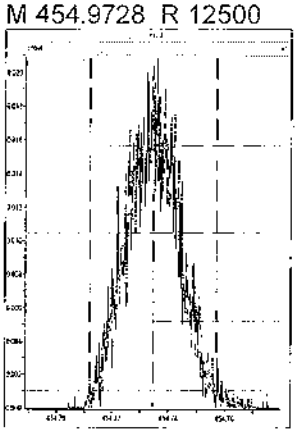
M 430.9728 R 11363



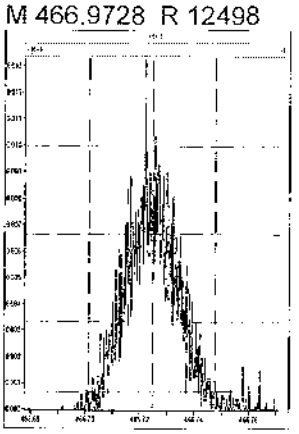
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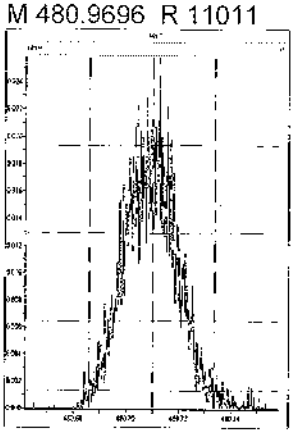
M 454.9728 R 12500



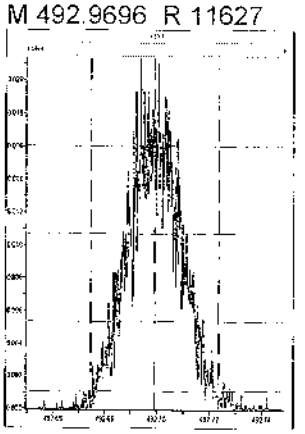
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M 480.9696 R 11011



M 492.9696 R 11627

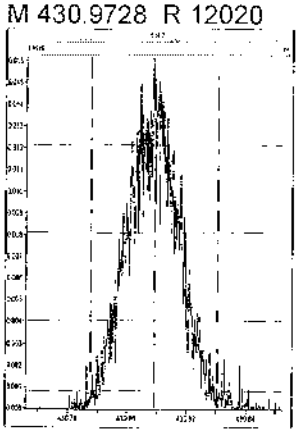


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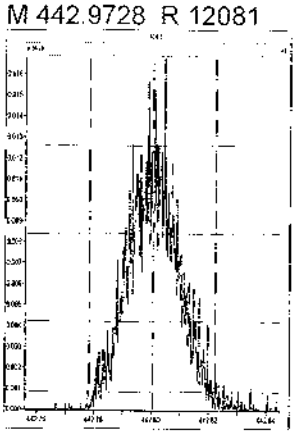
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Printed: Wednesday, December 14, 2011 17:06:20 Pacific Standard Time

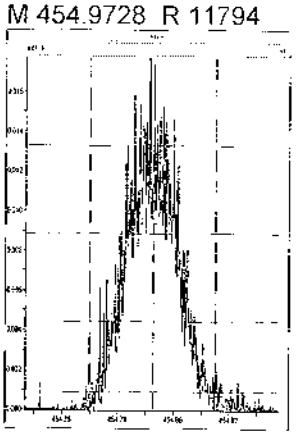
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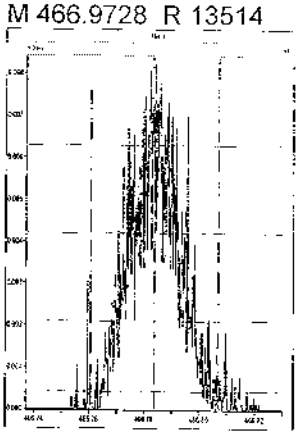
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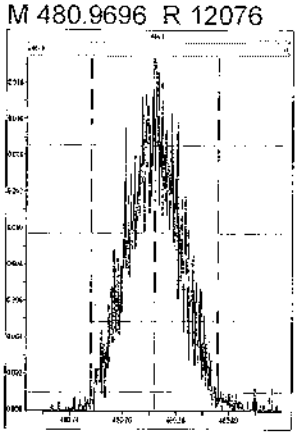
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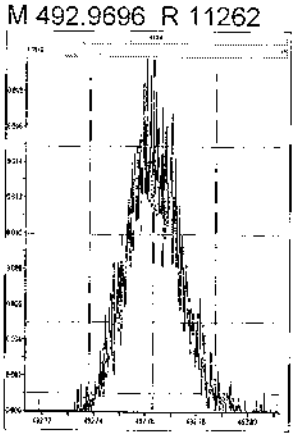
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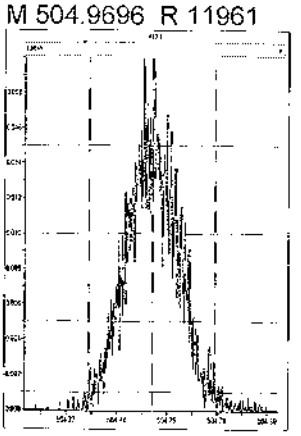
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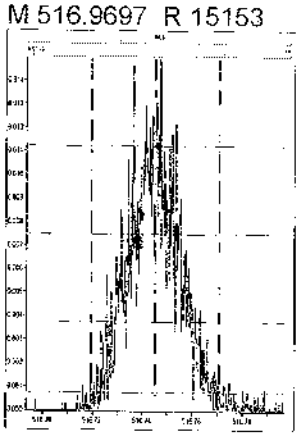
M 492.9696 R 11262



M 504.9696 R 11961



M 516.9697 R 15153



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	File Name	Sample ID	File Text	TCDD	TCDF	P-Hp AUT	Octa AUT	T-Hp SUR	Octa SUR	REC	C/UP
1	DX1M_179BS2	DX036C-CAL,,/01-04	1,,1.0uL CS-2	2	2	10	20	100	200	100	2
2	DX1M_179BS3	DX036B-CAL,,/01-04	1,,1.0uL CS-1	.5	.5	2.5	5	100	200	100	.5
3	DX1M_179BS7	DX036F-CAL,,/02-02	1,,1.0uL CS-5	200	200	1000	2000	100	200	100	200
4	DX1M_179BS8	DX036E-CAL,,/01-04	1,,1.0uL CS-4	40	40	200	400	100	200	100	40
5	DX1M_179BS9	DX036D-CAL,,/02-08	1,,1.0uL CS-3	11	10	50	100	100	200	100	10

AXYS METHOD MLA-017 Rev 20

Form 3A
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Dec-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: DX1M_179B S: 3

CS2 Data Filename: DX1M_179B S: 2

CS3 Data Filename: DX1M_179B S: 9

CS4 Data Filename: DX1M_179B S: 8

CS5 Data Filename: DX1M_179B S: 7

CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)								
COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
2,3,7,8-TCDD			0.86	0.82	0.78	0.81	0.83		0.82	3.27
1,2,3,7,8-PECDD [3]			0.79	0.83	0.85	0.84	0.85		0.83	3.02
1,2,3,4,7,8-HXCDD			0.76	0.80	0.78	0.79	0.79		0.78	2.02
1,2,3,6,7,8-HXCDD			0.71	0.73	0.75	0.74	0.74		0.73	1.99
1,2,3,7,8,9-HXCDD [4]			0.75	0.78	0.78	0.78	0.77		0.77	1.59
1,2,3,4,6,7,8-HPCDD			0.98	0.94	0.95	0.97	0.97		0.96	1.63
OCDD			0.87	0.93	0.93	0.93	0.90		0.91	2.98
2,3,7,8-TCDF			0.75	0.78	0.77	0.78	0.78		0.77	1.48
1,2,3,7,8-PECDF			0.81	0.84	0.89	0.89	0.90		0.87	4.45
2,3,4,7,8-PECDF			0.83	0.86	0.88	0.89	0.92		0.88	3.88
1,2,3,4,7,8-HXCDF			0.97	0.97	1.03	1.01	1.01		1.00	2.61
1,2,3,6,7,8-HXCDF			0.97	0.98	0.99	0.98	1.00		0.98	1.24
1,2,3,7,8,9-HXCDF			0.86	0.85	0.86	0.88	0.87		0.87	1.24
2,3,4,6,7,8-HXCDF			0.87	0.90	0.91	0.93	0.92		0.90	2.42
1,2,3,4,6,7,8-HPCDF			1.08	1.17	1.19	1.18	1.17		1.16	3.62
1,2,3,4,7,8,9-HPCDF			0.99	1.05	1.04	1.09	1.05		1.04	3.34
OCDF [5]			0.82	0.85	0.88	0.93	0.93		0.88	5.50

(1) Where applicable, custom lab flags have been used on this report.
(2) For contract CV specifications, see Section 10.5.4, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(4) Response ratios are calculated relative to the labeled analogs of the other two HXCDDs (Section 17.1.2, Method 1613).
(5) Response ratios are calculated relative to the labeled analog of OCDD (Section 17.1.1, Method 1613).

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form3A.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_14-Dec-2011_DX1M__Form3A_GS44032.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 3B
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Dec-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: DX1M_179B S: 3

CS2 Data Filename: DX1M_179B S: 2

CS3 Data Filename: DX1M_179B S: 9

CS4 Data Filename: DX1M_179B S: 8

CS5 Data Filename: DX1M_179B S: 7

CS6 Data Filename: N/A

		RELATIVE RESPONSE (RR)							
LABELED COMPOUND	**LAB FLAG [1]**	**CS0**	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CS6**	**MEAN RR**	**CV (%RSD)[2]**
13C-2,3,7,8-TCDD			1.11	1.11	1.12	1.19	1.22		1.15	4.32
13C-1,2,3,7,8-PECDD [3]			0.75	0.76	0.76	0.82	0.90		0.80	8.35
13C-1,2,3,4,7,8-HXCDD			0.97	0.98	0.99	1.00	0.99		0.98	1.33
13C-1,2,3,6,7,8-HXCDD			1.07	1.10	1.08	1.09	1.07		1.08	1.15
13C-1,2,3,4,6,7,8-HPCDD			0.79	0.79	0.78	0.79	0.77		0.78	1.38
13C-OCDD			0.78	0.78	0.75	0.79	0.81		0.78	2.78
13C-2,3,7,8-TCDF			1.33	1.33	1.34	1.37	1.41		1.36	2.62
13C-1,2,3,7,8-PECDF			1.01	0.99	1.01	1.09	1.18		1.06	7.55
13C-2,3,4,7,8-PECDF			0.96	0.95	0.97	1.06	1.13		1.01	7.52
13C-1,2,3,4,7,8-HXCDF			1.00	1.02	1.03	1.01	0.98		1.01	1.87
13C-1,2,3,6,7,8-HXCDF			1.14	1.14	1.16	1.16	1.10		1.14	2.00
13C-1,2,3,7,8,9-HXCDF			0.91	0.93	0.92	0.95	0.93		0.93	1.71
13C-2,3,4,6,7,8-HXCDF			1.03	1.05	1.05	1.04	1.01		1.03	1.70
13C-1,2,3,4,6,7,8-HPCDF			0.78	0.79	0.77	0.79	0.76		0.78	1.36
13C-1,2,3,4,7,8,9-HPCDF			0.69	0.69	0.66	0.68	0.68		0.68	1.45
CLEANUP										
37CL-2,3,7,8-TCDD			1.24	1.04	1.11	1.14	1.23		1.15	7.32

(1) Where applicable, custom lab flags have been used on this report.
(2) For contract CV specifications, see Section 10.5.4, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form3B.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_14-Dec-2011_DX1M__Form3B_GS44032.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 3C
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Dec-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A
CS1 Data Filename: DX1M_179B S: 3
CS2 Data Filename: DX1M_179B S: 2
CS3 Data Filename: DX1M_179B S: 9
CS4 Data Filename: DX1M_179B S: 8
CS5 Data Filename: DX1M_179B S: 7
CS6 Data Filename: N/A

COMPOUND	LAB FLAG [1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS[3]
2,3,7,8-TCDD		**M/M+2**		0.71	0.75	0.76	0.77	0.75		0.65-0.89
1,2,3,7,8-PECDD [4]		**M/M+2**		0.62	0.62	0.61	0.61	0.60		0.52-0.70
1,2,3,4,7,8-HXCDD		**M+2/M+4**		1.18	1.21	1.20	1.23	1.22		1.05-1.43
1,2,3,6,7,8-HXCDD		**M+2/M+4**		1.19	1.19	1.24	1.21	1.22		1.05-1.43
1,2,3,7,8,9-HXCDD		**M+2/M+4**		1.24	1.22	1.23	1.21	1.22		1.05-1.43
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**		0.99	1.01	0.99	1.01	1.03		0.88-1.20
OCDD		**M+2/M+4**		0.88	0.88	0.87	0.87	0.87		0.76-1.02
2,3,7,8-TCDF		**M/M+2**		0.79	0.78	0.75	0.75	0.75		0.65-0.89
1,2,3,7,8-PECDF		**M+2/M+4**		1.56	1.55	1.49	1.52	1.52		1.32-1.78
2,3,4,7,8-PECDF		**M+2/M+4**		1.38	1.55	1.52	1.52	1.52		1.32-1.78
1,2,3,4,7,8-HXCDF		**M+2/M+4**		1.25	1.22	1.19	1.20	1.20		1.05-1.43
1,2,3,6,7,8-HXCDF		**M+2/M+4**		1.26	1.22	1.20	1.21	1.21		1.05-1.43
1,2,3,7,8,9-HXCDF		**M+2/M+4**		1.15	1.26	1.22	1.21	1.20		1.05-1.43
2,3,4,6,7,8-HXCDF		**M+2/M+4**		1.15	1.24	1.21	1.20	1.20		1.05-1.43
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**		1.03	0.99	0.99	1.00	0.99		0.88-1.20
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**		0.90	0.95	1.00	1.01	1.00		0.88-1.20
OCDF		**M+2/M+4**		0.83	0.89	0.89	0.88	0.89		0.76-1.02

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits from Table 9, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

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Report Filename: 1613_DIOXINS_14-Dec-2011_DX1M__Form3C_GS44032.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 3D
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Dec-2011

Instrument ID: HR GC/MS

GC Column ID: DB5

CS0 Data Filename: N/A

CS1 Data Filename: DX1M_179B S: 3

CS2 Data Filename: DX1M_179B S: 2

CS3 Data Filename: DX1M_179B S: 9

CS4 Data Filename: DX1M_179B S: 8

CS5 Data Filename: DX1M_179B S: 7

CS6 Data Filename: N/A

LABELED COMPOUND	LAB FLAG[1]	M/Z's FORMING RATIO [2]	ION ABUNDANCE RATIO CS0	CS1	CS2	CS3	CS4	CS5	CS6	QC LIMITS[3]
13C-2,3,7,8-TCDD		**M/M+2**		0.76	0.75	0.74	0.75	0.77		0.65-0.89
13C-1,2,3,7,8-PECDD [4]		**M/M+2**		0.63	0.61	0.63	0.64	0.62		0.52-0.70
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**		1.23	1.24	1.23	1.23	1.25		1.05-1.43
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**		1.21	1.25	1.20	1.26	1.23		1.05-1.43
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**		1.03	1.02	1.00	1.02	1.02		0.88-1.20
13C-OCDD		**M+2/M+4**		0.86	0.87	0.87	0.89	0.89		0.76-1.02
13C-2,3,7,8-TCDF		**M/M+2**		0.77	0.76	0.77	0.77	0.76		0.65-0.89
13C-1,2,3,7,8-PECDF		**M+2/M+4**		1.55	1.52	1.54	1.54	1.53		1.32-1.78
13C-2,3,4,7,8-PECDF		**M+2/M+4**		1.53	1.54	1.53	1.53	1.56		1.32-1.78
13C-1,2,3,4,7,8-HXCDF		**M/M+2**		0.50	0.50	0.50	0.50	0.50		0.43-0.59
13C-1,2,3,6,7,8-HXCDF		**M/M+2**		0.51	0.52	0.51	0.52	0.51		0.43-0.59
13C-1,2,3,7,8,9-HXCDF		**M/M+2**		0.50	0.50	0.51	0.51	0.51		0.43-0.59
13C-2,3,4,6,7,8-HXCDF		**M/M+2**		0.50	0.50	0.51	0.51	0.51		0.43-0.59
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**		0.46	0.45	0.45	0.44	0.45		0.37-0.51
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**		0.43	0.44	0.44	0.47	0.44		0.37-0.51

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits from Table 9, Method 1613.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form3D.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_14-Dec-2011_DX1M__Form3D_GS44032.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		14-Dec-2011
RT Window Data Filename:	DX1M_179B S: 9	**Analysis Date:**	14-Dec-2011	**Time:** 17:08:21
DB-5 IS Data Filename:	DX1M_179B S: 9	**Analysis Date:**	14-Dec-2011	**Time:** 17:08:21
DB-225 IS Data Filename:		**Analysis Date:**		**Time:**

DB5 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	23:00	**1,3,6,8-TCDF (F)**	21:27
1,2,8,9-TCDD (L)	28:24	**1,2,8,9-TCDF (L)**	28:14
1,2,4,7,9-PECDD (F)	32:08	**1,3,4,6,8-PECDF (F)**	28:56
1,2,3,8,9-PECDD (L)	37:10	**1,2,3,8,9-PECDF (L)**	37:13
1,2,4,6,7,9-HXCDD (F)	40:09	**1,2,3,4,6,8-HXCDF (F)**	39:06
1,2,3,4,6,7-HXCDD (L)	42:47	**1,2,3,4,8,9-HXCDF (L)**	43:07
1,2,3,4,6,7,9-HPCDD (F)	45:54	**1,2,3,4,6,7,8-HPCDF (F)**	45:26
1,2,3,4,6,7,8-HPCDD (L)	46:48	**1,2,3,4,7,8,9-HPCDF (L)**	47:13

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	0	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	13
1,2,7,8-TCDD **1,4,7,8-TCDD**	0	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	N/A
1,4,7,8-TCDD **1,2,3,7-TCDD**	0	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	N/A
1,2,3,7-TCDD **1,2,3,8-TCDD**	DB-5 column; co-elute as per Figure 6 in Method		

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Celine Vaillant_____

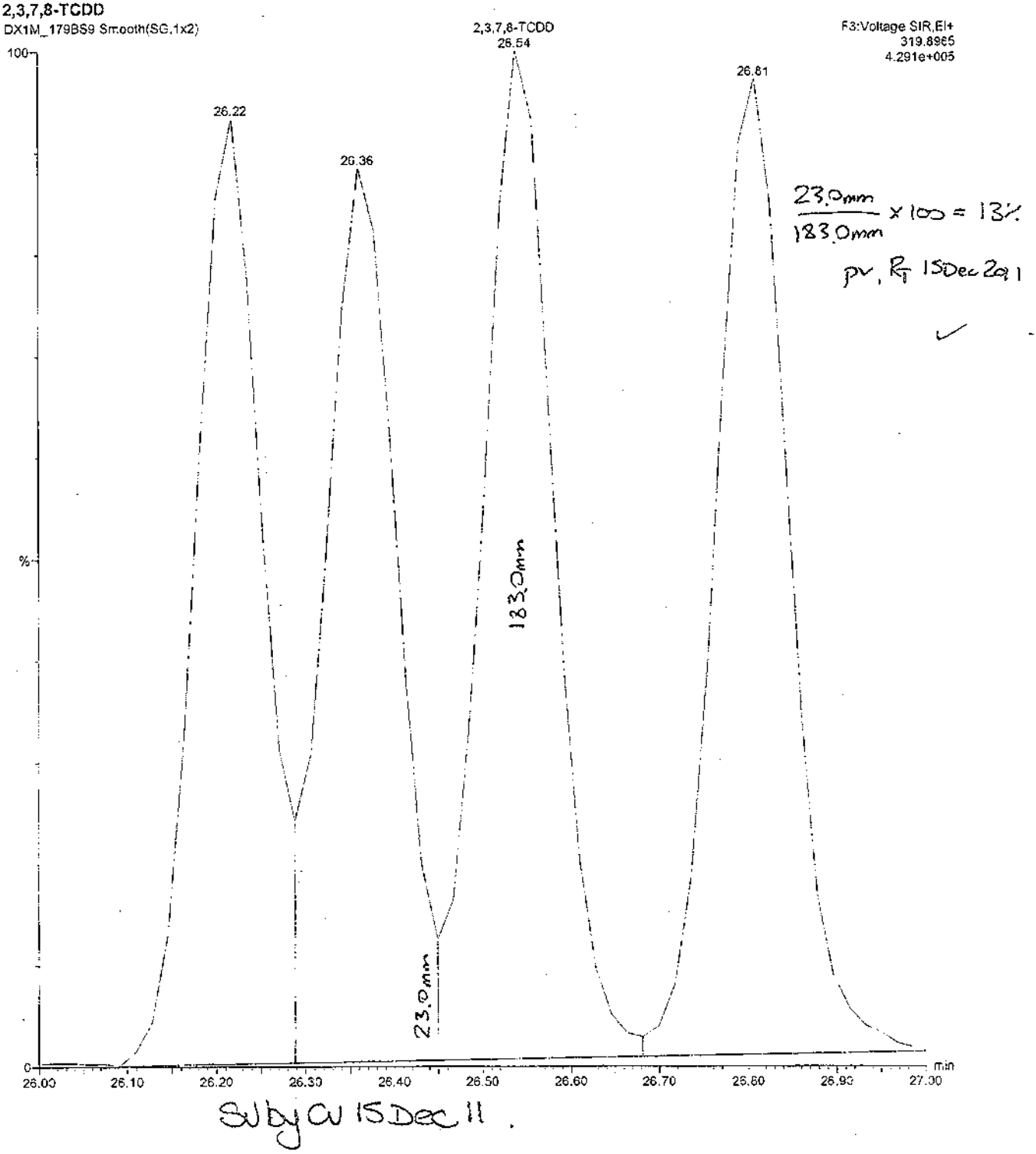
For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS__DX1M_179BS9_Form5_SJ1397914.html; Workgroup: WG38741; Design ID: 1725]

Axys Analytical Services, Ltd.
Quantify Sample Report **MassLynx 4.1 SCN627**

Method: G:\Masslynx\Inst_M\Master methods and layouts\Current Methods\DX_Win_ResC.mdb 07 Dec 2011 13:46:56
Calibration: G:\Masslynx\Inst_M\Projects\111213DX.PRO\CurveDB\DX1M_179B-A.cdb 15 Dec 2011 09:14:12

Name: DX1M_179BS9, Date: 14-Dec-2011, Time: 17:08:21, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL CS-3 Win/Res

2,3,7,8-TCDD



23.0mm / 183.0mm x 100 = 13%
pv, RT 15 Dec 2011 ✓

SWB CW 15 Dec 11

Axys Analytical Services, Ltd.

Method: G:\Masslynx\Inst_M\Master methods and layouts\Current Methods\log.mdb 21 Nov 2008 10:39:44
Calibration: G:\Masslynx\Inst_M\Projects\111213DX.PRO\CurveDB\DX1M_179B-B.cdb 15 Dec 2011 09:33:42

Compound name: -

#	Name	ID	Sample Text	Acq.Date	Acq.Time
1	DX2M_008S1	DX036D-CAL,,/02-08	1,,1.0uL Cal Win/Res	10-Jan-12	08:16:41
2	DX2M_008S2	WG38741-102,,SPM	1,WG38741,1.0/20uL	10-Jan-12	09:11:17
3	DX2M_008S3	DX042A-SUR,,/02	1,,1.0uL Inst Blank	10-Jan-12	10:04:20
4	DX2M_008S4	DX042A-SUR,,/02	1,,1.0uL Inst Blank	10-Jan-12	10:59:31
5	DX2M_008S5	WG38741-101,,Blank	1,WG38741,1.0/20uL	10-Jan-12	11:54:49
6	DX2M_008S6	L17223-1,R,	1,WG38741,1.0/20uL	10-Jan-12	12:49:55
7	DX2M_008S7	L17223-2,R,	1,WG38741,1.0/20uL	10-Jan-12	13:45:07
8	DX2M_008S8	L17223-3,R,	1,WG38741,1.0/20uL	10-Jan-12	14:40:16
9	DX2M_008S9	L17223-4,R,	1,WG38741,1.0/20uL	10-Jan-12	15:35:30
10	DX2M_008S10	WG38741-103,,MS	1,WG38741,1.0/20uL	10-Jan-12	16:30:36
11	DX2M_008S11	WG38741-104,,MSD	1,WG38741,1.0/20uL	10-Jan-12	17:25:51
12	DX2M_008S12	DX036D-CAL,,/02-08	1,,1.0uL Cal Win/Res	10-Jan-12	18:21:01
13	DX2M_008S13	DX042A-SUR,,/02	1,,1.0uL Inst Blank	10-Jan-12	19:32:10
14	DX2M_008S14	DX042A-SUR,,/02	1,,1.0uL Inst Blank	10-Jan-12	20:24:38
15	DX2M_008S15	DX042A-SUR,,/02	1,,1.0uL Inst Blank	10-Jan-12	21:19:47
16	DX2M_008S16				
17	DX2M_008S17				
18	DX2M_008S18				
19	DX2M_008S19				

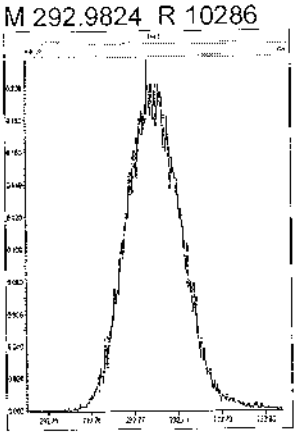
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Experiment Calibration Report **MassLynx 4.1** DX2M_008 CALI S:1

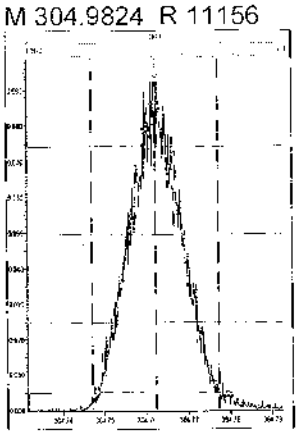
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Printed: Tuesday, January 10, 2012 08:11:10 Pacific Standard Time approved by RJ 10JAN2012

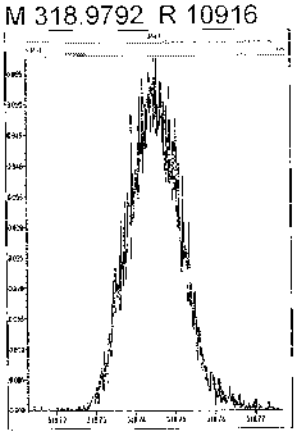
M 292.9824 R 10286



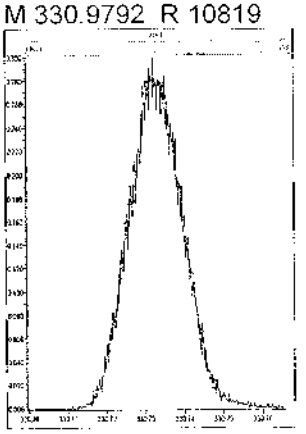
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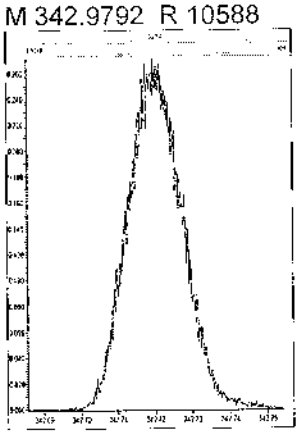
M 318.9792 R 10916



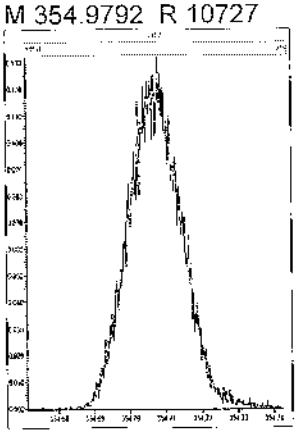
M 330.9792 R 10819



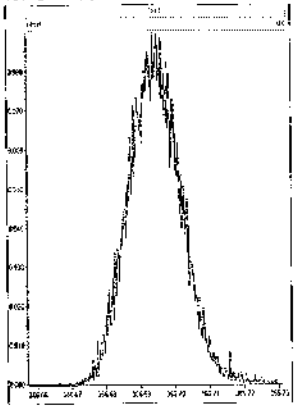
M 342.9792 R 10588



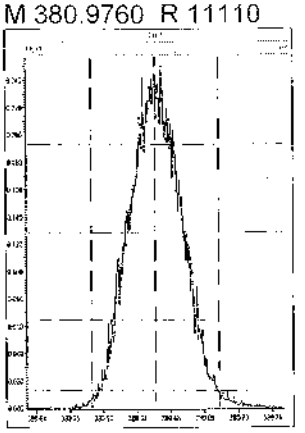
M 354.9792 R 10727



M 366.9792 R 10730



M 380.9760 R 11110

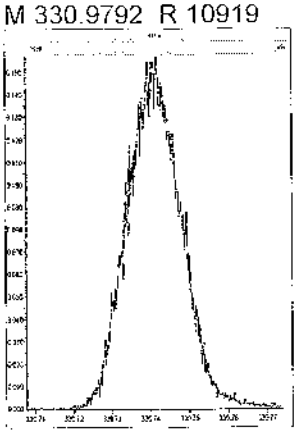


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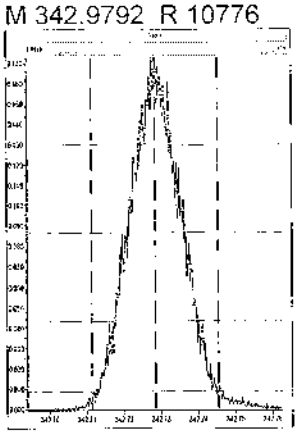
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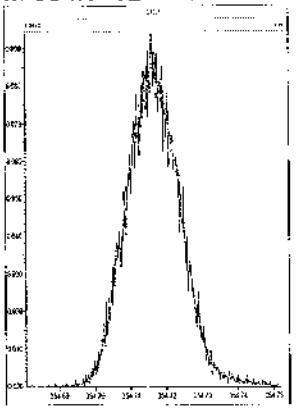
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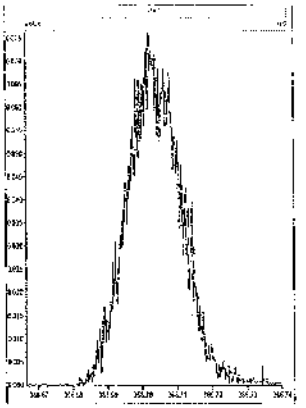
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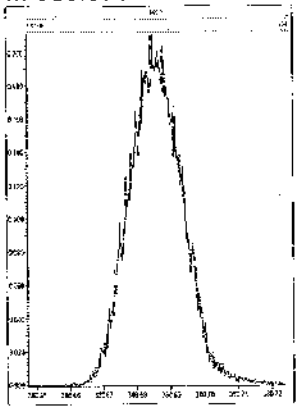
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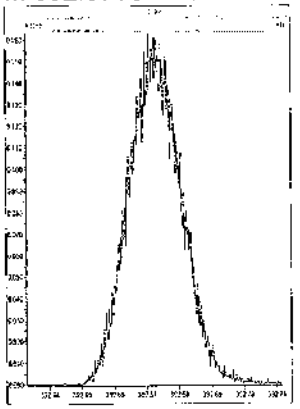
M 366.9792 R 11211



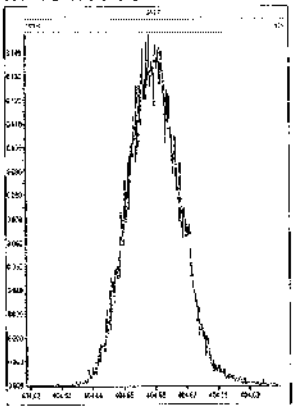
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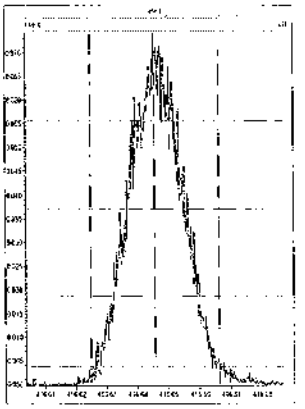
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M 404.9760 R 10916



M 416.9760 R 11572

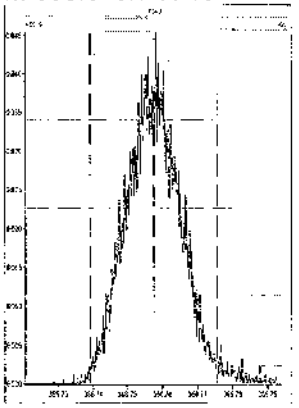


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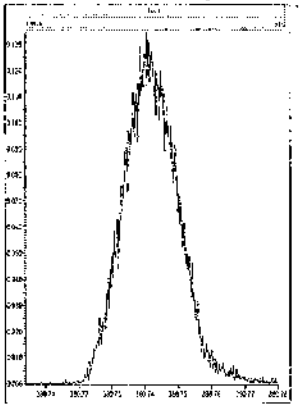
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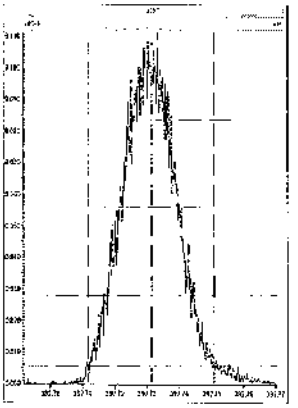
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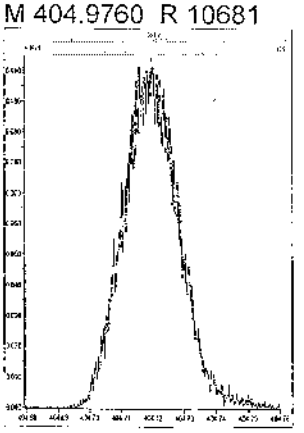
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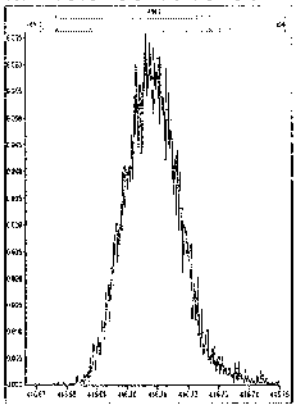
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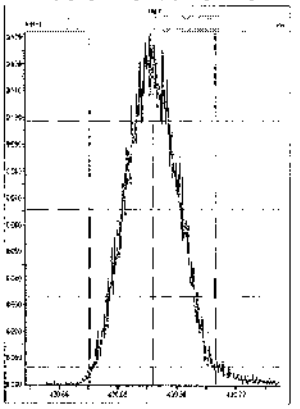
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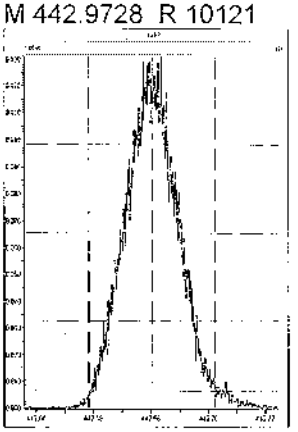
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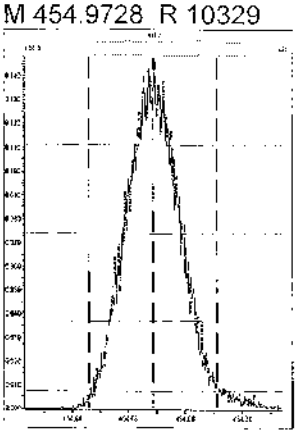
M 430.9728 R 10778



M 442.9728 R 10121



M 454.9728 R 10329

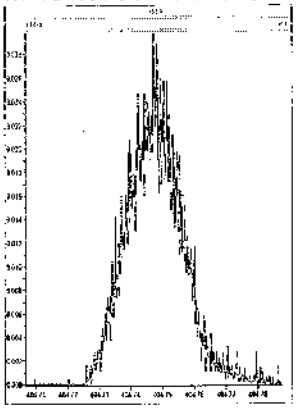


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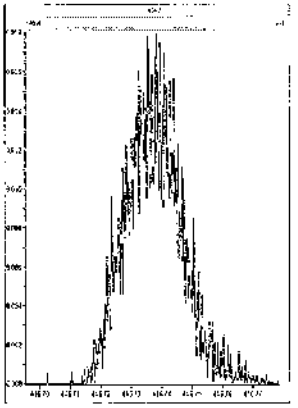
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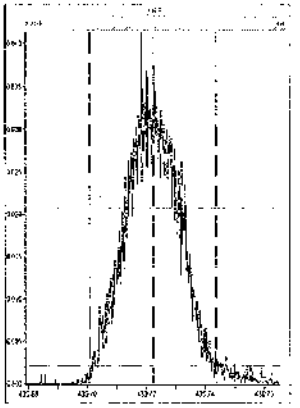
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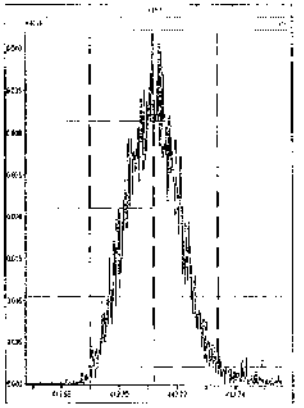
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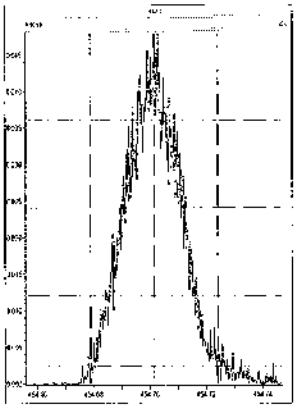
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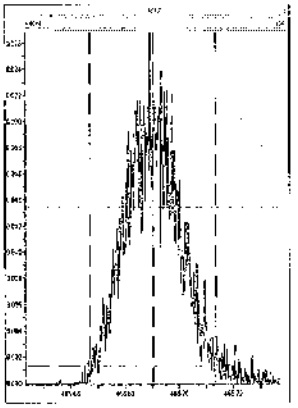
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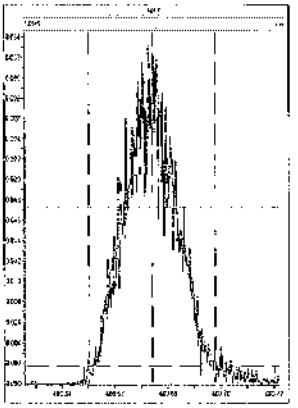
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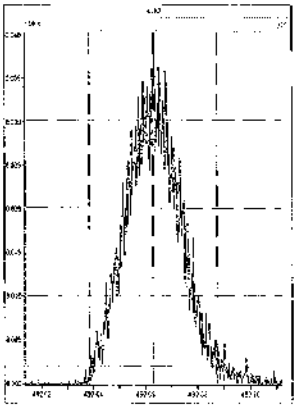
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M 480.9696 R 12195



M 492.9696 R 10637

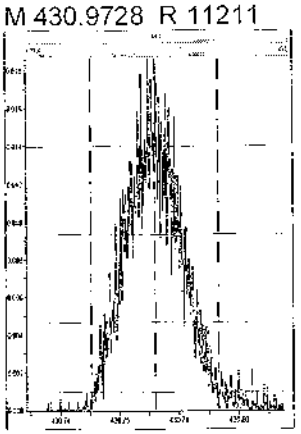


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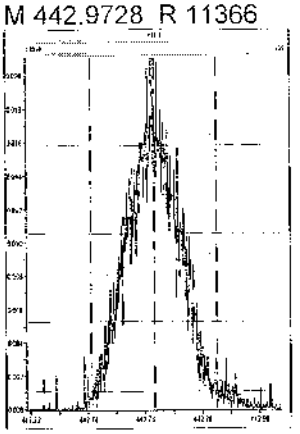
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Printed: Tuesday, January 10, 2012 08:15:48 Pacific Standard Time

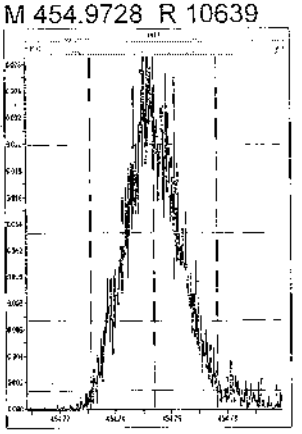
M 430.9728 R 11211



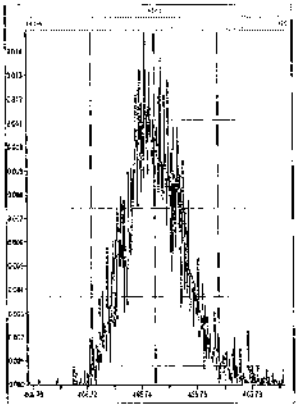
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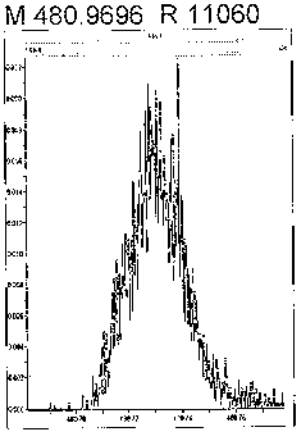
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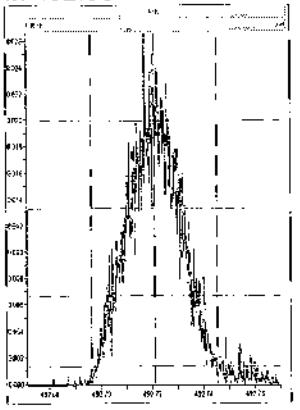
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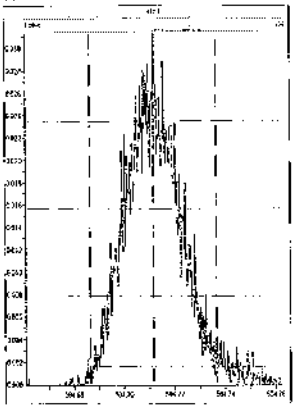
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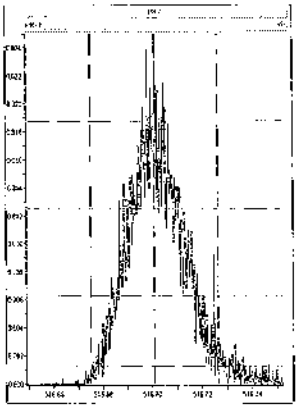
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M 504.9696 R 10595



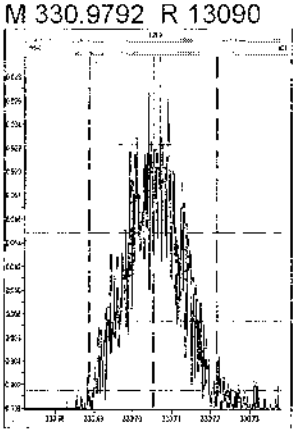
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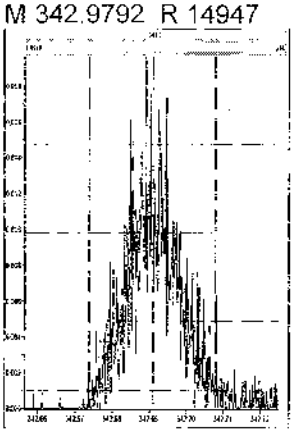
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Printed: Tuesday, January 10, 2012 19:27:53 Pacific Standard Time Approved by DJL 10-JAN-12

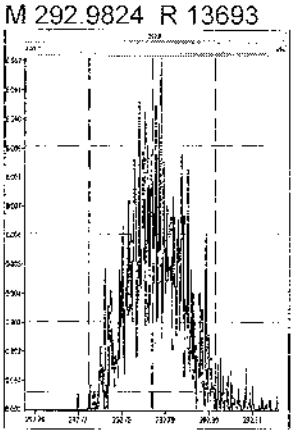
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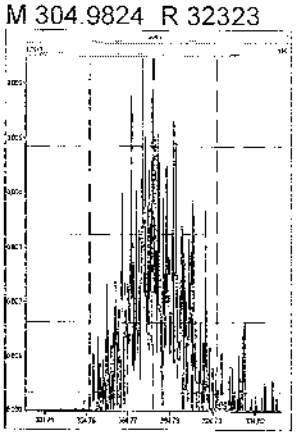
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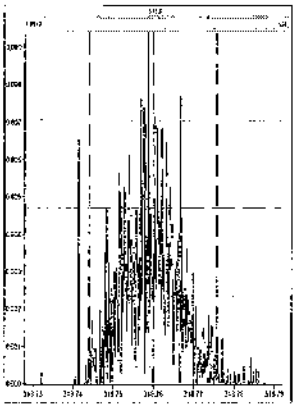
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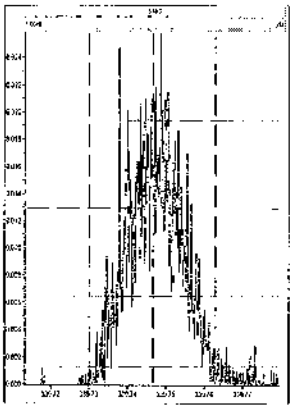
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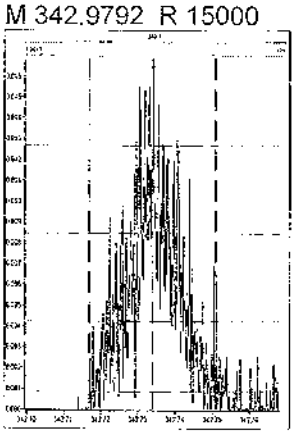
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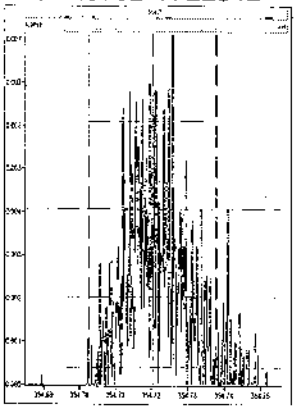
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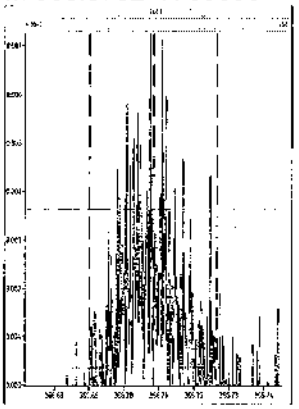
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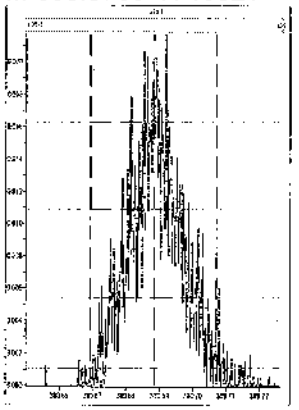
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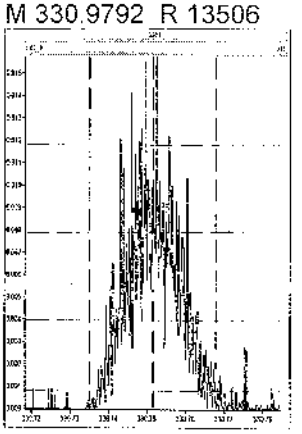
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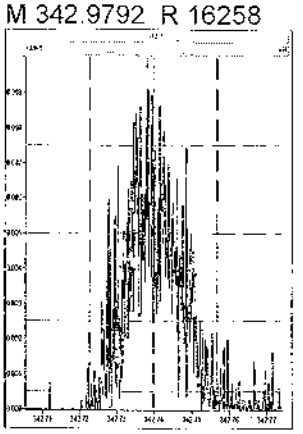
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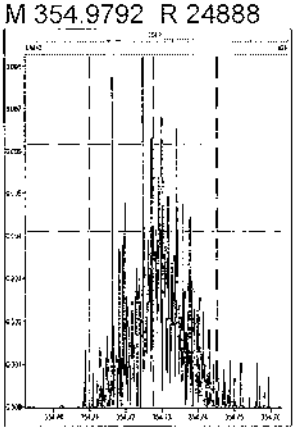
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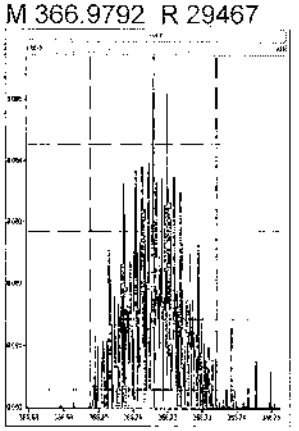
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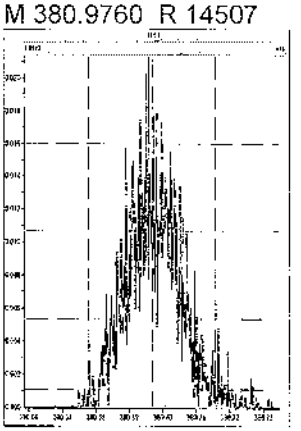
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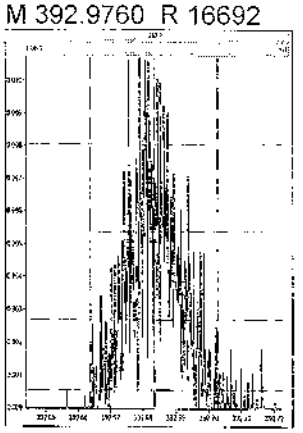
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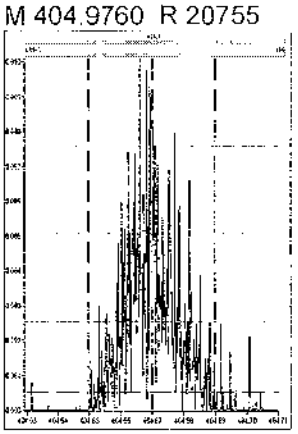
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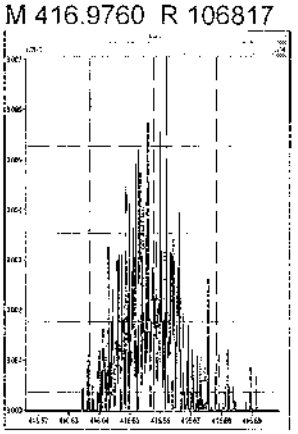
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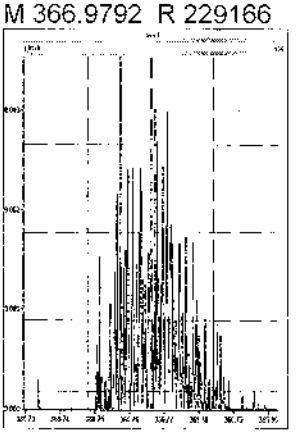
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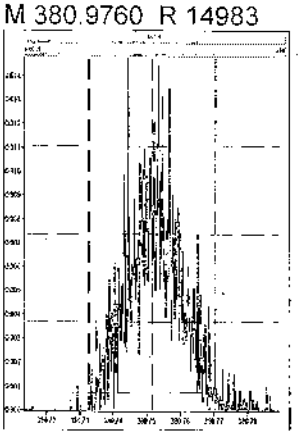
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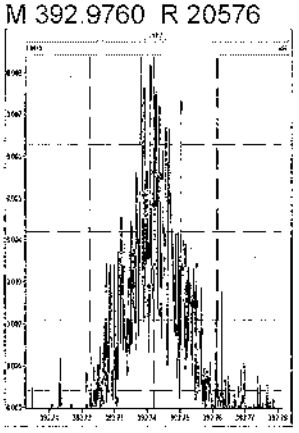
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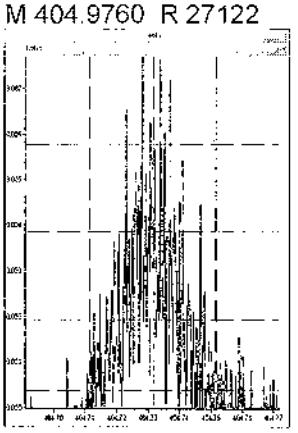
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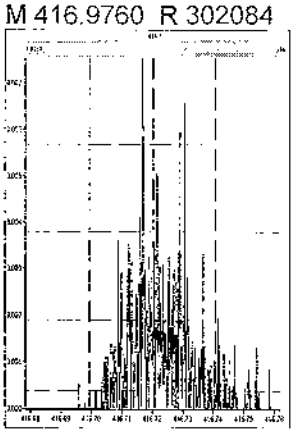
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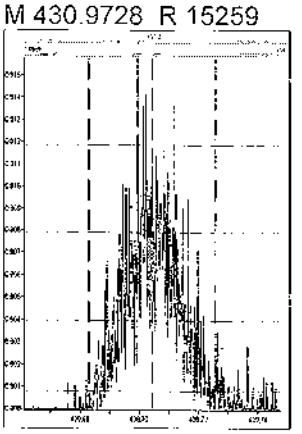
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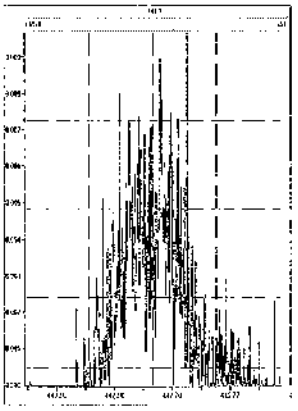
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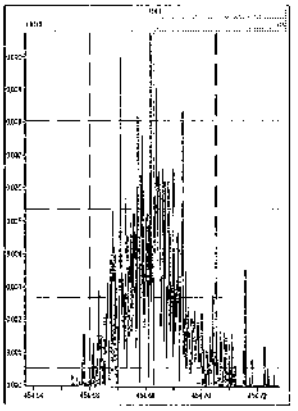
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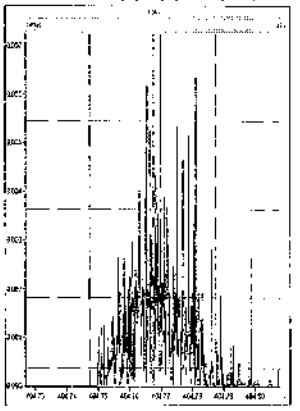
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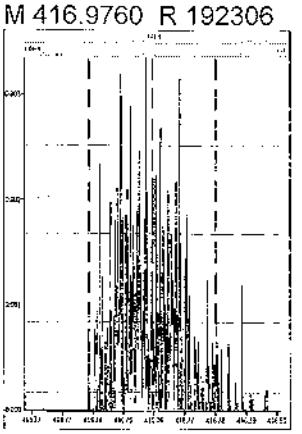
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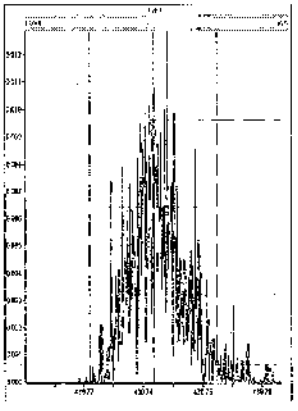
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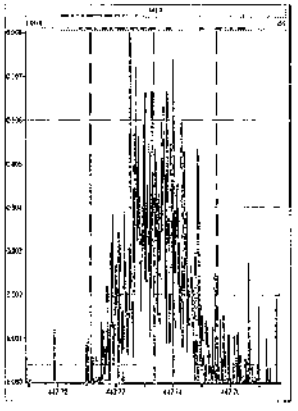
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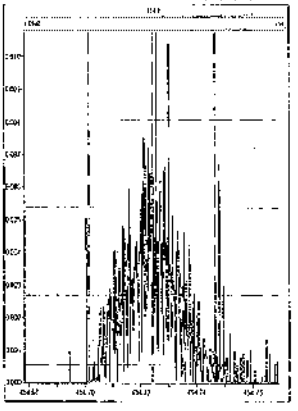
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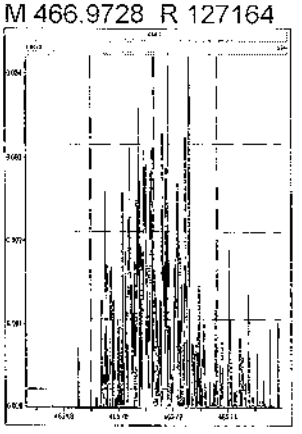
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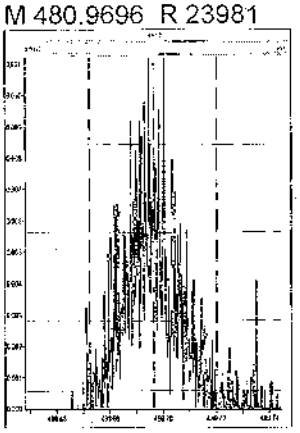
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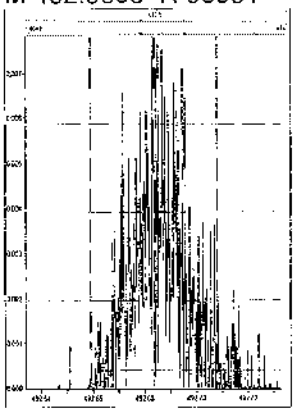
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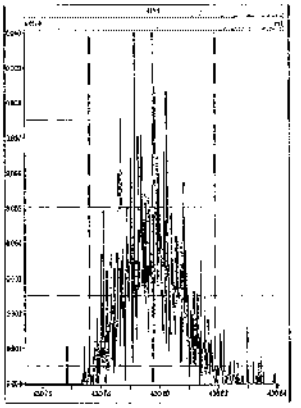
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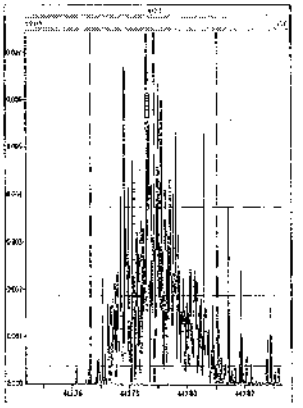
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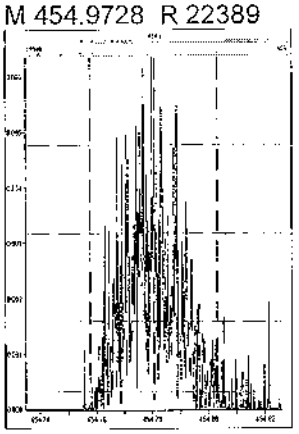
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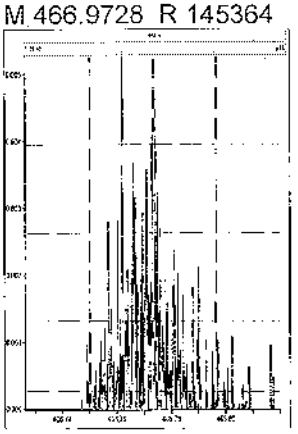
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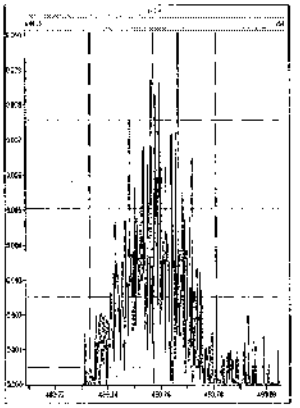
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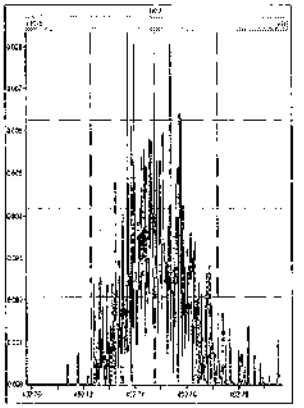
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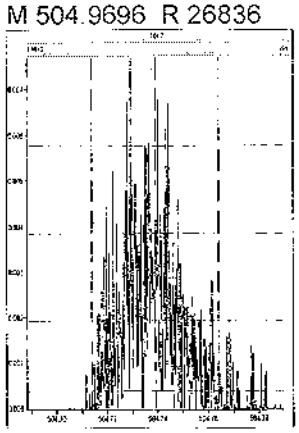
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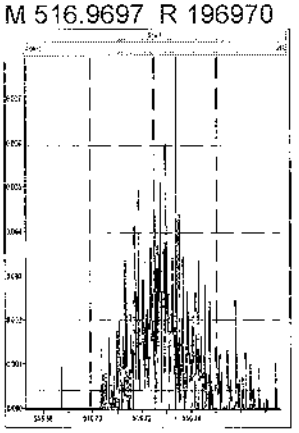
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Sample List Report **MassLynx 4.1 SCN627**

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Last Modified: Wednesday, January 11, 2012 08:46:23 Pacific Standard Time
Printed: Wednesday, January 11, 2012 11:55:43 Pacific Standard Time

Page Position (1, 1)

	File Name	Quan Meth	Sample ID	File Text	Sample Type	Subject Text	Samp Size	Surr Conc	13C-OCDD	Rec Std	C/Up
1	DX2M_008S1	—	DX036D-CAL,,/02-08	1,,1.0uL Cal Win/Res	QC	DB5,ng/mL	1.000	100	200	100	10
2	DX2M_008S2	—	WG38741-102,,SPM	1,WG38741,1.0/20uL	Analyte	DB5,ng/mL	20.000	2000	4000	2000	200
3	DX2M_008S3	—	DX042A-SUR,,/02	1,,1.0uL Inst Blank	Analyte	DB5,pg/sam	1.000	200	400	—	—
4	DX2M_008S4	—	DX042A-SUR,,/02	1,,1.0uL Inst Blank	Analyte	DB5,pg/sam	1.000	200	400	—	—
5	DX2M_008S5	—	WG38741-101,,Blank	1,WG38741,1.0/20uL	Analyte	DB5,pg/L	1.000	2000	4000	2000	200
6	DX2M_008S6	—	L17223-1,R,	1,WG38741,1.0/20uL	Analyte	DB5,pg/L	0.836	2000	4000	2000	200
7	DX2M_008S7	—	L17223-2,R,	1,WG38741,1.0/20uL	Analyte	DB5,pg/L	0.902	2000	4000	2000	200
8	DX2M_008S8	—	L17223-3,R,	1,WG38741,1.0/20uL	Analyte	DB5,pg/L	0.882	2000	4000	2000	200
9	DX2M_008S9	—	L17223-4,R,	1,WG38741,1.0/20uL	Analyte	DB5,pg/L	0.892	2000	4000	2000	200
10	DX2M_008S10	—	WG38741-103,,MS	1,WG38741,1.0/20uL	Analyte	DB5,pg/L	0.897	2000	4000	2000	200
11	DX2M_008S11	—	WG38741-104,,MSD	1,WG38741,1.0/20uL	Analyte	DB5,pg/L	0.869	2000	4000	2000	200
12	DX2M_008S12	—	DX036D-CAL,,/02-08	1,,1.0uL Cal Win/Res	QC	DB5,ng/mL	1.000	100	200	100	10

AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Dec-2011	**VER Data Filename:**	DX2M_008 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	10-Jan-2012
GC Column ID:	DB5	**Analysis Time:**	08:16:41

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.74	0.65-0.89	10.3	8.6 - 14.2
1,2,3,7,8-PECDD [5]		**M/M+2**	0.61	0.52-0.70	51.9	41 - 67.6
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.20	1.05-1.43	56.9	44 - 72.3
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.24	1.05-1.43	55.5	43 - 71
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.21	1.05-1.43	52.0	44 - 65.9
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.00	0.88-1.20	45.4	41 - 55.1
OCDD		**M+2/M+4**	0.86	0.76-1.02	99.0	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.73	0.65-0.89	10.6	9 - 12.8
1,2,3,7,8-PECDF		**M+2/M+4**	1.53	1.32-1.78	46.8	38 - 55.2
2,3,4,7,8-PECDF		**M+2/M+4**	1.53	1.32-1.78	46.9	39 - 57.3
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.23	1.05-1.43	52.9	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.21	1.05-1.43	48.5	42 - 54.2
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.25	1.05-1.43	51.4	47 - 58.8
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.22	1.05-1.43	53.5	47 - 60.4
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.01	0.88-1.20	49.8	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.05	0.88-1.20	51.8	43 - 58
OCDF		**M+2/M+4**	0.87	0.76-1.02	103	66 - 165

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form4A.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_DX2M_008S1__Form4A_SJ1408663.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Dec-2011	**VER Data Filename:**	DX2M_008 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	10-Jan-2012
GC Column ID:	DB5	**Analysis Time:**	08:16:41

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.78	0.65-0.89	101	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.60	0.52-0.70	90.2	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.25	1.05-1.43	104	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.20	1.05-1.43	107	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.02	0.88-1.20	93.3	72 - 138
13C-OCDD		**M+2/M+4**	0.87	0.76-1.02	172	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.77	0.65-0.89	102	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.56	1.32-1.78	96.9	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.53	1.32-1.78	92.3	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	103	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.52	0.43-0.59	106	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.50	0.43-0.59	97.1	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.51	0.43-0.59	104	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.43	0.37-0.51	102	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.45	0.37-0.51	88.2	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					9.94	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

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Report Filename: 1613_DIOXINS_DX2M_008S1__Form4B_SJ1408663.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Dec-2011	**VER Data Filename:**	DX2M_008 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	10-Jan-2012
GC Column ID:	DB5	**Analysis Time:**	08:16:41

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.001	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.000	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.000	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.000	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

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AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Dec-2011	**VER Data Filename:**	DX2M_008 S: 1
Instrument ID:	HR GC/MS	**Analysis Date:**	10-Jan-2012
GC Column ID:	DB5	**Analysis Time:**	08:16:41

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.012	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.383	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.987	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.094	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.178	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.966	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.285	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.352	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.954	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.958	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.005	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.062	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.104	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

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AXYS METHOD MLA-017 Rev 20

Form 4A
PCDD/PCDF CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Dec-2011	**VER Data Filename:**	DX2M_008 S: 12
Instrument ID:	HR GC/MS	**Analysis Date:**	10-Jan-2012
GC Column ID:	DB5	**Analysis Time:**	18:21:01

COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
2,3,7,8-TCDD		**M/M+2**	0.77	0.65-0.89	10.1	8.6 - 14.2
1,2,3,7,8-PECDD [5]		**M/M+2**	0.60	0.52-0.70	52.4	41 - 67.6
1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.21	1.05-1.43	56.3	44 - 72.3
1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.24	1.05-1.43	55.2	43 - 71
1,2,3,7,8,9-HXCDD		**M+2/M+4**	1.18	1.05-1.43	54.8	44 - 65.9
1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.01	0.88-1.20	46.8	41 - 55.1
OCDD		**M+2/M+4**	0.88	0.76-1.02	97.9	79 - 126
2,3,7,8-TCDF		**M/M+2**	0.75	0.65-0.89	10.8	9 - 12.8
1,2,3,7,8-PECDF		**M+2/M+4**	1.49	1.32-1.78	47.9	38 - 55.2
2,3,4,7,8-PECDF		**M+2/M+4**	1.55	1.32-1.78	47.6	39 - 57.3
1,2,3,4,7,8-HXCDF		**M+2/M+4**	1.21	1.05-1.43	51.5	45 - 56
1,2,3,6,7,8-HXCDF		**M+2/M+4**	1.21	1.05-1.43	47.9	42 - 54.2
1,2,3,7,8,9-HXCDF		**M+2/M+4**	1.20	1.05-1.43	50.4	47 - 58.8
2,3,4,6,7,8-HXCDF		**M+2/M+4**	1.20	1.05-1.43	52.6	47 - 60.4
1,2,3,4,6,7,8-HPCDF		**M+2/M+4**	1.01	0.88-1.20	50.0	45 - 55
1,2,3,4,7,8,9-HPCDF		**M+2/M+4**	1.02	0.88-1.20	49.8	43 - 58
OCDF		**M+2/M+4**	0.88	0.76-1.02	99.6	66 - 165

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

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AXYS METHOD MLA-017 Rev 20

Form 4B
PCDD/PCDF CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Dec-2011	**VER Data Filename:**	DX2M_008 S: 12
Instrument ID:	HR GC/MS	**Analysis Date:**	10-Jan-2012
GC Column ID:	DB5	**Analysis Time:**	18:21:01

LABELED COMPOUND	LAB FLAG [1]	MZ's FORMING RATIO [2]	ION ABUND. RATIO	QC LIMITS [3]	CONC. FOUND (ng/mL)	CONC. RANGE (ng/mL) [4]
13C-2,3,7,8-TCDD		**M/M+2**	0.76	0.65-0.89	102	82 - 121
13C-1,2,3,7,8-PECDD [5]		**M/M+2**	0.61	0.52-0.70	93.9	62 - 160
13C-1,2,3,4,7,8-HXCDD		**M+2/M+4**	1.22	1.05-1.43	99.5	85 - 117
13C-1,2,3,6,7,8-HXCDD		**M+2/M+4**	1.22	1.05-1.43	98.8	85 - 118
13C-1,2,3,4,6,7,8-HPCDD		**M+2/M+4**	1.04	0.88-1.20	99.7	72 - 138
13C-OCDD		**M+2/M+4**	0.87	0.76-1.02	180	96 - 415
13C-2,3,7,8-TCDF		**M/M+2**	0.76	0.65-0.89	101	71 - 140
13C-1,2,3,7,8-PECDF		**M+2/M+4**	1.52	1.32-1.78	96.7	76 - 130
13C-2,3,4,7,8-PECDF		**M+2/M+4**	1.54	1.32-1.78	94.4	77 - 130
13C-1,2,3,4,7,8-HXCDF		**M/M+2**	0.50	0.43-0.59	98.2	76 - 131
13C-1,2,3,6,7,8-HXCDF		**M/M+2**	0.50	0.43-0.59	98.7	70 - 143
13C-1,2,3,7,8,9-HXCDF		**M/M+2**	0.50	0.43-0.59	101	74 - 135
13C-2,3,4,6,7,8-HXCDF		**M/M+2**	0.50	0.43-0.59	101	73 - 137
13C-1,2,3,4,6,7,8-HPCDF		**M/M+2**	0.44	0.37-0.51	96.1	78 - 129
13C-1,2,3,4,7,8,9-HPCDF		**M/M+2**	0.44	0.37-0.51	95.2	77 - 129
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD [6]					10.0	7.9 - 12.7

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1613, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.
(4) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under VER.
(5) Alternate confirmation and quantitation ions used for native and labeled PECDD.
(6) No ion abundance ratio for 37Cl4-2,3,7,8-TCDD; concentration reported.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form4B.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
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AXYS METHOD MLA-017 Rev 20

Form 6A
PCDD/PCDF RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Dec-2011	**VER Data Filename:**	DX2M_008 S: 12
Instrument ID:	HR GC/MS	**Analysis Date:**	10-Jan-2012
GC Column ID:	DB5	**Analysis Time:**	18:21:01

COMPOUND	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
2,3,7,8-TCDD		13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PECDD [3]		13C-1,2,3,7,8-PECDD	1.001	0.999-1.002
1,2,3,4,7,8-HXCDD		13C-1,2,3,4,7,8-HXCDD	1.000	0.999-1.001
1,2,3,6,7,8-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	0.998-1.004
1,2,3,7,8,9-HXCDD		13C-1,2,3,6,7,8-HXCDD	1.000	1.000-1.019
1,2,3,4,6,7,8-HPCDD		13C-1,2,3,4,6,7,8-HPCDD	1.000	0.999-1.001
OCDD		13C-OCDD	1.000	0.999-1.001
2,3,7,8-TCDF		13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PECDF		13C-1,2,3,7,8-PECDF	1.001	0.999-1.002
2,3,4,7,8-PECDF		13C-2,3,4,7,8-PECDF	1.001	0.999-1.002
1,2,3,4,7,8-HXCDF		13C-1,2,3,4,7,8-HXCDF	1.001	0.999-1.001
1,2,3,6,7,8-HXCDF		13C-1,2,3,6,7,8-HXCDF	1.000	0.997-1.005
1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDF	1.000	0.999-1.001
2,3,4,6,7,8-HXCDF		13C-2,3,4,6,7,8-HXCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HPCDF		13C-1,2,3,4,6,7,8-HPCDF	1.000	0.999-1.001
1,2,3,4,7,8,9-HPCDF		13C-1,2,3,4,7,8,9-HPCDF	1.000	0.999-1.001
OCDF		13C-OCDD	1.002	0.999-1.008

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form6A.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
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AXYS METHOD MLA-017 Rev 20

Form 6B
PCDD/PCDF RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Dec-2011	**VER Data Filename:**	DX2M_008 S: 12
Instrument ID:	HR GC/MS	**Analysis Date:**	10-Jan-2012
GC Column ID:	DB5	**Analysis Time:**	18:21:01

	LAB FLAG [1]	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS [2]
LABELED COMPOUND				
13C-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.012	0.976-1.043
13C-1,2,3,7,8-PECDD		13C-1,2,3,4-TCDD	1.383	1.000-1.567
13C-1,2,3,4,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.987	0.977-1.000
13C-1,2,3,6,7,8-HXCDD		13C-1,2,3,7,8,9-HXCDD	0.990	0.981-1.003
13C-1,2,3,4,6,7,8-HPCDD		13C-1,2,3,7,8,9-HXCDD	1.094	1.086-1.110
13C-OCDD		13C-1,2,3,7,8,9-HXCDD	1.178	1.032-1.311
13C-2,3,7,8-TCDF		13C-1,2,3,4-TCDD	0.966	0.923-1.103
13C-1,2,3,7,8-PECDF		13C-1,2,3,4-TCDD	1.285	1.000-1.425
13C-2,3,4,7,8-PECDF		13C-1,2,3,4-TCDD	1.352	1.011-1.526
13C-1,2,3,4,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.954	0.944-0.970
13C-1,2,3,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.958	0.949-0.975
13C-1,2,3,7,8,9-HXCDF		13C-1,2,3,7,8,9-HXCDD	1.005	0.977-1.047
13C-2,3,4,6,7,8-HXCDF		13C-1,2,3,7,8,9-HXCDD	0.980	0.959-1.021
13C-1,2,3,4,6,7,8-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.062	1.043-1.085
13C-1,2,3,4,7,8,9-HPCDF		13C-1,2,3,7,8,9-HXCDD	1.104	1.057-1.151
CLEANUP STANDARD				
37CL-2,3,7,8-TCDD		13C-1,2,3,4-TCDD	1.001	0.989-1.052

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1613.

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form6B.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS_DX2M_008S12__Form6B_SJ1408662.html; Workgroup: WG38741; Design ID: 1725]

AXYS METHOD MLA-017 Rev 20

Form 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Instrument ID:	HR GC/MS	**Initial Calibration Date:**		14-Dec-2011
RT Window Data Filename:	DX2M_008 S: 1	**Analysis Date:**	10-Jan-2012	**Time:** 08:16:41
DB-5 IS Data Filename:	DX2M_008 S: 1	**Analysis Date:**	10-Jan-2012	**Time:** 08:16:41
DB-225 IS Data Filename:		**Analysis Date:**		**Time:**

DB5 RT WINDOW DEFINING STANDARDS RESULT

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:57	**1,3,6,8-TCDF (F)**	21:25
1,2,8,9-TCDD (L)	28:20	**1,2,8,9-TCDF (L)**	28:11
1,2,4,7,9-PECDD (F)	32:04	**1,3,4,6,8-PECDF (F)**	28:52
1,2,3,8,9-PECDD (L)	37:05	**1,2,3,8,9-PECDF (L)**	37:09
1,2,4,6,7,9-HXCDD (F)	40:04	**1,2,3,4,6,8-HXCDF (F)**	39:01
1,2,3,4,6,7-HXCDD (L)	42:42	**1,2,3,4,8,9-HXCDF (L)**	43:03
1,2,3,4,6,7,9-HPCDD (F)	45:49	**1,2,3,4,6,7,8-HPCDF (F)**	45:21
1,2,3,4,6,7,8-HPCDD (L)	46:43	**1,2,3,4,7,8,9-HPCDF (L)**	47:08

(F) = First eluting isomer (DB-5); (L) = Last eluting isomer (DB-5)

ISOMER SPECIFICITY (IS) TEST STANDARDS RESULT

Isomers	% Valley Height Between Compared Peaks	Isomers	% Valley Height Between Compared Peaks
1,2,3,4-TCDD **1,2,7,8-TCDD**	0	**1,2,3,8-TCDD** **2,3,7,8-TCDD**	14
1,2,7,8-TCDD **1,4,7,8-TCDD**	0	**2,3,4,7-TCDF** **2,3,7,8-TCDF**	N/A
1,4,7,8-TCDD **1,2,3,7-TCDD**	0	**2,3,7,8-TCDF** **1,2,3,9-TCDF**	N/A
1,2,3,7-TCDD **1,2,3,8-TCDD**	DB-5 column; co-elute as per Figure 6 in Method		

These data are validated and reported as accurate and in accord with AXYS Analytical Services Ltd. ISO17025 compliant quality assurance processes.

Signed: _____Shelley Facchin_____

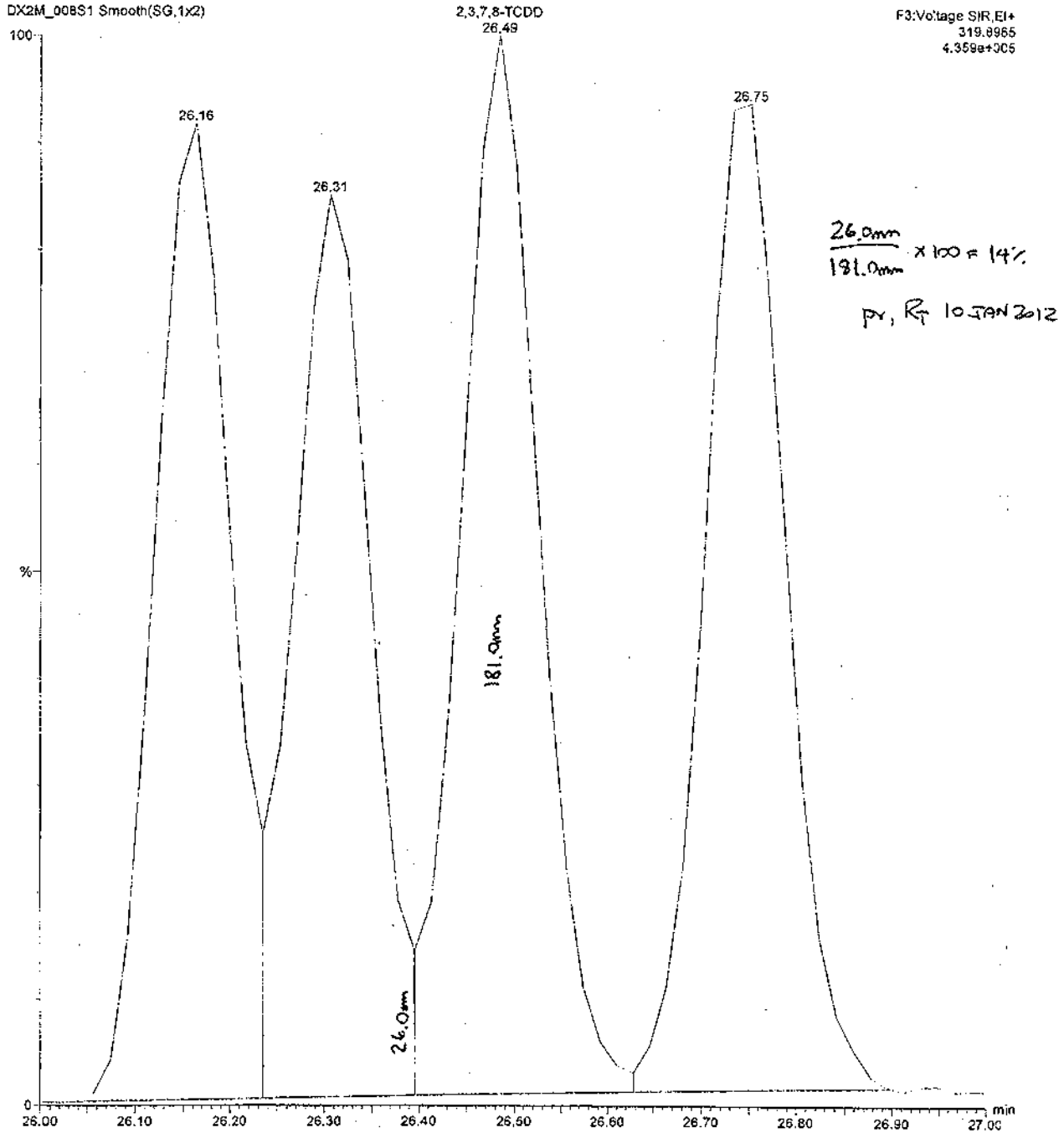
For Axys Internal Use Only [XSL Template: DXForm5.xsl; Created: 13-Jan-2012 13:56:23; Application: XMLTransformer-1.12.3;
Report Filename: 1613_DIOXINS__DX2M_008S1_Form5_SJ1408735.html; Workgroup: WG38741; Design ID: 1725]

Axys Analytical Services, Ltd.
Quantify Sample Report **MassLynx 4.1**

Method: C:\MassLynx\111213DX.PRO\MethDB\DX_Win_ResC.mdb 03 Nov 2009 08:14:02
Calibration: C:\MassLynx\111213DX.PRO\CurveDB\DX1M_179B-A.cdb 15 Dec 2011 09:14:12

Name: DX2M_008S1, Date: 10-Jan-2012, Time: 08:16:41, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

2,3,7,8-TCDD



$\frac{26.0mm}{181.0mm} \times 100 = 14\%$

pv, RT 10 JAN 2012

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	0.836	3.84e1	0.45	YES	25.29	0.133	0.1388		1.07e2	7.11e1
2	1,2,3,7,8-PeCDF	0.836			NO			0.2097		9.75e1	9.42e1
3	2,3,4,7,8-PeCDF	0.836	8.96e1	3.26	YES	35.33	0.362	0.1765		9.75e1	9.42e1
4	1,2,3,4,7,8-HxCDF	0.836	8.24e1	0.29	YES	40.74	0.438	0.1883		1.29e2	7.16e1
5	1,2,3,6,7,8-HxCDF	0.836			NO			0.1755		1.29e2	7.16e1
6	2,3,4,6,7,8-HxCDF	0.836	6.88e1	1.10	NO	41.86	0.401	0.2028		1.29e2	7.16e1
7	1,2,3,7,8,9-HxCDF	0.836	8.16e1	0.68	YES	42.92	0.548	0.2409		1.29e2	7.16e1
8	1,2,3,4,6,7,8-HpCDF	0.836	2.71e2	1.43	YES	45.33	1.791	0.2253		3.37e1	1.79e2
9	1,2,3,4,7,8,9-HpCDF	0.836	8.22e1	1.46	YES	47.12	0.703	0.2901		3.37e1	1.79e2
10	OCDF	0.836	5.57e2	0.88	NO	50.39	5.799	0.3858		4.45e1	1.76e2
11	2,3,7,8-TCDD	0.836			NO			0.1795		7.28e1	1.23e2
12	1,2,3,7,8-PeCDD	0.836	4.68e1	2.18	YES	36.19	0.241	0.2218		1.29e2	6.35e1
13	1,2,3,4,7,8-HxCDD	0.836	4.96e1	2.40	YES	42.12	0.348	0.2908		4.54e1	2.04e2
14	1,2,3,6,7,8-HxCDD	0.836	6.52e1	1.31	NO	42.29	0.441	0.3097		4.54e1	2.04e2
15	1,2,3,7,8,9-HxCDD	0.836	8.67e1	1.99	YES	42.72	0.586	0.2946		4.54e1	2.04e2
16	1,2,3,4,6,7,8-HpCDD	0.836	6.83e2	0.74	YES	46.72	5.280	0.3197		1.71e2	9.39e1
17	OCDD	0.836	1.38e4	0.83	NO	50.30	139.661	0.4962		1.44e2	1.50e2
18	13C-2,3,7,8-TCDF	0.836	9.00e5	0.76	NO	25.22	1687.280	0.8709	70.5	1.21e3	7.59e2
19	13C-1,2,3,7,8-PeCDF	0.836	6.70e5	1.54	NO	33.54	1614.240	1.6572	67.5	1.29e3	1.63e3
20	13C-2,3,4,7,8-PeCDF	0.836	6.72e5	1.51	NO	35.32	1685.591	1.7254	70.5	1.29e3	1.63e3
21	13C-1,2,3,4,7,8-HxCDF	0.836	4.52e5	0.52	NO	40.71	1532.832	1.6287	64.1	1.59e3	1.20e3
22	13C-1,2,3,6,7,8-HxCDF	0.836	5.07e5	0.50	NO	40.88	1526.891	1.4440	63.8	1.59e3	1.20e3
23	13C-2,3,4,6,7,8-HxCDF	0.836	4.54e5	0.51	NO	41.82	1505.914	1.5900	63.0	1.59e3	1.20e3
24	13C-1,2,3,7,8,9-HxCDF	0.836	4.12e5	0.52	NO	42.87	1515.712	1.7666	63.4	1.59e3	1.20e3
25	13C-1,2,3,4,6,7,8-HpCDF	0.836	3.13e5	0.42	NO	45.33	1376.453	1.8121	57.5	1.52e3	8.75e2
26	13C-1,2,3,4,7,8,9-HpCDF	0.836	2.68e5	0.43	NO	47.12	1347.658	2.0707	56.3	1.52e3	8.75e2
27	13C-2,3,7,8-TCDD	0.836	7.37e5	0.80	NO	26.43	1628.498	1.6246	68.1	1.55e3	1.57e3
28	13C-1,2,3,7,8-PeCDD	0.836	5.60e5	0.62	NO	36.12	1785.802	0.6879	74.7	3.59e2	5.56e2
29	13C-1,2,3,4,7,8-HxCDD	0.836	4.36e5	1.25	NO	42.11	1516.620	1.7403	63.4	1.03e3	1.88e3
30	13C-1,2,3,6,7,8-HxCDD	0.836	4.81e5	1.24	NO	42.24	1524.666	1.5844	63.7	1.03e3	1.88e3
31	13C-1,2,3,4,6,7,8-HpCDD	0.836	3.22e5	1.03	NO	46.70	1404.088	1.1911	58.7	7.62e2	8.26e2
32	13C-OCDD	0.836	5.21e5	0.88	NO	50.28	2287.244	1.0524	47.8	2.73e2	1.12e3
33	13C-1,2,3,4-TCDD	0.836	9.40e5	0.76	NO	26.11	111.637	0.0872	4.7	1.55e3	1.57e3
34	13C-1,2,3,7,8,9-HxCDD	0.836	6.99e5	1.18	NO	42.67	111.273	0.0796	4.7	1.03e3	1.88e3
35	37Cl-2,3,7,8-TCDD	0.836	9.00e4			26.45	198.481	0.2742	83.0		5.28e2
36	Total Tetra-Furans	0.836					6.060	0.1388			7.11e1
37	Total Tetra-Dioxins	0.836					5.787	0.1795			1.23e2
38	Total Penta-Furans	0.836					1.626	0.1945			9.42e1
39	Total Penta-Dioxins	0.836					1.790	0.2218			6.35e1
40	Total Hexa-Furans	0.836					3.366	0.1876			7.16e1
41	Total Hexa-Dioxins	0.836					3.275	0.2906			2.04e2
42	Total Hepta-Furans	0.836					6.383	0.2420			1.79e2
43	Total Hepta-Dioxins	0.836					9.777	0.3197			9.39e1
44	Hexa DPE	1.000	4.63e1			21.05					4.11e1
45	Hepta DPE	1.000	6.74e1			37.89					3.25e1
46	Octa DPE	1.000	4.12e1			43.10					4.34e1
47	Nona DPE	1.000	3.53e1			47.56					3.49e1
48	Deca DPE	1.000	2.32e1			49.38					3.81e1
49	Tetra Lock	1.000									5.98e4
50	Penta Lock	1.000									6.18e4
51	Hexa Lock	1.000	1.16e4			41.26					7.69e4
52	Hepta Lock	1.000	4.02e3			46.38					6.76e4
53	Octa Lock	1.000	4.59e3			50.05					3.67e4
54	13C-Tetra-Furans	0.836					1687.280	0.8709			7.59e2
55	13C-Tetra-Dioxins	0.836					1740.135	1.7118			1.57e3

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

S'd B4 BF 12-Jan-2012

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

Tetrafurans

	RT	1º Ratio (A...	Fails?	pg
1	24.27	0.718	NO	5.151
2	23.82	1.154	YES	0.101
3	22.95	0.484	YES	0.059
4	22.46	0.274	YES	0.074
5	22.30	0.773	NO	0.050
6	22.21	0.741	NO	0.116
7	21.39	0.923	YES	0.086
8	26.15	0.612	YES	0.152
9	25.29	0.451	YES	0.133
10	24.54	0.481	YES	0.139

Tetradioxins

	RT	1º Ratio (A...	Fails?	pg
1	25.18	2.619	YES	0.360
2	24.14	0.818	NO	0.085
3	23.47	2.990	YES	0.008
4	23.34	0.508	YES	0.136
5	22.93	0.333	YES	0.217
6	22.70	0.730	NO	0.071
7	22.59	9.311	YES	0.224
8	26.13	0.796	NO	4.687

Pentafurans

	RT	1º Ratio (A...	Fails?	pg
1	31.35	6.081	YES	0.193
2	31.06	2.641	YES	0.103
3	28.92	2.990	YES	0.231
4	34.38	0.625	YES	0.113
5	33.49	0.253	YES	0.214
6	31.53	0.390	YES	0.063
7	37.18	0.462	YES	0.277
8	35.63	1.755	NO	0.070
9	35.33	3.260	YES	0.362

Pentadioxins

	RT	1º Ratio (A...	Fails?	pg
1	34.22	2.244	YES	0.294
2	33.54	2.605	YES	0.514
3	37.05	2.040	YES	0.089
4	36.19	2.176	YES	0.241
5	35.88	0.622	NO	0.119
6	35.66	0.348	YES	0.210
7	35.35	1.641	YES	0.267
8	35.21	2.248	YES	0.057

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

Hexafurans

	RT	1º Ratio (A...	Fails?	pg
1	39.15	0.678	YES	0.120
2	38.80	2.170	YES	0.146
3	42.92	0.685	YES	0.548
4	42.04	0.788	YES	0.121
5	41.86	1.097	NO	0.401
6	40.74	0.288	YES	0.436
7	40.08	1.271	NO	0.882
8	39.48	0.716	YES	0.036
9	39.25	0.283	YES	0.522
10	43.05	26.025	YES	0.152

Hexadioxins

	RT	1º Ratio (A...	Fails?	pg
1	40.01	0.371	YES	0.321
2	42.72	1.985	YES	0.586
3	42.29	1.313	NO	0.441
4	42.12	2.403	YES	0.348
5	41.26	0.678	YES	0.544
6	40.88	4.621	YES	0.695
7	40.73	2.018	YES	0.340

Heptafurans

	RT	1º Ratio (A...	Fails?	pg
1	47.12	1.460	YES	0.703
2	45.84	1.054	NO	3.889
3	45.33	1.431	YES	1.791

Heptadioxins

	RT	1º Ratio (A...	Fails?	pg
1	46.72	0.745	YES	5.280
2	45.81	1.062	NO	4.497

13C-TF

	RT	1º Ratio (A...	Fails?	pg
1	25.22	0.764	NO	1687.2...

13C-TD

	RT	1º Ratio (A...	Fails?	pg
1	26.43	0.803	NO	1628.4...
2	26.11	0.755	NO	111.637

13C-PF

	RT	1º Ratio (A...	Fails?	pg
1	35.32	1.510	NO	1685.5...
2	33.54	1.536	NO	1614.2...

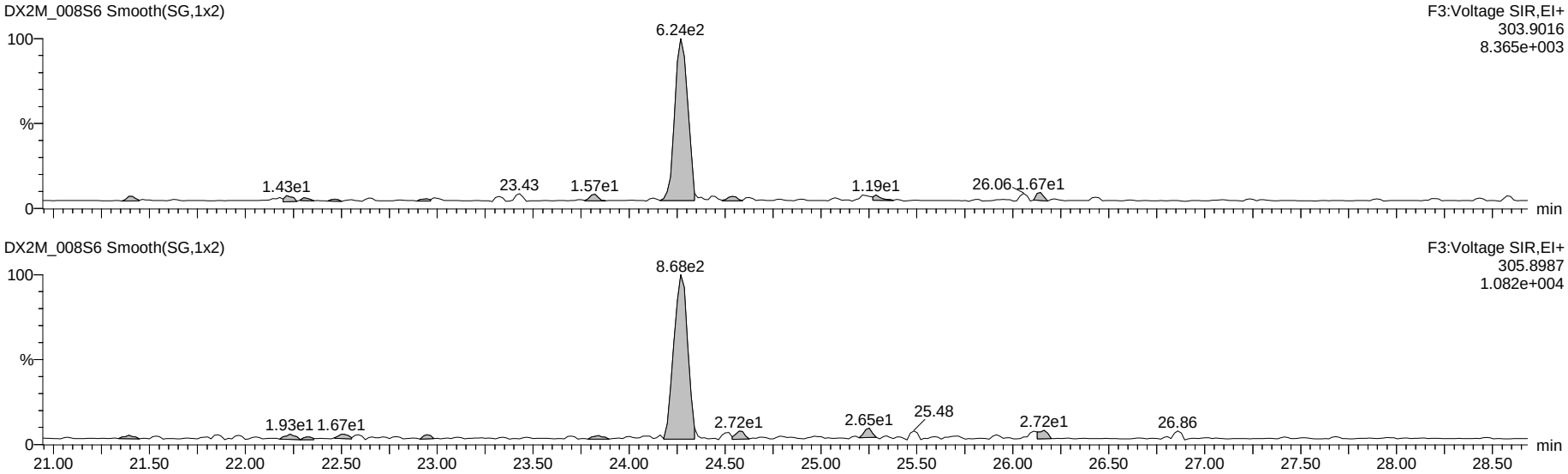
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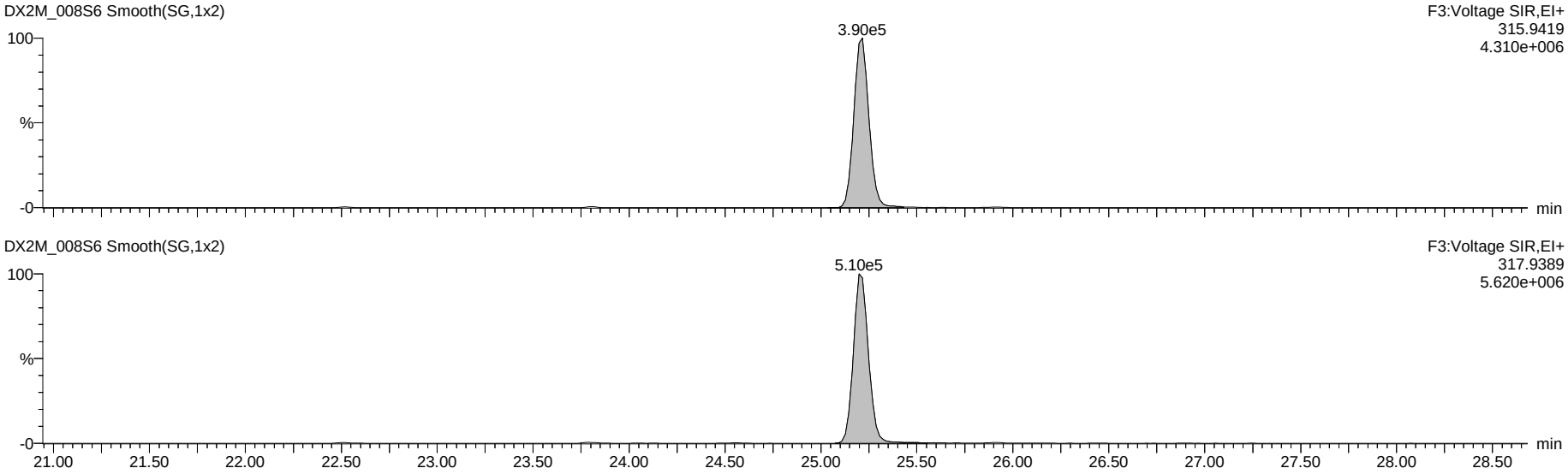
Method: G:\Masslynx\Inst_M\Master methods and layouts\Current Methods\DX_1613B_014.mdb 02 Sep 2011 08:17:41
Calibration: G:\Masslynx\Inst_M\Projects\111213DX.PRO\CurveDB\DX1M_179B-B.cdb 15 Dec 2011 09:33:42

Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

Total Tetra-Furans



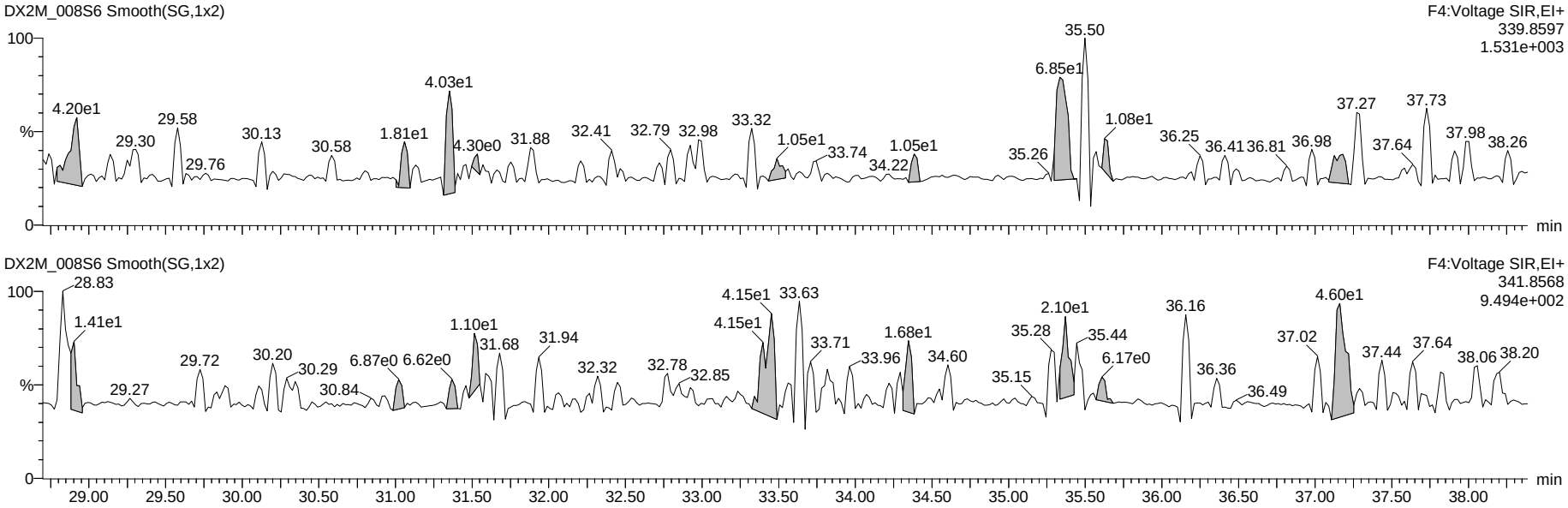
13C-Tetra-Furans



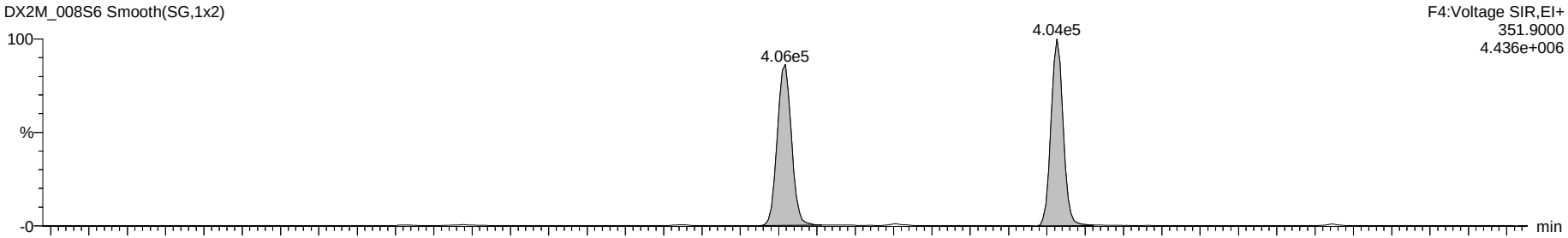
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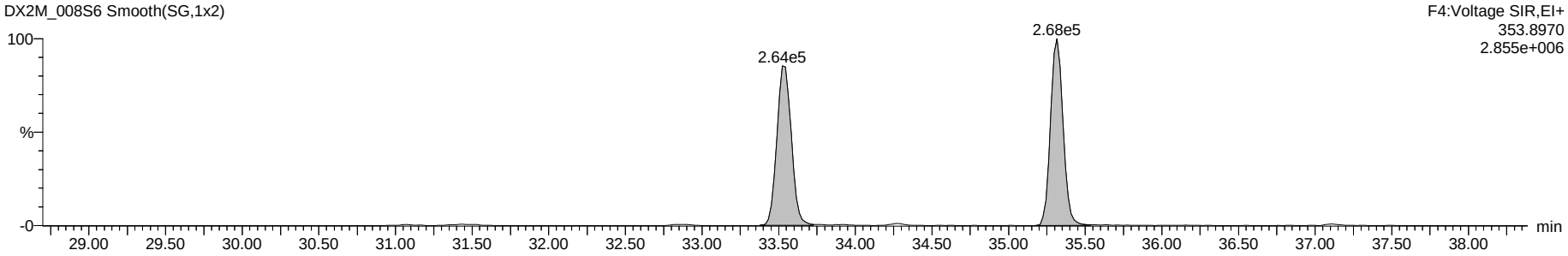
Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

Total Penta-Furans



13C-Penta-Furans

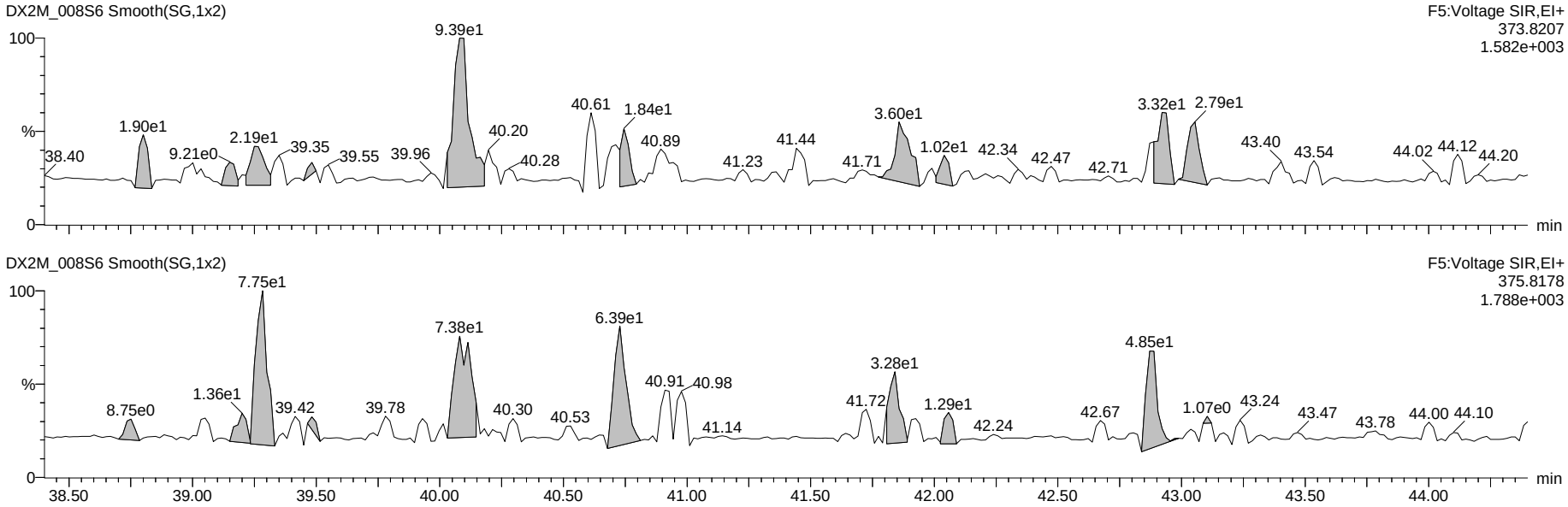




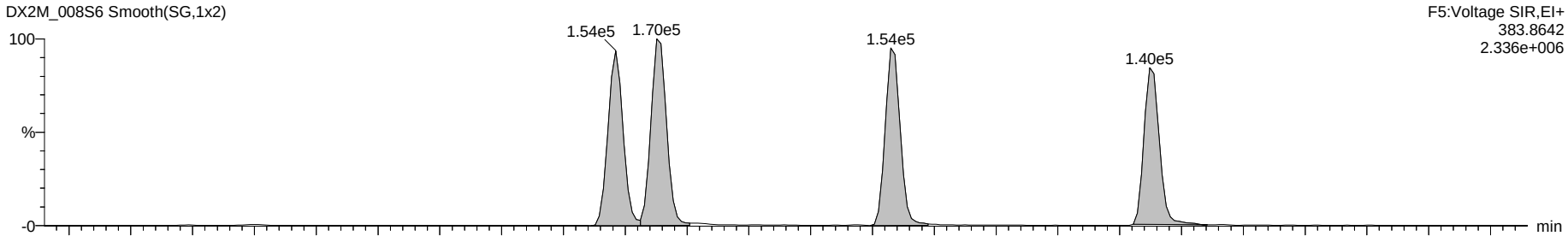
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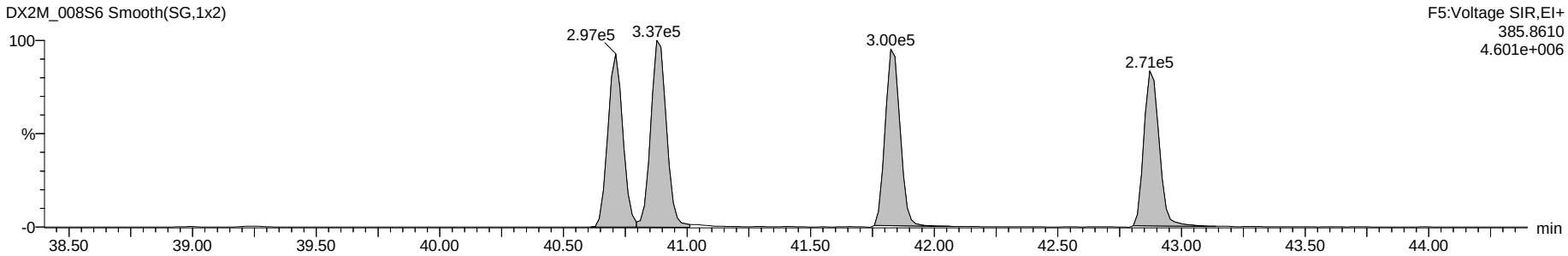
Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

Total Hexa-Furans



13C-Hexa-Furans

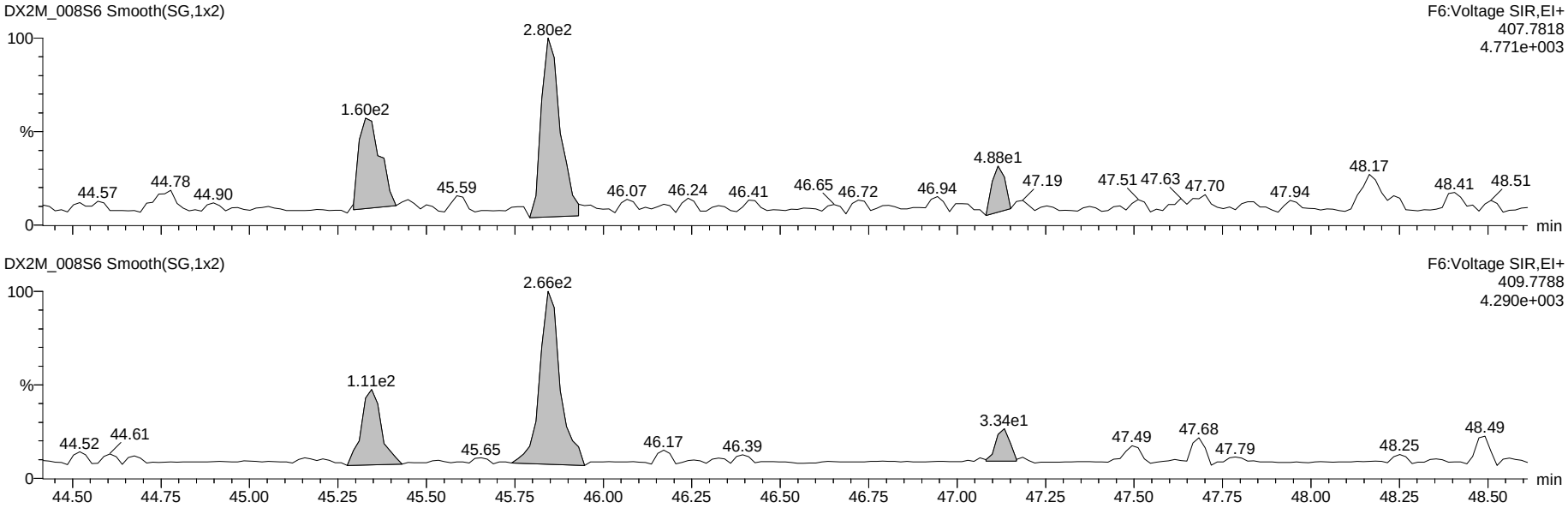




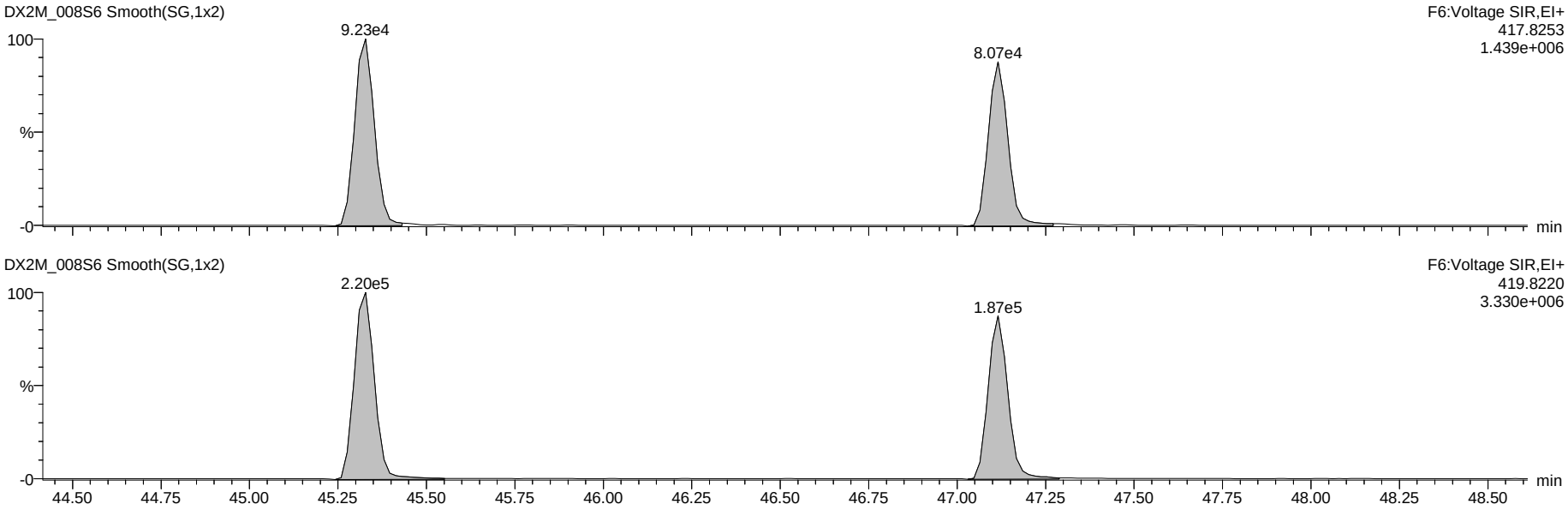
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Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

Total Hepta-Furans



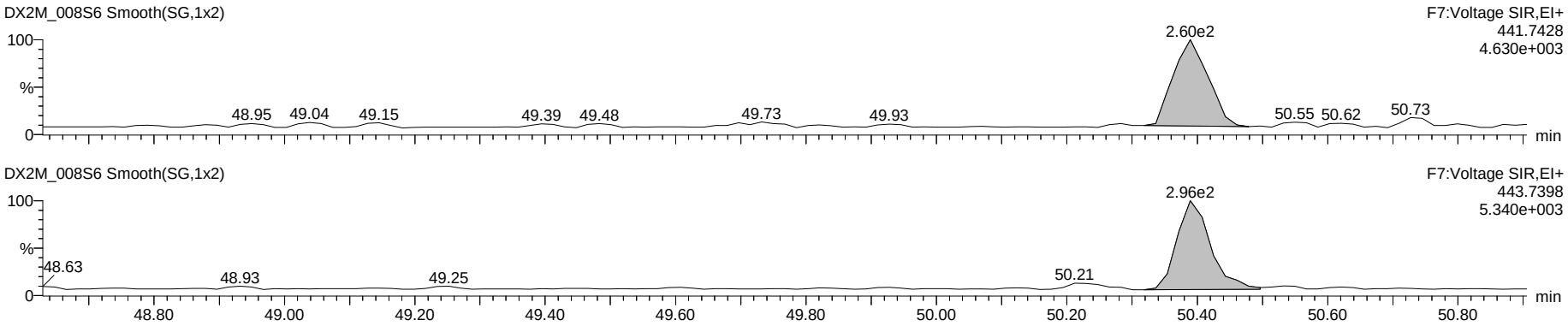
13C-Hepta-Furans



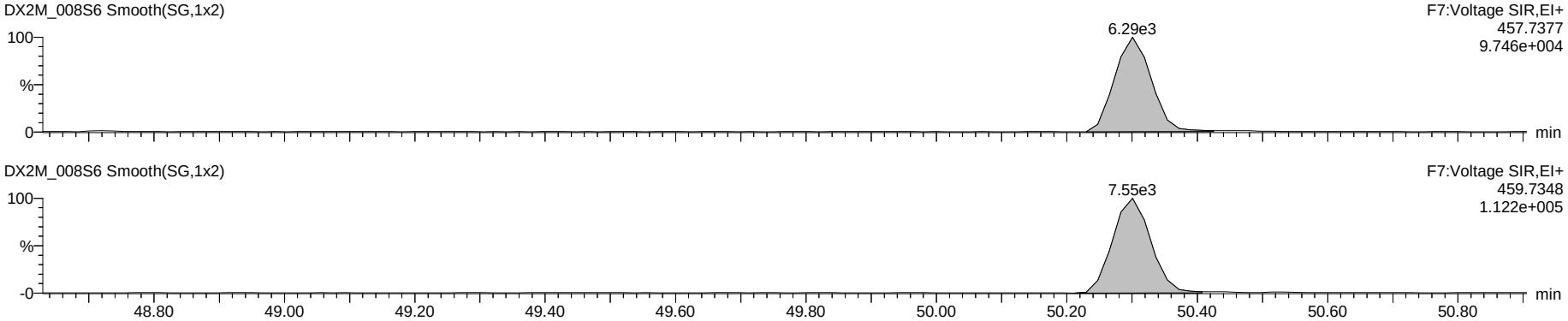
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

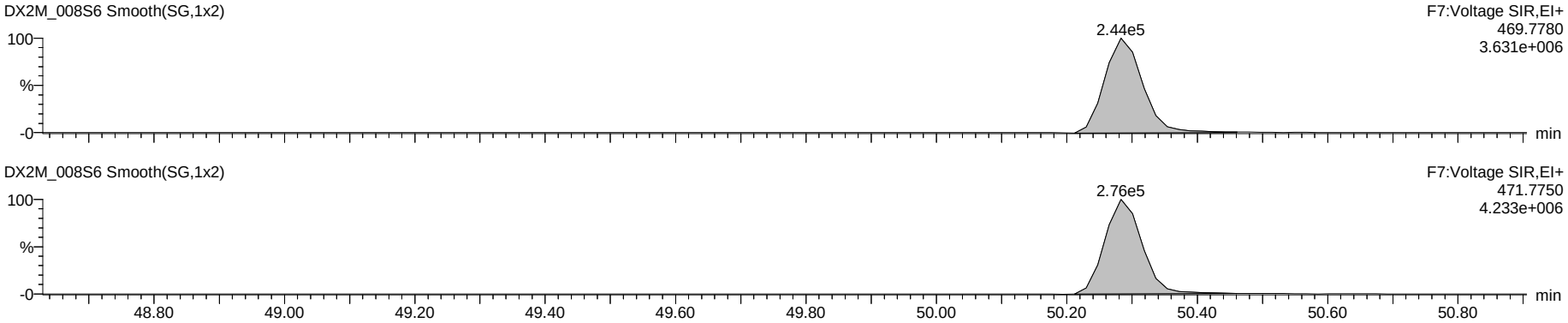
OCDF



OCDD



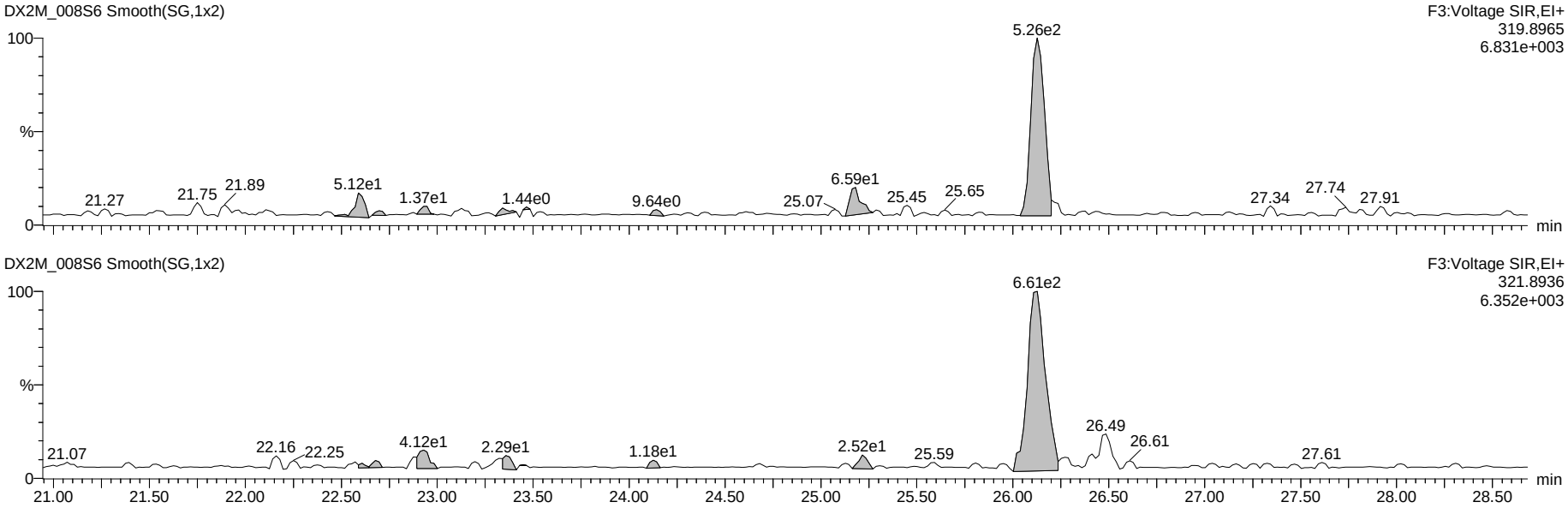
13C-OCDD



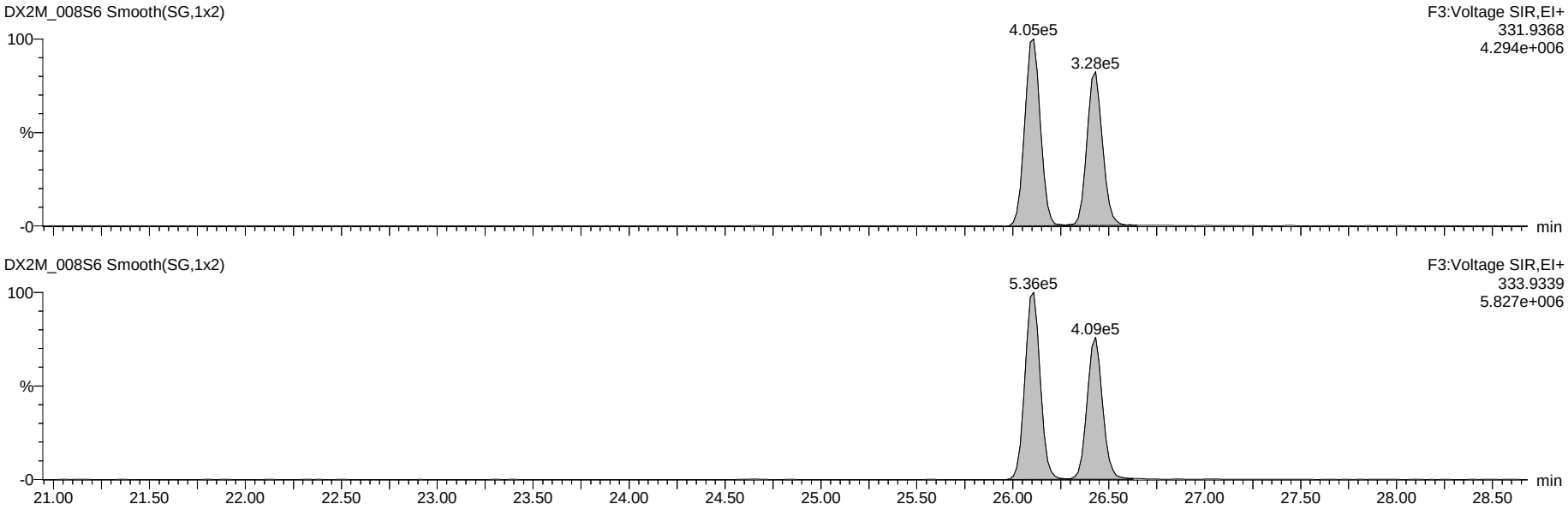
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

Total Tetra-Dioxins



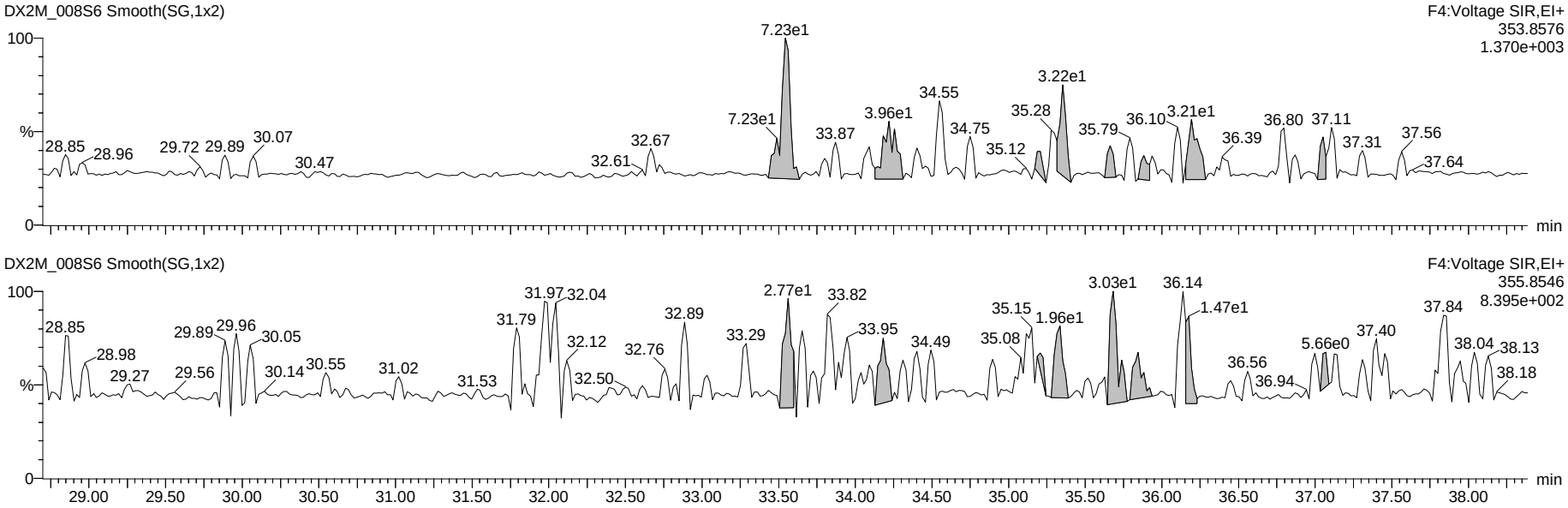
13C-Tetra-Dioxins



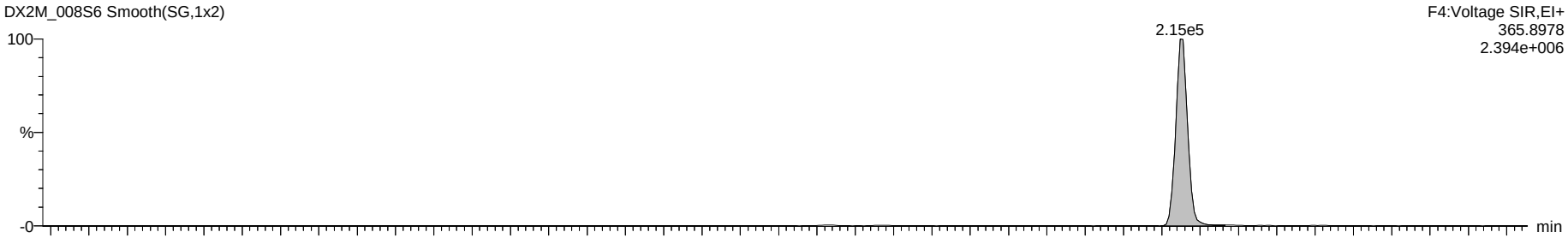
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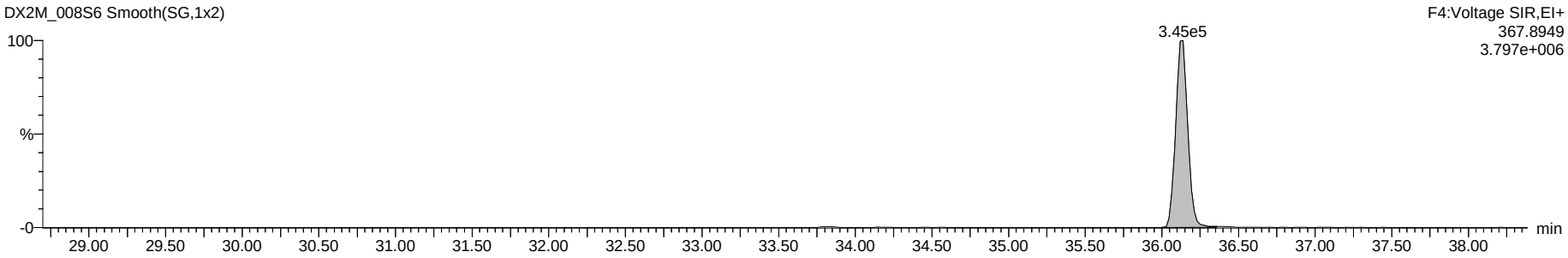
Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

Total Penta-Dioxins



13C-Penta-Dioxins

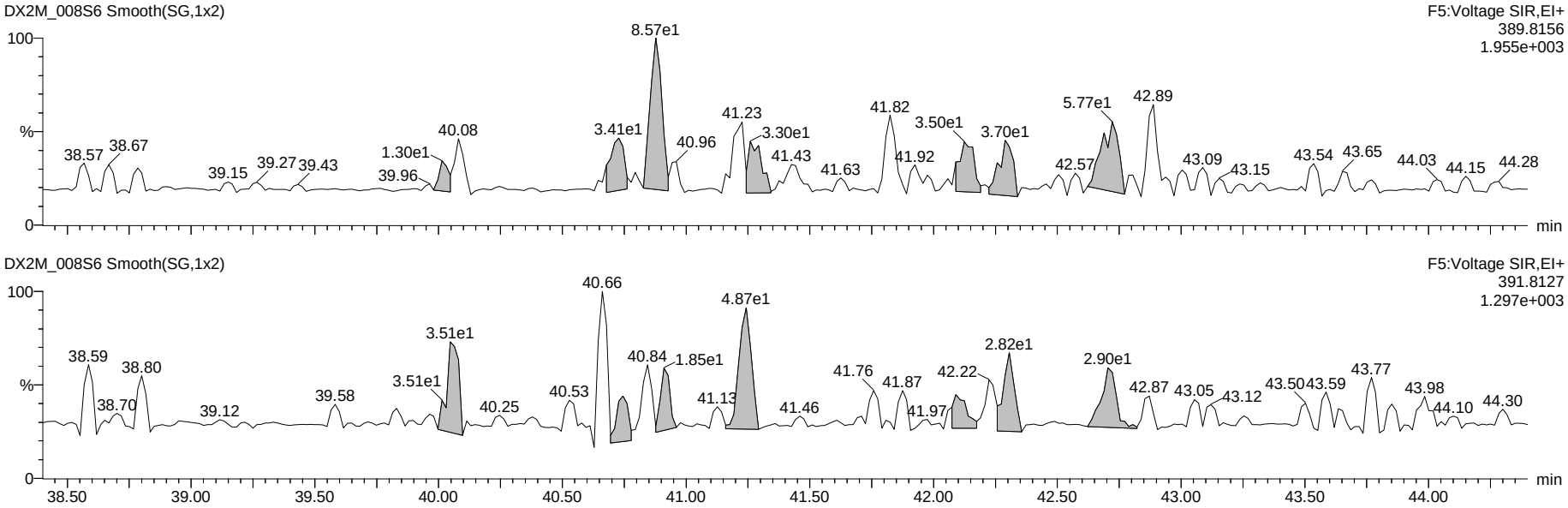




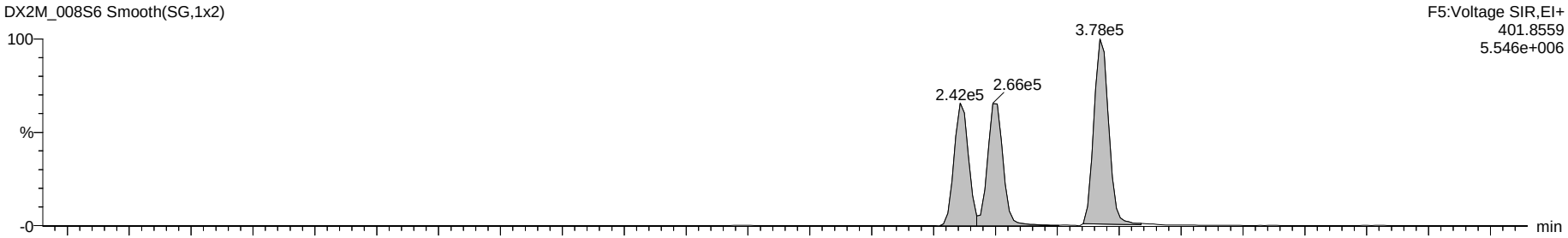
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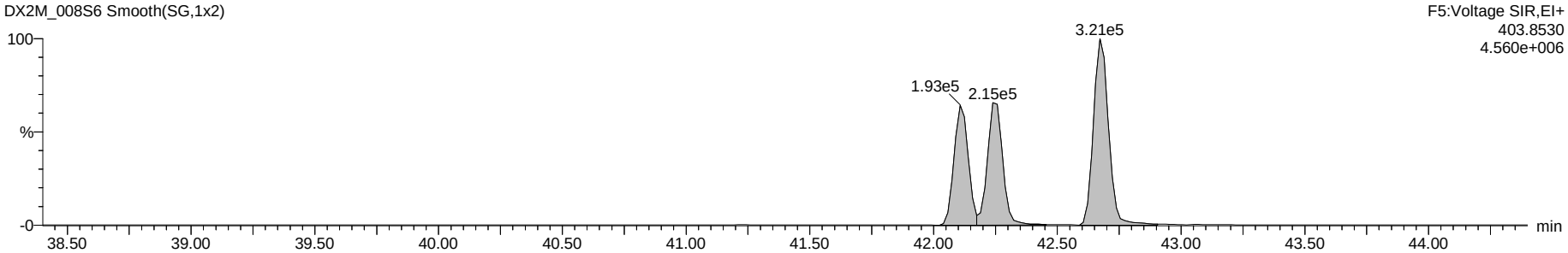
Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

Total Hexa-Dioxins



13C-Hexa-Dioxins

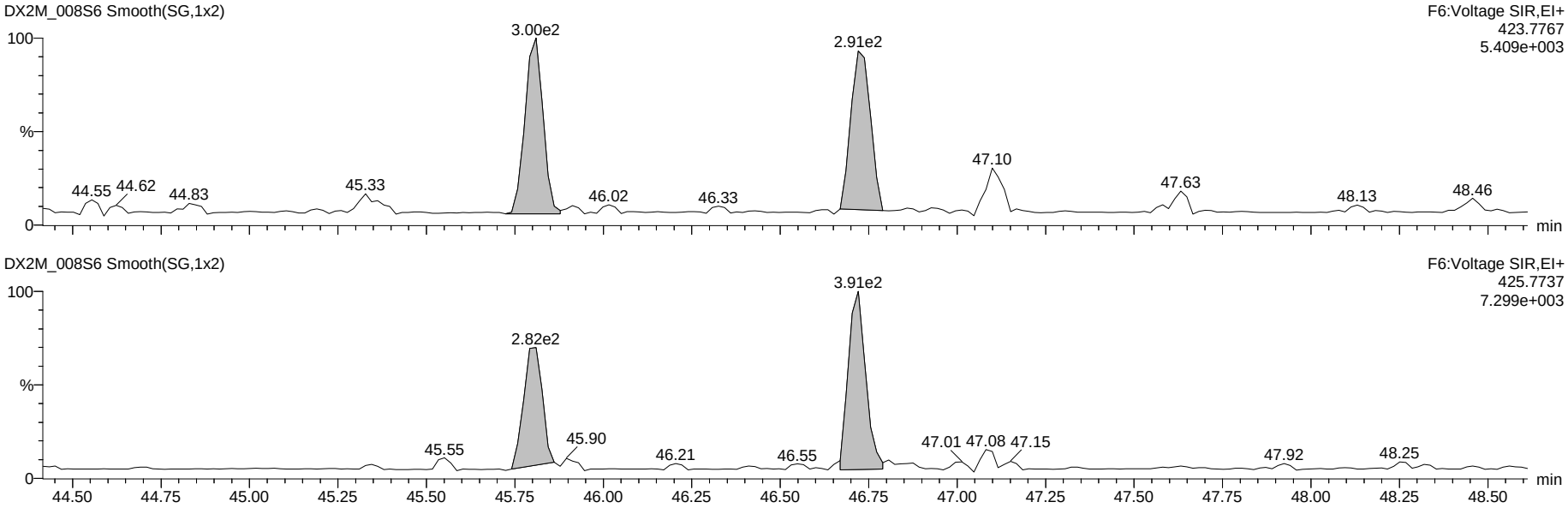




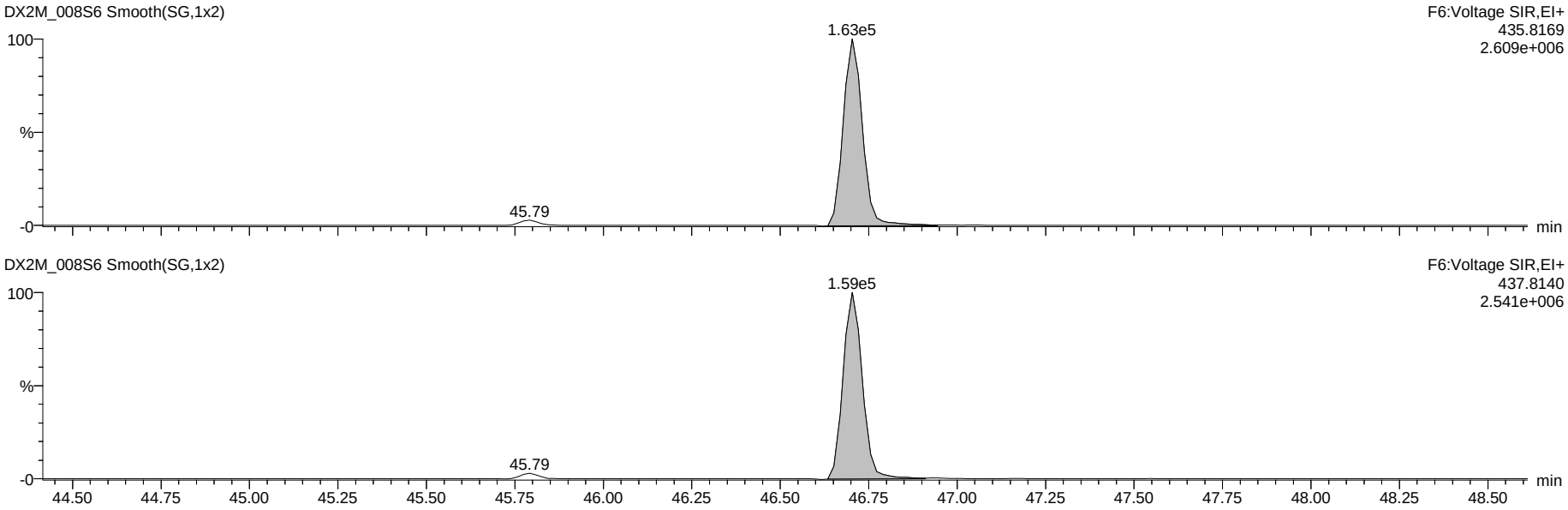
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

Total Hepta-Dioxins



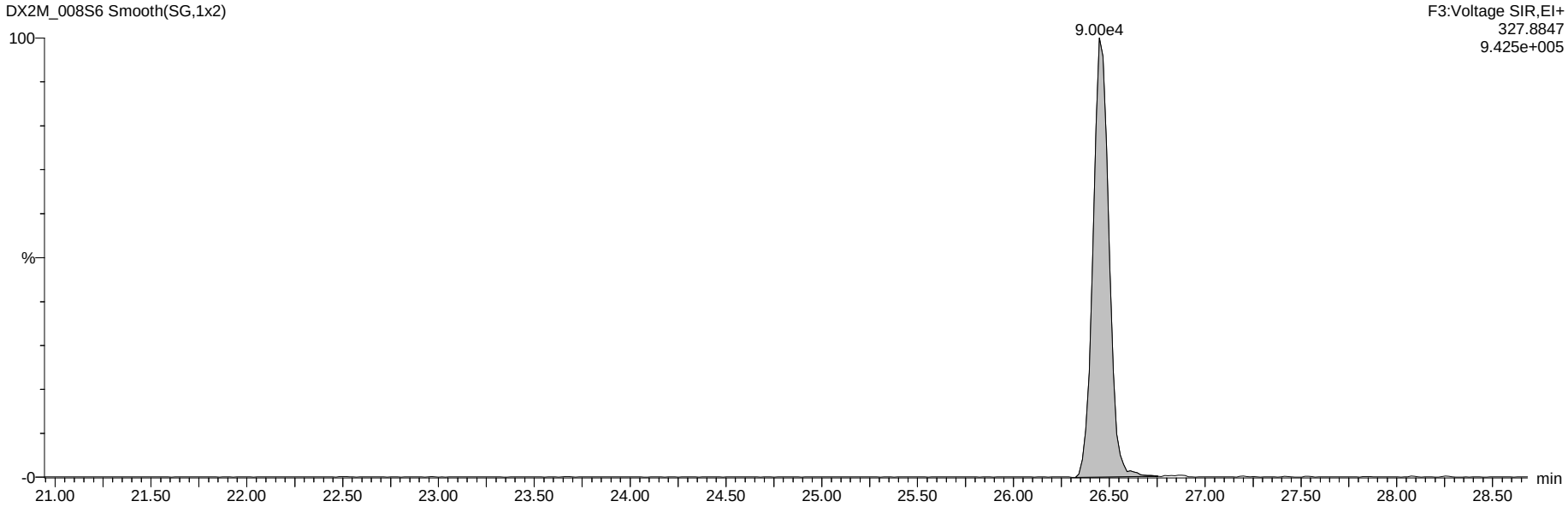
13C-Hepta-Dioxins



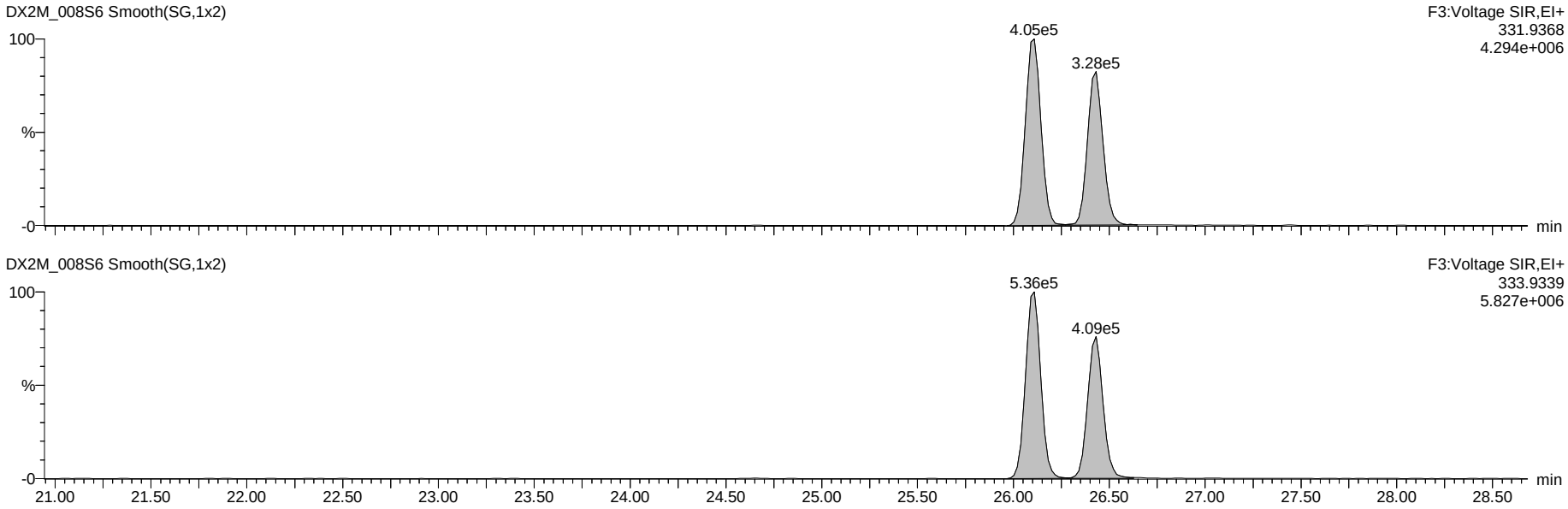
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Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

37Cl-2,3,7,8-TCDD



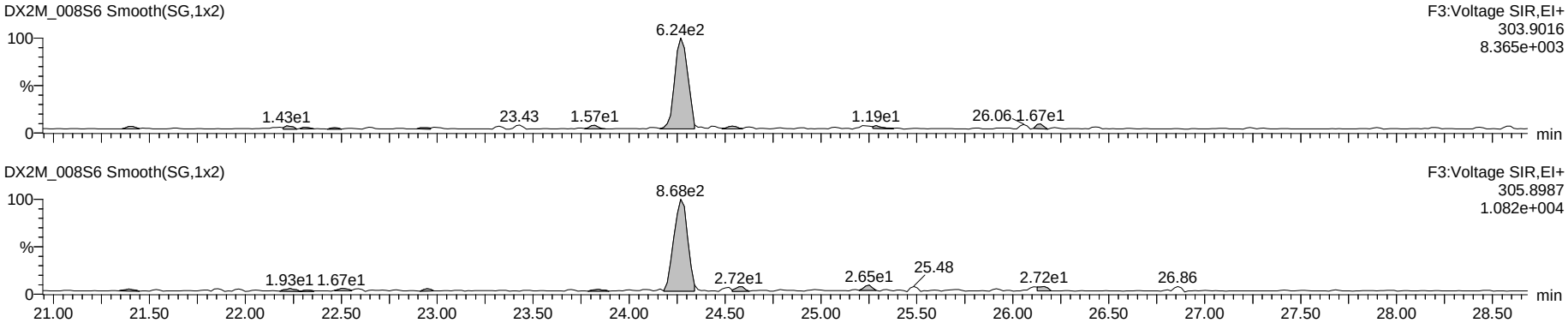
13C-Tetra-Dioxins



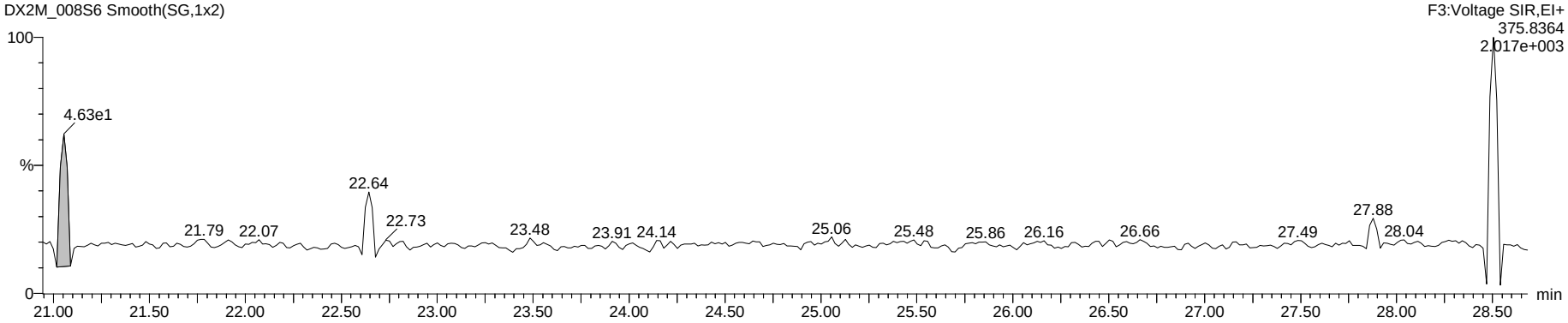
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Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

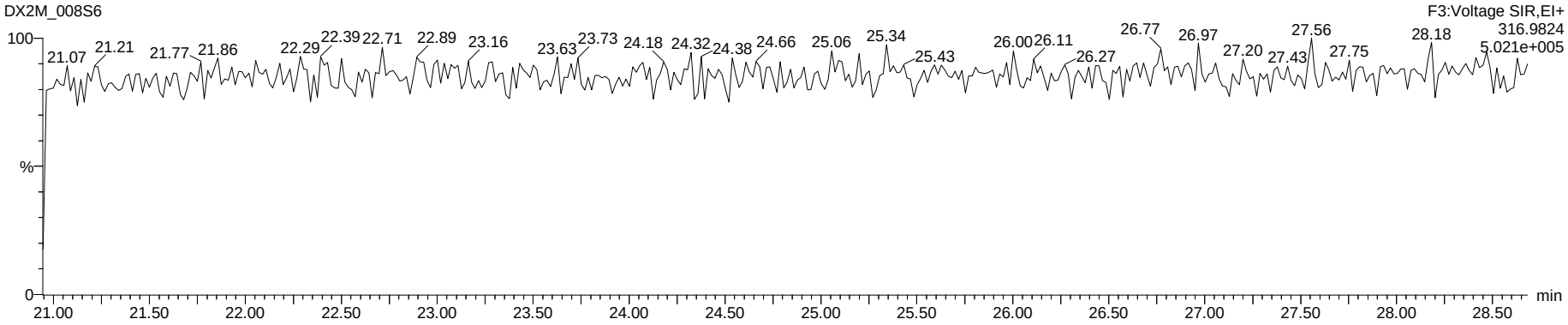
Total Tetra-Furans



Hexa DPE



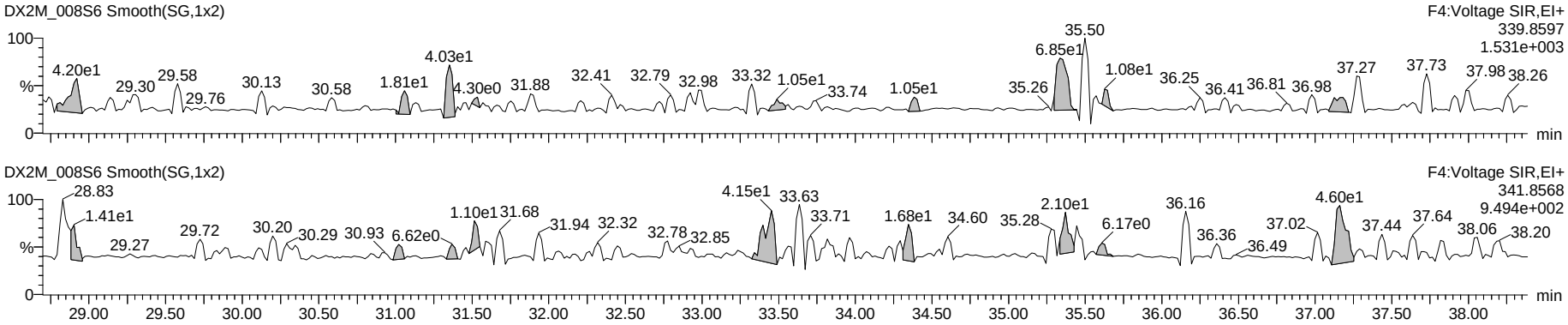
Tetra Lock



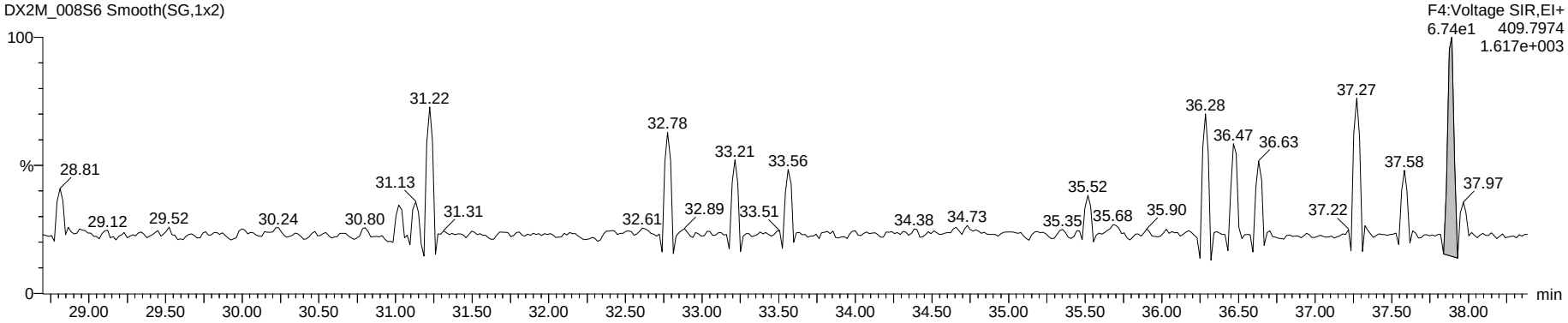
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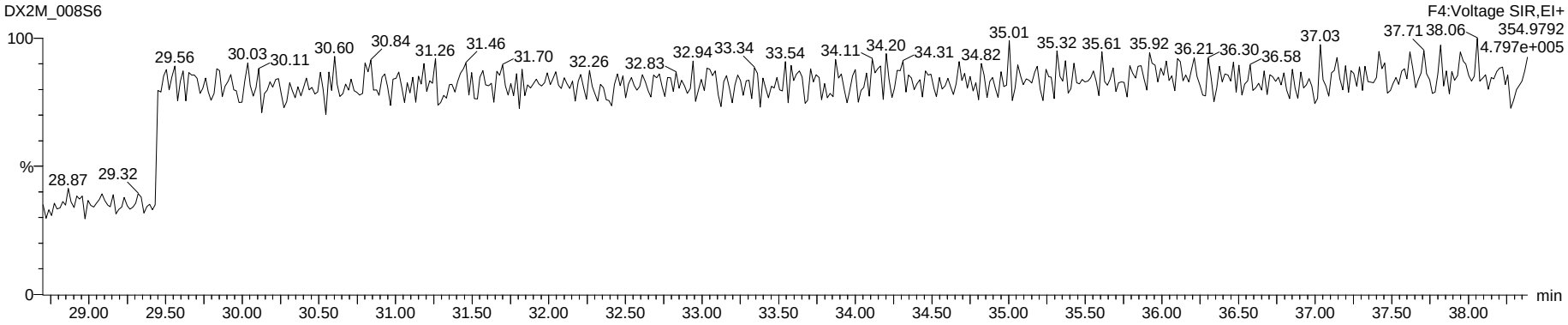
Total Penta-Furans



Hepta DPE



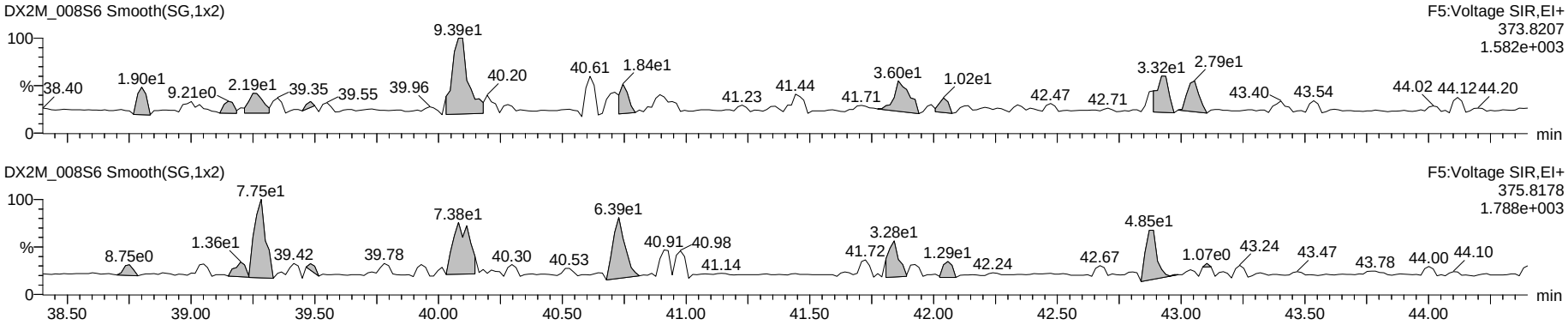
Penta Lock



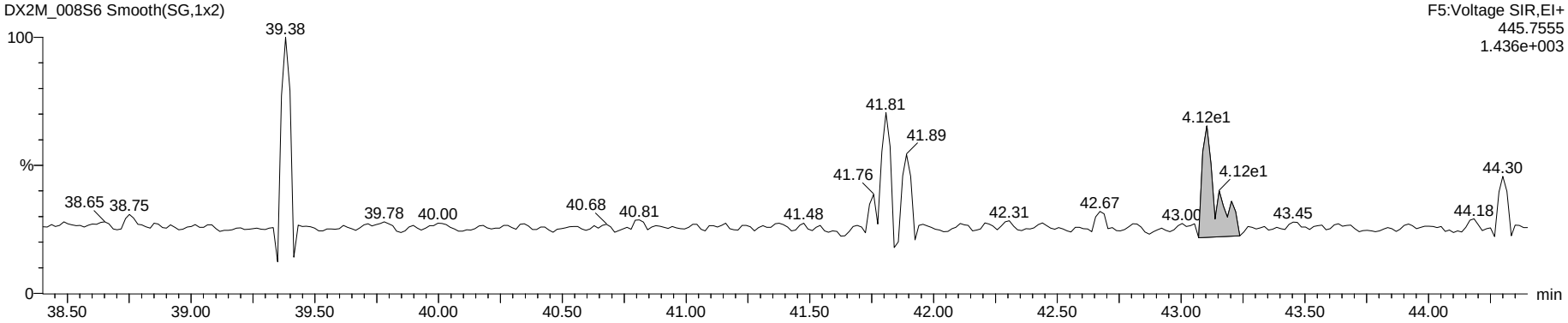
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

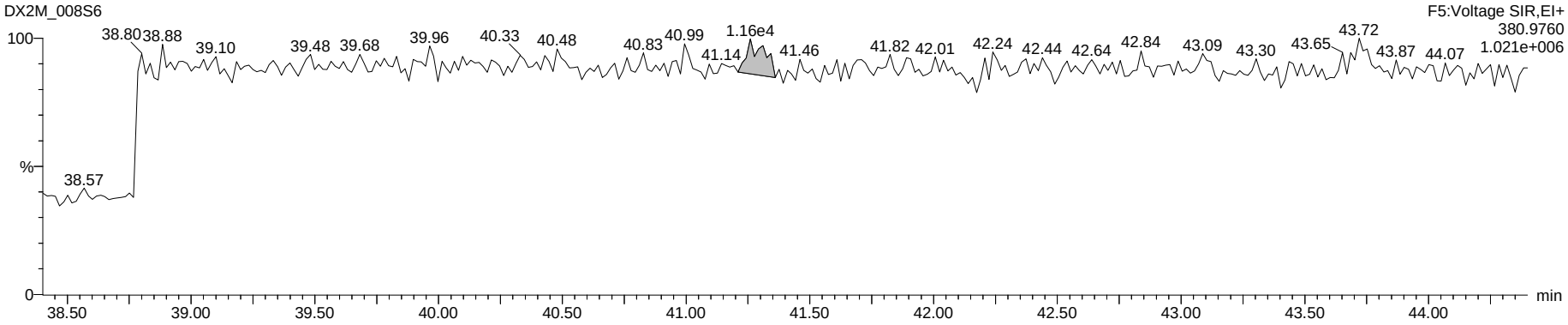
Total Hexa-Furans



Octa DPE



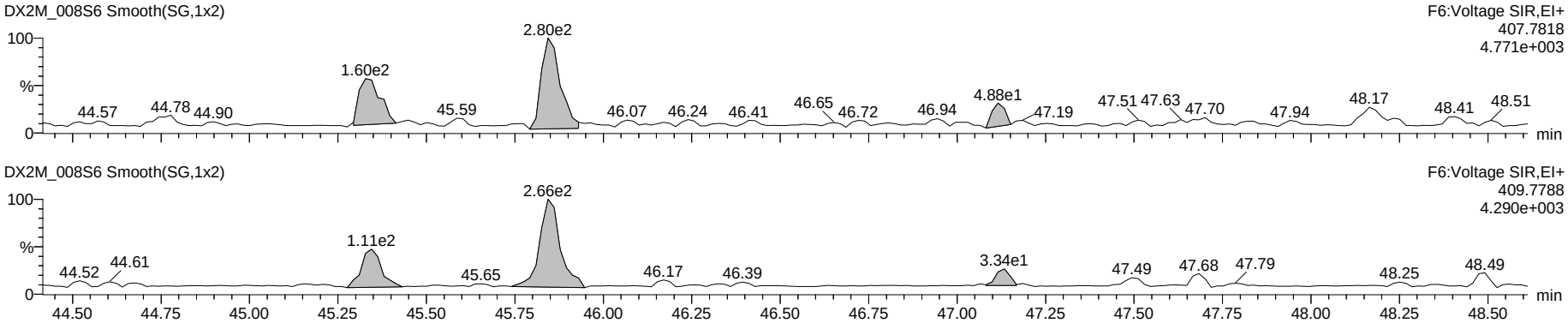
Hexa Lock



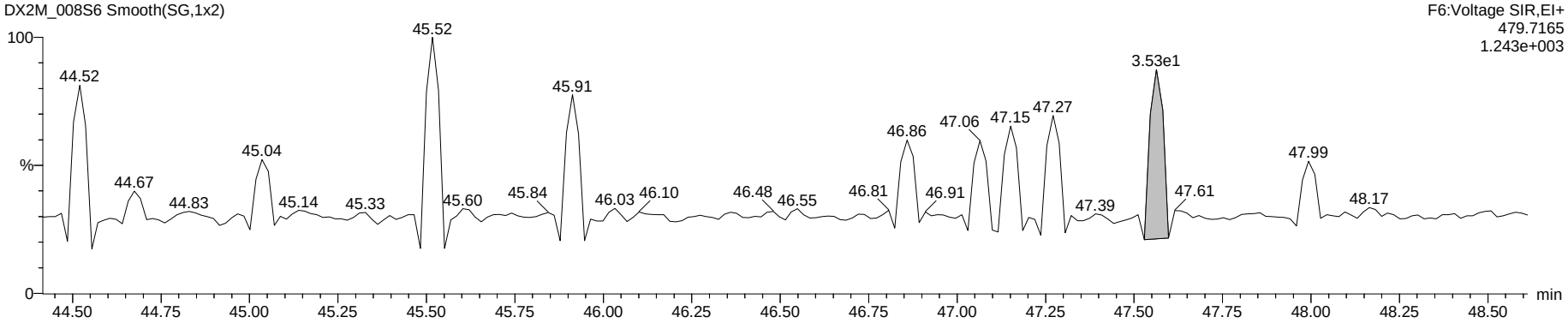
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

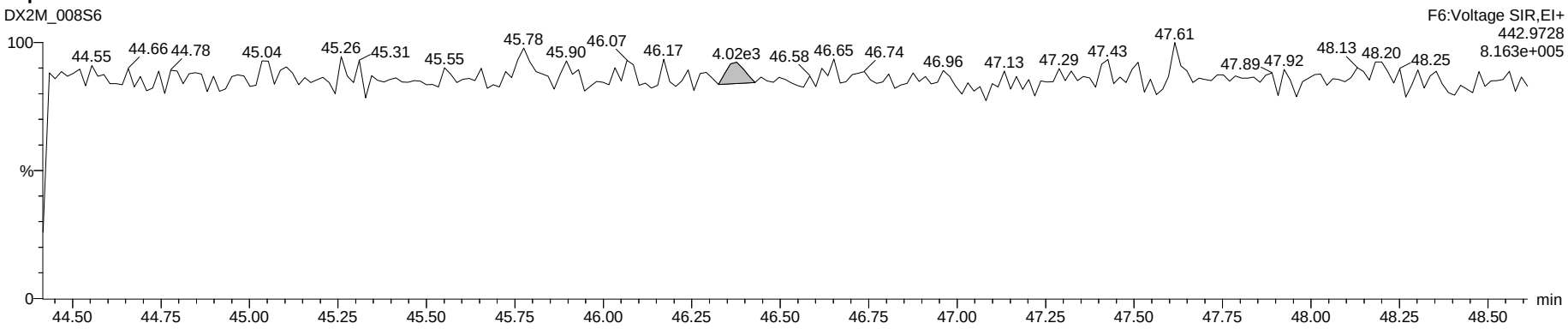
Total Hepta-Furans



Nona DPE



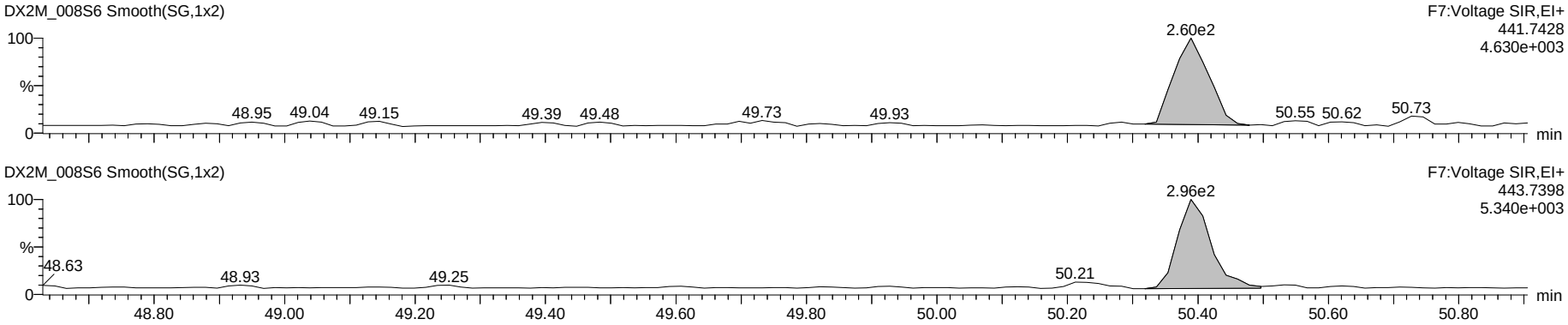
Hepta Lock



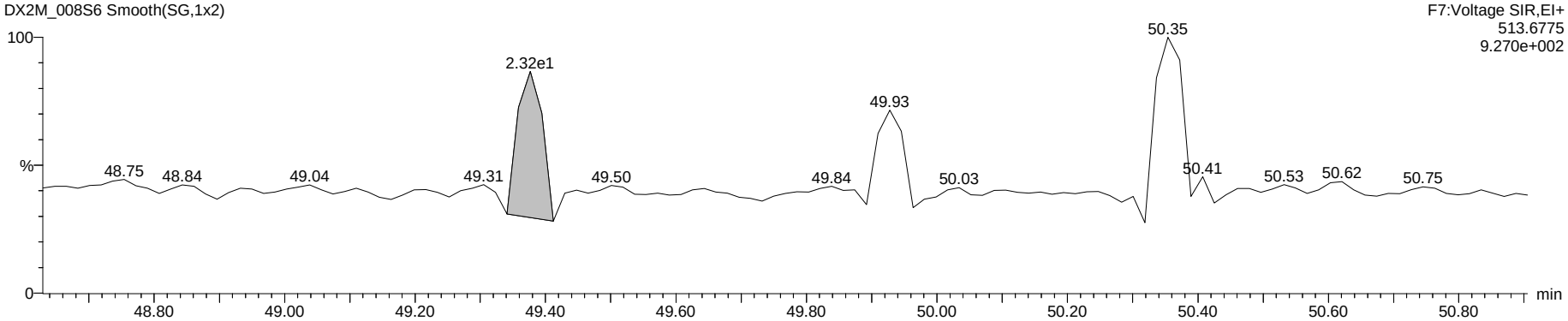
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Name: DX2M_008S6, Date: 10-Jan-2012, Time: 12:49:55, ID: L17223-1,R,, Description: 1,WG38741,1.0/20uL

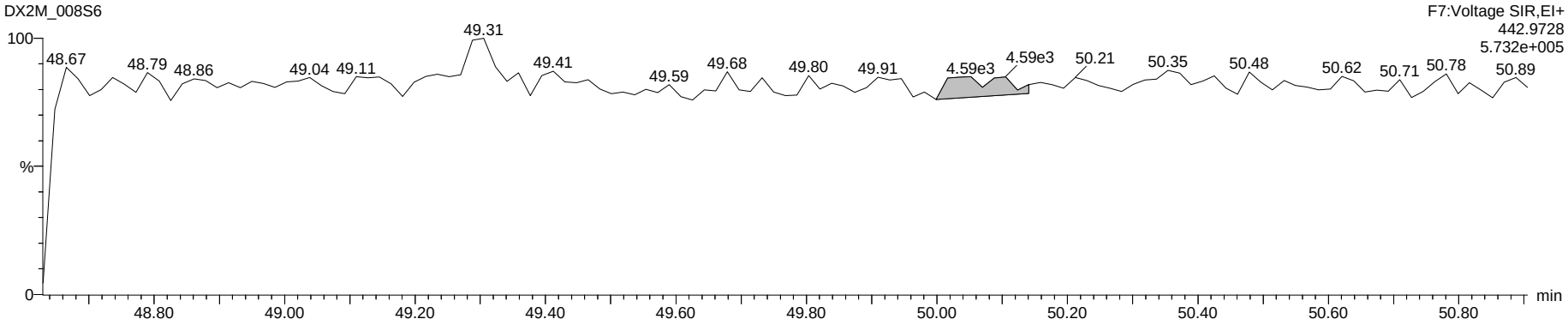
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S7, Date: 10-Jan-2012, Time: 13:45:07, ID: L17223-2,R,, Description: 1,WG38741,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	0.902	6.21e1	0.42	YES	25.22	0.174	0.1065		7.88e1	9.21e1
2	1,2,3,7,8-PeCDF	0.902	8.74e1	0.57	YES	33.62	0.363	0.2092		9.11e1	9.57e1
3	2,3,4,7,8-PeCDF	0.902	9.73e1	1.11	YES	35.32	0.376	0.1687		9.11e1	9.57e1
4	1,2,3,4,7,8-HxCDF	0.902	5.74e1	1.27	NO	40.74	0.357	0.2840		1.54e2	1.03e2
5	1,2,3,6,7,8-HxCDF	0.902	8.44e1	2.41	YES	40.84	0.497	0.2757		1.54e2	1.03e2
6	2,3,4,6,7,8-HxCDF	0.902	7.23e1	2.04	YES	41.89	0.476	0.2985		1.54e2	1.03e2
7	1,2,3,7,8,9-HxCDF	0.902	3.24e1	2.52	YES	42.90	0.267	0.3806		1.54e2	1.03e2
8	1,2,3,4,6,7,8-HpCDF	0.902	1.74e2	2.55	YES	45.36	1.558	0.7086		1.74e2	3.00e2
9	1,2,3,4,7,8,9-HpCDF	0.902	4.37e1	0.28	YES	47.10	0.530	0.9166		1.74e2	3.00e2
10	OCDF	0.902	4.52e2	0.67	YES	50.39	7.365	0.3366		2.09e1	1.00e2
11	2,3,7,8-TCDD	0.902	1.11e2	0.01	YES	26.45	0.368	0.2314		1.09e2	1.82e2
12	1,2,3,7,8-PeCDD	0.902			NO			0.1853		9.61e1	5.86e1
13	1,2,3,4,7,8-HxCDD	0.902	6.58e1	1.19	NO	42.11	0.553	0.4124		1.45e2	1.38e2
14	1,2,3,6,7,8-HxCDD	0.902			NO			0.4375		1.45e2	1.38e2
15	1,2,3,7,8,9-HxCDD	0.902	6.09e1	0.94	YES	42.71	0.516	0.4170		1.45e2	1.38e2
16	1,2,3,4,6,7,8-HpCDD	0.902	1.54e3	0.95	NO	46.72	17.657	0.6275		1.43e2	2.12e2
17	OCDD	0.902	7.00e4	0.88	NO	50.30	1103.863	2.0959		4.47e2	3.31e2
18	13C-2,3,7,8-TCDF	0.902	1.02e6	0.75	NO	25.20	1312.905	0.7789	59.2	1.16e3	1.54e3
19	13C-1,2,3,7,8-PeCDF	0.902	6.15e5	1.54	NO	33.54	1013.112	0.9716	45.7	1.17e3	1.46e3
20	13C-2,3,4,7,8-PeCDF	0.902	6.51e5	1.57	NO	35.32	1115.624	1.0116	50.3	1.17e3	1.46e3
21	13C-1,2,3,4,7,8-HxCDF	0.902	3.57e5	0.50	NO	40.71	886.546	1.0630	40.0	1.08e3	1.45e3
22	13C-1,2,3,6,7,8-HxCDF	0.902	3.83e5	0.51	NO	40.88	842.828	0.9425	38.0	1.08e3	1.45e3
23	13C-2,3,4,6,7,8-HxCDF	0.902	3.73e5	0.51	NO	41.84	902.511	1.0378	40.7	1.08e3	1.45e3
24	13C-1,2,3,7,8,9-HxCDF	0.902	3.11e5	0.52	NO	42.87	836.372	1.1530	37.7	1.08e3	1.45e3
25	13C-1,2,3,4,6,7,8-HpCDF	0.902	2.14e5	0.44	NO	45.33	689.491	2.0548	31.1	1.34e3	2.43e3
26	13C-1,2,3,4,7,8,9-HpCDF	0.902	1.75e5	0.44	NO	47.12	643.800	2.3480	29.0	1.34e3	2.43e3
27	13C-2,3,7,8-TCDD	0.902	8.12e5	0.76	NO	26.43	1226.217	1.0752	55.3	1.23e3	1.94e3
28	13C-1,2,3,7,8-PeCDD	0.902	5.02e5	0.62	NO	36.12	1095.816	0.6600	49.4	7.57e2	5.90e2
29	13C-1,2,3,4,7,8-HxCDD	0.902	3.37e5	1.24	NO	42.11	856.645	1.1204	38.7	1.61e3	9.89e2
30	13C-1,2,3,6,7,8-HxCDD	0.902	3.41e5	1.26	NO	42.26	789.659	1.0200	35.6	1.61e3	9.89e2
31	13C-1,2,3,4,6,7,8-HpCDD	0.902	2.01e5	1.01	NO	46.70	640.941	0.8348	28.9	9.66e2	5.80e2
32	13C-OCDD	0.902	3.08e5	0.92	NO	50.28	990.129	0.7176	22.3	1.27e3	5.33e1
33	13C-1,2,3,4-TCDD	0.902	1.27e6	0.79	NO	26.09	140.192	0.0783	6.3	1.23e3	1.94e3
34	13C-1,2,3,7,8,9-HxCDD	0.902	8.85e5	1.17	NO	42.67	130.630	0.0650	5.9	1.61e3	9.89e2
35	37Cl-2,3,7,8-TCDD	0.902	1.12e5			26.45	168.717	0.2068	76.1		6.11e2
36	Total Tetra-Furans	0.902					8.284	0.1065			9.21e1
37	Total Tetra-Dioxins	0.902					9.594	0.2314			1.82e2
38	Total Penta-Furans	0.902					2.083	0.1898			9.57e1
39	Total Penta-Dioxins	0.902					1.816	0.1853			5.86e1
40	Total Hexa-Furans	0.902					3.653	0.2874			1.03e2
41	Total Hexa-Dioxins	0.902					4.237	0.4114			1.38e2
42	Total Hepta-Furans	0.902					7.541	0.7615			3.00e2
43	Total Hepta-Dioxins	0.902					39.140	0.6275			2.12e2
44	Hexa DPE	1.000	3.56e1			21.05					3.47e1
45	Hepta DPE	1.000	3.18e1			38.29					6.17e1
46	Octa DPE	1.000	6.83e1			41.53					2.83e1
47	Nona DPE	1.000	7.20e1			45.14					1.41e2
48	Deca DPE	1.000	4.57e1			49.73					7.82e1
49	Tetra Lock	1.000	1.73e3			24.52					5.28e4
50	Penta Lock	1.000	4.77e4			32.39					4.82e4
51	Hexa Lock	1.000	8.83e3			41.26					6.94e4
52	Hepta Lock	1.000	2.42e3			46.50					7.18e4
53	Octa Lock	1.000									4.67e4
54	13C-Tetra-Furans	0.902					1312.905	0.7789			1.54e3
55	13C-Tetra-Dioxins	0.902					1366.410	1.1535			1.94e3

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

SV'D BY BF 12-Jan-2012

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S7, Date: 10-Jan-2012, Time: 13:45:07, ID: L17223-2,R,, Description: 1,WG38741,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	23.38	0.178	YES	0.108
2	23.00	0.350	YES	0.102
3	22.21	0.598	YES	0.099
4	21.39	0.214	YES	0.074
5	28.16	3.216	YES	0.038
6	26.06	0.458	YES	0.137
7	25.90	2.719	YES	0.060
8	25.22	0.417	YES	0.174
9	24.27	0.834	NO	7.492

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	24.68	1.792	YES	0.183
2	23.36	0.360	YES	0.200
3	23.16	0.475	YES	0.060
4	22.93	80.311	YES	0.242
5	27.81	0.973	YES	0.115
6	27.65	0.591	YES	0.075
7	26.81	1.949	YES	0.089
8	26.72	1.091	YES	0.063
9	26.45	0.011	YES	0.368
10	26.13	0.869	NO	7.683
11	25.70	0.721	NO	0.098
12	25.22	8.047	YES	0.263
13	27.93	2.676	YES	0.157

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	28.87	4.577	YES	0.243
2	33.62	0.567	YES	0.363
3	32.98	1.540	NO	0.170
4	31.57	2.766	YES	0.174
5	31.50	1.592	NO	0.076
6	31.39	1.587	NO	0.082
7	36.36	2.404	YES	0.124
8	35.64	2.700	YES	0.148
9	35.37	1.080	YES	0.244
10	35.32	1.111	YES	0.376
11	34.22	0.067	YES	0.082

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S7, Date: 10-Jan-2012, Time: 13:45:07, ID: L17223-2,R,, Description: 1,WG38741,1.0/20uL

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	35.48	2.538	YES	0.055
2	35.32	8.774	YES	0.645
3	34.53	2.050	YES	0.057
4	34.37	0.514	YES	0.157
5	33.51	0.568	NO	0.123
6	33.10	1.394	YES	0.262
7	36.78	0.667	NO	0.075
8	36.34	0.424	YES	0.137
9	35.97	1.762	YES	0.153
10	35.88	0.704	YES	0.153

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	42.90	2.519	YES	0.267
2	41.89	2.041	YES	0.476
3	41.53	1.305	NO	0.176
4	40.94	2.410	YES	0.497
5	40.74	1.269	NO	0.357
6	40.11	1.755	YES	1.133
7	39.27	1.874	YES	0.400
8	39.23	2.971	YES	0.347

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	40.08	1.269	NO	0.630
2	42.71	0.937	YES	0.516
3	42.11	1.187	NO	0.553
4	41.86	1.342	NO	0.245
5	41.81	1.483	YES	0.404
6	41.24	1.135	NO	1.212
7	40.86	1.349	NO	0.678

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	46.17	13.724	YES	0.680
2	45.86	0.845	YES	4.773
3	45.36	2.552	YES	1.558
4	47.10	0.280	YES	0.530

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.72	0.951	NO	17.657
2	45.81	0.913	NO	21.483

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.20	0.754	NO	1312.9...

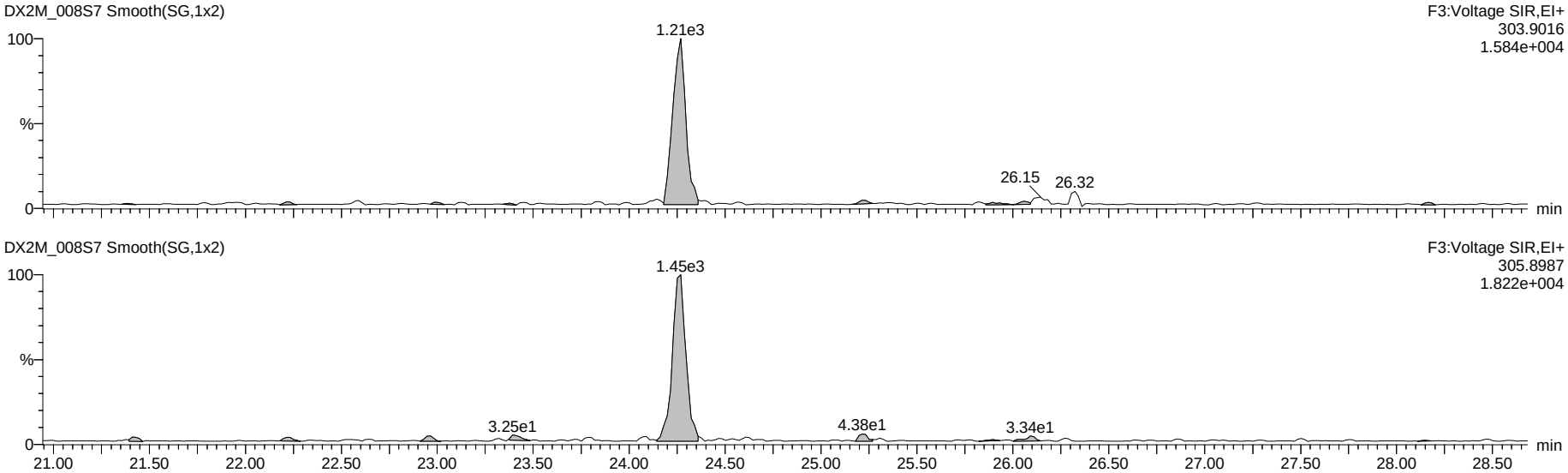
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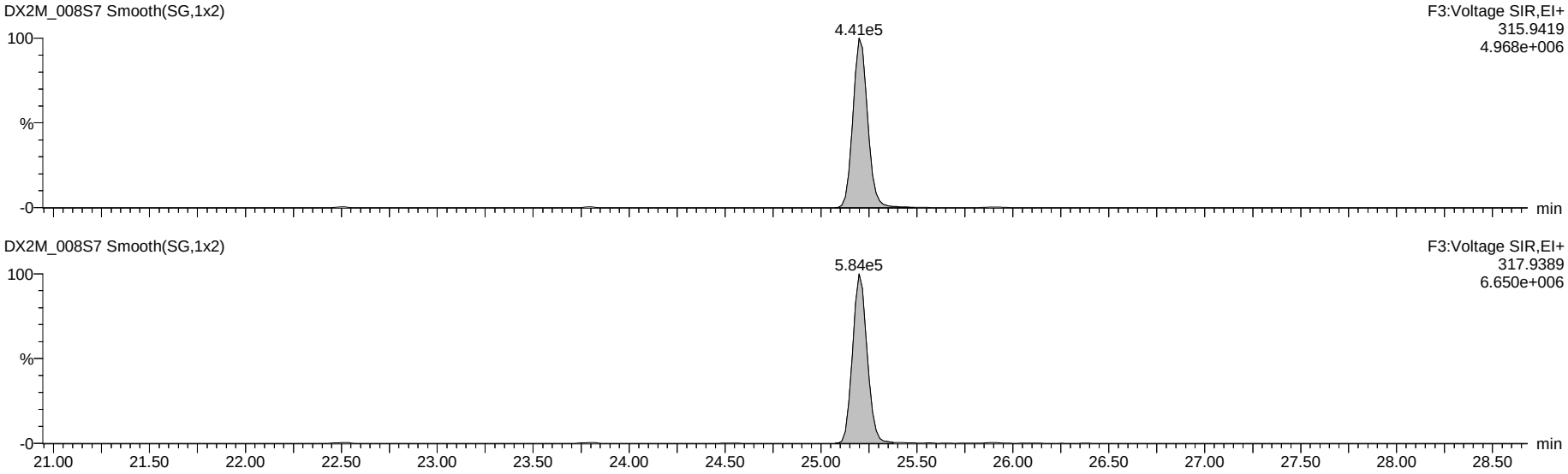
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Name: DX2M_008S7, Date: 10-Jan-2012, Time: 13:45:07, ID: L17223-2,R,, Description: 1,WG38741,1.0/20uL

Total Tetra-Furans



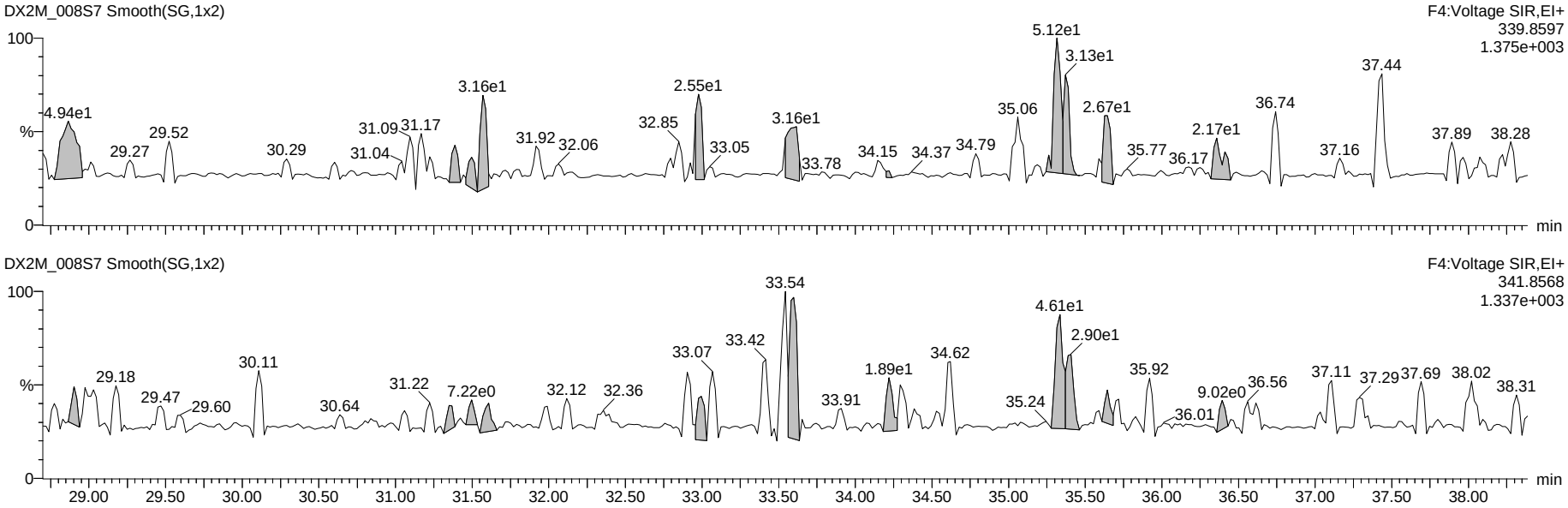
13C-Tetra-Furans



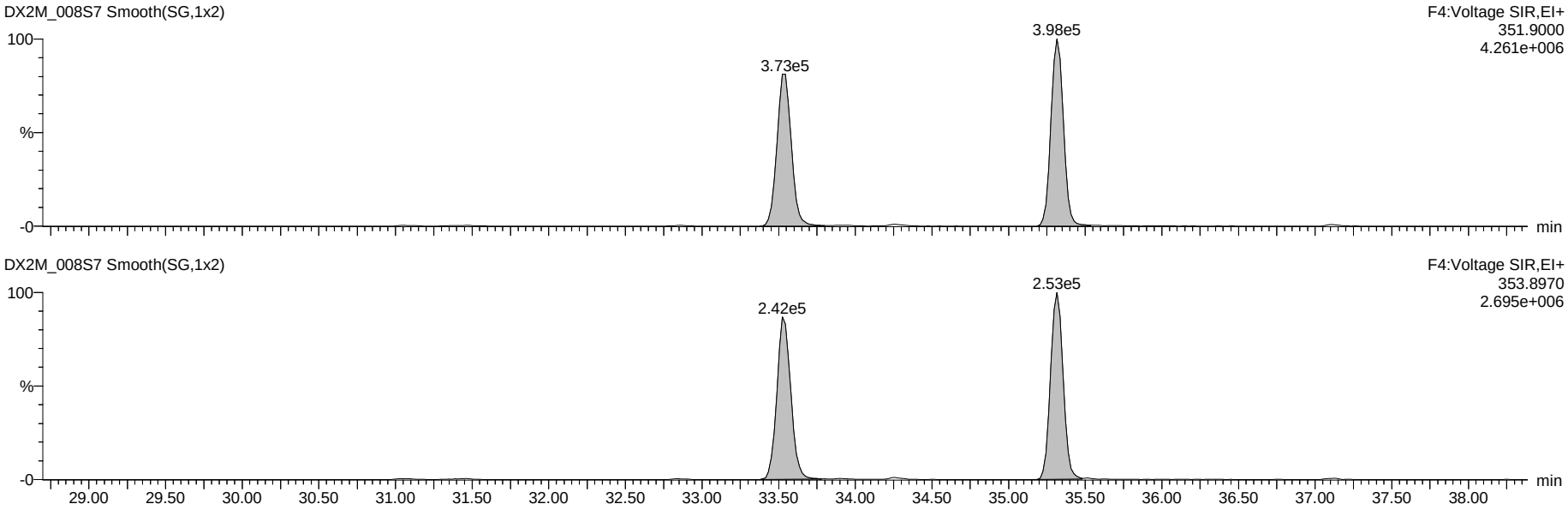
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Total Penta-Furans



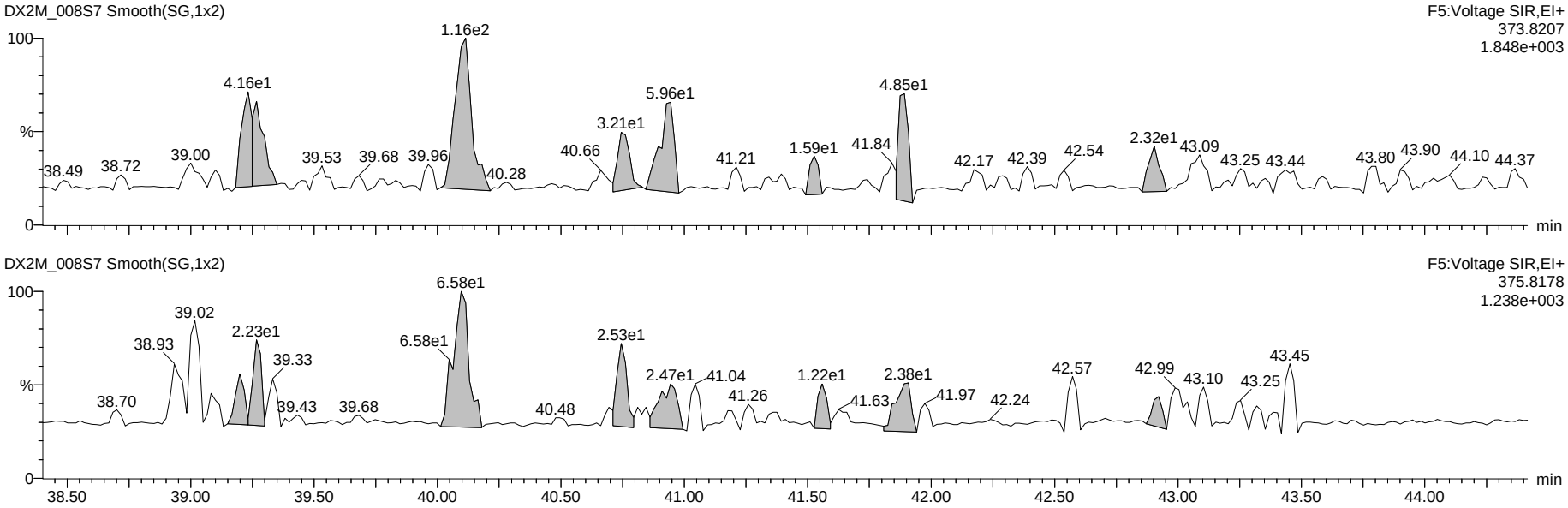
13C-Penta-Furans



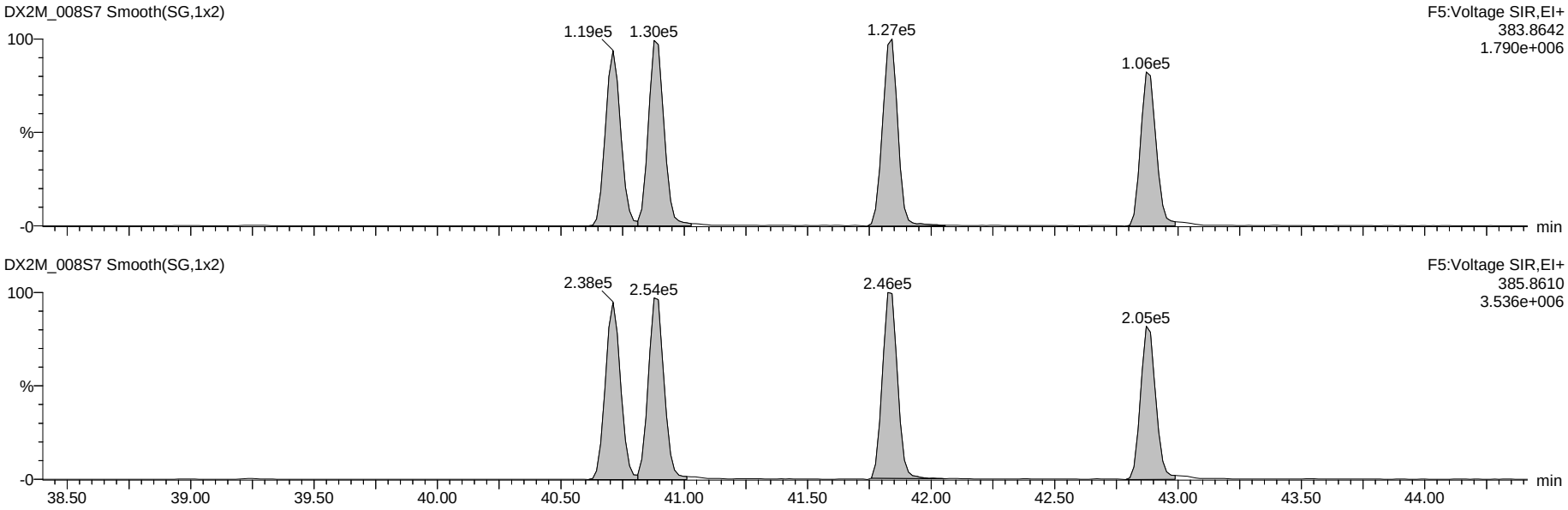
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Total Hexa-Furans



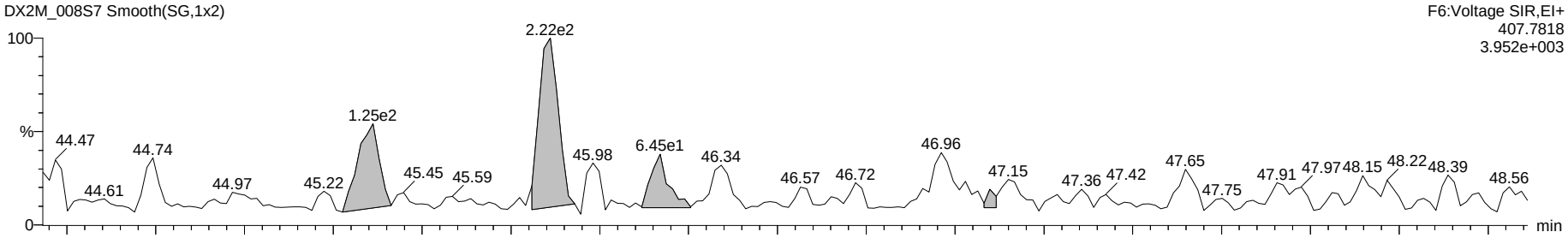
13C-Hexa-Furans

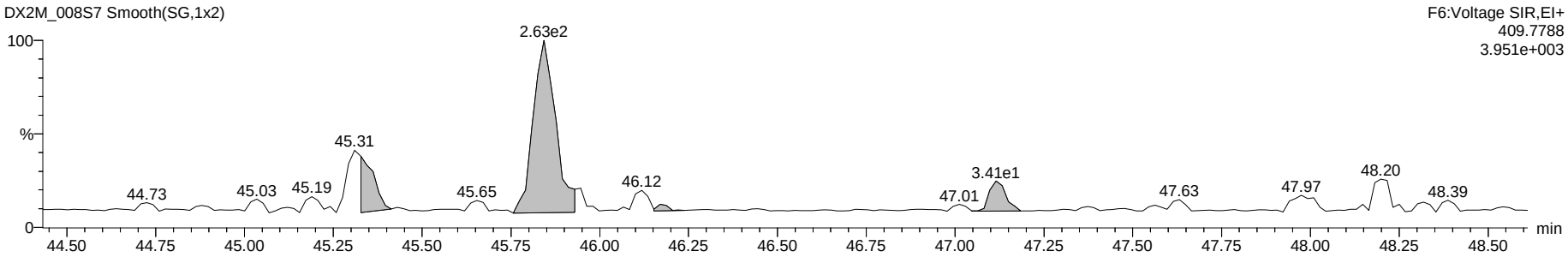


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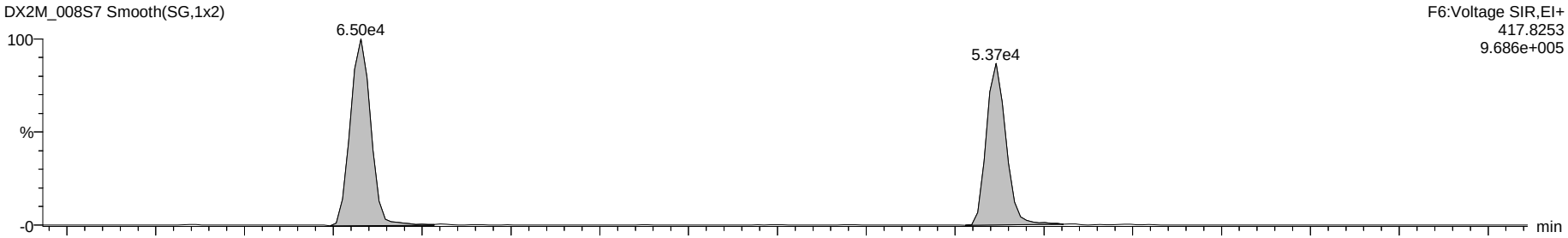
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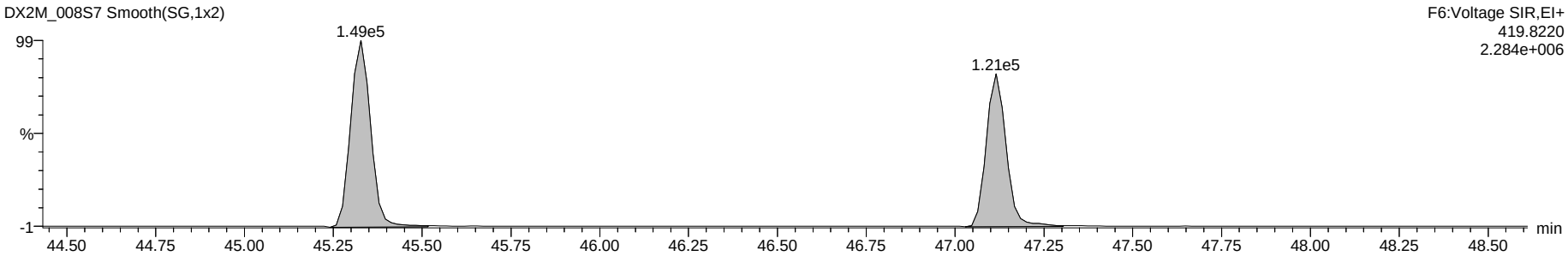
Total Hepta-Furans





13C-Hepta-Furans

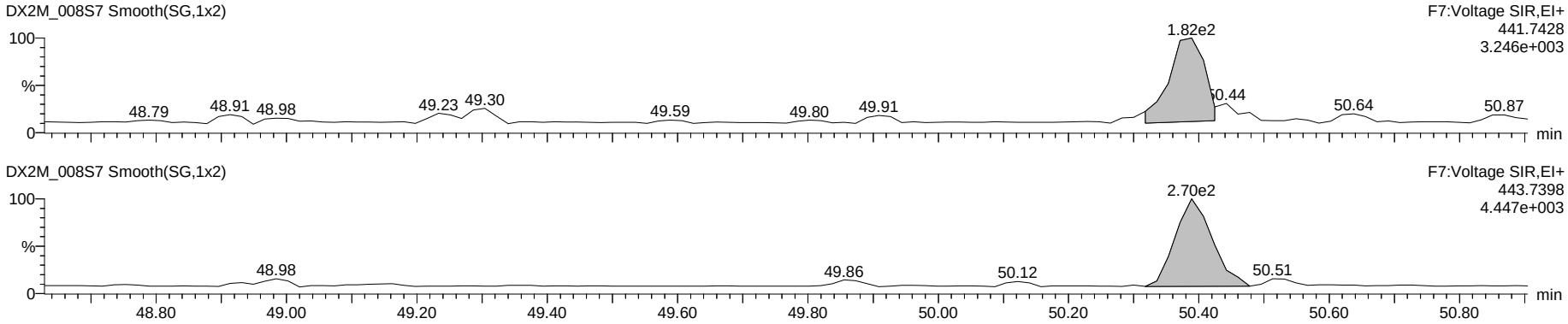




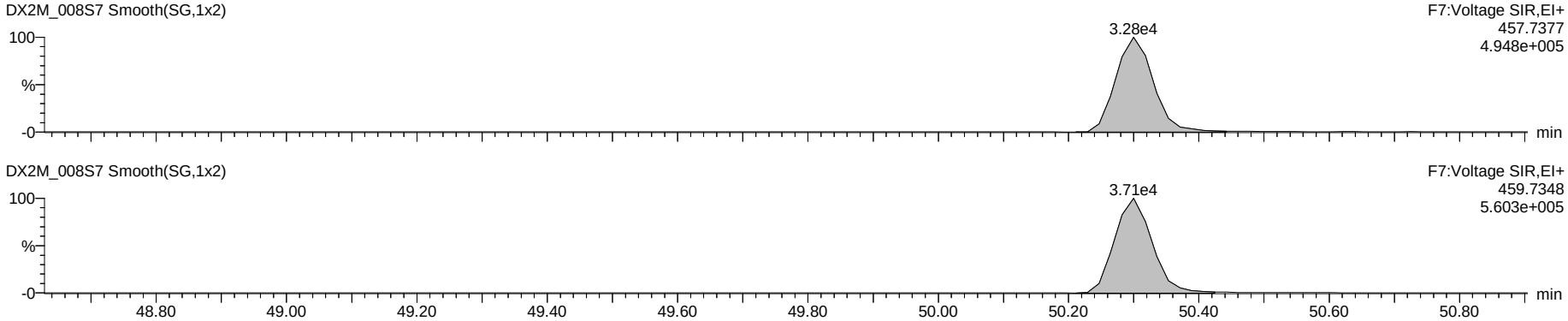
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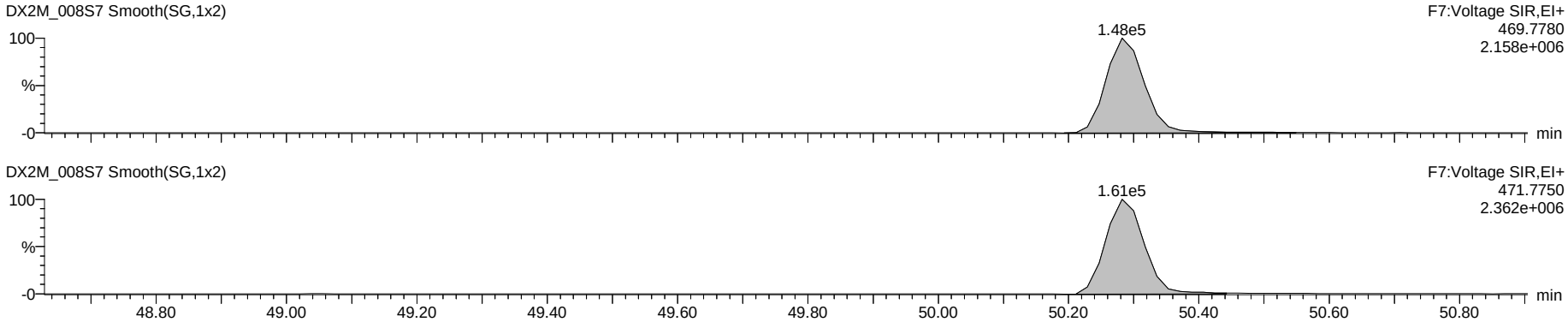
OCDF



OCDD



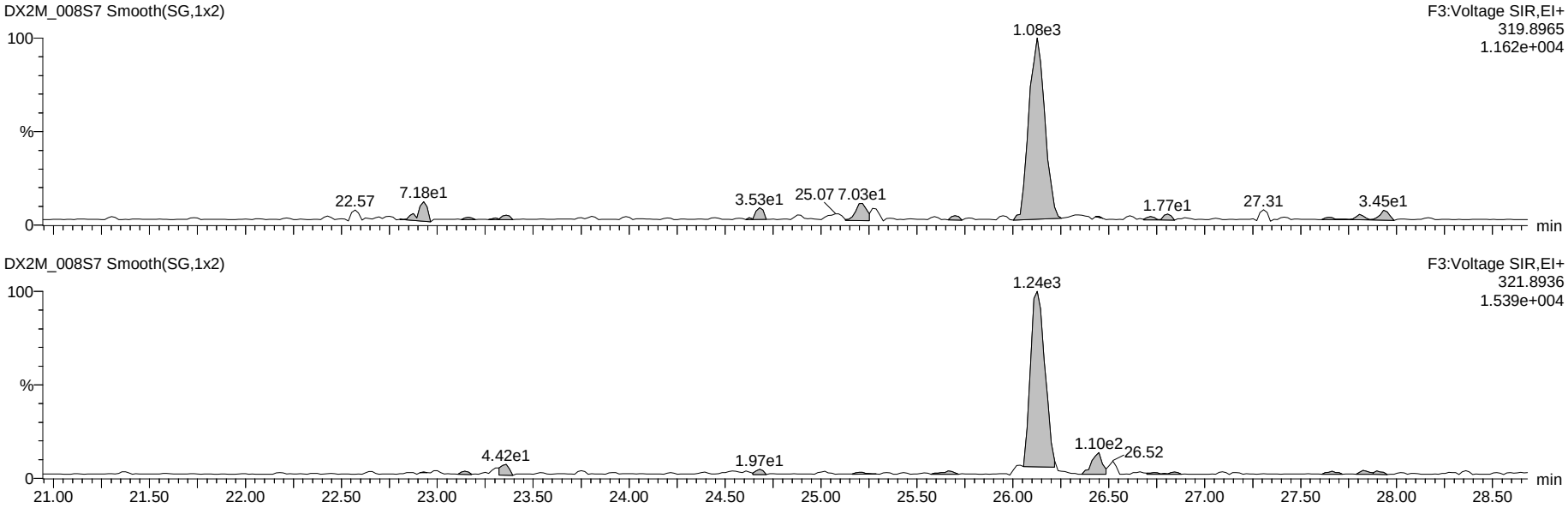
13C-OCDD



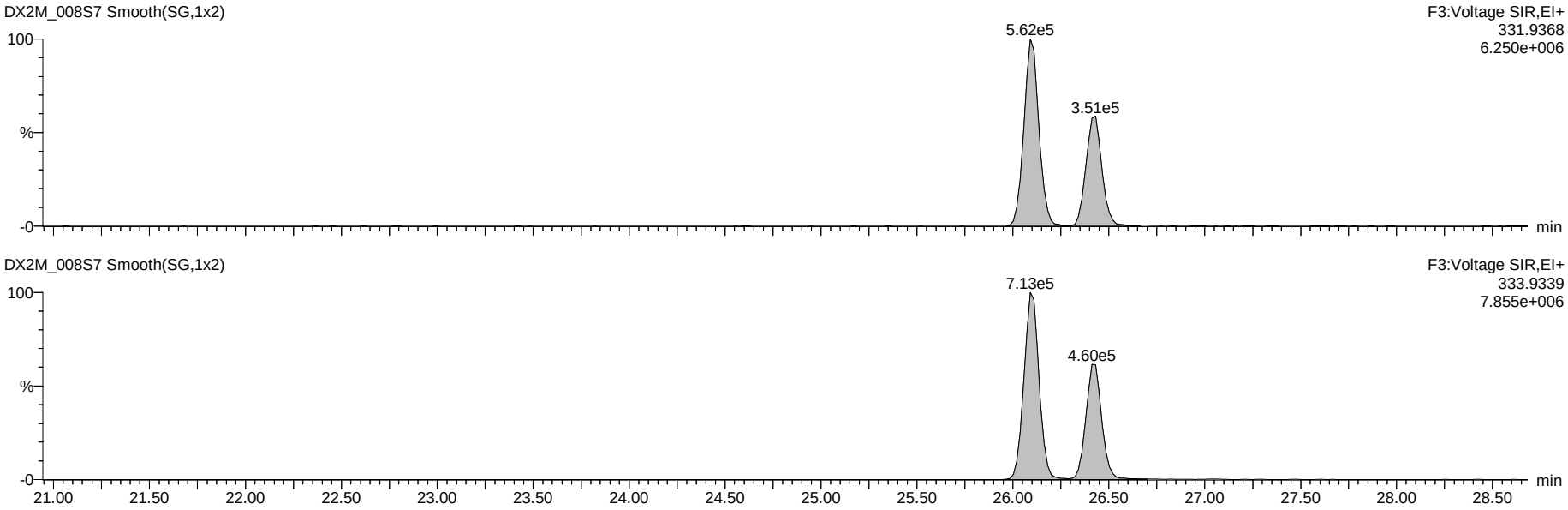
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Name: DX2M_008S7, Date: 10-Jan-2012, Time: 13:45:07, ID: L17223-2,R,, Description: 1,WG38741,1.0/20uL

Total Tetra-Dioxins



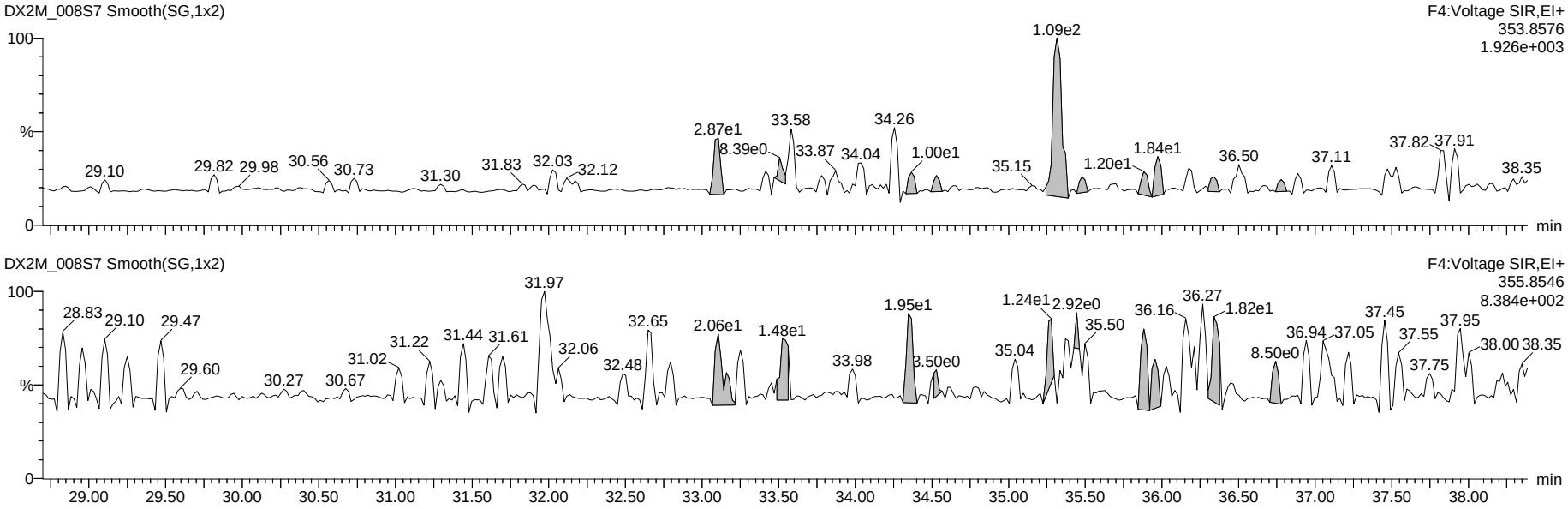
13C-Tetra-Dioxins



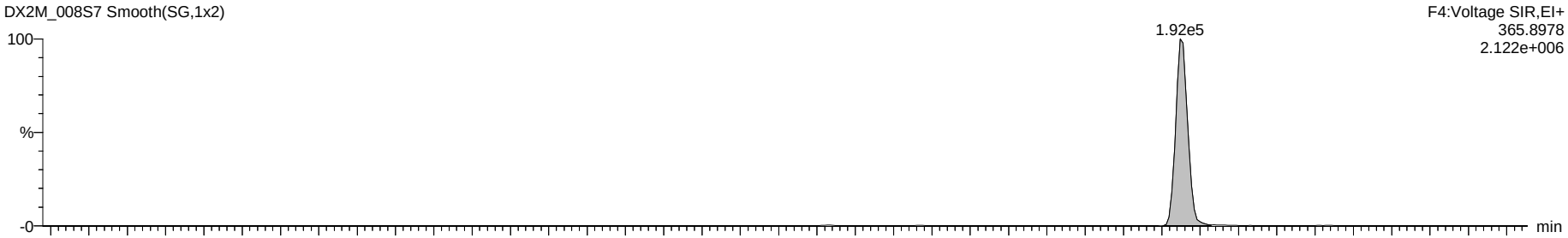
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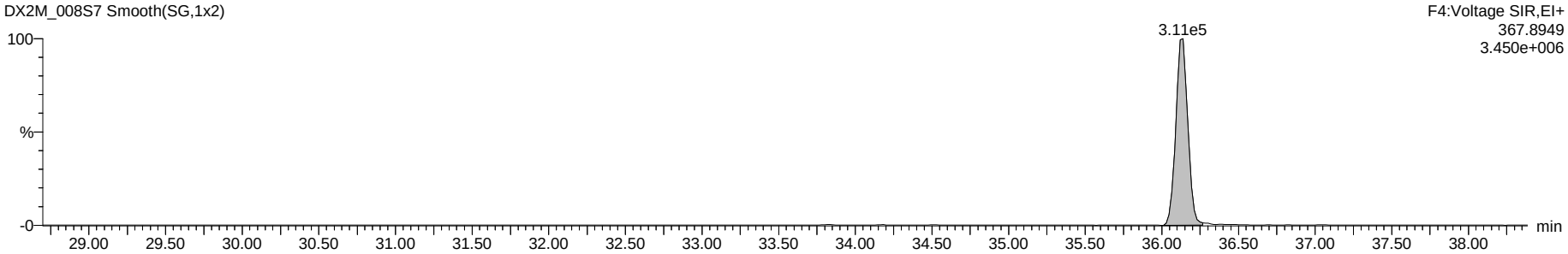
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Total Penta-Dioxins



13C-Penta-Dioxins

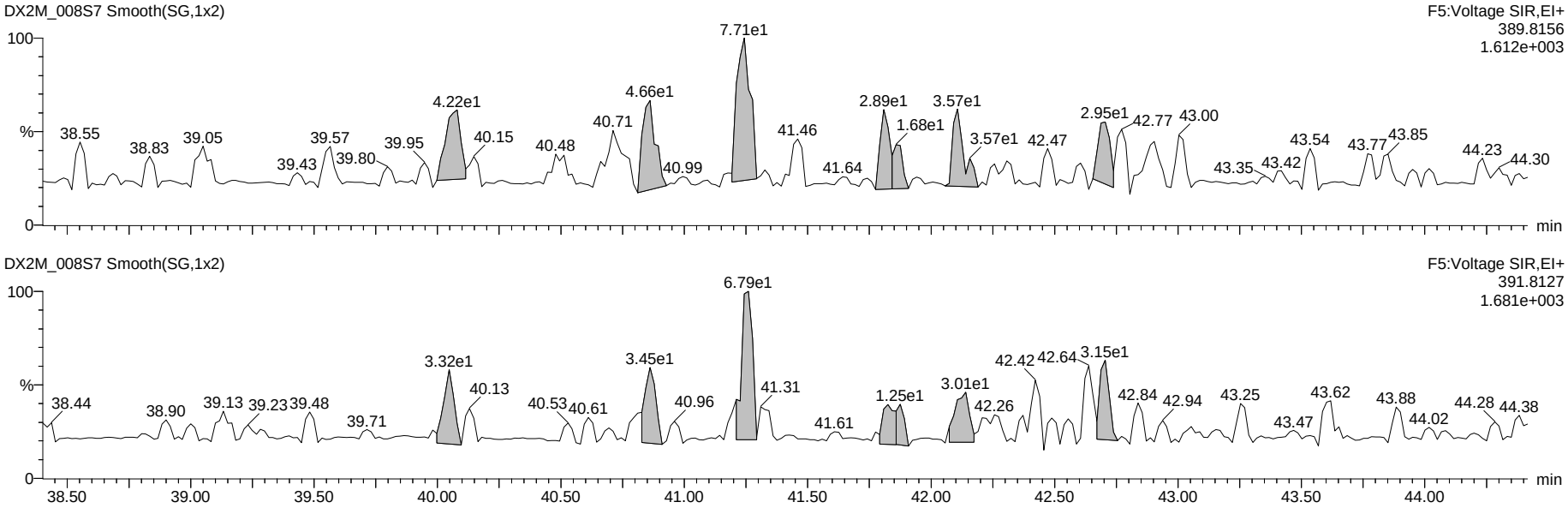




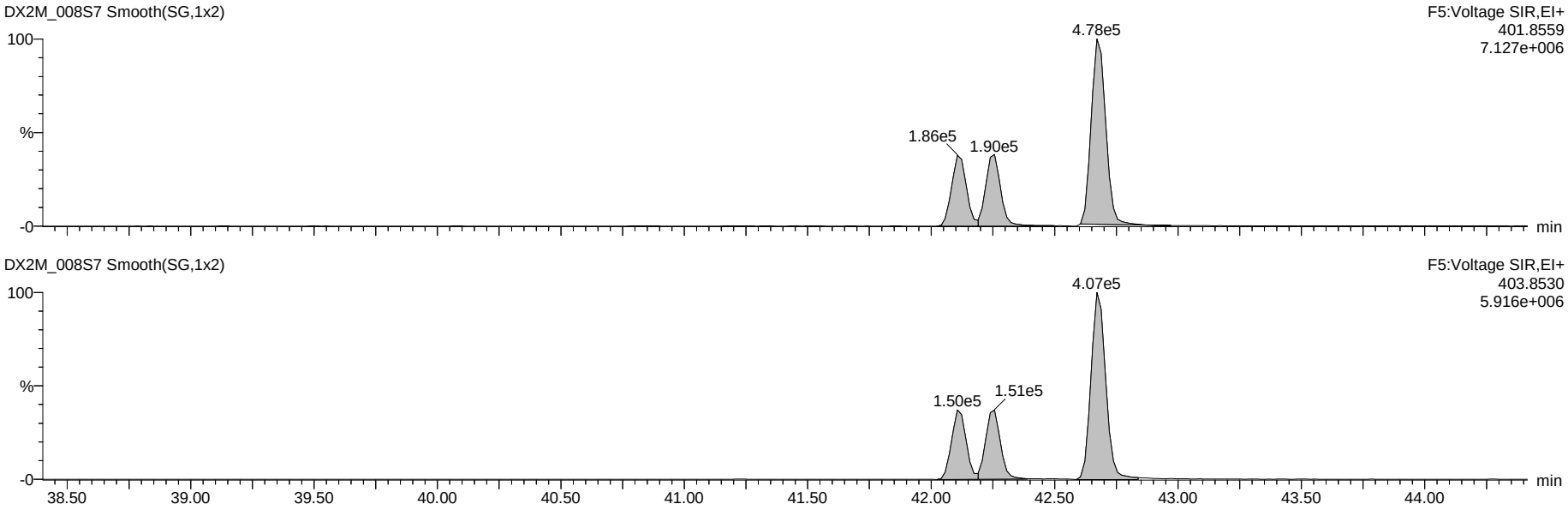
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Total Hexa-Dioxins



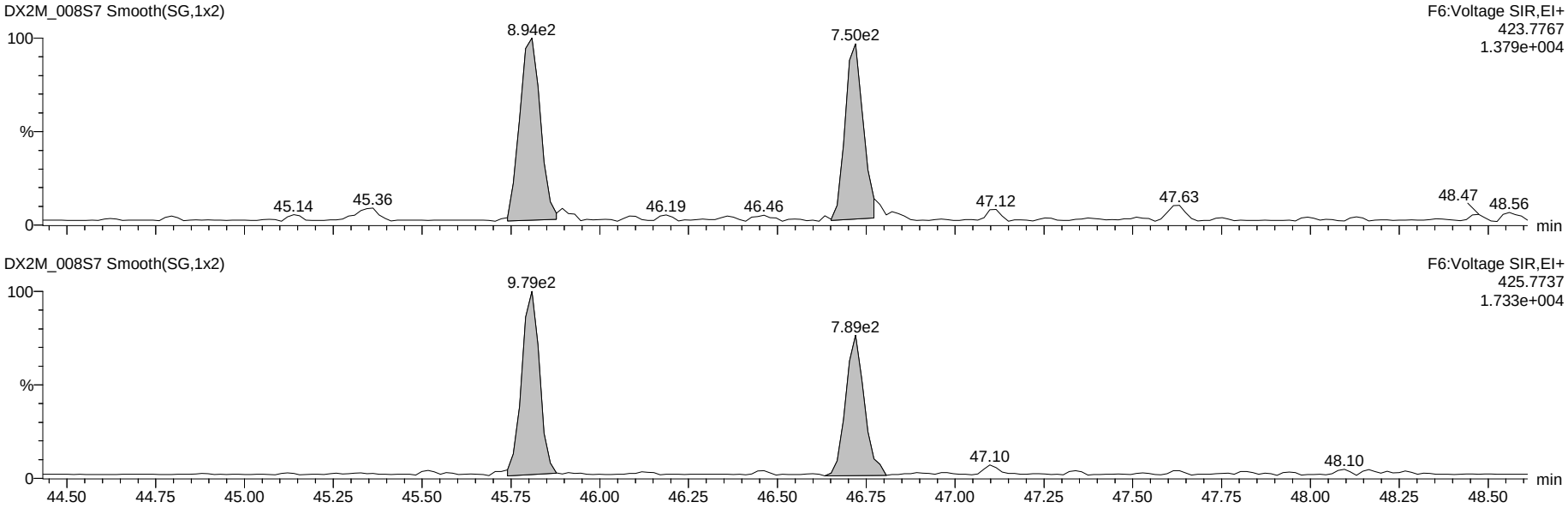
13C-Hexa-Dioxins



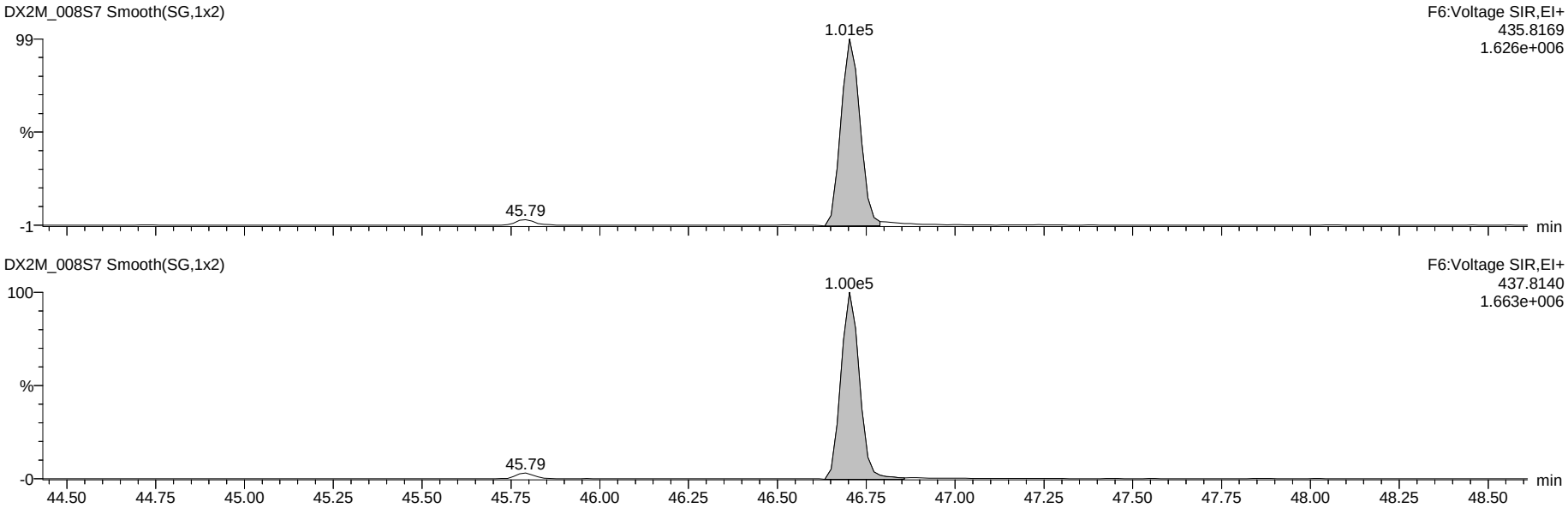
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Total Hepta-Dioxins



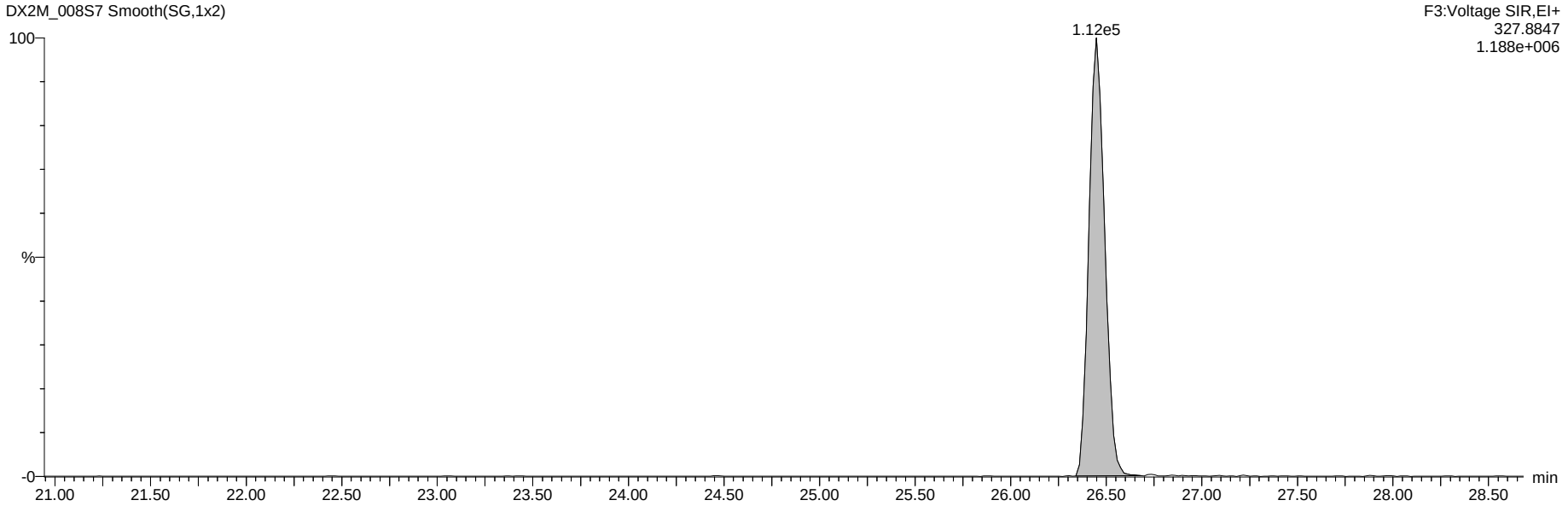
13C-Hepta-Dioxins



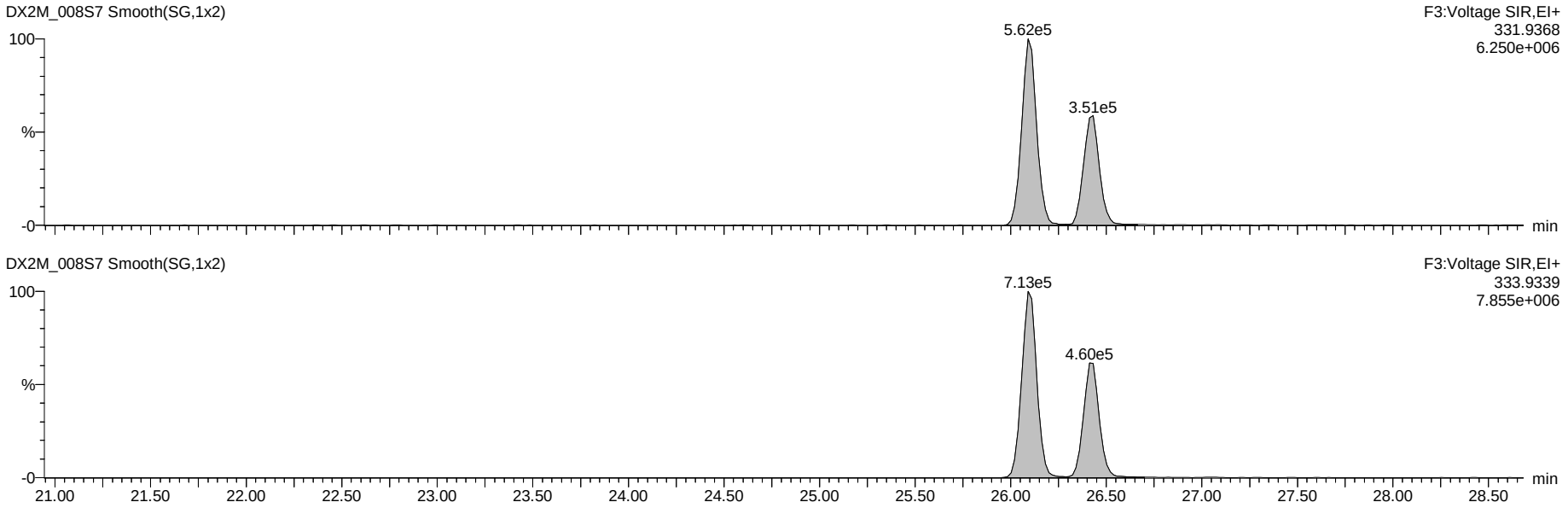
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Name: DX2M_008S7, Date: 10-Jan-2012, Time: 13:45:07, ID: L17223-2,R,, Description: 1,WG38741,1.0/20uL

37Cl-2,3,7,8-TCDD



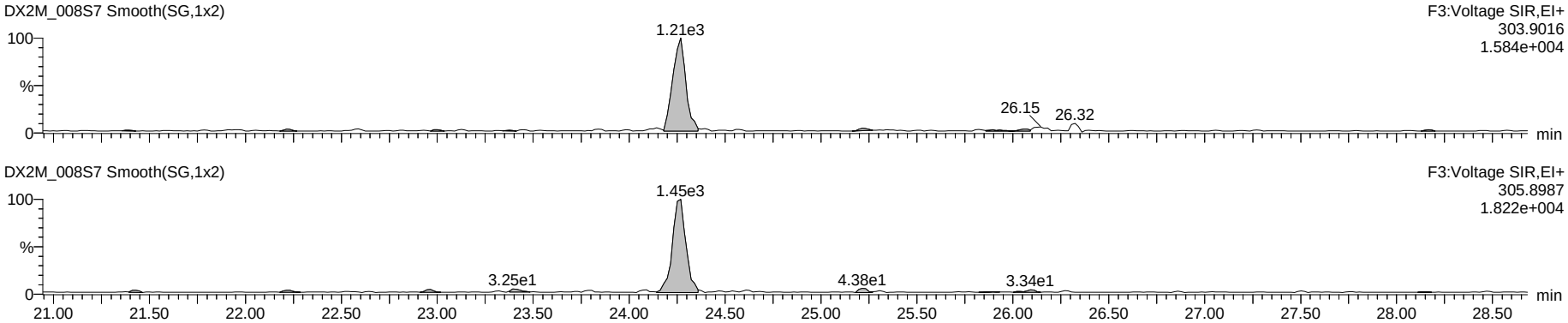
13C-Tetra-Dioxins



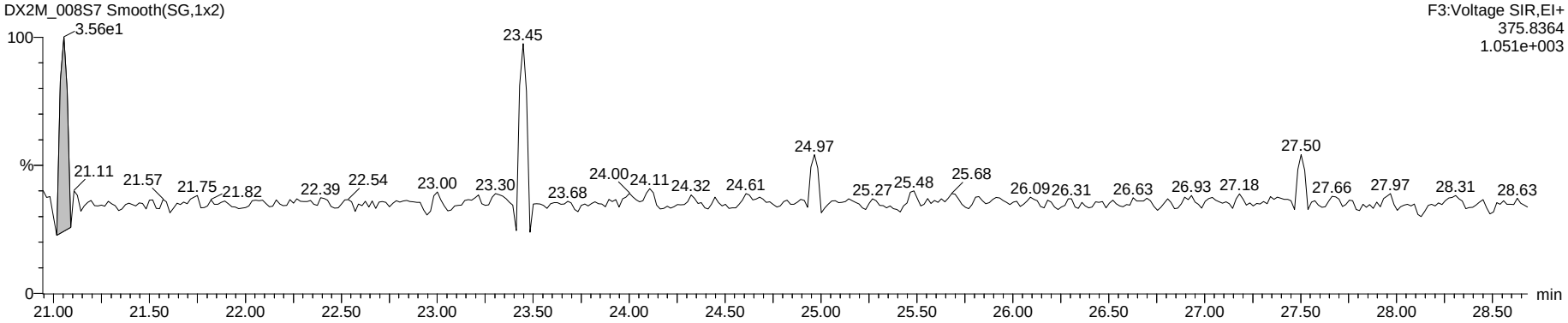
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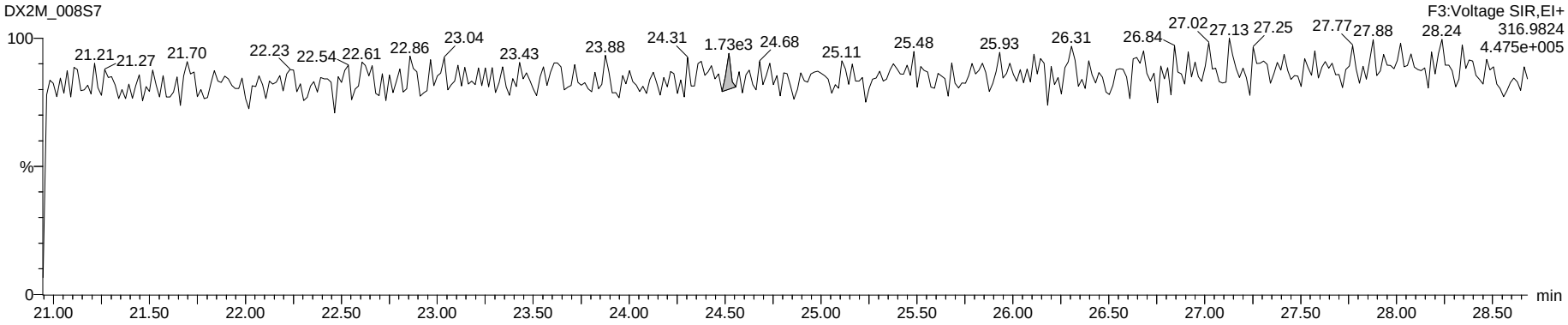
Total Tetra-Furans



Hexa DPE



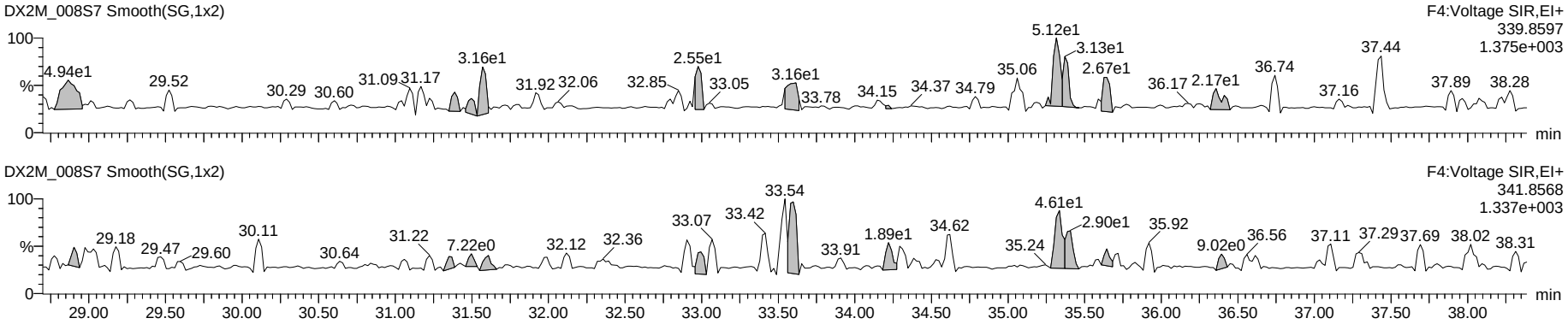
Tetra Lock



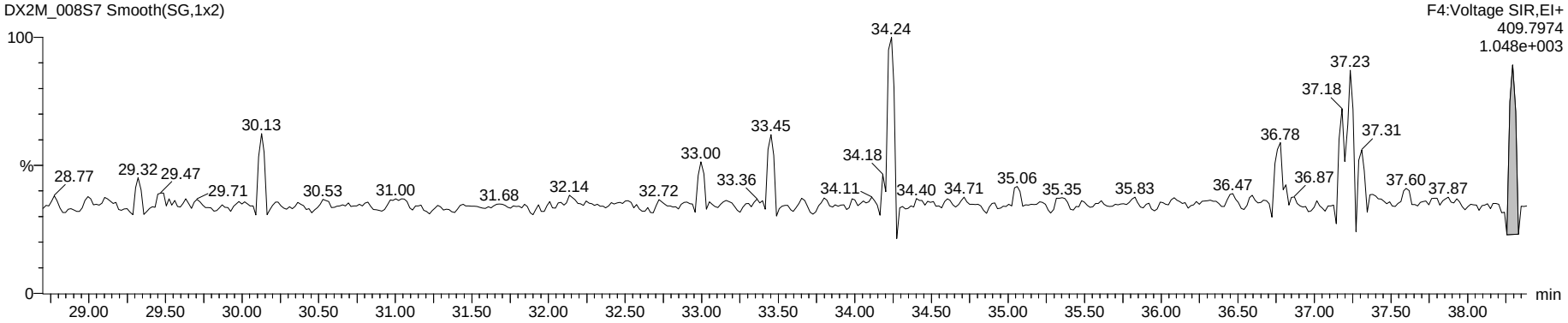
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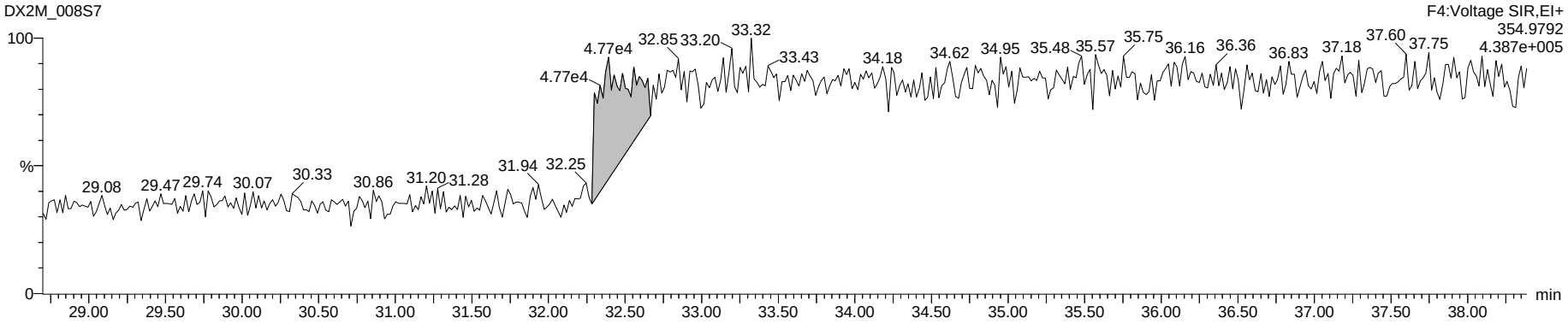
Total Penta-Furans



Hepta DPE



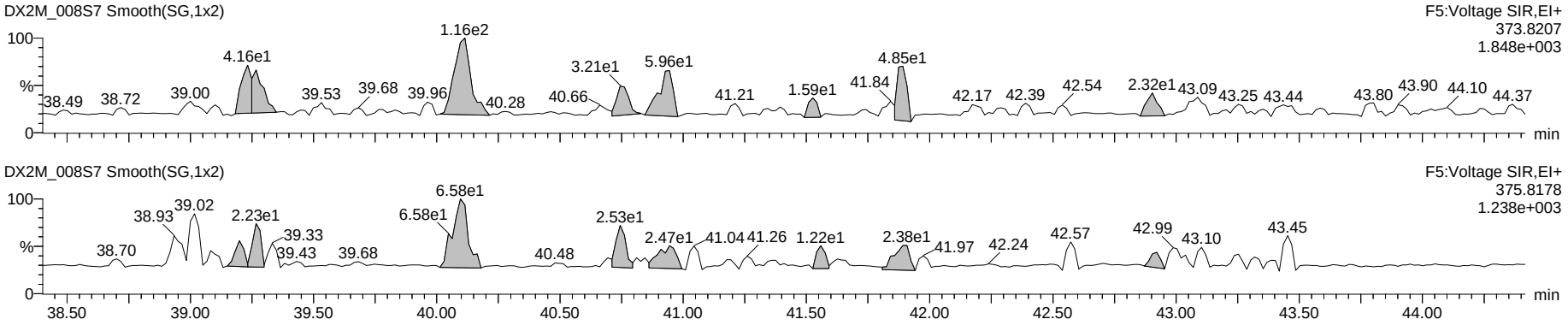
Penta Lock



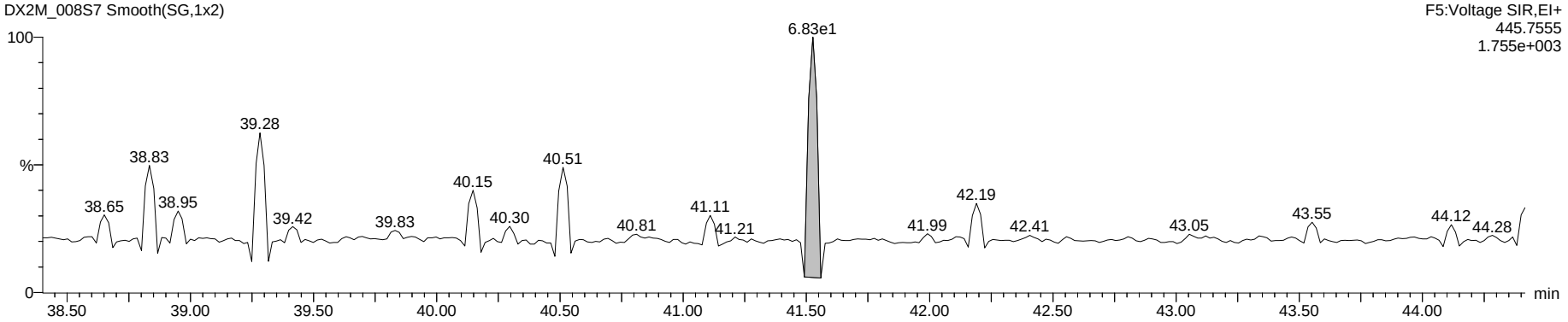
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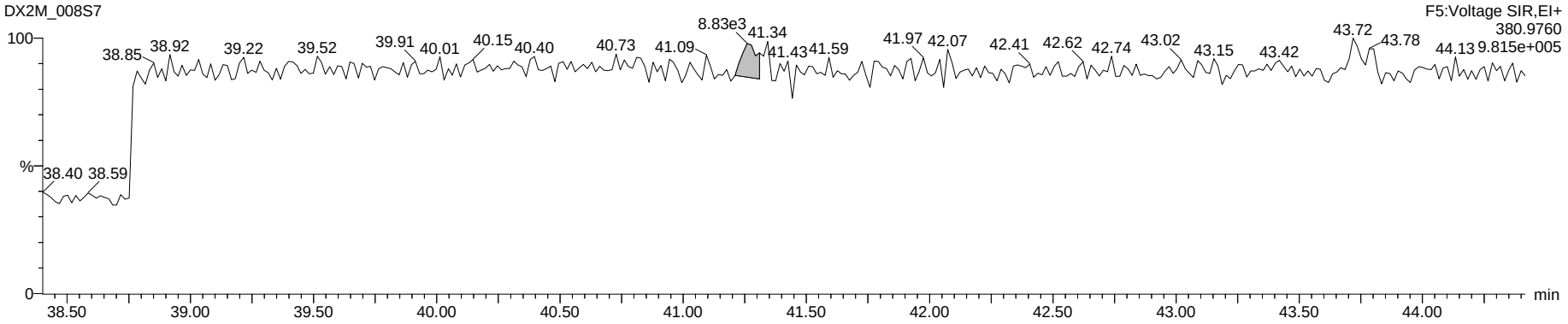
Total Hexa-Furans



Octa DPE



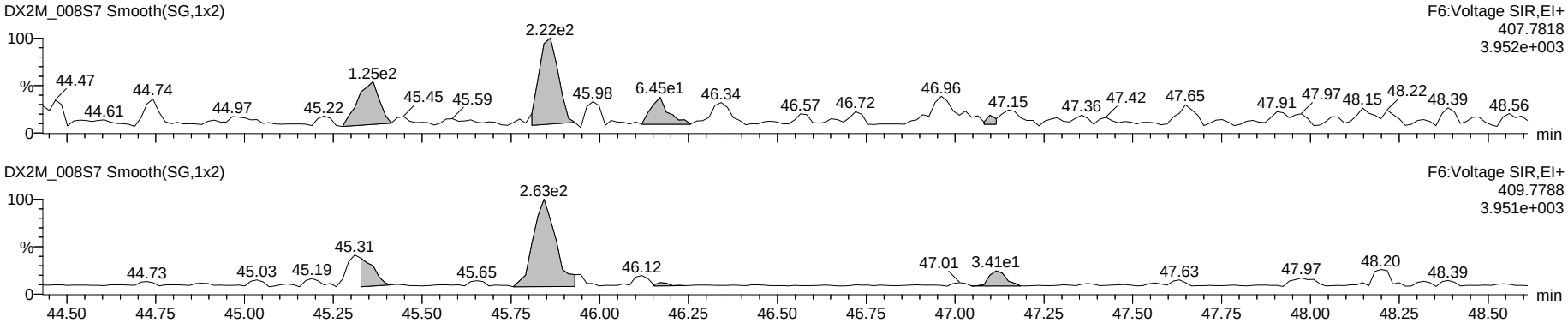
Hexa Lock



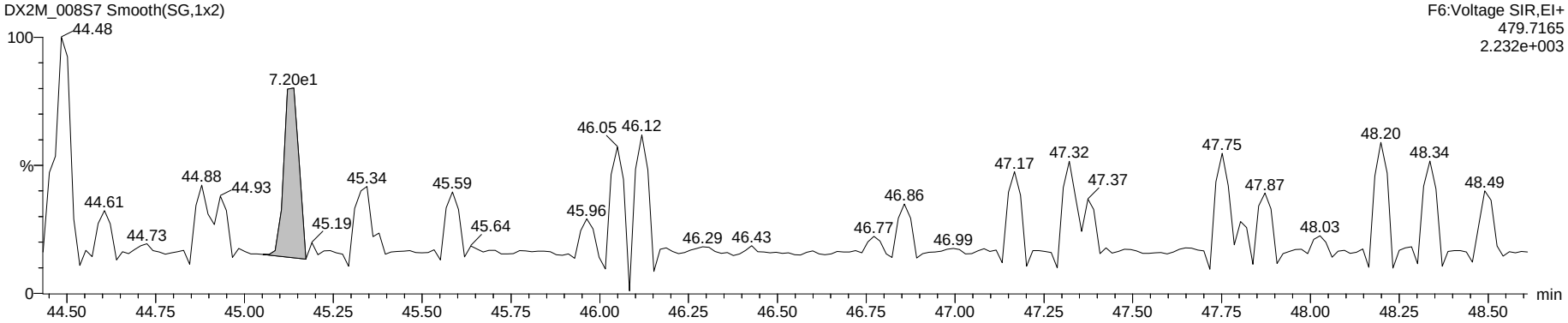
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Name: DX2M_008S7, Date: 10-Jan-2012, Time: 13:45:07, ID: L17223-2,R,, Description: 1,WG38741,1.0/20uL

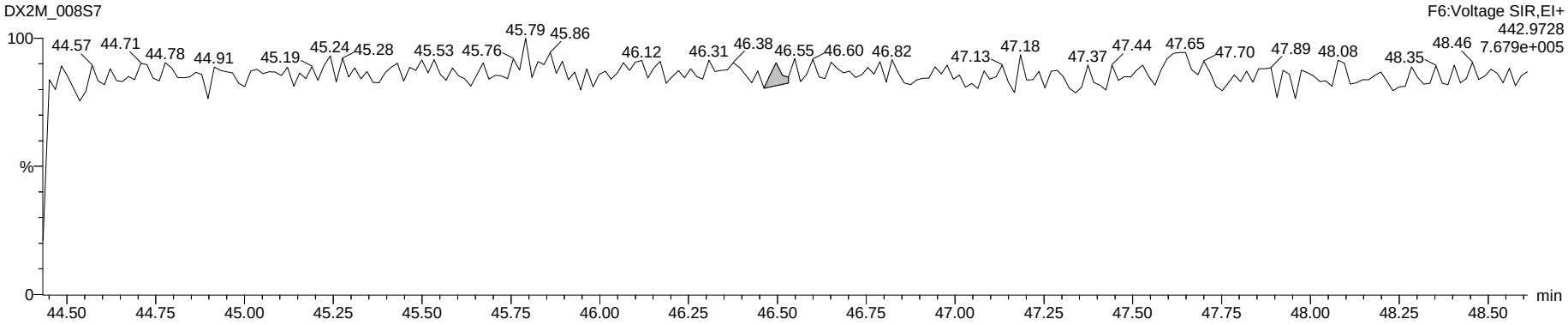
Total Hepta-Furans



Nona DPE



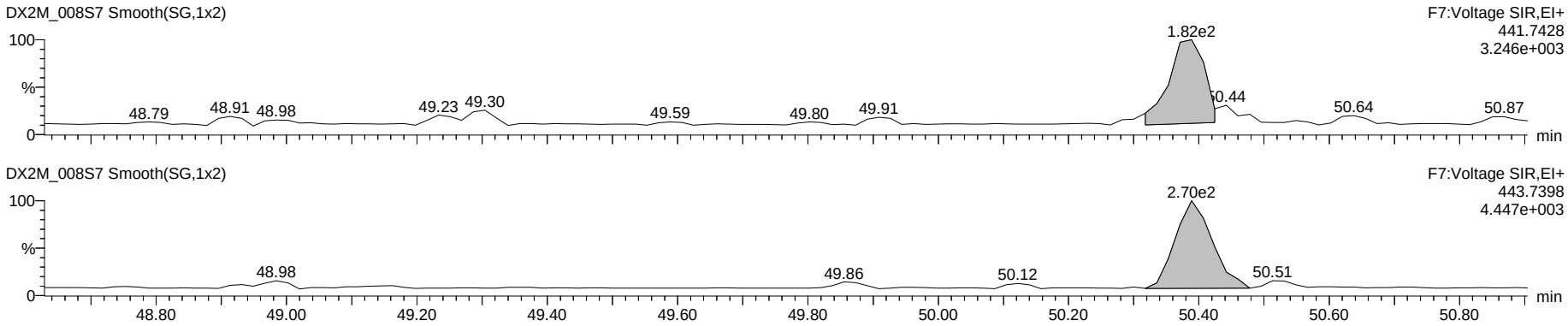
Hepta Lock



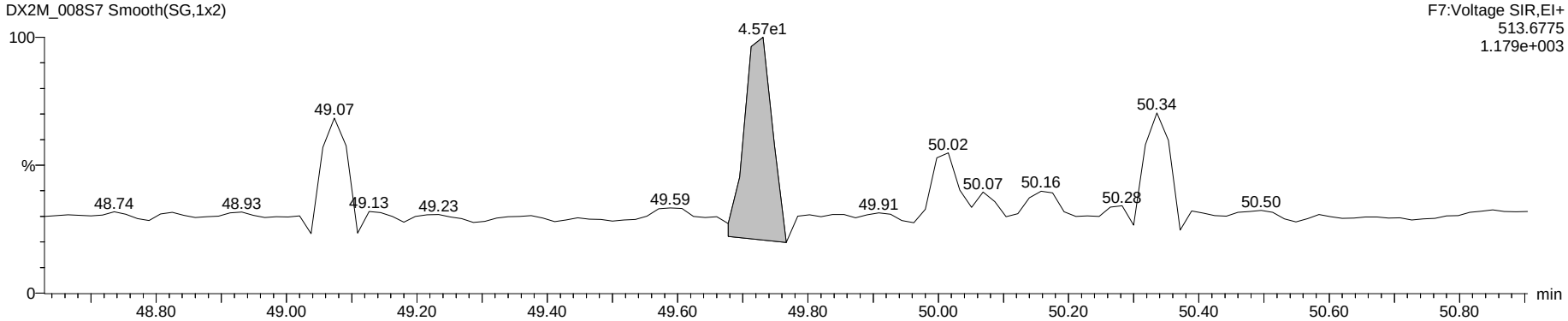
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Name: DX2M_008S7, Date: 10-Jan-2012, Time: 13:45:07, ID: L17223-2,R,, Description: 1,WG38741,1.0/20uL

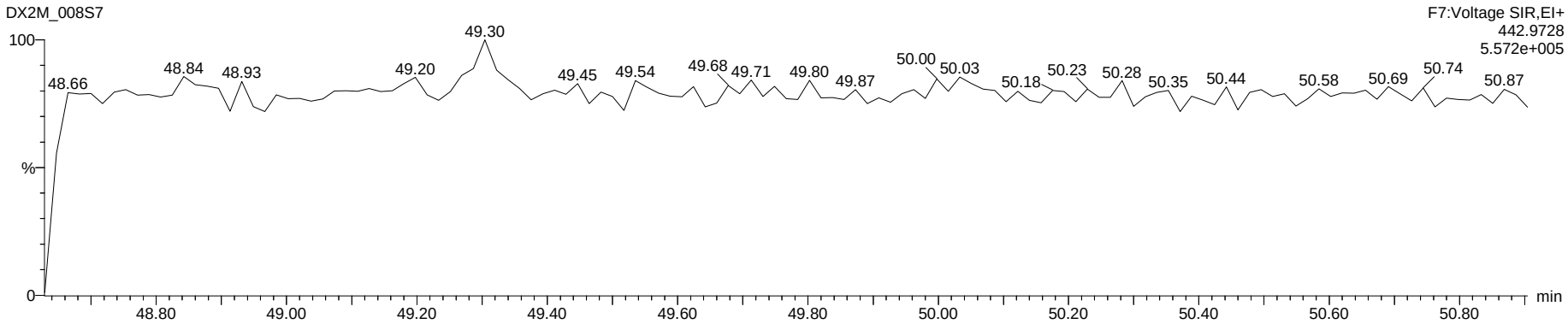
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	0.882	1.18e2	0.69	NO	25.20	0.263	0.1886		1.85e2	1.87e2
2	1,2,3,7,8-PeCDF	0.882	2.00e2	1.92	YES	33.60	0.524	0.2984		9.27e1	3.43e2
3	2,3,4,7,8-PeCDF	0.882	2.41e2	1.09	YES	35.32	0.624	0.2597		9.27e1	3.43e2
4	1,2,3,4,7,8-HxCDF	0.882	1.12e3	0.97	YES	40.73	3.879	0.2120		1.50e2	2.03e2
5	1,2,3,6,7,8-HxCDF	0.882	2.29e2	1.21	NO	40.91	0.719	0.1948		1.50e2	2.03e2
6	2,3,4,6,7,8-HxCDF	0.882	1.04e2	1.58	YES	41.86	0.385	0.2239		1.50e2	2.03e2
7	1,2,3,7,8,9-HxCDF	0.882			No			0.2631		1.50e2	2.03e2
8	1,2,3,4,6,7,8-HpCDF	0.882	2.59e3	1.16	NO	45.35	11.137	0.3940		1.79e2	3.74e2
9	1,2,3,4,7,8,9-HpCDF	0.882	3.02e2	1.65	YES	47.12	1.685	0.5051		1.79e2	3.74e2
10	OCDF	0.882	2.38e3	0.68	YES	50.39	16.995	0.2883		1.03e2	1.40e2
11	2,3,7,8-TCDD	0.882	3.51e2	0.19	YES	26.40	0.879	0.2242		2.41e2	1.48e2
12	1,2,3,7,8-PeCDD	0.882			No			0.2670		1.76e2	1.88e2
13	1,2,3,4,7,8-HxCDD	0.882	7.41e1	1.92	YES	42.12	0.347	0.2475		1.71e2	1.53e2
14	1,2,3,6,7,8-HxCDD	0.882	2.50e2	1.58	YES	42.27	1.141	0.2603		1.71e2	1.53e2
15	1,2,3,7,8,9-HxCDD	0.882	1.55e2	1.28	NO	42.69	0.704	0.2491		1.71e2	1.53e2
16	1,2,3,4,6,7,8-HpCDD	0.882	3.24e3	0.99	NO	46.72	16.926	0.1998		1.21e2	1.28e2
17	OCDD	0.882	5.34e4	0.86	NO	50.30	368.679	0.6283		4.91e2	5.77e1
18	13C-2,3,7,8-TCDF	0.882	1.32e6	0.77	NO	25.20	1639.688	0.8133	72.3	1.92e3	1.01e3
19	13C-1,2,3,7,8-PeCDF	0.882	1.00e6	1.53	NO	33.53	1591.418	1.2393	70.2	1.56e3	1.92e3
20	13C-2,3,4,7,8-PeCDF	0.882	9.96e5	1.54	NO	35.32	1650.014	1.2903	72.8	1.56e3	1.92e3
21	13C-1,2,3,4,7,8-HxCDF	0.882	6.58e5	0.51	NO	40.71	1523.637	1.0686	67.2	1.18e3	1.55e3
22	13C-1,2,3,6,7,8-HxCDF	0.882	7.36e5	0.51	NO	40.88	1510.607	0.9475	66.6	1.18e3	1.55e3
23	13C-2,3,4,6,7,8-HxCDF	0.882	6.76e5	0.51	NO	41.82	1527.969	1.0432	67.4	1.18e3	1.55e3
24	13C-1,2,3,7,8,9-HxCDF	0.882	6.09e5	0.50	NO	42.87	1530.062	1.1591	67.5	1.18e3	1.55e3
25	13C-1,2,3,4,6,7,8-HpCDF	0.882	4.55e5	0.45	NO	45.33	1366.550	1.2071	60.3	1.46e3	9.18e2
26	13C-1,2,3,4,7,8,9-HpCDF	0.882	3.90e5	0.44	NO	47.12	1339.050	1.3794	59.0	1.46e3	9.18e2
27	13C-2,3,7,8-TCDD	0.882	1.10e6	0.79	NO	26.41	1611.008	0.9648	71.0	9.10e2	2.04e3
28	13C-1,2,3,7,8-PeCDD	0.882	8.30e5	0.62	NO	36.12	1749.793	1.0570	77.2	1.81e3	4.21e2
29	13C-1,2,3,4,7,8-HxCDD	0.882	6.19e5	1.22	NO	42.11	1469.246	1.3561	64.8	1.42e3	1.96e3
30	13C-1,2,3,6,7,8-HxCDD	0.882	6.78e5	1.22	NO	42.24	1485.391	1.2347	64.6	1.42e3	1.96e3
31	13C-1,2,3,4,6,7,8-HpCDD	0.882	4.52e5	1.04	NO	46.70	1345.402	1.0433	59.3	1.45e3	6.18e2
32	13C-OCDD	0.882	7.21e5	0.87	NO	50.28	2162.576	1.4725	47.7	5.70e2	2.33e3
33	13C-1,2,3,4-TCDD	0.882	1.35e6	0.78	NO	26.09	151.928	0.0744	6.7	9.10e2	2.04e3
34	13C-1,2,3,7,8,9-HxCDD	0.882	9.70e5	1.22	NO	42.67	146.549	0.0862	6.5	1.42e3	1.96e3
35	37Cl-2,3,7,8-TCDD	0.882	1.30e5			26.45	189.302	0.1288	83.5		3.94e2
36	Total Tetra-Furans	0.882					3.537	0.1886			1.87e2
37	Total Tetra-Dioxins	0.882					2.261	0.2242			1.48e2
38	Total Penta-Furans	0.882					5.123	0.2812			3.43e2
39	Total Penta-Dioxins	0.882					1.417	0.2670			1.88e2
40	Total Hexa-Furans	0.882					22.306	0.2080			2.03e2
41	Total Hexa-Dioxins	0.882					6.554	0.2457			1.53e2
42	Total Hepta-Furans	0.882					34.711	0.4223			3.74e2
43	Total Hepta-Dioxins	0.882					28.163	0.1998			1.28e2
44	Hexa DPE	1.000	1.07e2			25.81					3.54e1
45	Hepta DPE	1.000	3.19e1			36.76					2.94e1
46	Octa DPE	1.000	1.44e1			44.28					2.54e1
47	Nona DPE	1.000	7.14e1			48.20					2.82e1
48	Deca DPE	1.000	5.27e1			50.32					7.40e1
49	Tetra Lock	1.000	2.12e3			24.86					5.34e4
50	Penta Lock	1.000	3.55e3			32.28					4.76e4
51	Hexa Lock	1.000									8.01e4
52	Hepta Lock	1.000	7.95e3			46.34					6.54e4
53	Octa Lock	1.000	4.37e3			50.05					4.31e4
54	13C-Tetra-Furans	0.882					1639.688	0.8133			1.01e3
55	13C-Tetra-Dioxins	0.882					1762.936	1.0392			2.04e3

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

SVD BY BF 12-Jan-2012

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	24.57	0.437	YES	0.163
2	24.29	1.023	YES	0.578
3	23.80	0.772	NO	0.281
4	22.97	0.771	NO	1.295
5	22.68	0.323	YES	0.154
6	22.54	0.238	YES	0.091
7	22.23	0.230	YES	0.242
8	21.37	0.140	YES	0.173
9	26.11	2.676	YES	0.296
10	25.20	0.687	NO	0.263

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	23.77	1.007	YES	0.124
2	23.29	2.052	YES	0.108
3	22.91	1.586	YES	0.516
4	27.02	1.218	YES	0.028
5	26.61	2.759	YES	0.038
6	26.40	0.194	YES	0.879
7	26.13	3.247	YES	0.073
8	25.59	2.110	YES	0.069
9	25.20	6.354	YES	0.198
10	24.63	1.343	YES	0.181
11	27.93	0.355	YES	0.049

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	33.60	1.918	YES	0.524
2	32.98	1.013	YES	0.364
3	31.52	1.417	NO	1.118
4	31.44	1.747	NO	0.579
5	35.63	0.129	YES	0.125
6	35.32	1.093	YES	0.624
7	28.90	0.607	YES	1.790

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	33.51	1.162	YES	0.447
2	33.12	1.864	YES	0.115
3	32.30	1.080	YES	0.075
4	31.86	0.300	YES	0.075
5	36.21	1.255	YES	0.203
6	34.55	1.225	YES	0.119
7	37.05	0.355	YES	0.137
8	36.92	0.583	NO	0.044
9	36.74	1.109	YES	0.108
10	36.47	0.422	YES	0.096

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	43.04	1.700	YES	0.521
2	41.86	1.584	YES	0.385
3	41.68	1.054	YES	0.696
4	41.34	1.307	NO	1.141
5	40.91	1.210	NO	0.719
6	40.73	0.972	YES	3.879
7	40.10	1.309	NO	9.513
8	39.27	1.597	YES	4.233
9	39.02	1.176	NO	1.219

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	40.61	1.879	YES	0.138
2	40.05	1.327	NO	2.039
3	42.69	1.281	NO	0.704
4	42.27	1.578	YES	1.141
5	42.12	1.924	YES	0.347
6	41.21	1.479	YES	1.724
7	40.88	0.533	YES	0.461

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	47.12	1.649	YES	1.685
2	45.86	1.030	NO	21.889
3	45.35	1.160	NO	11.137

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.72	0.985	NO	16.926
2	45.81	0.974	NO	11.237

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.20	0.773	NO	1639.6...

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.41	0.790	NO	1611.0...
2	26.09	0.781	NO	151.928

13C-PF

	RT	1° Ratio (A...	Fails?	pg
1	33.53	1.531	NO	1591.4...
2	35.32	1.535	NO	1650.0...

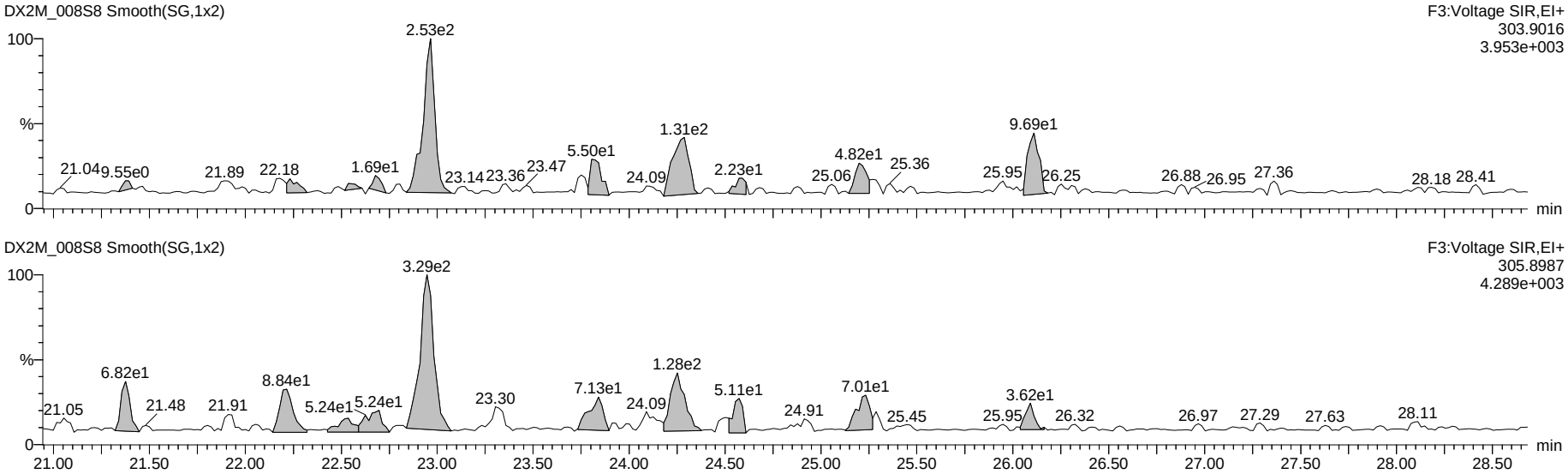
pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

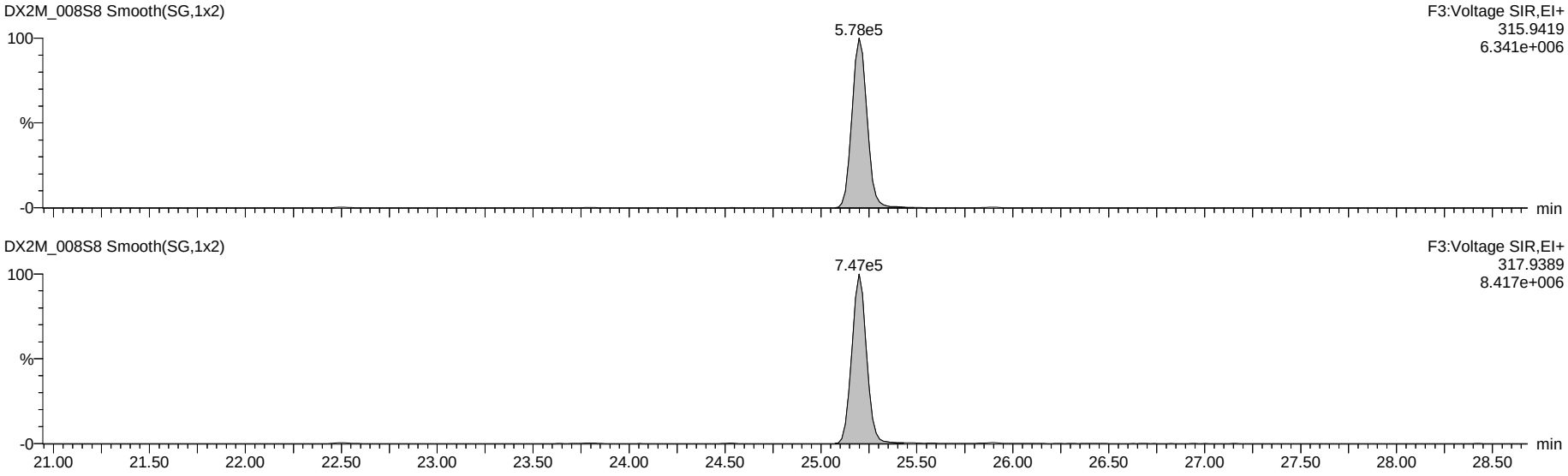
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Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

Total Tetra-Furans



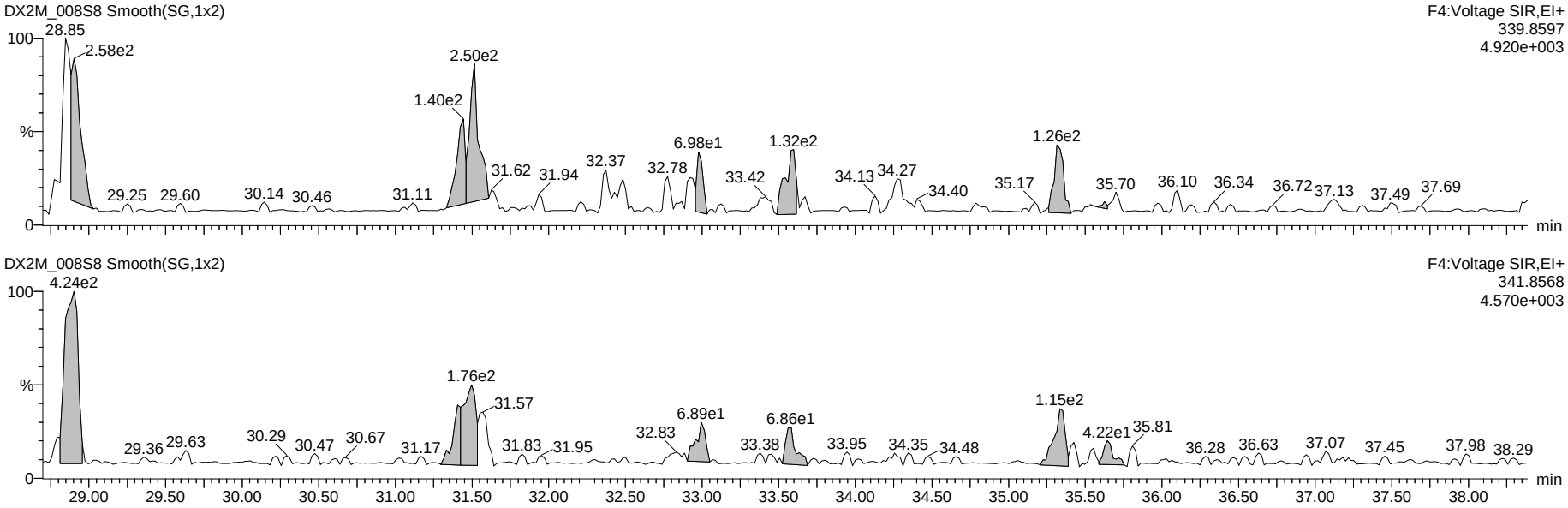
13C-Tetra-Furans



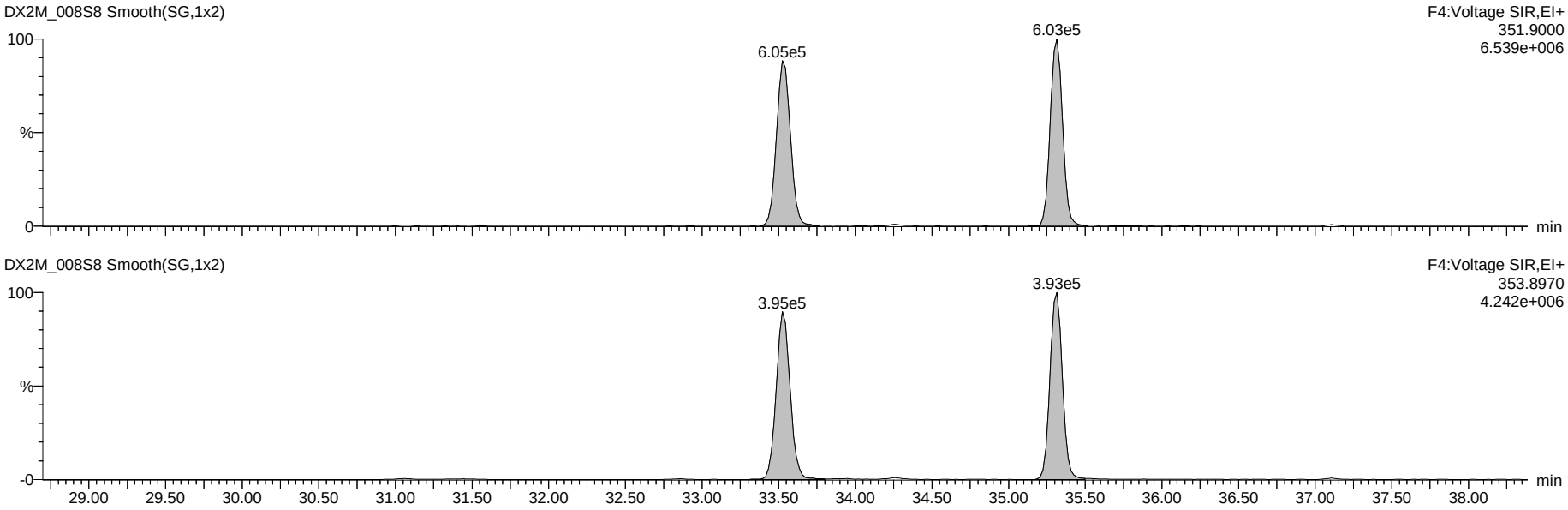
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Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

Total Penta-Furans



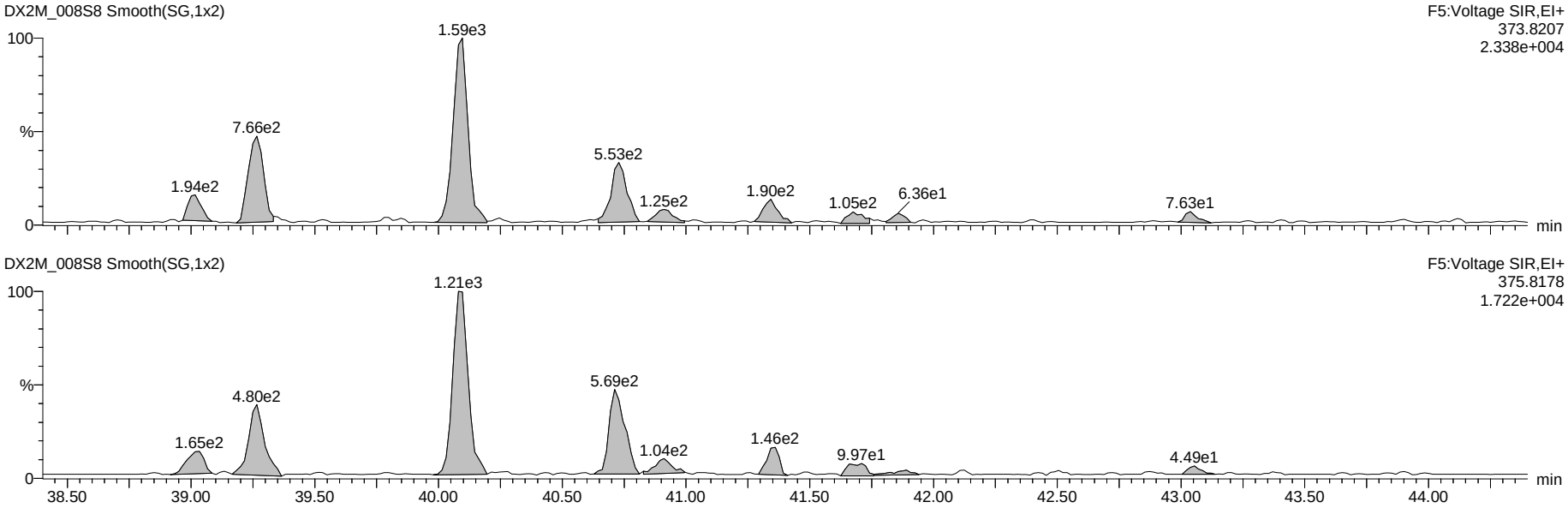
13C-Penta-Furans



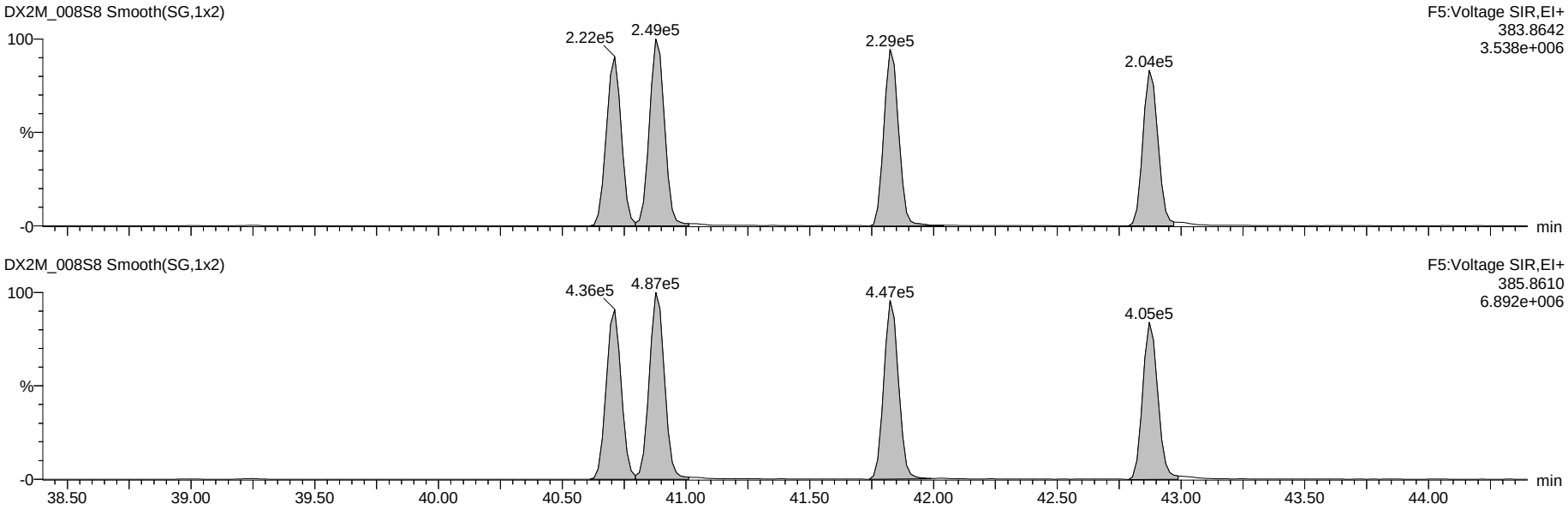
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Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

Total Hexa-Furans



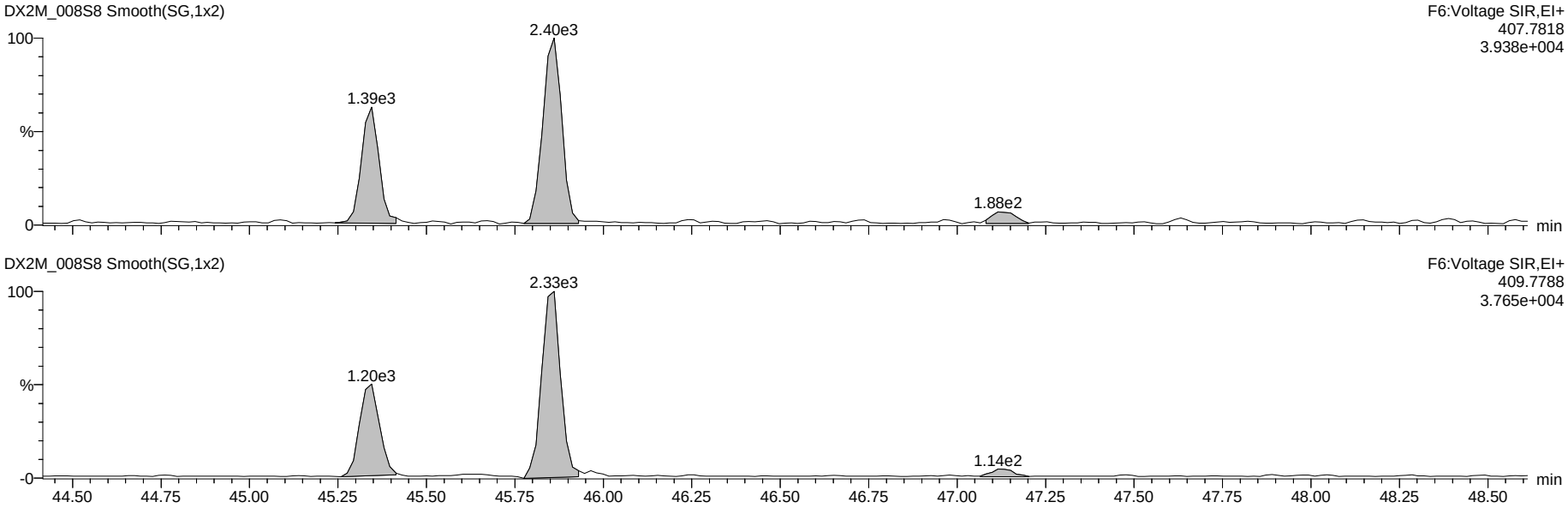
13C-Hexa-Furans



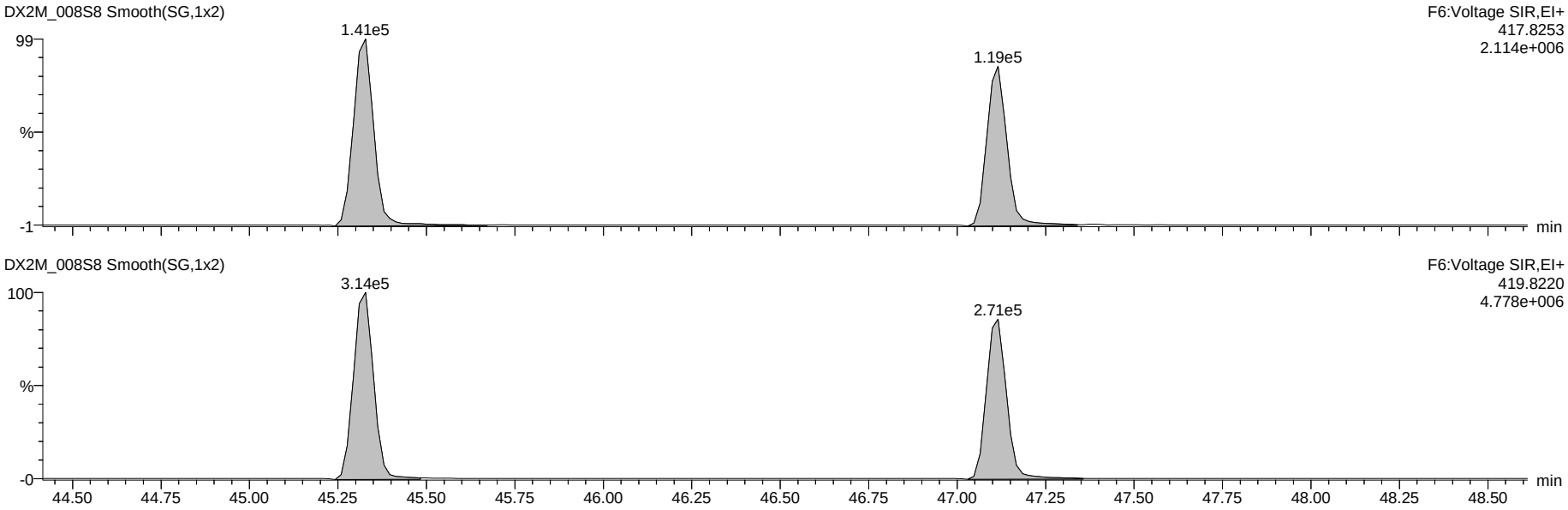
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Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

Total Hepta-Furans



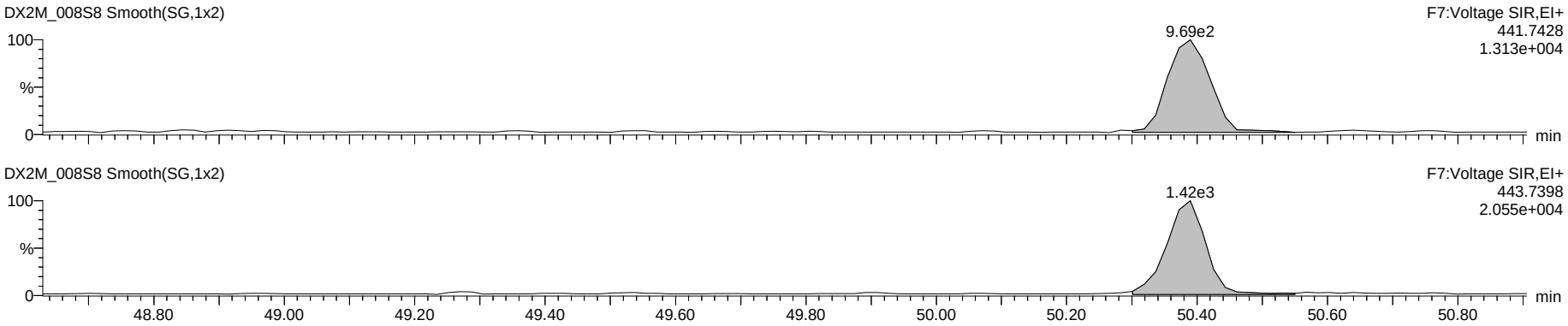
13C-Hepta-Furans



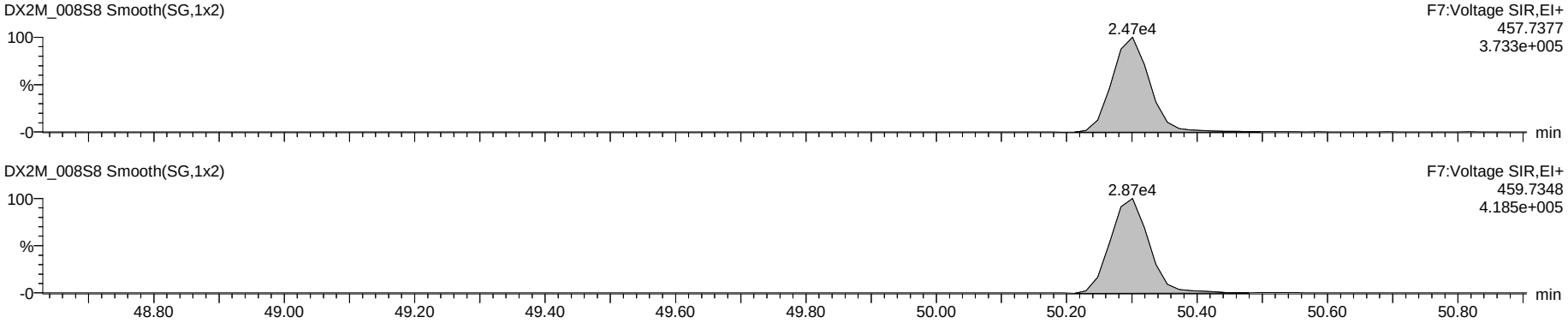
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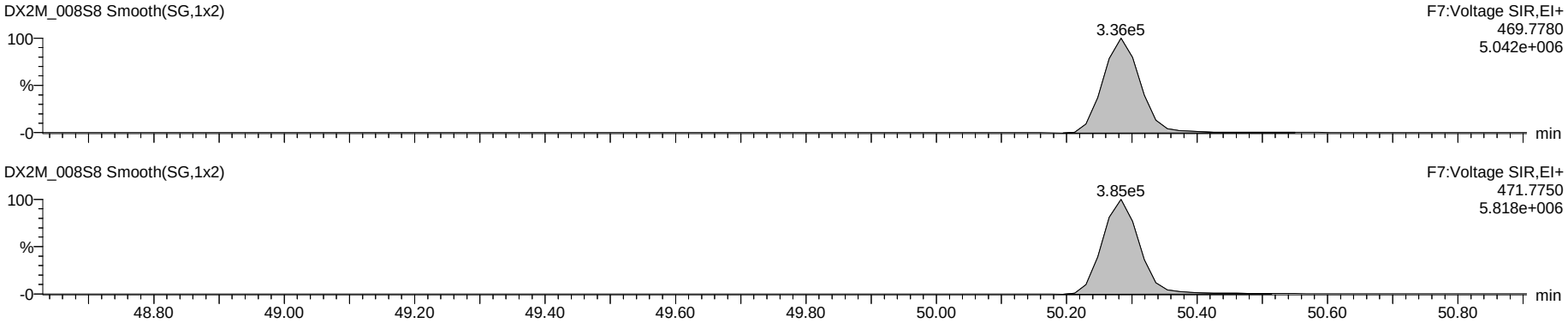
OCDF



OCDD



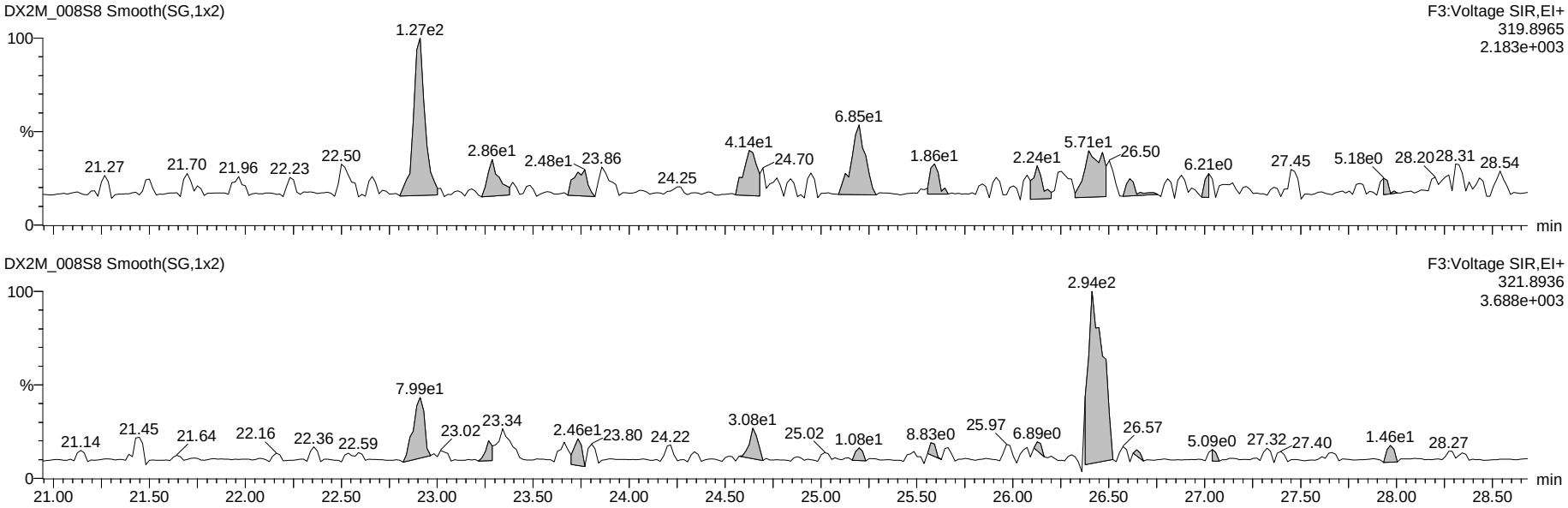
13C-OCDD



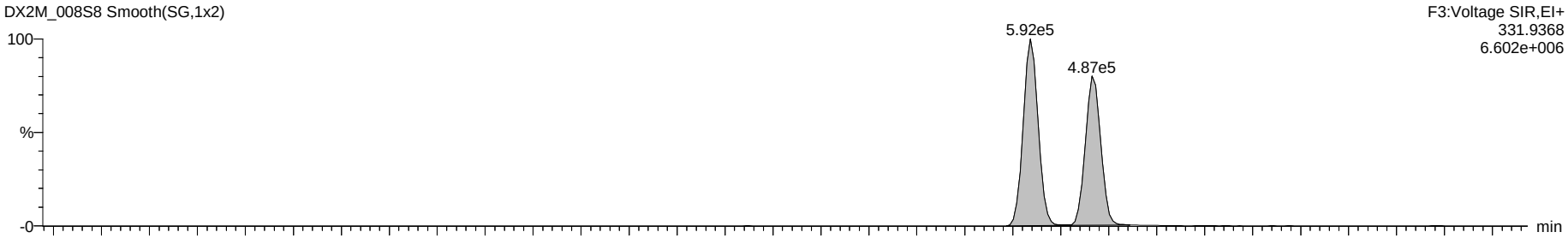
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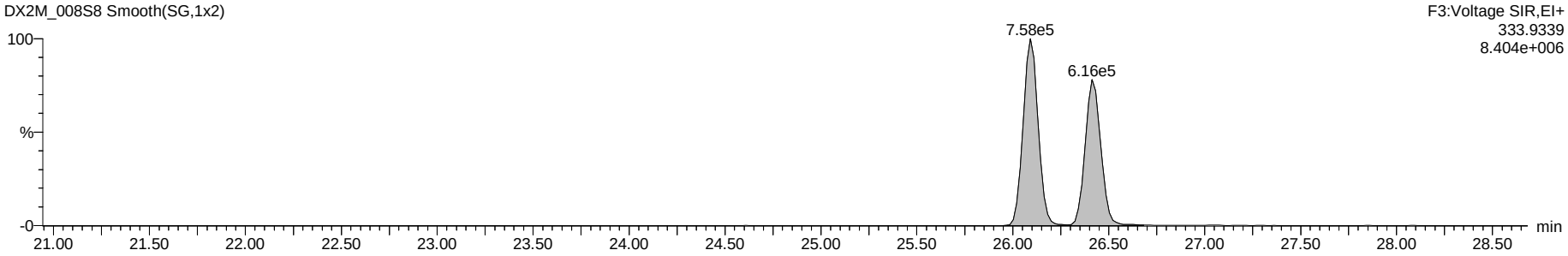
Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

Total Tetra-Dioxins



13C-Tetra-Dioxins

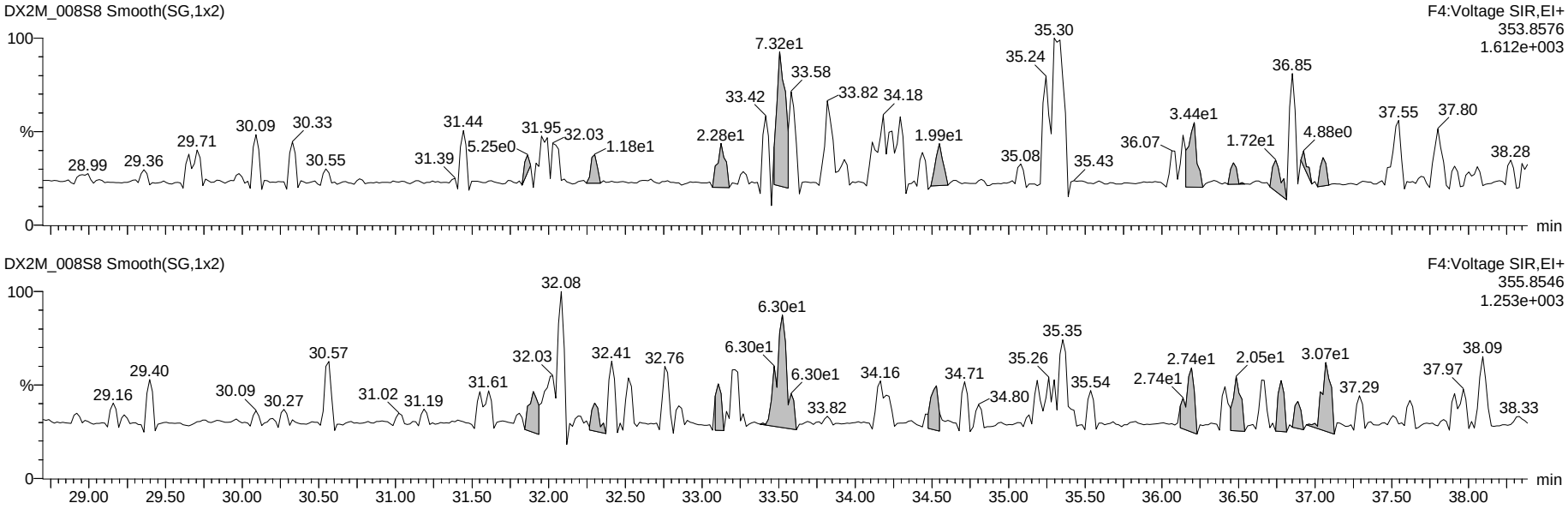




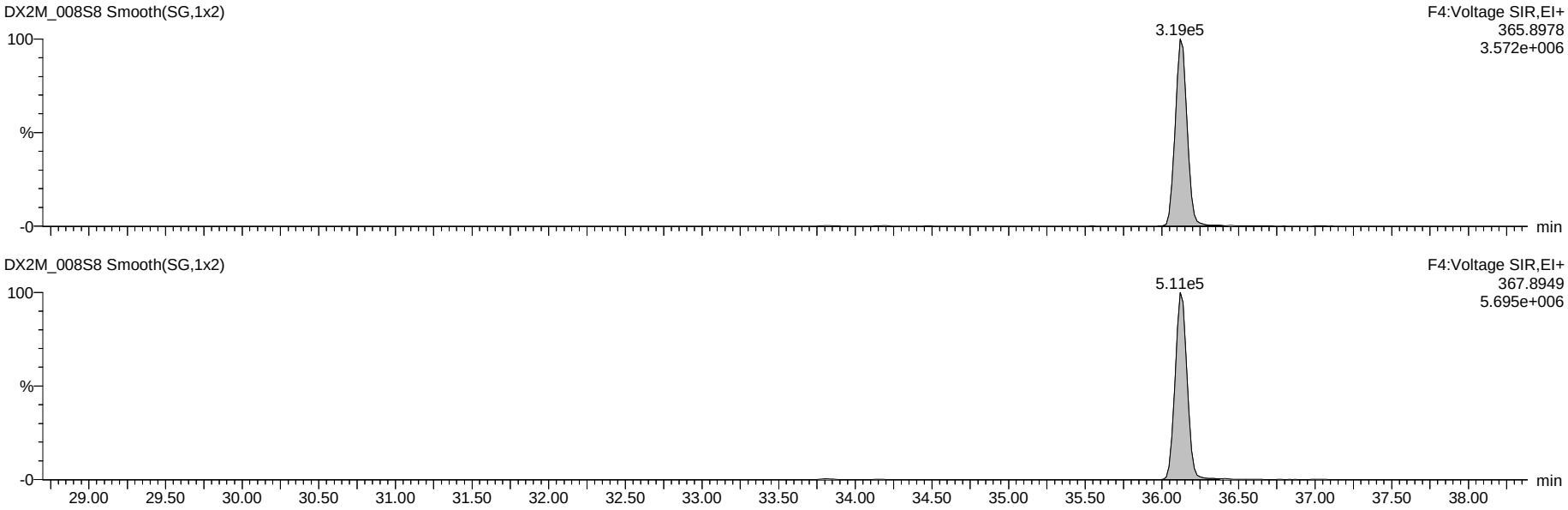
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

Total Penta-Dioxins



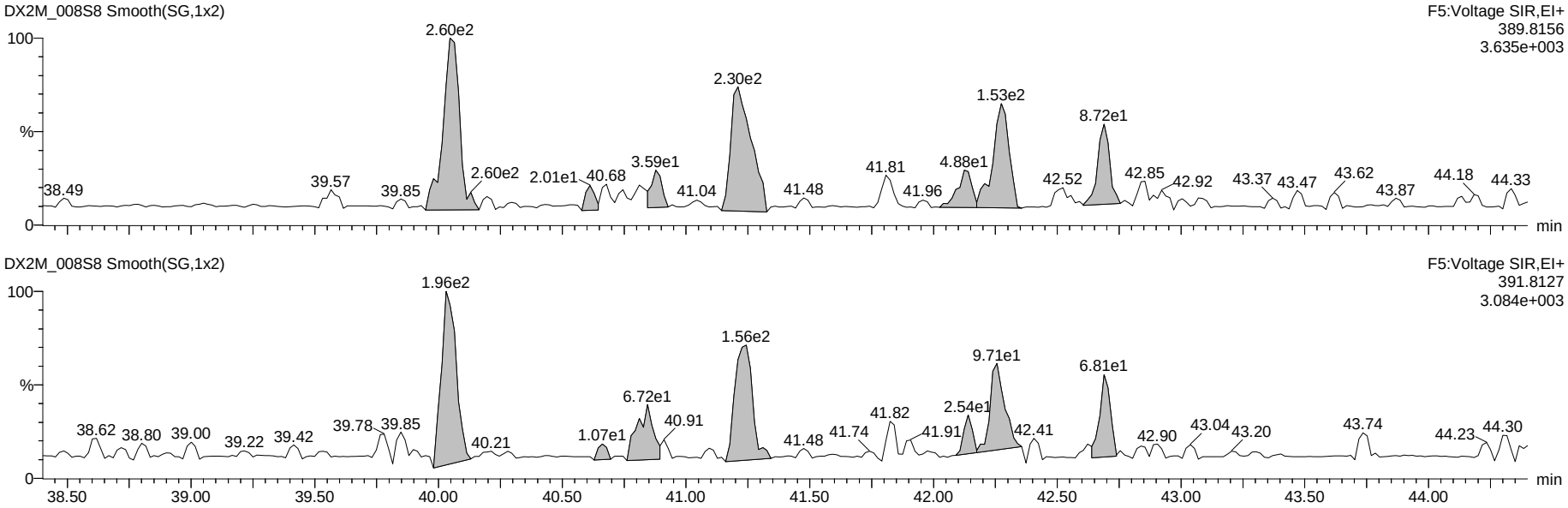
13C-Penta-Dioxins



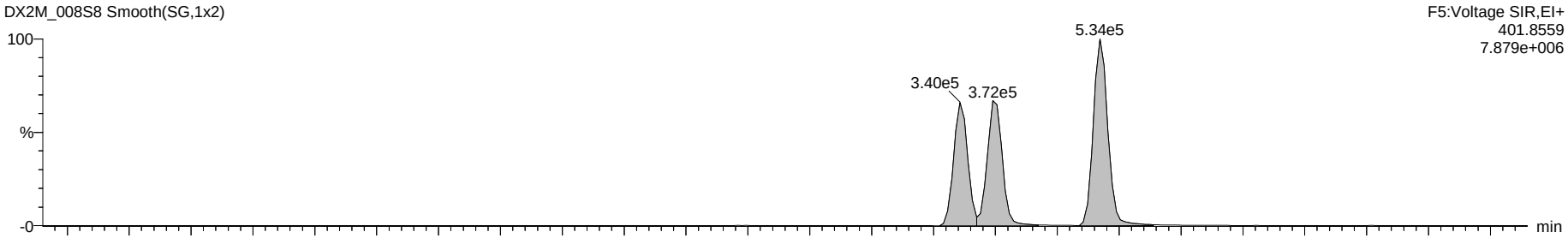
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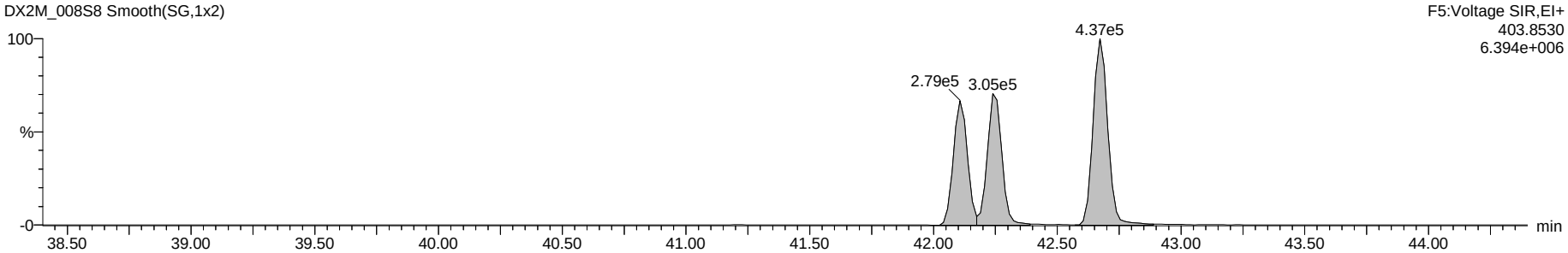
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Total Hexa-Dioxins



13C-Hexa-Dioxins

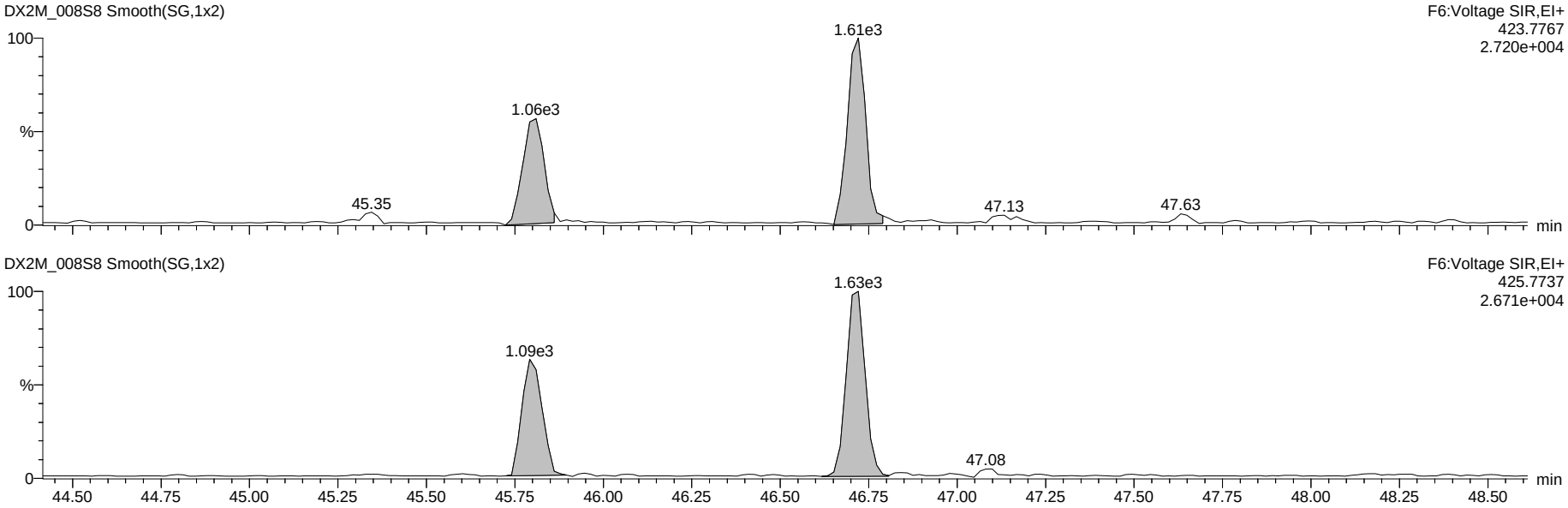




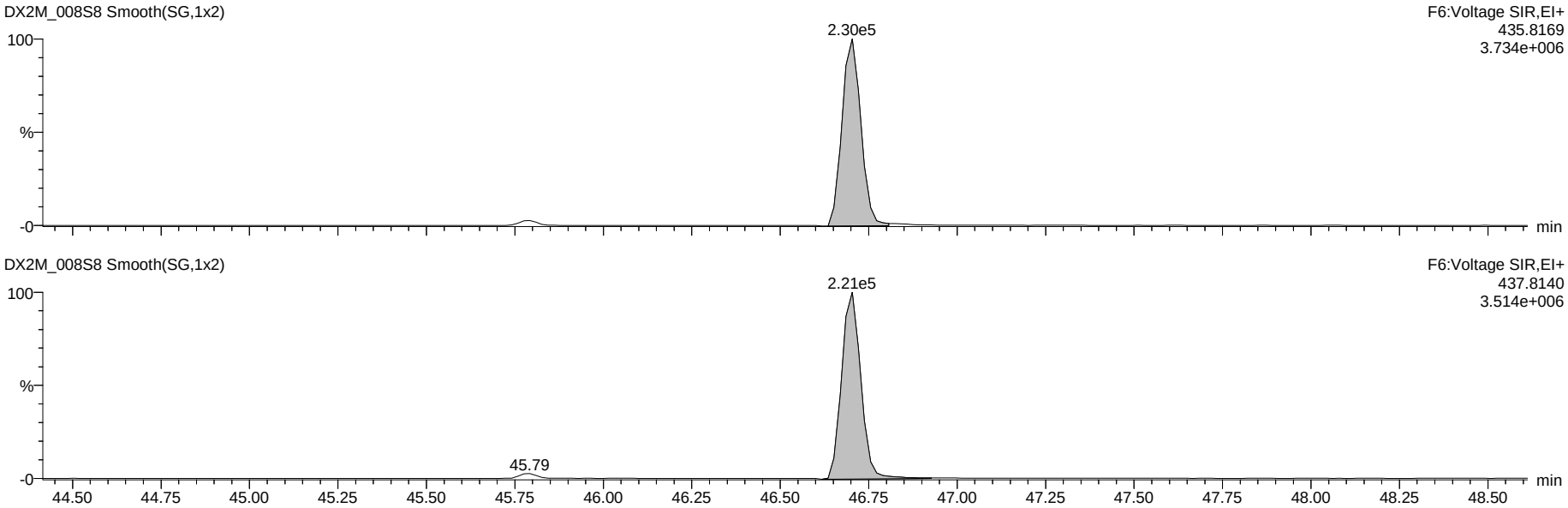
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Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

Total Hepta-Dioxins



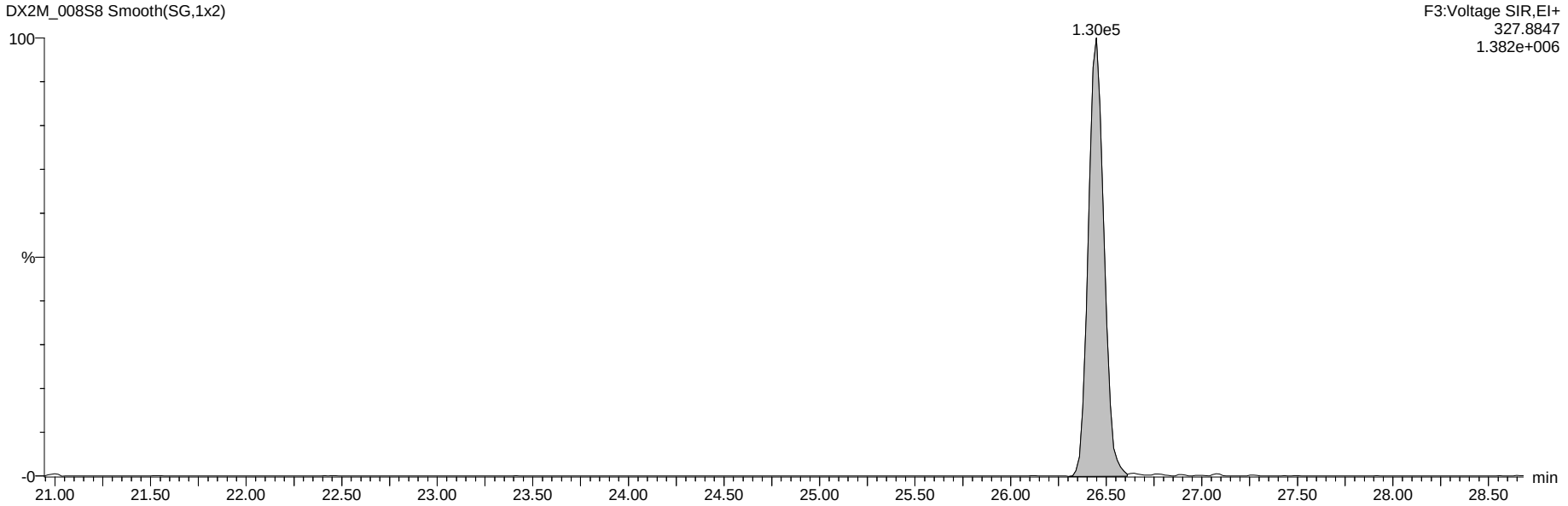
13C-Hepta-Dioxins



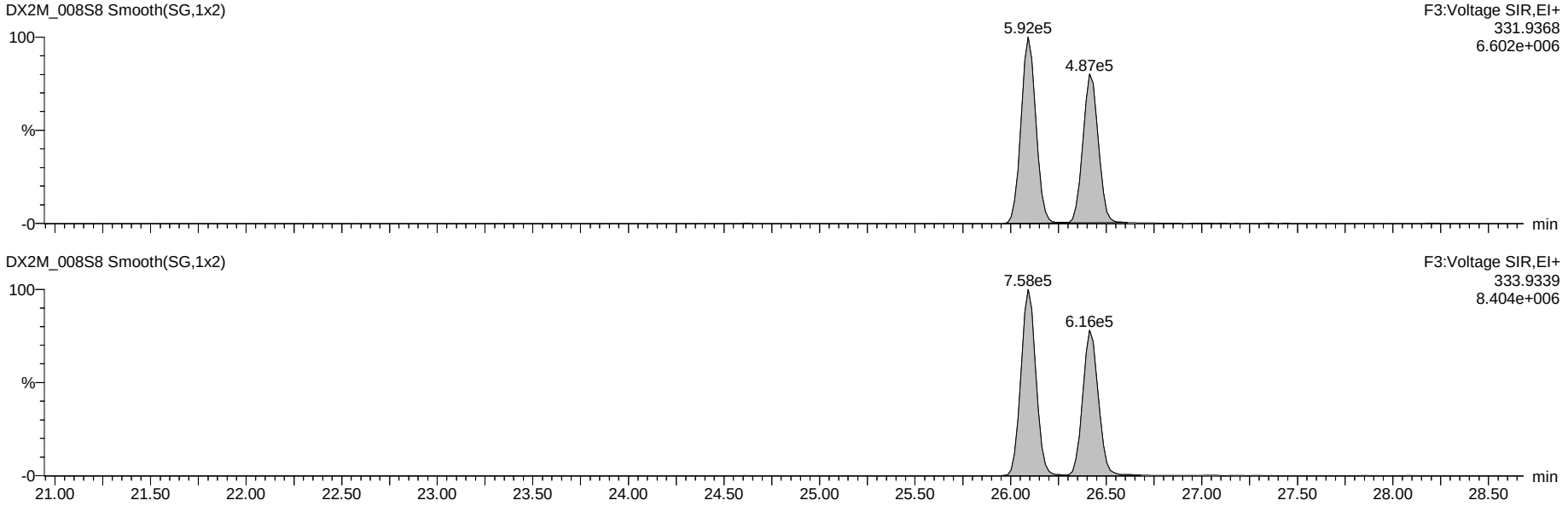
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

37Cl-2,3,7,8-TCDD



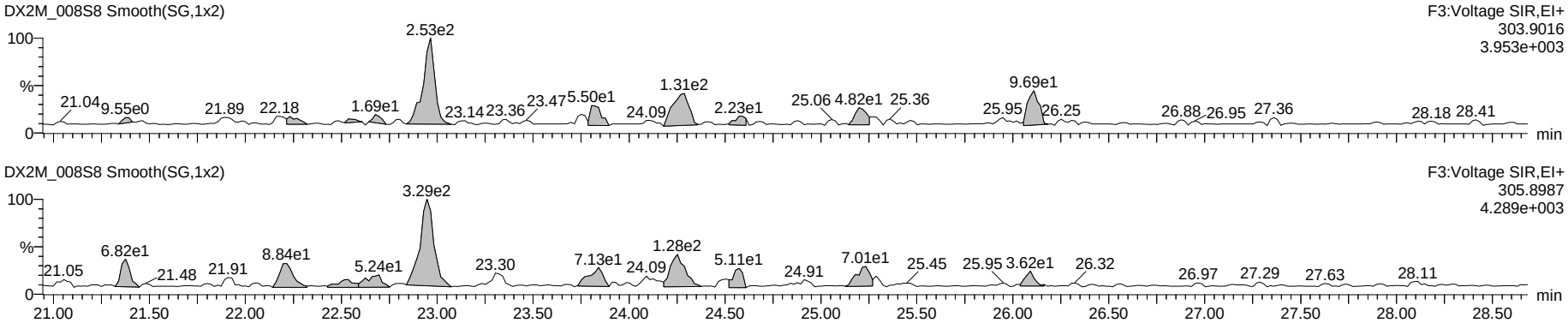
13C-Tetra-Dioxins



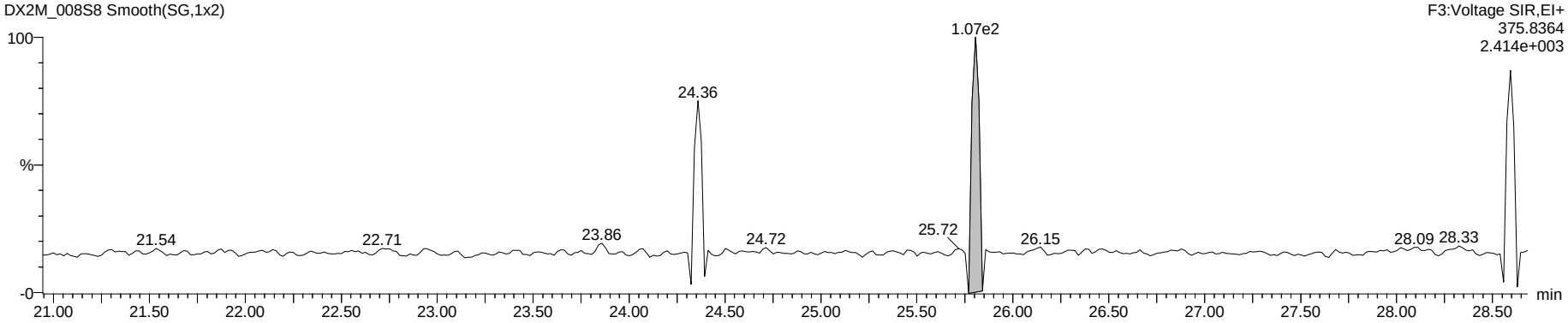
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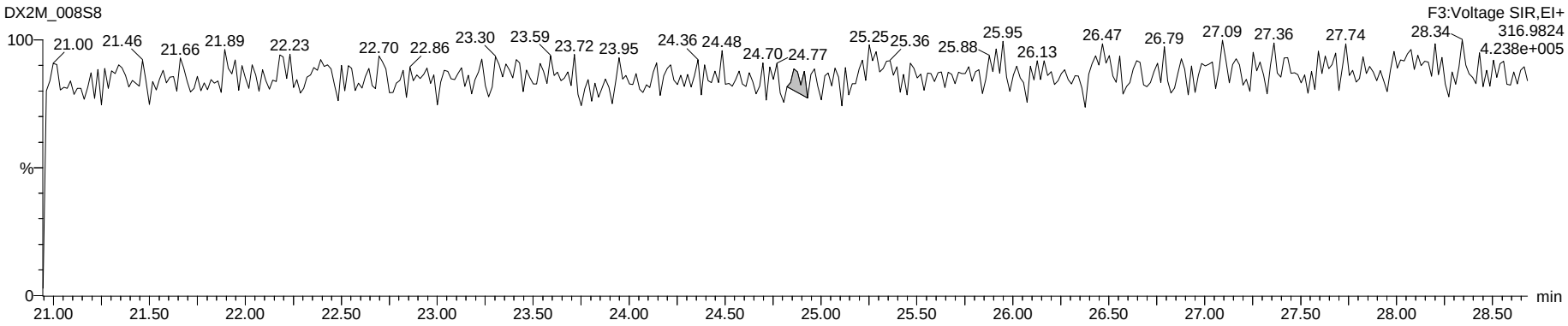
Total Tetra-Furans



Hexa DPE



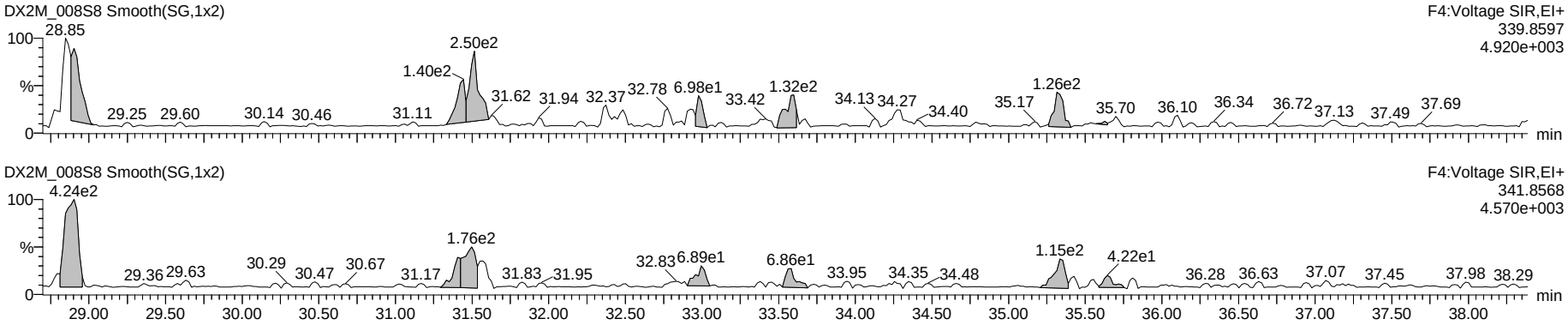
Tetra Lock



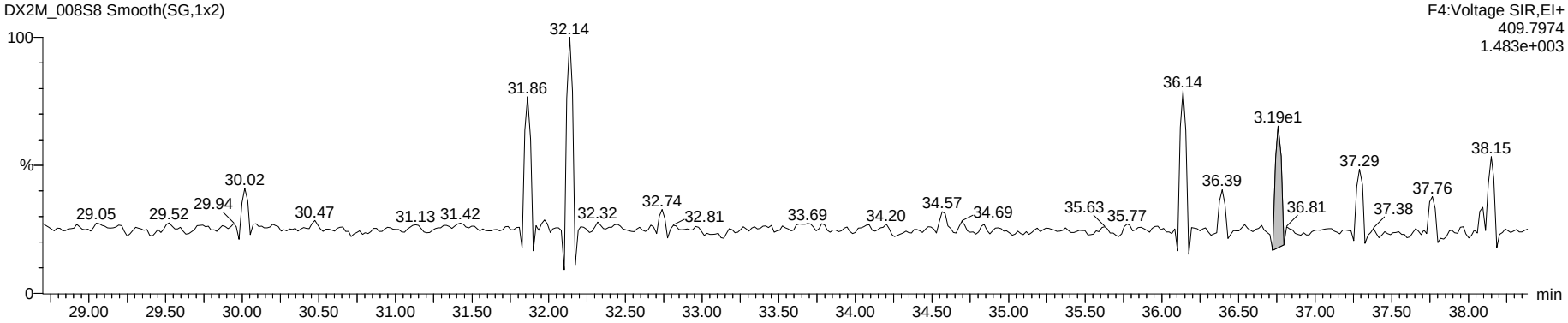
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Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

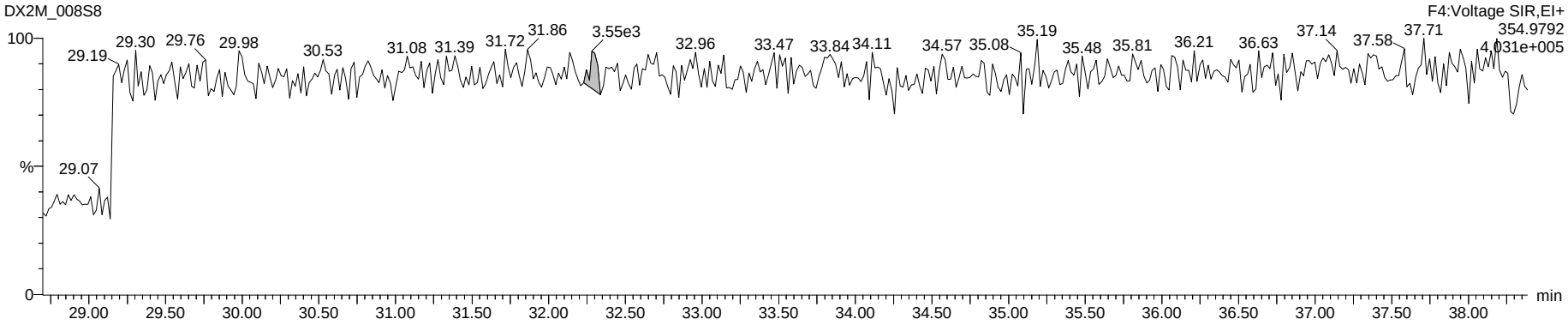
Total Penta-Furans



Hepta DPE



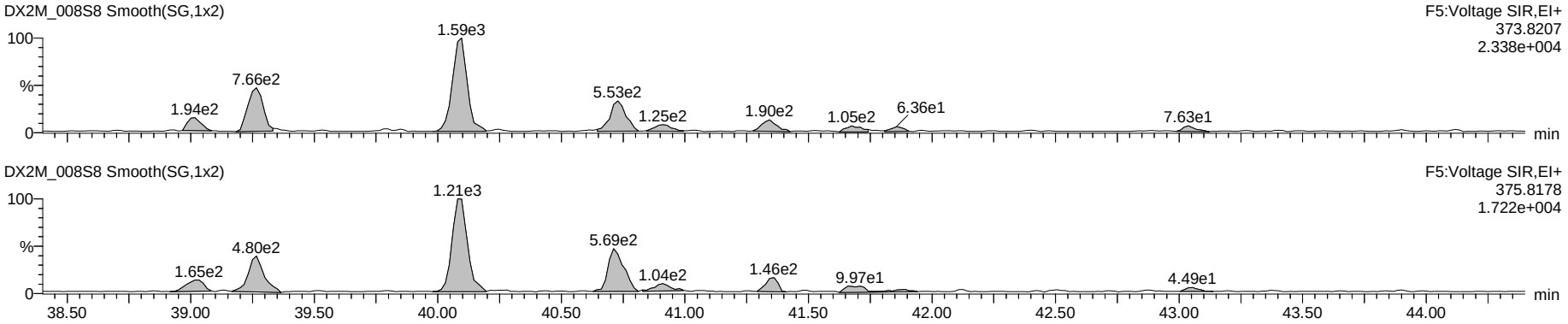
Penta Lock



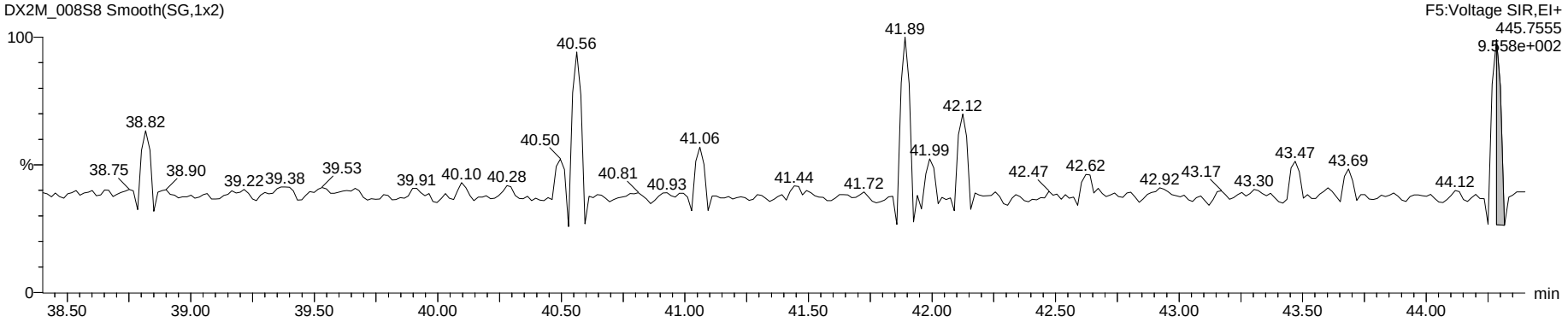
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Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

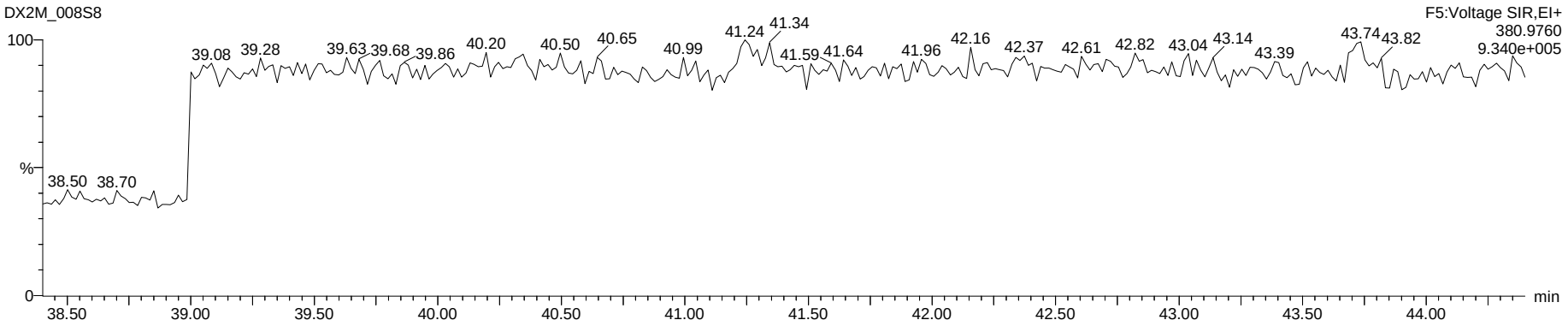
Total Hexa-Furans



Octa DPE



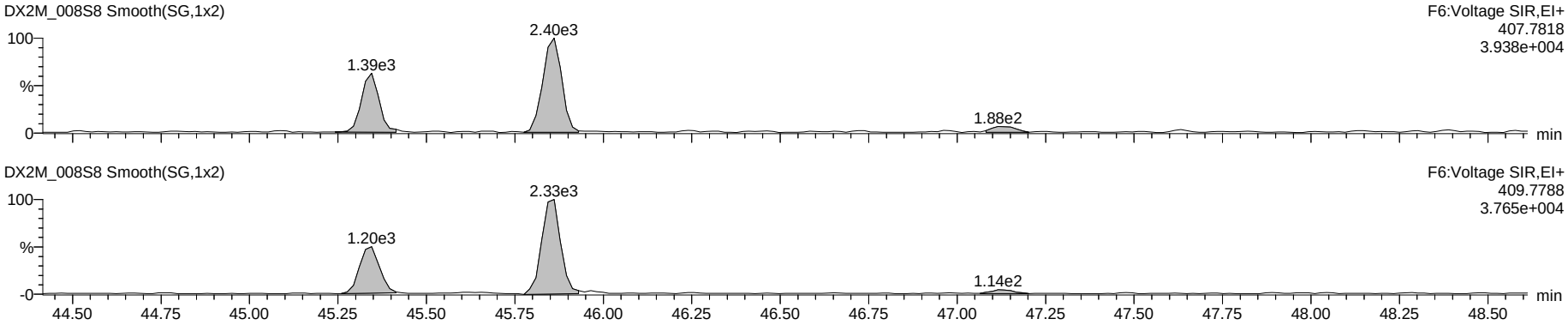
Hexa Lock



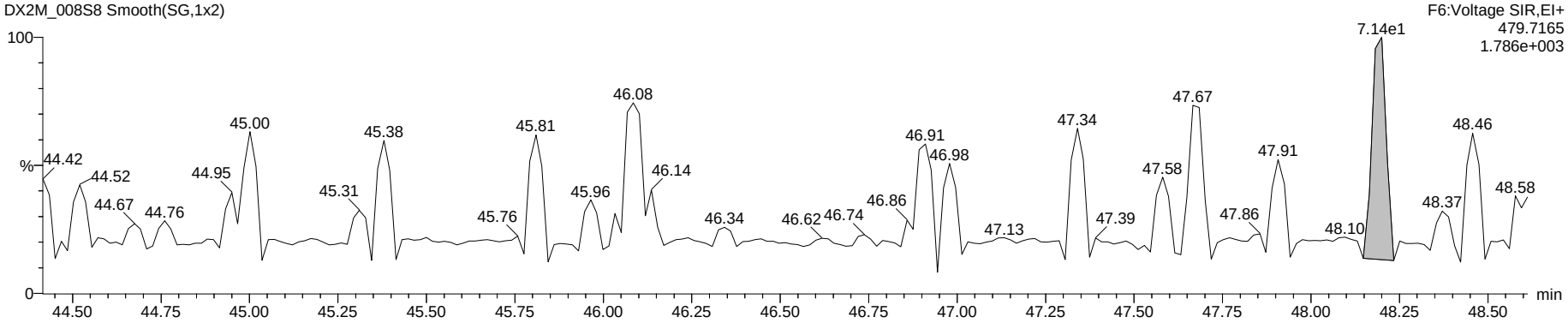
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

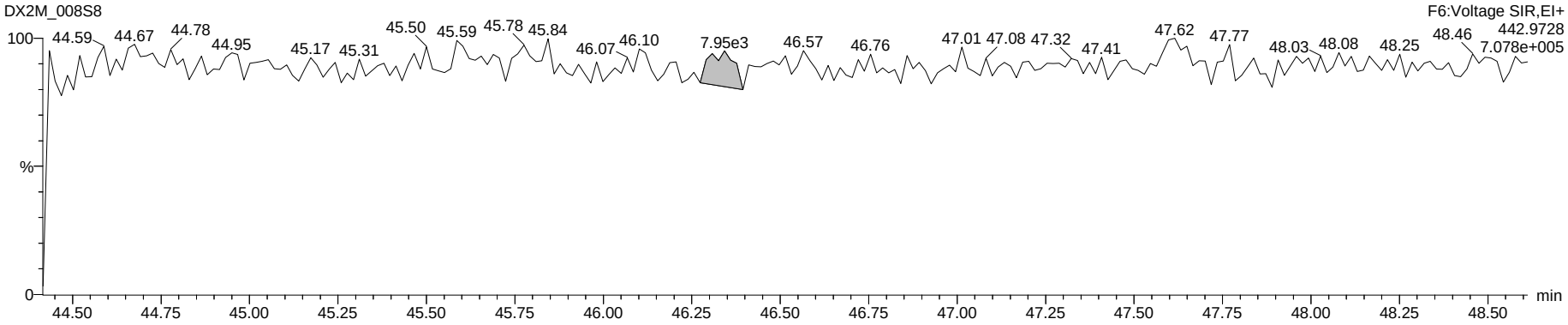
Total Hepta-Furans



Nona DPE



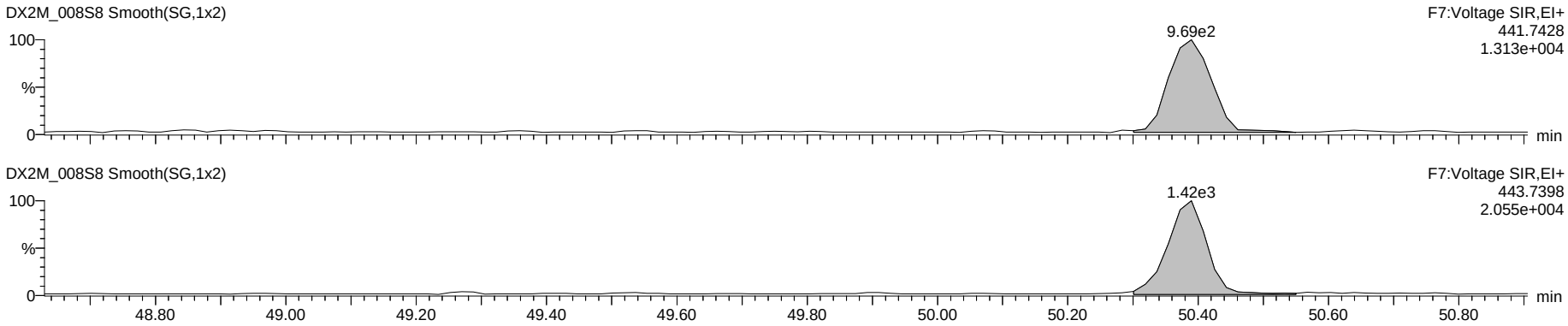
Hepta Lock



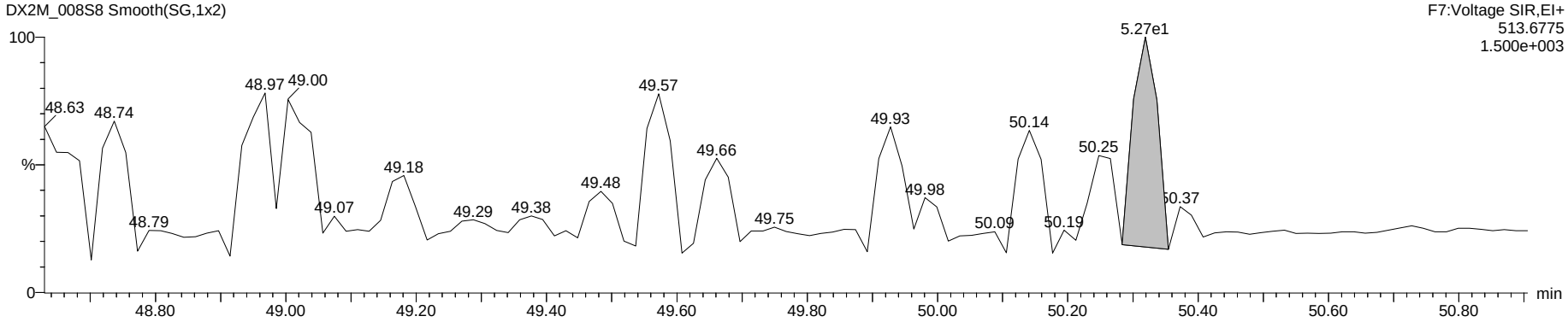
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S8, Date: 10-Jan-2012, Time: 14:40:16, ID: L17223-3,R,, Description: 1,WG38741,1.0/20uL

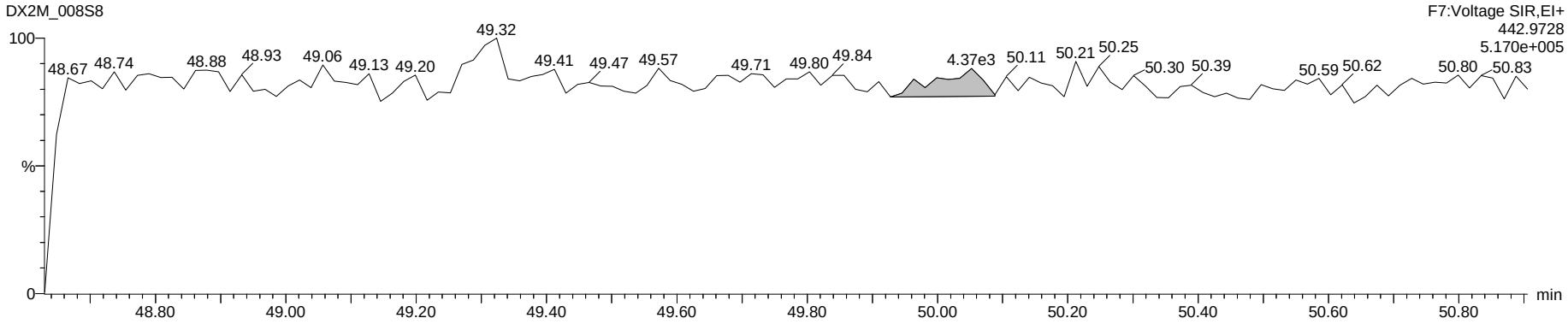
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S9, Date: 10-Jan-2012, Time: 15:35:30, ID: L17223-4,R,, Description: 1,WG38741,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	0.892		0.00	YES			0.1100		1.10e2	1.00e2
2	1,2,3,7,8-PeCDF	0.892			NO			0.1621		1.51e2	8.69e1
3	2,3,4,7,8-PeCDF	0.892	1.71e2	1.36	NO	35.33	0.444	0.1426		1.51e2	8.69e1
4	1,2,3,4,7,8-HxCDF	0.892	1.32e2	0.34	YES	40.76	0.440	0.2159		2.16e2	1.58e2
5	1,2,3,6,7,8-HxCDF	0.892	8.75e1	0.80	YES	40.93	0.261	0.2026		2.16e2	1.58e2
6	2,3,4,6,7,8-HxCDF	0.892	4.46e1	1.23	NO	41.86	0.161	0.2420		2.16e2	1.58e2
7	1,2,3,7,8,9-HxCDF	0.892	3.54e1	0.94	YES	42.90	0.145	0.2671		2.16e2	1.58e2
8	1,2,3,4,6,7,8-HpCDF	0.892	1.53e3	0.94	NO	45.35	6.373	0.2915		1.17e2	3.24e2
9	1,2,3,4,7,8,9-HpCDF	0.892	2.25e2	0.58	YES	47.13	1.207	0.3723		1.17e2	3.24e2
10	OCDF	0.892	1.23e4	0.87	NO	50.39	80.959	0.2306		3.65e1	1.76e2
11	2,3,7,8-TCDD	0.892	2.51e2	0.04	YES	26.47	0.633	0.2079		1.64e2	1.85e2
12	1,2,3,7,8-PeCDD	0.892	2.69e1	1.52	YES	36.14	0.086	0.0970		1.04e2	3.11e1
13	1,2,3,4,7,8-HxCDD	0.892	7.84e1	0.82	YES	42.16	0.347	0.2248		2.10e2	1.06e2
14	1,2,3,6,7,8-HxCDD	0.892	1.69e2	0.64	YES	42.27	0.716	0.2370		2.10e2	1.06e2
15	1,2,3,7,8,9-HxCDD	0.892	5.57e1	0.76	YES	42.69	0.237	0.2266		2.10e2	1.06e2
16	1,2,3,4,6,7,8-HpCDD	0.892	4.07e3	0.99	NO	46.72	20.229	0.3959		1.85e2	3.26e2
17	OCDD	0.892	4.88e5	0.87	NO	50.30	3111.034	0.6851		1.02e2	5.49e2
18	13C-2,3,7,8-TCDF	0.892	1.28e6	0.76	NO	25.22	1597.387	0.6477	71.2	1.07e3	1.20e3
19	13C-1,2,3,7,8-PeCDF	0.892	1.02e6	1.53	NO	33.54	1649.284	0.8859	73.5	1.26e3	1.17e3
20	13C-2,3,4,7,8-PeCDF	0.892	9.82e5	1.53	NO	35.32	1646.503	0.9223	73.4	1.26e3	1.17e3
21	13C-1,2,3,4,7,8-HxCDF	0.892	6.77e5	0.50	NO	40.71	1600.254	1.5566	71.3	2.19e3	1.64e3
22	13C-1,2,3,6,7,8-HxCDF	0.892	7.67e5	0.50	NO	40.89	1606.969	1.3801	71.6	2.19e3	1.64e3
23	13C-2,3,4,6,7,8-HxCDF	0.892	6.87e5	0.51	NO	41.82	1584.879	1.5196	70.6	2.19e3	1.64e3
24	13C-1,2,3,7,8,9-HxCDF	0.892	6.35e5	0.51	NO	42.87	1626.883	1.6884	72.5	2.19e3	1.64e3
25	13C-1,2,3,4,6,7,8-HpCDF	0.892	4.64e5	0.44	NO	45.33	1423.653	1.3147	63.5	1.66e3	8.33e2
26	13C-1,2,3,4,7,8,9-HpCDF	0.892	4.00e5	0.43	NO	47.12	1401.465	1.5024	62.5	1.66e3	8.33e2
27	13C-2,3,7,8-TCDD	0.892	1.08e6	0.79	NO	26.43	1597.922	1.1818	71.2	1.98e3	1.54e3
28	13C-1,2,3,7,8-PeCDD	0.892	8.42e5	0.62	NO	36.12	1795.806	0.6573	80.0	7.05e2	6.51e2
29	13C-1,2,3,4,7,8-HxCDD	0.892	6.47e5	1.25	NO	42.11	1568.658	1.3720	69.9	1.88e3	1.40e3
30	13C-1,2,3,6,7,8-HxCDD	0.892	7.19e5	1.21	NO	42.26	1587.332	1.2492	70.8	1.88e3	1.40e3
31	13C-1,2,3,4,6,7,8-HpCDD	0.892	4.69e5	1.03	NO	46.70	1425.866	1.1330	63.6	7.77e2	1.39e3
32	13C-OCDD	0.892	7.72e5	0.87	NO	50.28	2361.592	1.7145	52.6	2.10e3	1.15e3
33	13C-1,2,3,4-TCDD	0.892	1.32e6	0.77	NO	26.11	146.933	0.0891	6.5	1.98e3	1.54e3
34	13C-1,2,3,7,8,9-HxCDD	0.892	9.41e5	1.31	NO	42.67	140.541	0.0846	6.3	1.88e3	1.40e3
35	37Cl-2,3,7,8-TCDD	0.892	1.32e5			26.45	194.670	0.1094	86.8		3.27e2
36	Total Tetra-Furans	0.892					1.511	0.1100			1.00e2
37	Total Tetra-Dioxins	0.892					2.345	0.2079			1.85e2
38	Total Penta-Furans	0.892					1.939	0.1537			8.69e1
39	Total Penta-Dioxins	0.892					1.497	0.0970			3.11e1
40	Total Hexa-Furans	0.892					5.918	0.2160			1.58e2
41	Total Hexa-Dioxins	0.892					3.609	0.2235			1.06e2
42	Total Hepta-Furans	0.892					17.328	0.3119			3.24e2
43	Total Hepta-Dioxins	0.892					40.228	0.3959			3.26e2
44	Hexa DPE	1.000	3.30e1			21.52					3.79e1
45	Hepta DPE	1.000	3.80e1			33.56					2.30e1
46	Octa DPE	1.000	2.98e1			44.18					2.73e1
47	Nona DPE	1.000	6.75e1			46.84					2.14e2
48	Deca DPE	1.000	1.44e2			50.27					5.83e1
49	Tetra Lock	1.000	4.07e3			24.31					5.24e4
50	Penta Lock	1.000	1.01e3			32.08					5.18e4
51	Hexa Lock	1.000	1.61e4			41.31					7.00e4
52	Hepta Lock	1.000	3.52e3			46.21					6.55e4
53	Octa Lock	1.000	5.82e3			49.91					4.18e4
54	13C-Tetra-Furans	0.892					1597.387	0.6477			1.20e3
55	13C-Tetra-Dioxins	0.892					1744.856	1.2709			1.54e3

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

SVD BY SF 12-Jan-2012

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S9, Date: 10-Jan-2012, Time: 15:35:30, ID: L17223-4,R,, Description: 1,WG38741,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	23.61	0.584	YES	0.038
2	23.34	0.409	YES	0.076
3	22.23	0.409	YES	0.115
4	21.43	0.630	YES	0.086
5	26.13	0.785	NO	0.235
6	25.90	0.829	NO	0.017
7		0.000	YES	
8	24.27	0.560	YES	0.871
9	24.13	10.850	YES	0.072

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	23.38	0.599	YES	0.367
2	22.91	0.686	NO	0.634
3	26.47	0.045	YES	0.633
4	26.13	1.390	YES	0.247
5	25.98	0.857	NO	0.056
6	25.65	1.084	YES	0.118
7	24.66	0.809	NO	0.122
8	23.70	0.271	YES	0.102
9	27.99	0.872	NO	0.067

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	28.85	1.583	NO	0.477
2	32.32	0.623	YES	0.041
3	31.86	0.675	YES	0.034
4	31.55	0.993	YES	0.189
5	28.94	0.304	YES	0.291
6	35.72	2.100	YES	0.071
7	35.63	0.821	YES	0.086
8	35.33	1.364	NO	0.444
9	34.31	0.409	YES	0.069
10	32.92	1.252	YES	0.216
11	37.20	0.998	YES	0.021

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	34.90	0.744	YES	0.027
2	34.77	2.109	YES	0.127
3	33.96	0.206	YES	0.060
4	33.54	1.638	YES	0.513
5	37.11	0.896	YES	0.059
6	37.05	0.797	YES	0.045
7	36.81	0.279	YES	0.056
8	36.23	6.987	YES	0.063
9	36.14	1.518	YES	0.086
10	35.92	0.359	YES	0.074
11	35.52	1.591	YES	0.045
12	35.30	4.186	YES	0.342

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S9, Date: 10-Jan-2012, Time: 15:35:30, ID: L17223-4,R,, Description: 1,WG38741,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	40.08	1.173	NO	2.073
2	39.27	0.918	YES	1.524
3	39.00	1.148	NO	0.701
4	43.04	1.987	YES	0.119
5	42.90	0.936	YES	0.145
6	41.86	1.233	NO	0.161
7	41.71	1.570	YES	0.189
8	41.34	0.518	YES	0.062
9	40.93	0.797	YES	0.261
10	40.76	0.337	YES	0.440
11	40.71	1.094	NO	0.244

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	41.23	1.540	YES	0.866
2	40.71	2.756	YES	0.292
3	40.05	1.377	NO	1.151
4	42.69	0.765	YES	0.237
5	42.27	0.640	YES	0.716
6	42.16	0.820	YES	0.347

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	47.13	0.584	YES	1.207
2	46.08	1.834	YES	0.144
3	45.86	0.983	NO	9.603
4	45.35	0.940	NO	6.373

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.72	0.986	NO	20.229
2	45.61	1.018	NO	19.999

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.22	0.765	NO	1597.3...

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.43	0.787	NO	1597.9...
2	26.11	0.771	NO	146.933

13C-PF

	RT	1° Ratio (A...	Fails?	pg
1	33.54	1.535	NO	1649.2...
2	35.32	1.529	NO	1646.5...

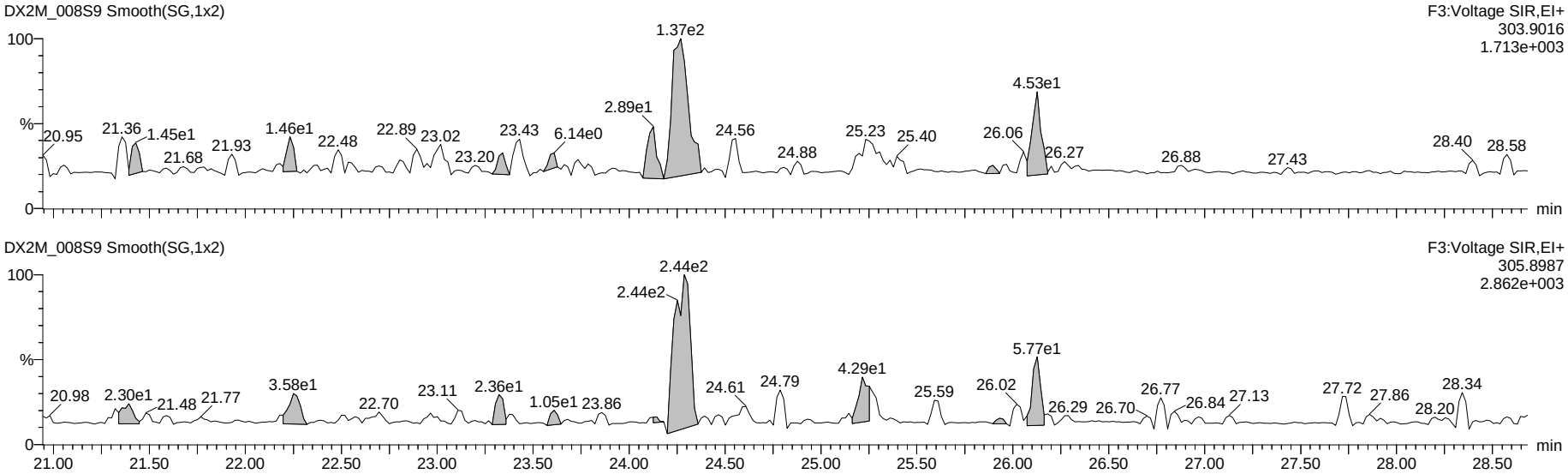
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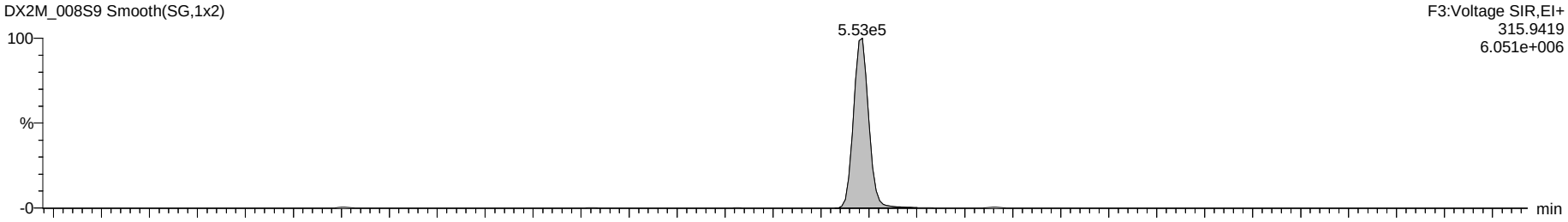
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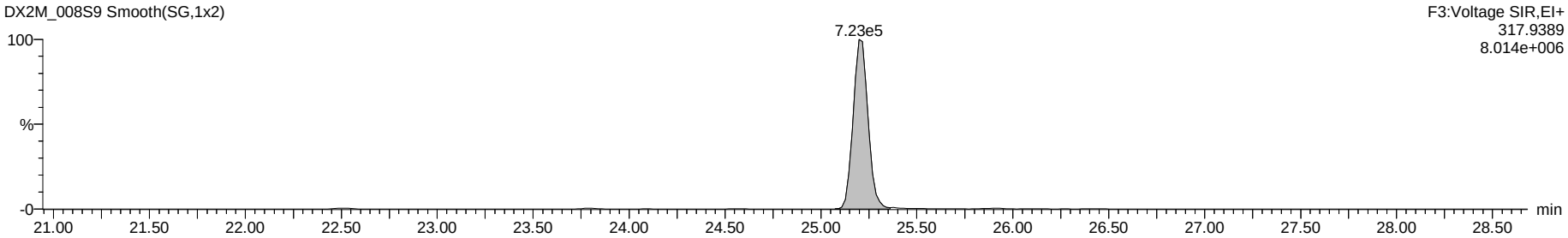
Name: DX2M_008S9, Date: 10-Jan-2012, Time: 15:35:30, ID: L17223-4,R,, Description: 1,WG38741,1.0/20uL

Total Tetra-Furans



13C-Tetra-Furans

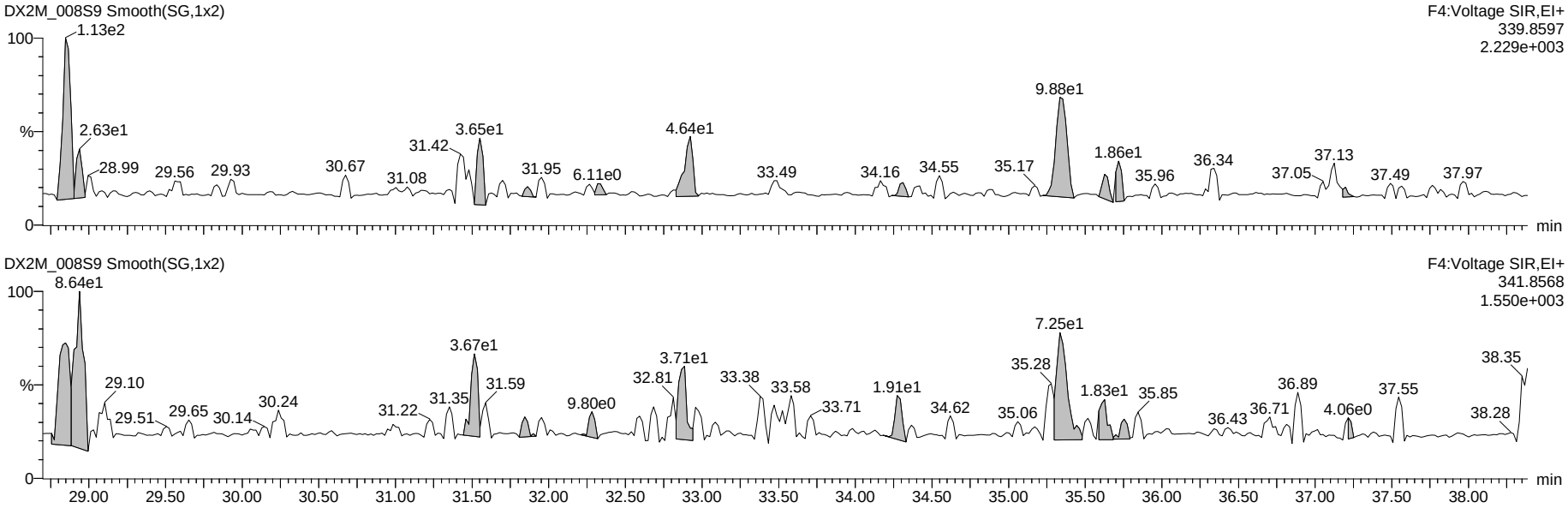




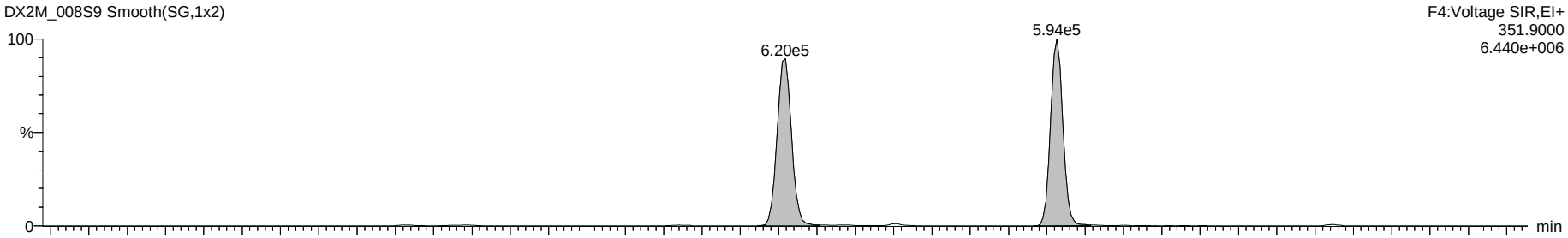
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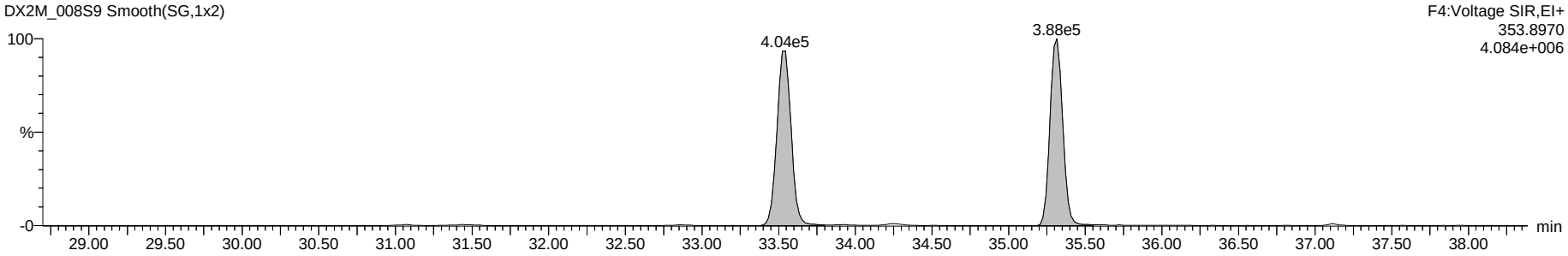
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Total Penta-Furans



13C-Penta-Furans

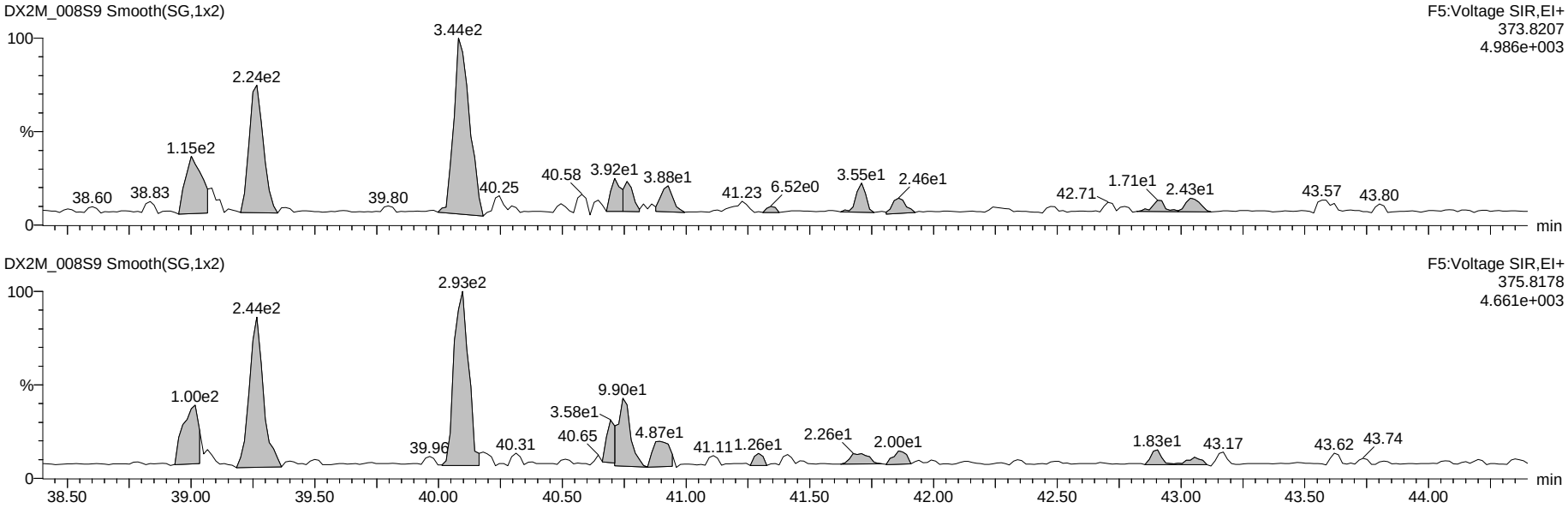




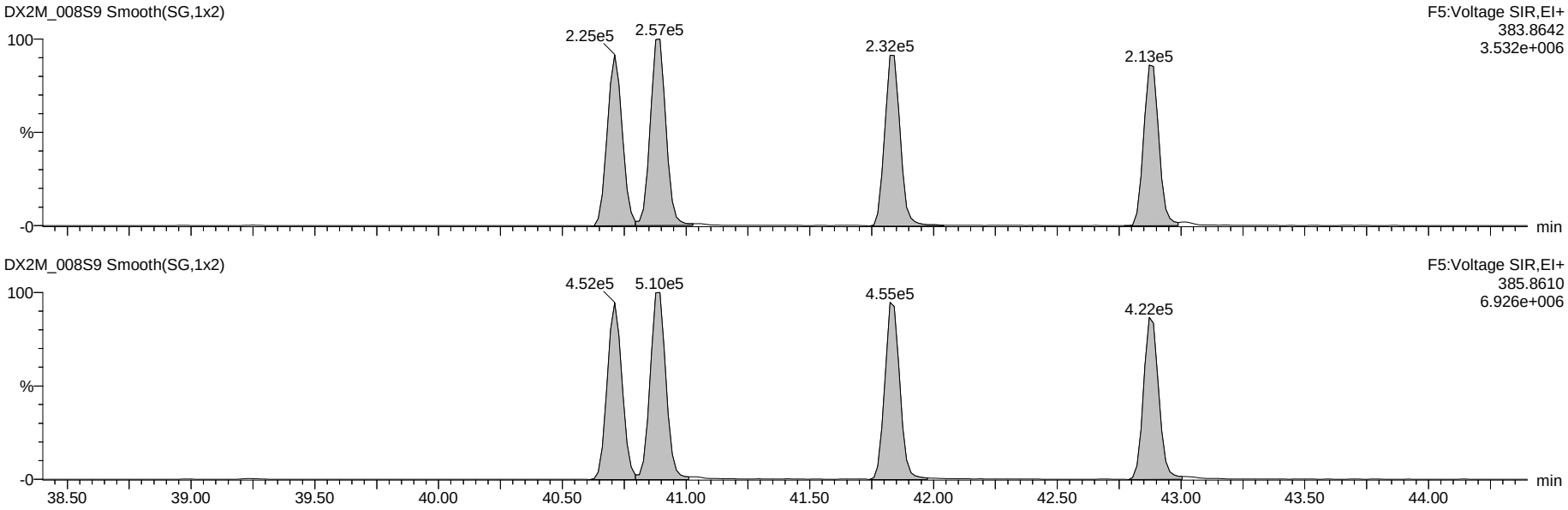
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Name: DX2M_008S9, Date: 10-Jan-2012, Time: 15:35:30, ID: L17223-4,R,, Description: 1,WG38741,1.0/20uL

Total Hexa-Furans



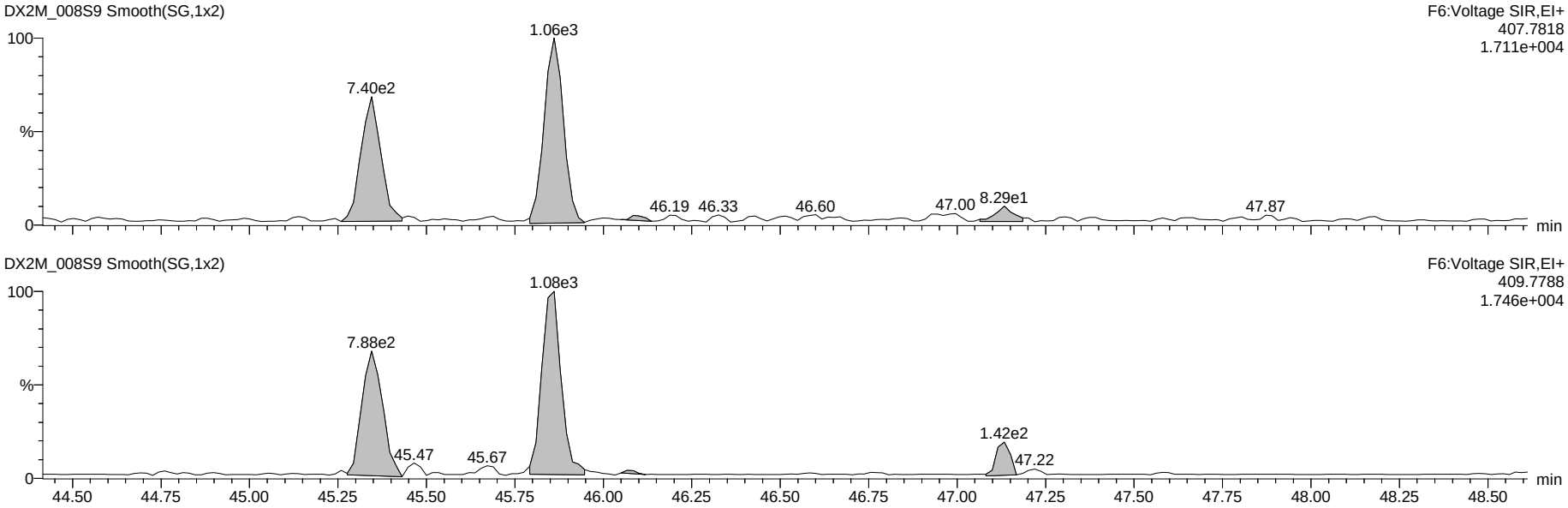
13C-Hexa-Furans



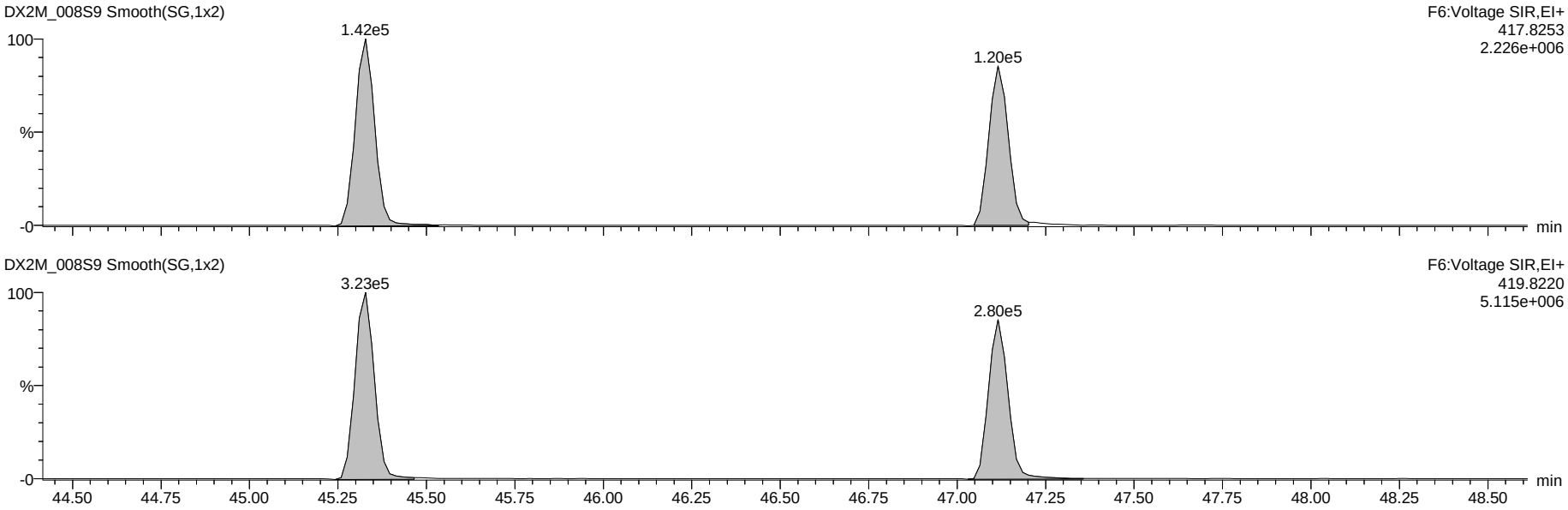
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Total Hepta-Furans



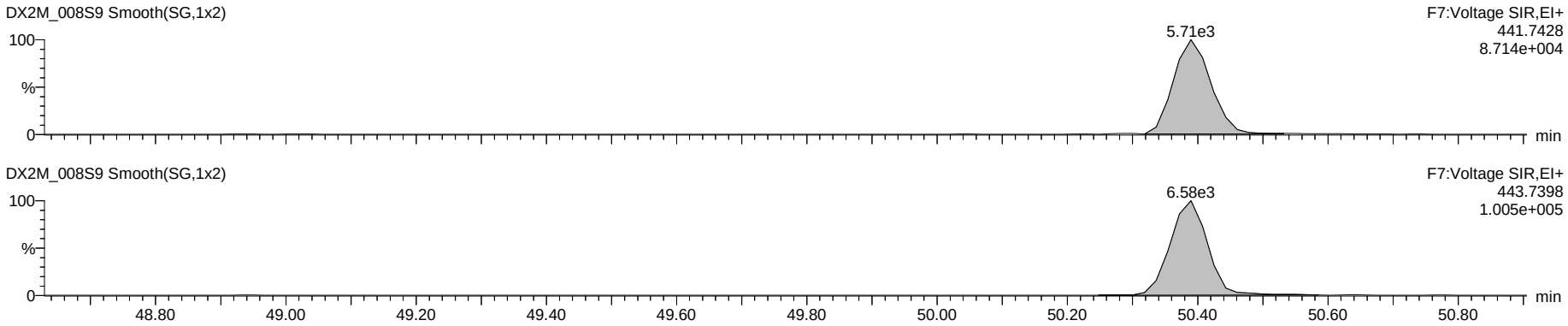
13C-Hepta-Furans



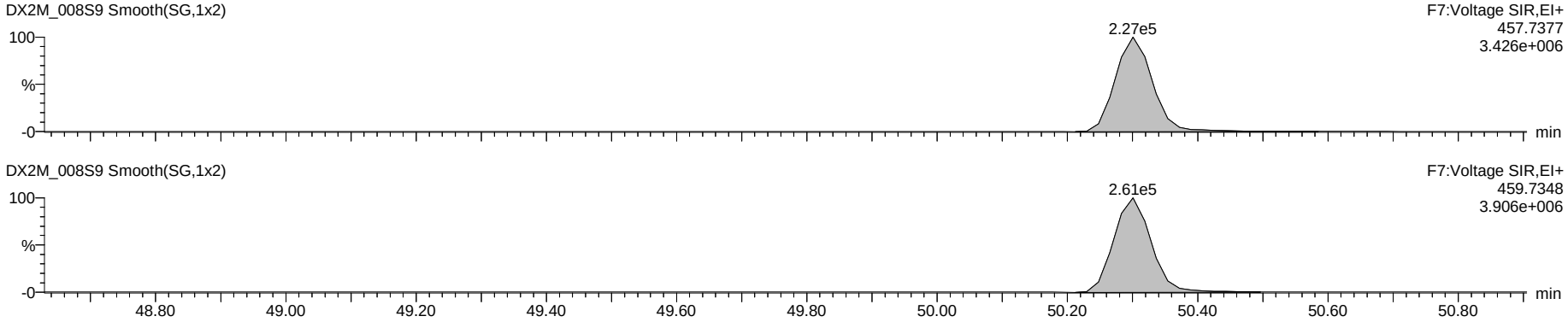
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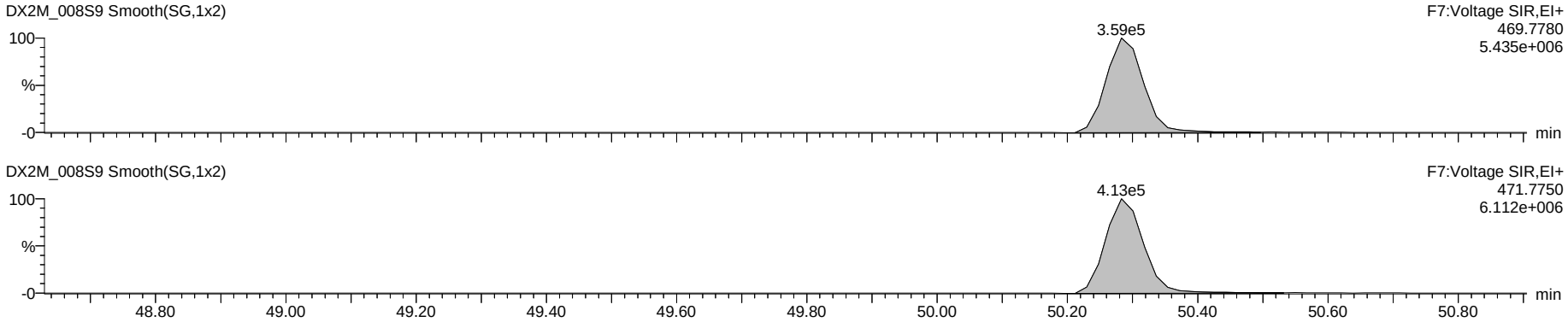
OCDF



OCDD



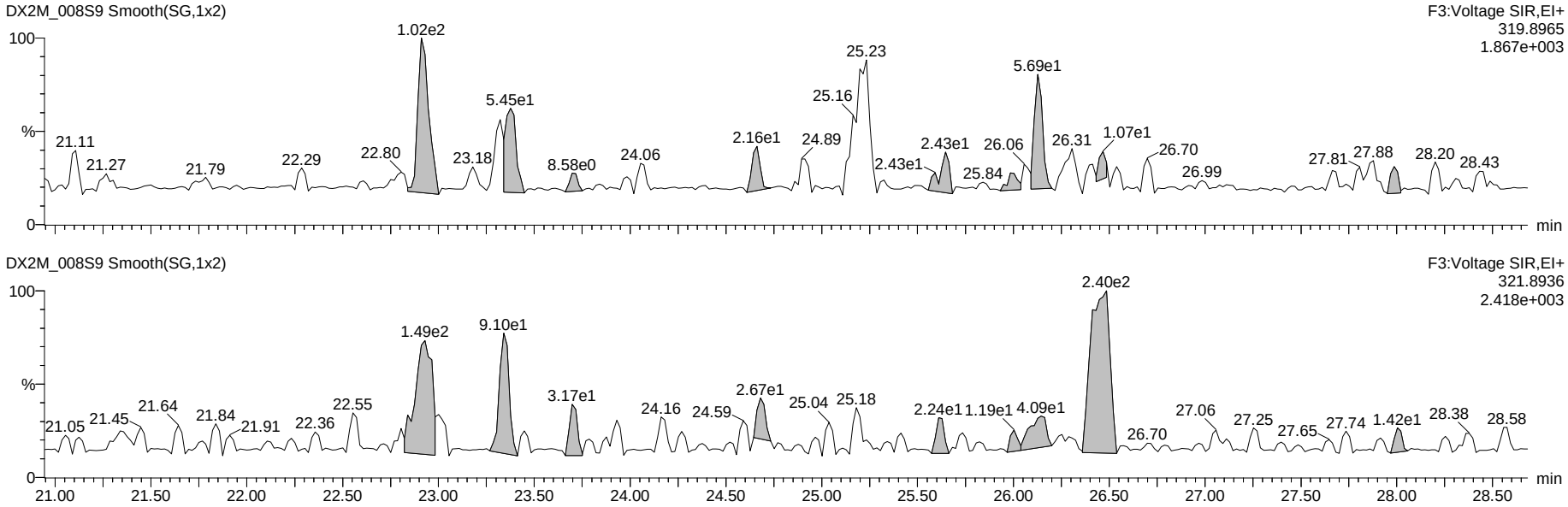
13C-OCDD



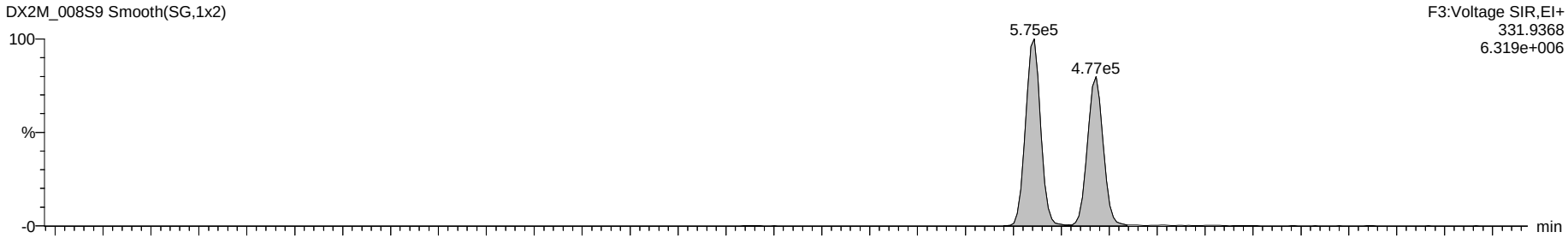
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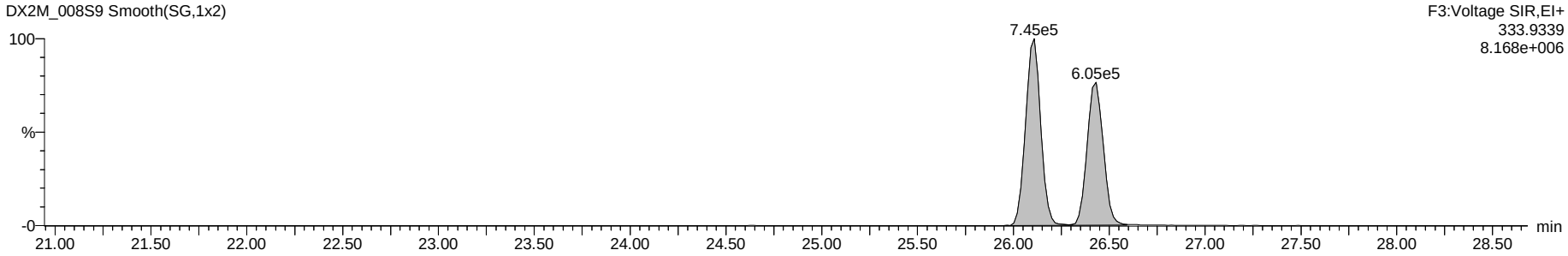
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Total Tetra-Dioxins



13C-Tetra-Dioxins

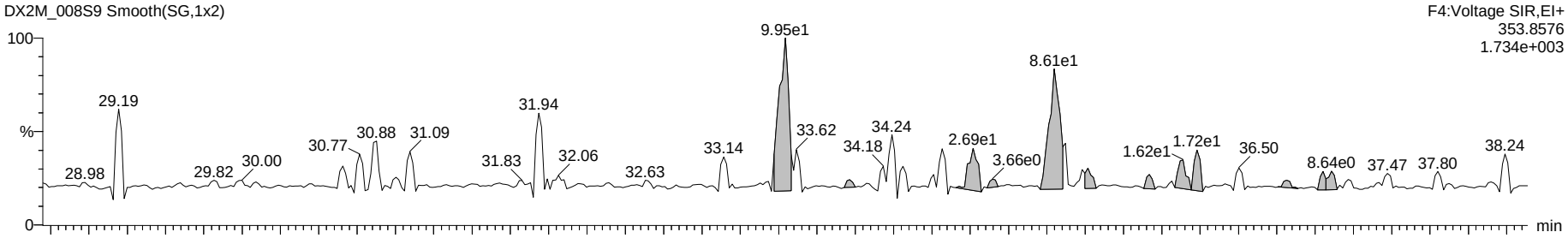


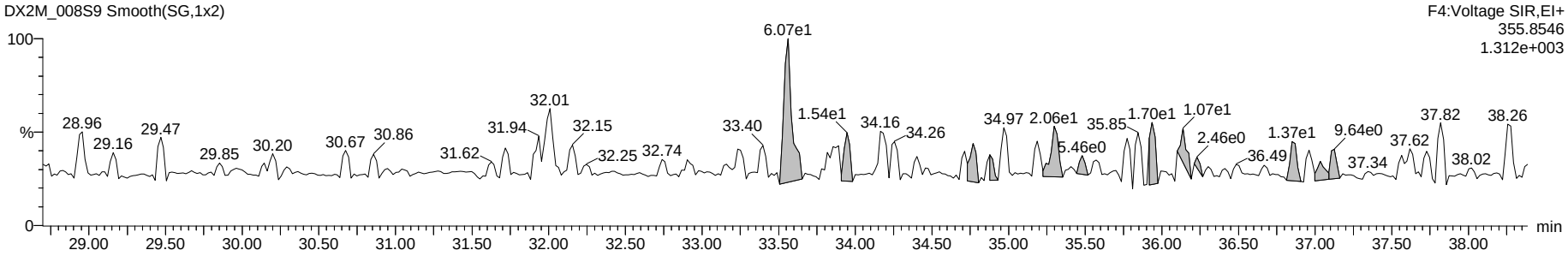


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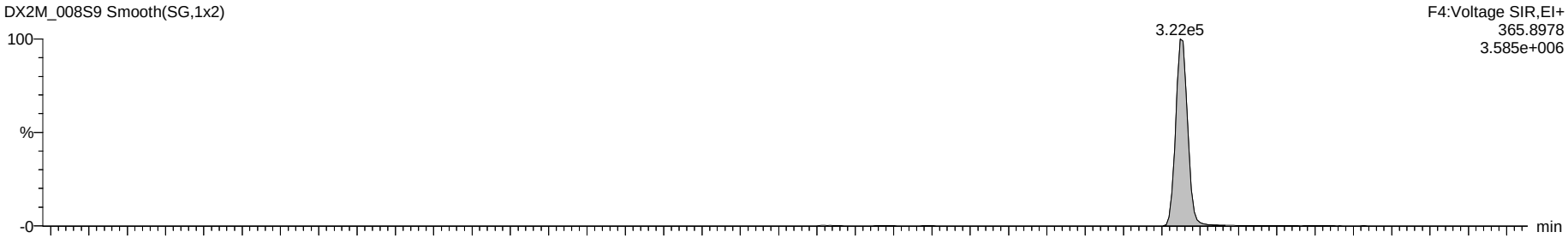
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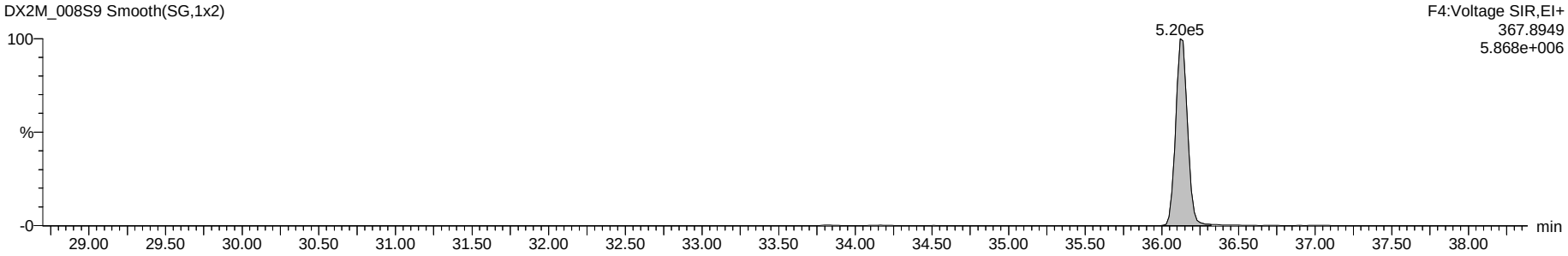
Total Penta-Dioxins





13C-Penta-Dioxins

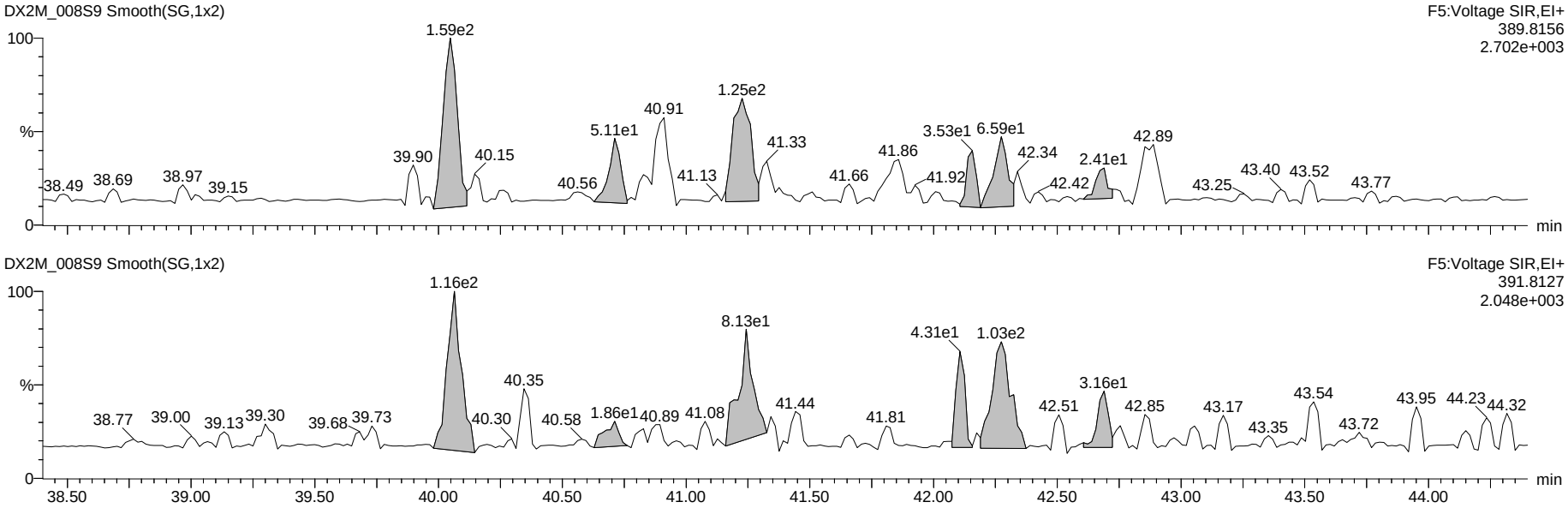




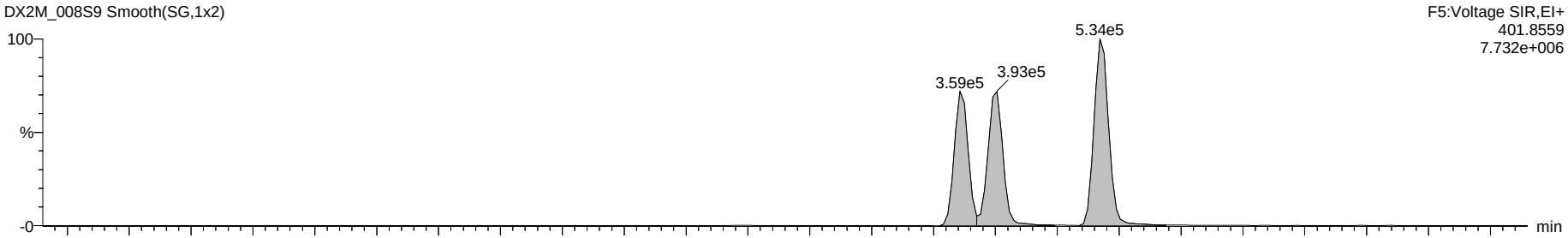
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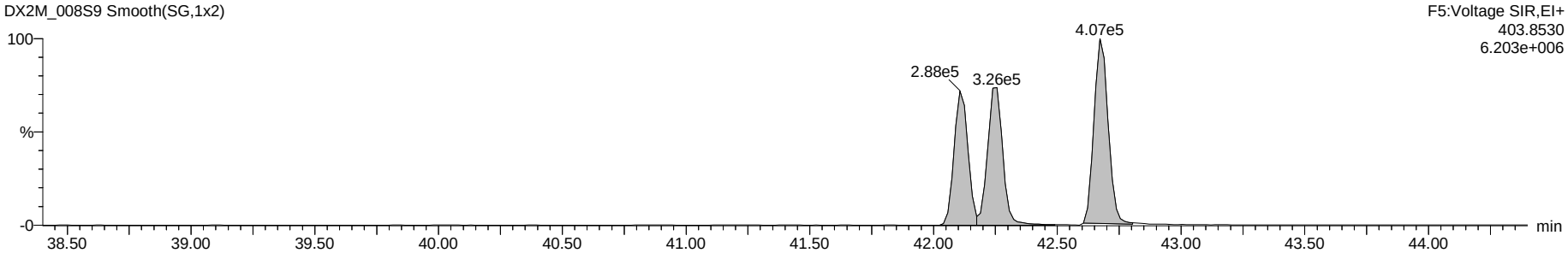
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Total Hexa-Dioxins



13C-Hexa-Dioxins

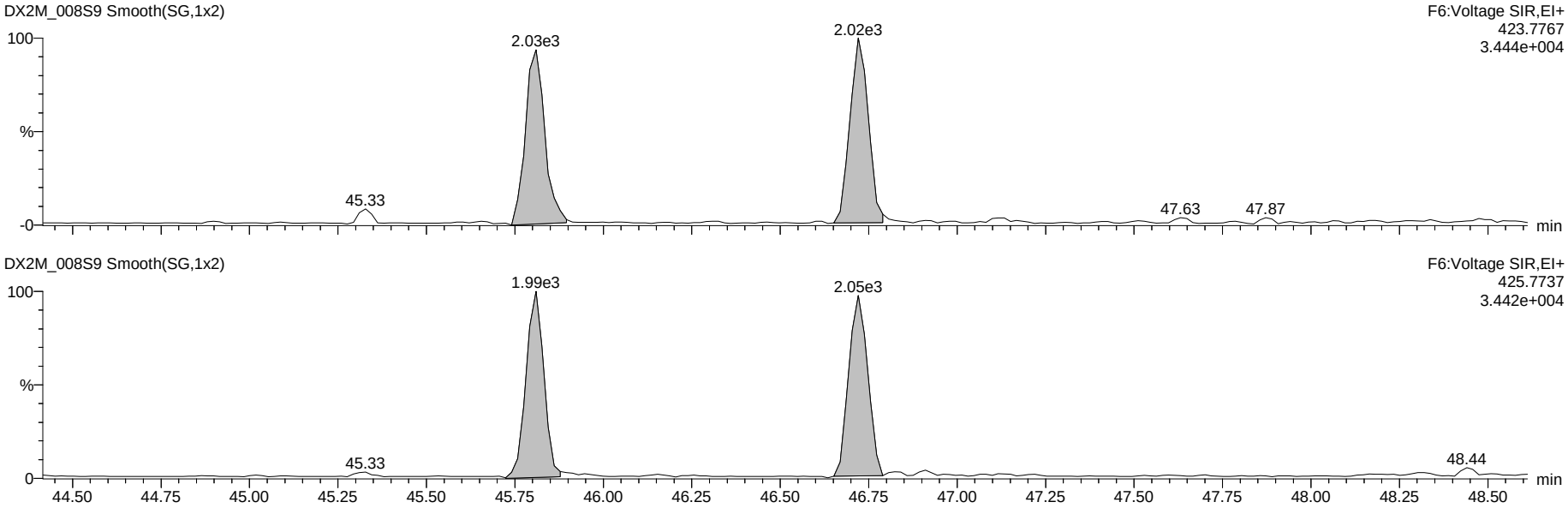




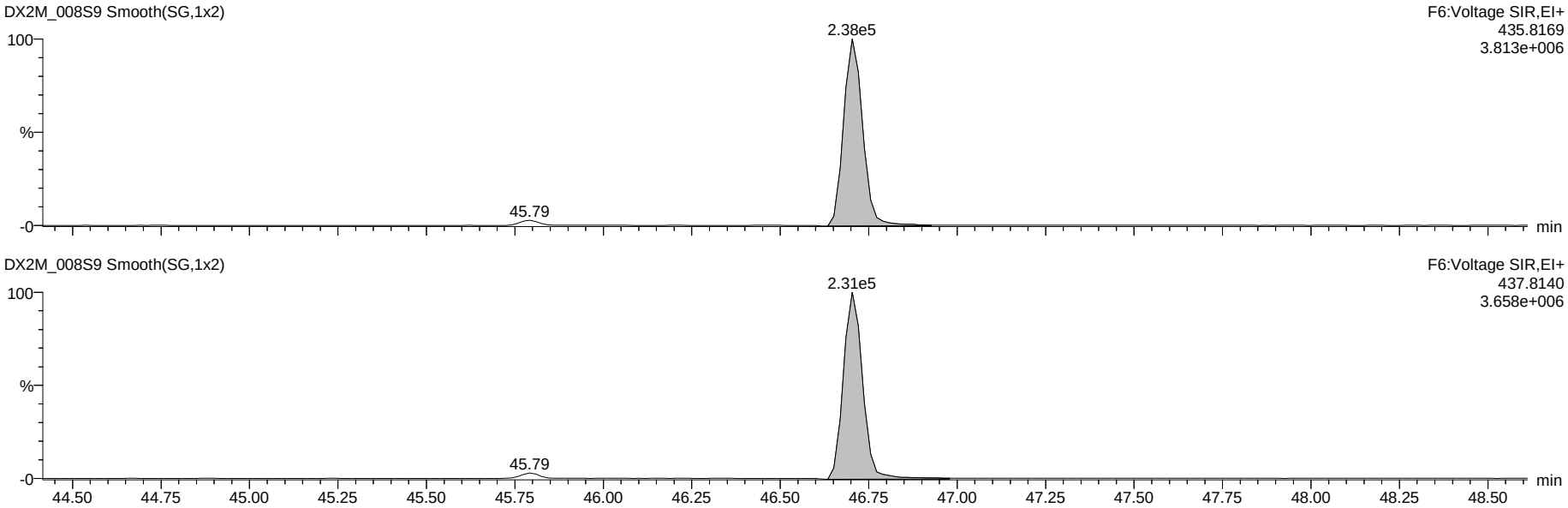
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Name: DX2M_008S9, Date: 10-Jan-2012, Time: 15:35:30, ID: L17223-4,R,, Description: 1,WG38741,1.0/20uL

Total Hepta-Dioxins



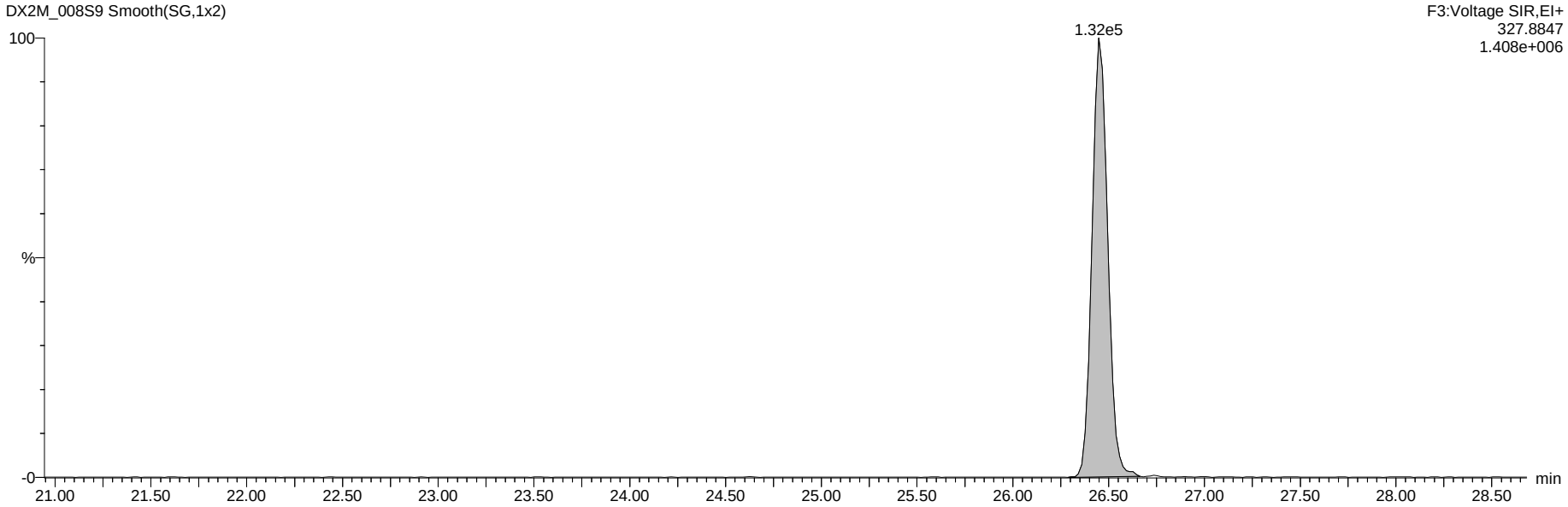
13C-Hepta-Dioxins



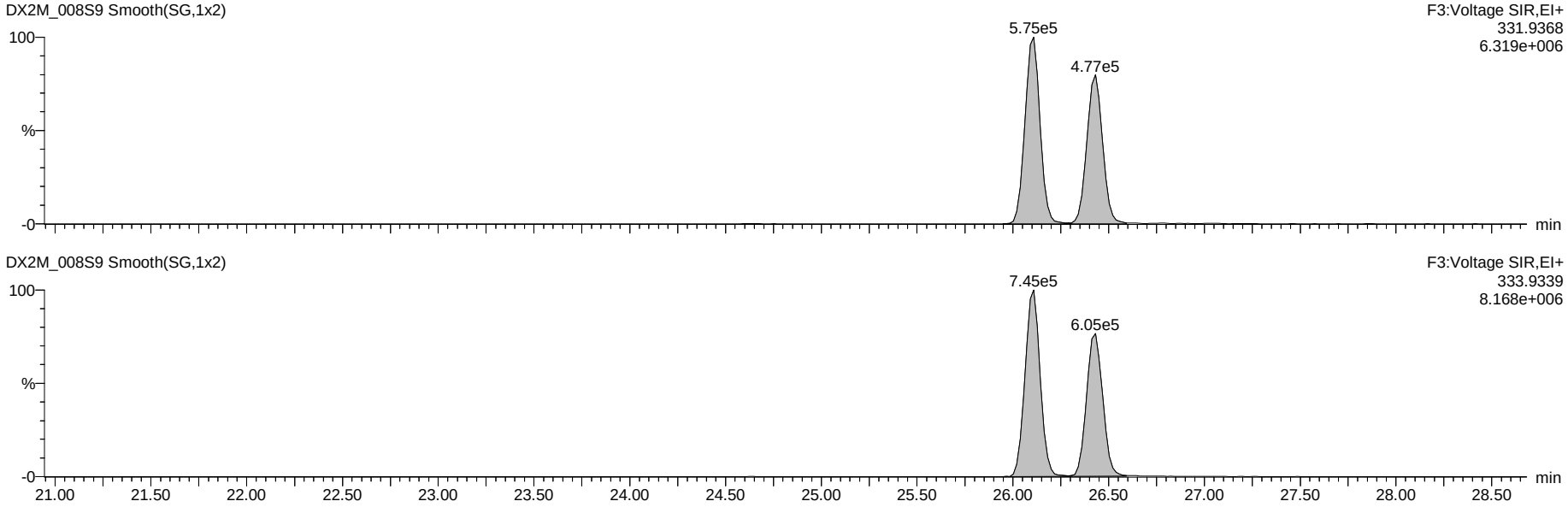
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37Cl-2,3,7,8-TCDD



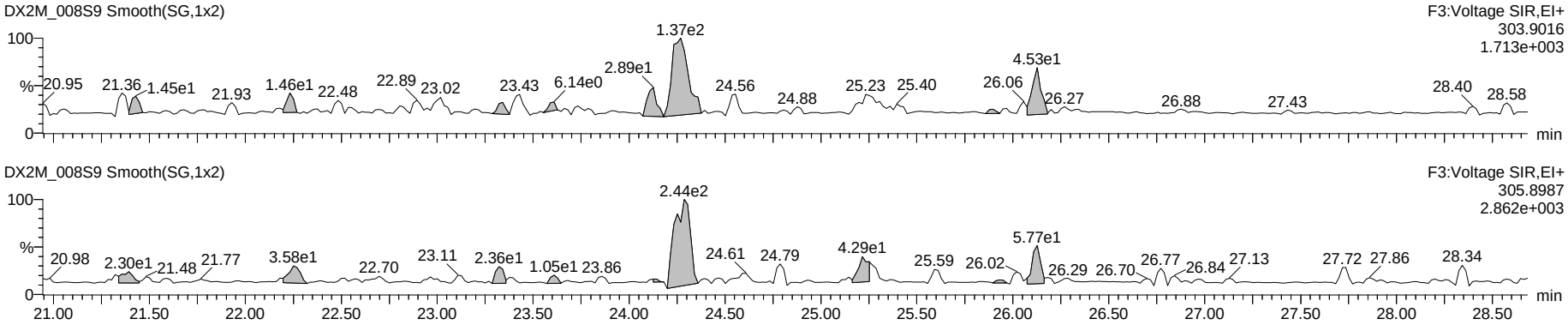
13C-Tetra-Dioxins



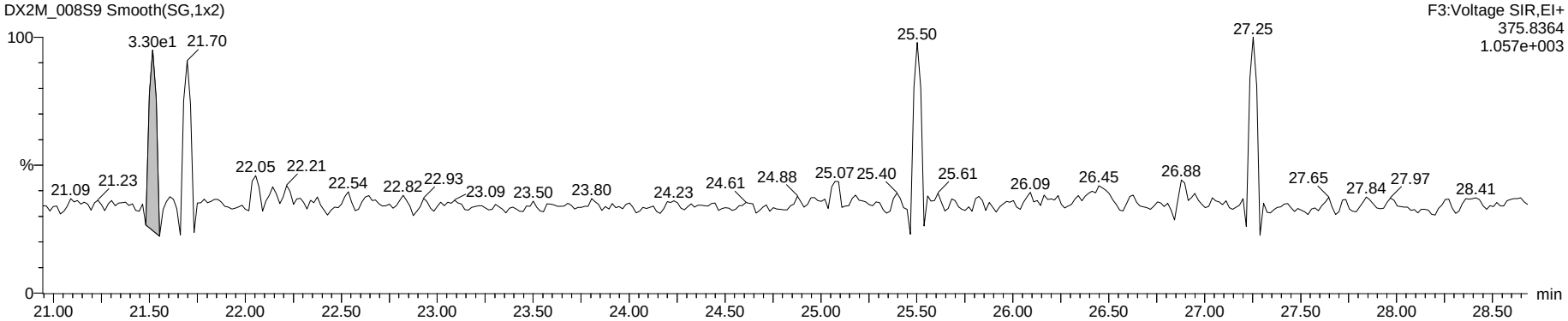
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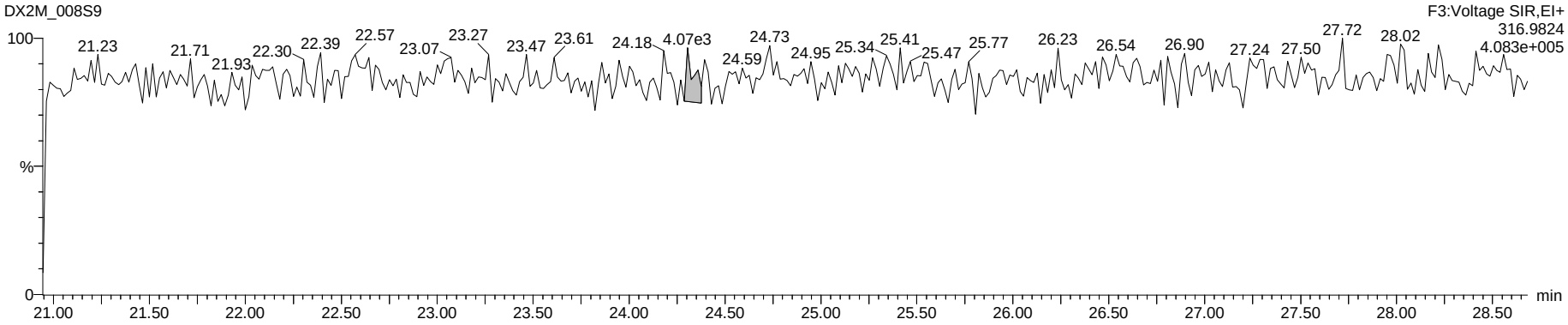
Total Tetra-Furans



Hexa DPE



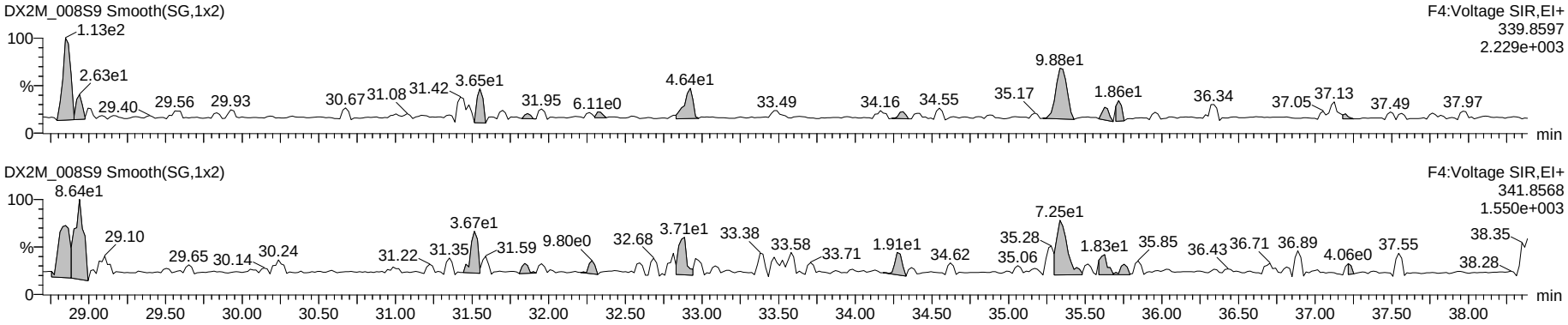
Tetra Lock



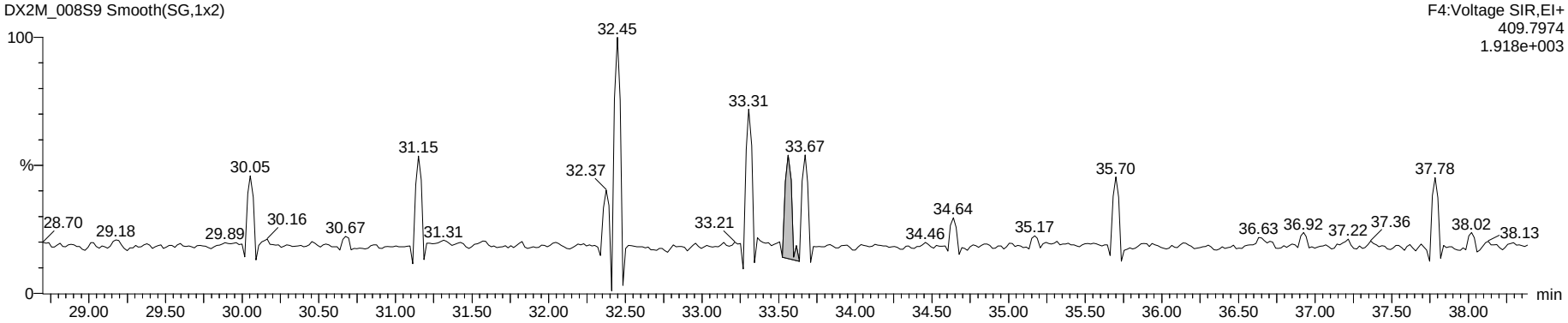
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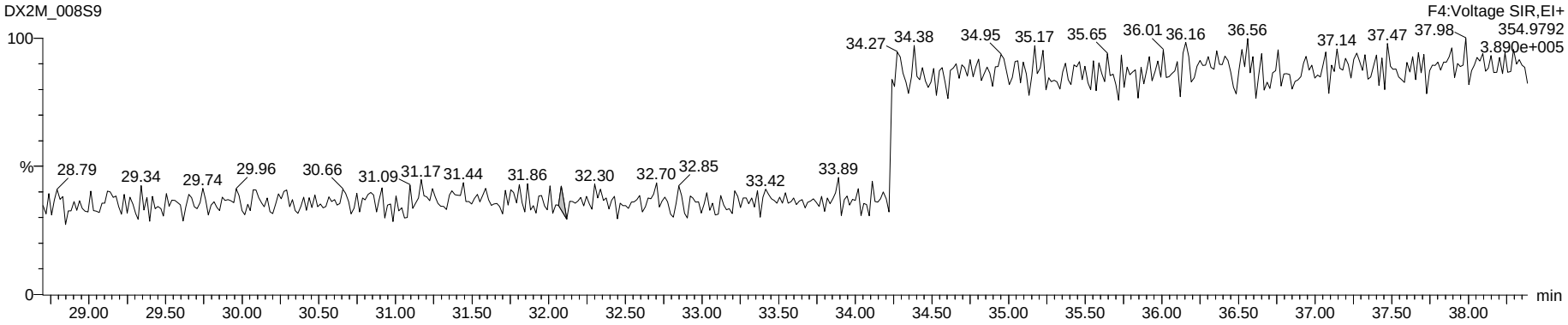
Total Penta-Furans



Hepta DPE



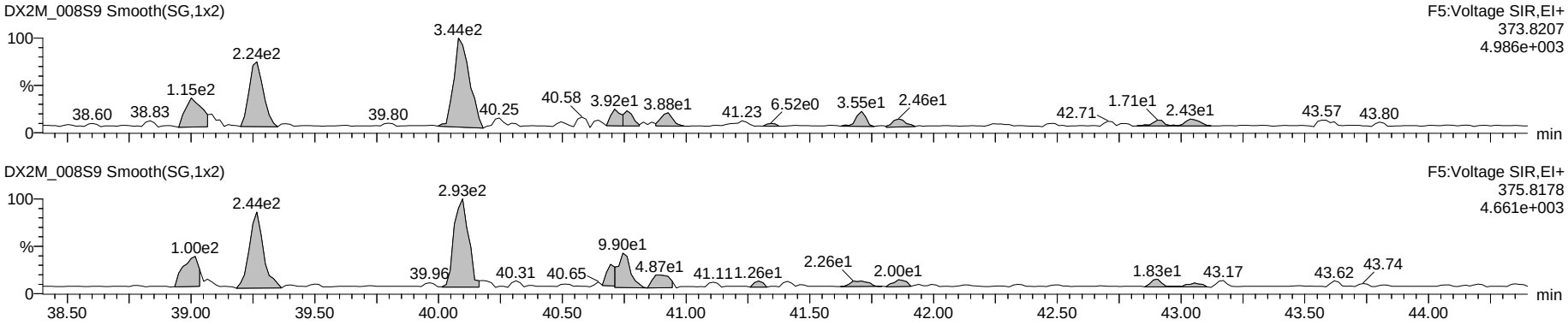
Penta Lock



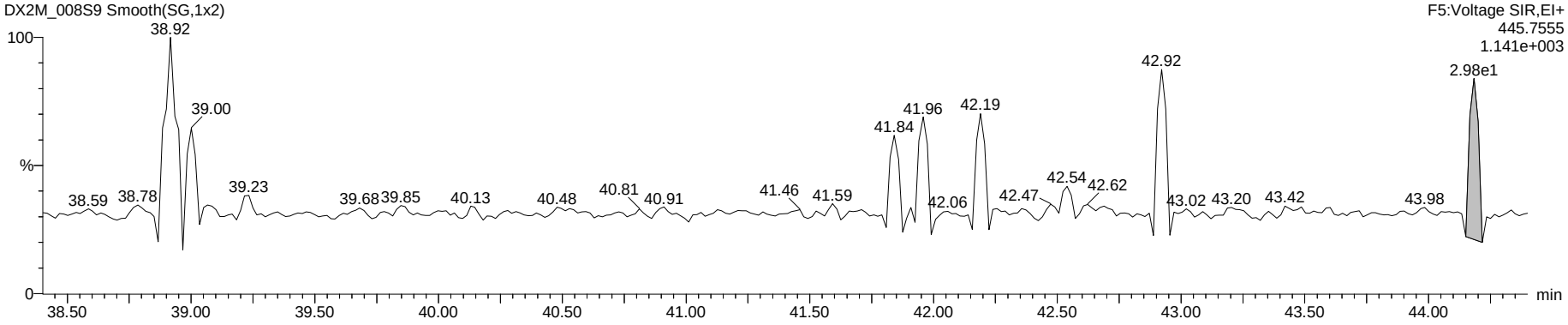
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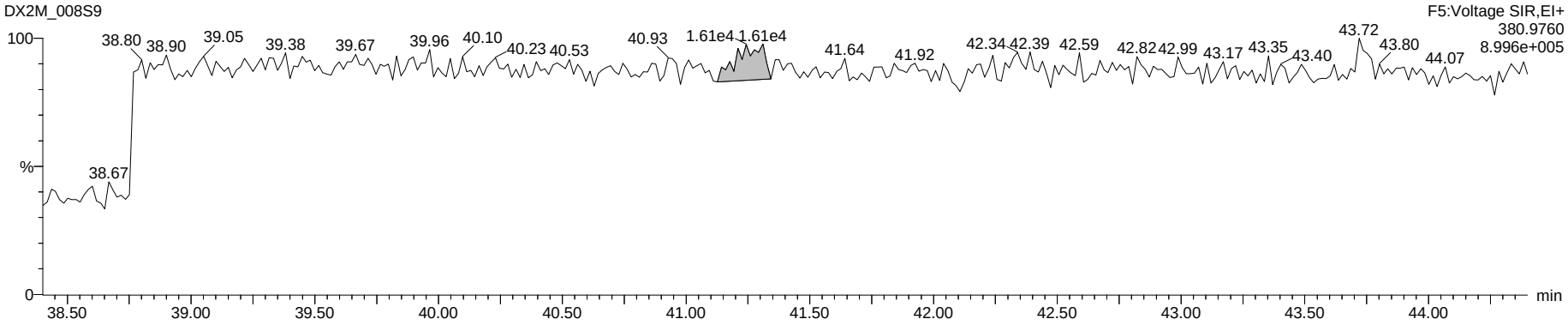
Total Hexa-Furans



Octa DPE



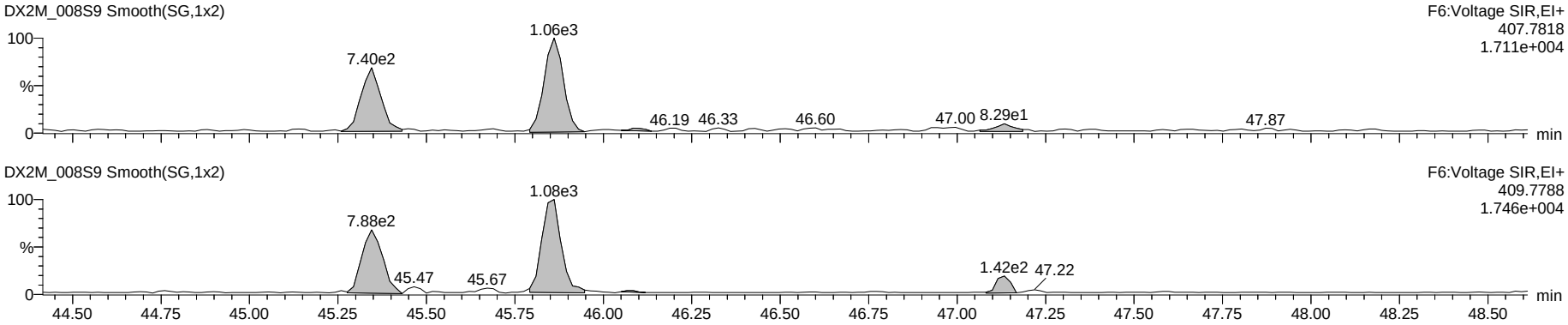
Hexa Lock



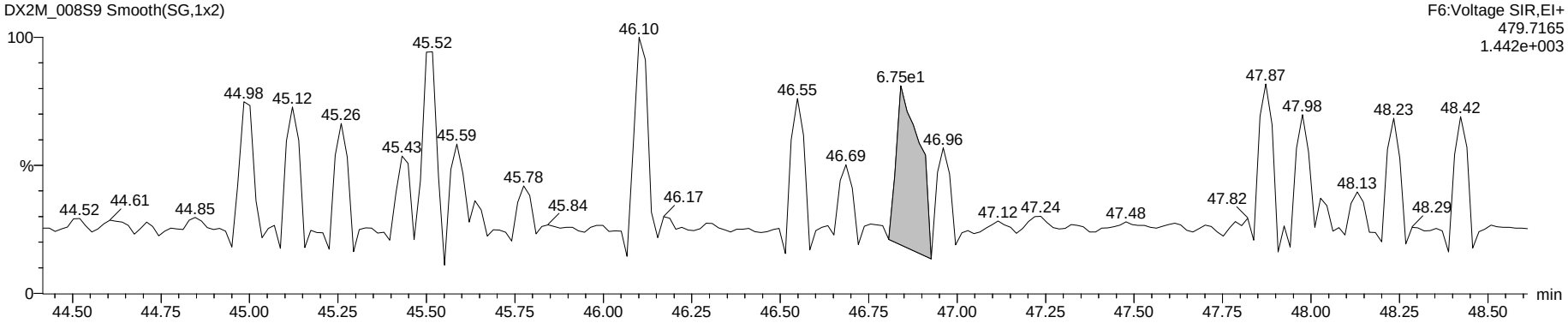
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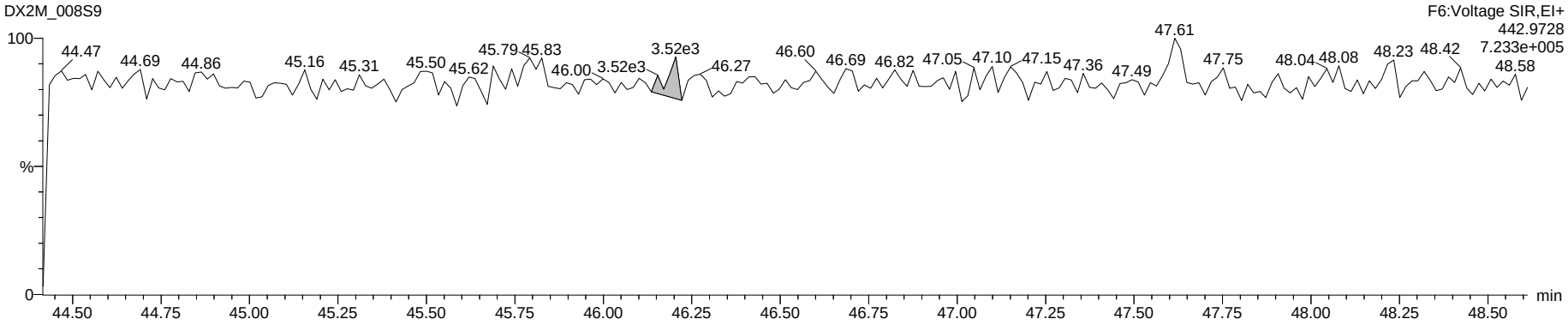
Total Hepta-Furans



Nona DPE



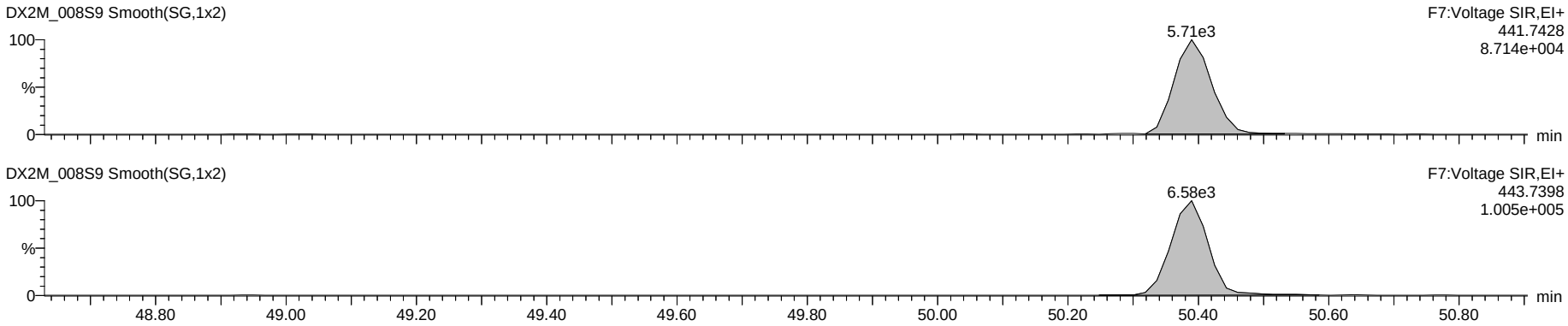
Hepta Lock



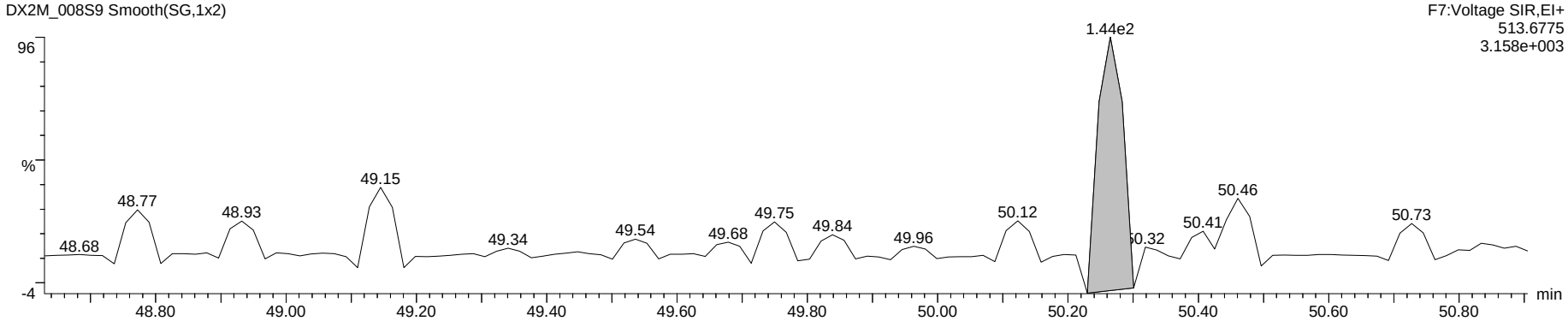
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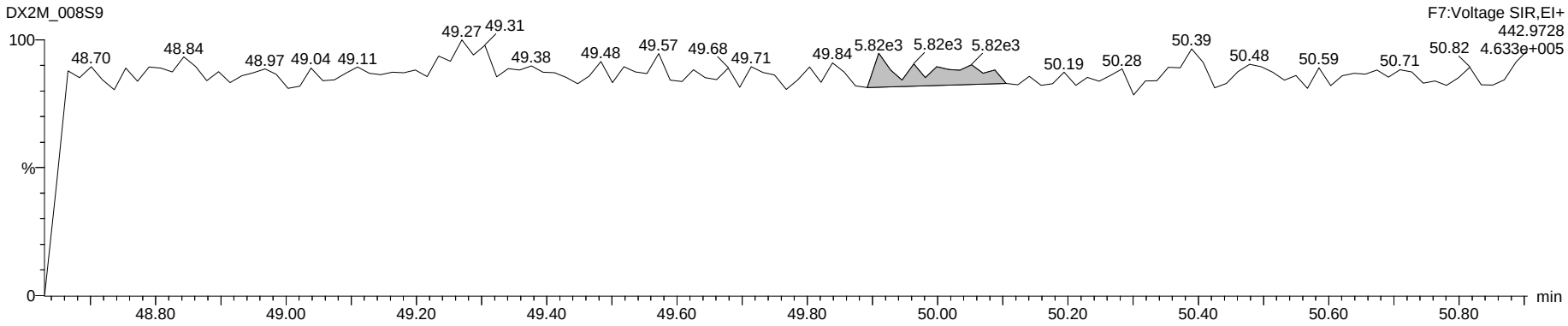
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S5, Date: 10-Jan-2012, Time: 11:54:49, ID: WG38741-101,,Blank, Description: 1,WG38741,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	1.000	9.94e1	0.35	YES	25.22	0.225	0.1308		1.68e2	9.40e1
2	1,2,3,7,8-PeCDF	1.000	1.60e2	1.34	NO	33.56	0.438	0.1346		1.21e2	6.09e1
3	2,3,4,7,8-PeCDF	1.000	1.47e2	1.63	NO	35.33	0.400	0.1158		1.21e2	6.09e1
4	1,2,3,4,7,8-HxCDF	1.000	1.03e2	1.70	YES	40.71	0.370	0.1451		1.15e2	1.15e2
5	1,2,3,6,7,8-HxCDF	1.000	1.05e2	1.02	YES	40.94	0.341	0.1348		1.15e2	1.15e2
6	2,3,4,6,7,8-HxCDF	1.000	1.11e2	0.98	YES	41.82	0.433	0.1565		1.15e2	1.15e2
7	1,2,3,7,8,9-HxCDF	1.000	9.80e1	0.92	YES	42.90	0.450	0.1871		1.15e2	1.15e2
8	1,2,3,4,6,7,8-HpCDF	1.000	1.41e2	2.26	YES	45.35	0.637	0.2505		1.62e2	1.75e2
9	1,2,3,4,7,8,9-HpCDF	1.000	6.95e1	0.99	NO	47.17	0.414	0.3195		1.62e2	1.75e2
10	OCDF	1.000	1.99e2	0.95	NO	50.37	1.624	0.1605		4.10e1	7.70e1
11	2,3,7,8-TCDD	1.000	1.89e2	0.14	YES	26.47	0.504	0.1645		1.46e2	1.09e2
12	1,2,3,7,8-PeCDD	1.000	1.17e2	0.70	NO	36.14	0.391	0.1429		9.43e1	9.67e1
13	1,2,3,4,7,8-HxCDD	1.000	9.15e1	1.01	YES	42.12	0.439	0.1888		5.47e1	1.82e2
14	1,2,3,6,7,8-HxCDD	1.000	9.24e1	0.68	YES	42.26	0.426	0.1979		5.47e1	1.82e2
15	1,2,3,7,8,9-HxCDD	1.000	1.15e2	2.35	YES	42.67	0.533	0.1897		5.47e1	1.82e2
16	1,2,3,4,6,7,8-HpCDD	1.000	1.73e2	1.26	YES	46.72	0.975	0.0919		5.49e1	4.83e1
17	OCDD	1.000	3.46e2	1.07	YES	50.30	2.728	0.0731		2.32e1	3.23e1
18	13C-2,3,7,8-TCDF	1.000	1.15e6	0.76	NO	25.20	1387.731	0.6470	69.4	1.15e3	1.26e3
19	13C-1,2,3,7,8-PeCDF	1.000	8.45e5	1.54	NO	33.54	1313.899	0.8231	65.7	1.11e3	1.27e3
20	13C-2,3,4,7,8-PeCDF	1.000	8.36e5	1.53	NO	35.32	1353.138	0.8569	67.7	1.11e3	1.27e3
21	13C-1,2,3,4,7,8-HxCDF	1.000	5.60e5	0.50	NO	40.71	1372.770	1.4837	68.6	1.48e3	2.12e3
22	13C-1,2,3,6,7,8-HxCDF	1.000	6.29e5	0.52	NO	40.88	1368.056	1.3155	68.4	1.48e3	2.12e3
23	13C-2,3,4,6,7,8-HxCDF	1.000	5.65e5	0.51	NO	41.82	1353.223	1.4485	67.7	1.48e3	2.12e3
24	13C-1,2,3,7,8,9-HxCDF	1.000	5.03e5	0.50	NO	42.87	1337.331	1.6094	66.9	1.48e3	2.12e3
25	13C-1,2,3,4,6,7,8-HpCDF	1.000	3.81e5	0.44	NO	45.33	1212.988	1.1806	60.6	1.09e3	1.12e3
26	13C-1,2,3,4,7,8,9-HpCDF	1.000	3.22e5	0.43	NO	47.12	1169.279	1.3491	58.5	1.09e3	1.12e3
27	13C-2,3,7,8-TCDD	1.000	9.15e5	0.77	NO	26.41	1305.169	0.8896	65.3	1.38e3	1.43e3
28	13C-1,2,3,7,8-PeCDD	1.000	7.22e5	0.61	NO	36.12	1487.817	0.5554	74.4	7.88e2	4.26e2
29	13C-1,2,3,4,7,8-HxCDD	1.000	5.32e5	1.24	NO	42.11	1338.799	1.9553	66.9	3.16e3	1.47e3
30	13C-1,2,3,6,7,8-HxCDD	1.000	5.87e5	1.22	NO	42.26	1345.097	1.7802	67.3	3.16e3	1.47e3
31	13C-1,2,3,4,6,7,8-HpCDD	1.000	3.69e5	1.05	NO	46.70	1163.233	0.8838	58.2	5.80e2	1.09e3
32	13C-OCDD	1.000	5.57e5	0.86	NO	50.28	1767.533	1.2129	44.2	2.00e3	2.75e2
33	13C-1,2,3,4-TCDD	1.000	1.22e6	0.78	NO	26.09	120.888	0.0619	6.0	1.38e3	1.43e3
34	13C-1,2,3,7,8,9-HxCDD	1.000	8.08e5	1.17	NO	42.67	107.626	0.1035	5.4	3.16e3	1.47e3
35	37Cl-2,3,7,8-TCDD	1.000	1.11e5			26.45	157.329	0.1467	78.7		4.64e2
36	Total Tetra-Furans	1.000					1.189	0.1308			9.40e1
37	Total Tetra-Dioxins	1.000					1.868	0.1645			1.09e2
38	Total Penta-Furans	1.000					2.030	0.1262			6.09e1
39	Total Penta-Dioxins	1.000					1.368	0.1429			9.67e1
40	Total Hexa-Furans	1.000					2.505	0.1447			1.15e2
41	Total Hexa-Dioxins	1.000					2.298	0.1872			1.82e2
42	Total Hepta-Furans	1.000					1.803	0.2676			1.75e2
43	Total Hepta-Dioxins	1.000					1.436	0.0919			4.83e1
44	Hexa DPE	1.000	4.12e1			22.63					4.01e1
45	Hepta DPE	1.000	7.88e1			34.37					3.14e1
46	Octa DPE	1.000	1.35e1			41.87					2.87e1
47	Nona DPE	1.000	4.49e1			48.01					3.66e1
48	Deca DPE	1.000	1.10e1			50.57					2.05e1
49	Tetra Lock	1.000	3.60e3			24.27					5.88e4
50	Penta Lock	1.000	4.13e3			32.78					5.14e4
51	Hexa Lock	1.000	7.79e3			41.28					7.71e4
52	Hepta Lock	1.000	5.07e3			46.46					7.77e4
53	Octa Lock	1.000	1.69e3			50.03					4.70e4
54	13C-Tetra-Furans	1.000					1387.731	0.6470			1.26e3
55	13C-Tetra-Dioxins	1.000					1426.057	0.9515			1.43e3

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

SV'D BY SF 12-Jan-2012

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S5, Date: 10-Jan-2012, Time: 11:54:49, ID: WG38741-101,,Blank, Description: 1,WG38741,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	25.22	0.353	YES	0.225
2	24.86	0.192	YES	0.094
3	24.59	0.485	YES	0.067
4	24.27	2.000	YES	0.091
5	24.11	0.427	YES	0.064
6	23.82	0.943	YES	0.019
7	22.89	0.869	NO	0.040
8	22.54	5.040	YES	0.146
9	21.37	0.993	YES	0.177
10	28.09	0.114	YES	0.020
11	26.59	0.648	YES	0.032
12	26.11	0.999	YES	0.168
13	25.91	3.908	YES	0.046

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	23.36	1.427	YES	0.341
2	22.93	1.059	YES	0.600
3	26.63	1.480	YES	0.134
4	26.47	0.139	YES	0.504
5	25.13	1.170	YES	0.088
6	24.64	0.334	YES	0.201

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	34.29	0.829	YES	0.136
2	34.15	1.286	YES	0.046
3	33.56	1.340	NO	0.438
4	33.07	0.420	YES	0.060
5	32.94	0.623	YES	0.056
6	31.42	1.217	YES	0.119
7	28.85	2.903	YES	0.224
8	37.11	1.097	YES	0.143
9	36.87	0.581	YES	0.047
10	36.08	1.186	YES	0.055
11	36.01	0.732	YES	0.044
12	35.79	0.708	YES	0.034
13	35.65	0.510	YES	0.077
14	35.33	1.626	NO	0.400
15	34.37	0.485	YES	0.012
16	35.28	0.282	YES	0.139

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S5, Date: 10-Jan-2012, Time: 11:54:49, ID: WG38741-101,,Blank, Description: 1,WG38741,1.0/20uL

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	32.78	1.183	YES	0.062
2	32.01	1.173	YES	0.254
3	35.83	0.886	YES	0.028
4	35.02	3.491	YES	0.077
5	34.22	49.182	YES	0.129
6	33.80	2.928	YES	0.182
7	33.56	2.678	YES	0.209
8	36.47	0.596	NO	0.036
9	36.14	0.700	NO	0.391

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	40.94	1.022	YES	0.341
2	40.71	1.700	YES	0.370
3	40.03	0.987	YES	0.048
4	39.58	2.718	YES	0.070
5	39.30	1.235	NO	0.110
6	39.03	2.034	YES	0.182
7	43.02	0.770	YES	0.266
8	42.90	0.919	YES	0.450
9	41.82	0.963	YES	0.433
10	41.68	1.362	NO	0.091
11	41.44	0.336	YES	0.145

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	42.12	1.009	YES	0.439
2	41.16	0.565	YES	0.148
3	40.89	4.709	YES	0.252
4	40.70	4.491	YES	0.161
5	40.03	0.517	YES	0.336
6	42.67	2.351	YES	0.533
7	42.26	0.680	YES	0.428

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	45.35	2.257	YES	0.637
2	47.17	0.991	NO	0.414
3	46.46	3.769	YES	0.156
4	45.84	0.550	YES	0.595

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.72	1.260	YES	0.975
2	45.81	0.784	YES	0.461

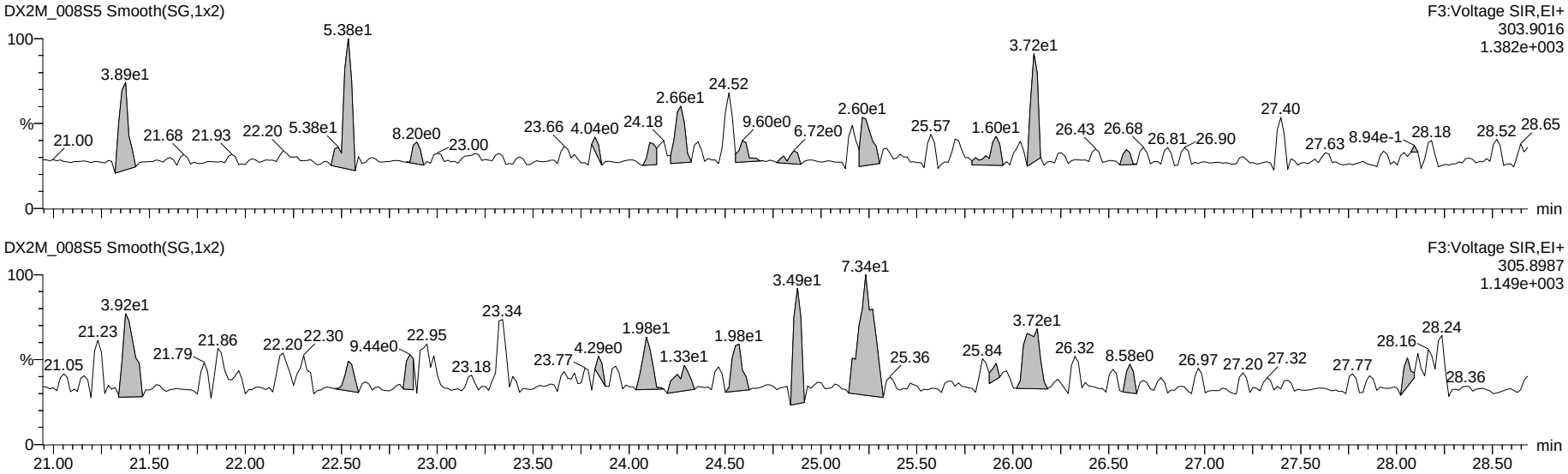
pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

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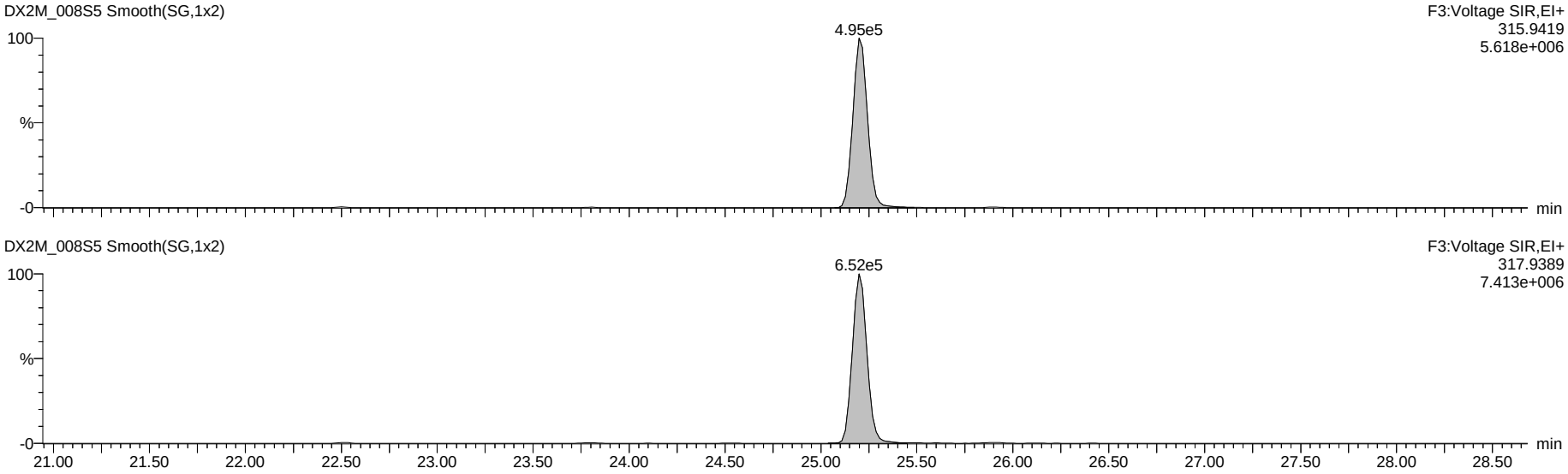
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Name: DX2M_008S5, Date: 10-Jan-2012, Time: 11:54:49, ID: WG38741-101,,Blank, Description: 1,WG38741,1.0/20uL

Total Tetra-Furans



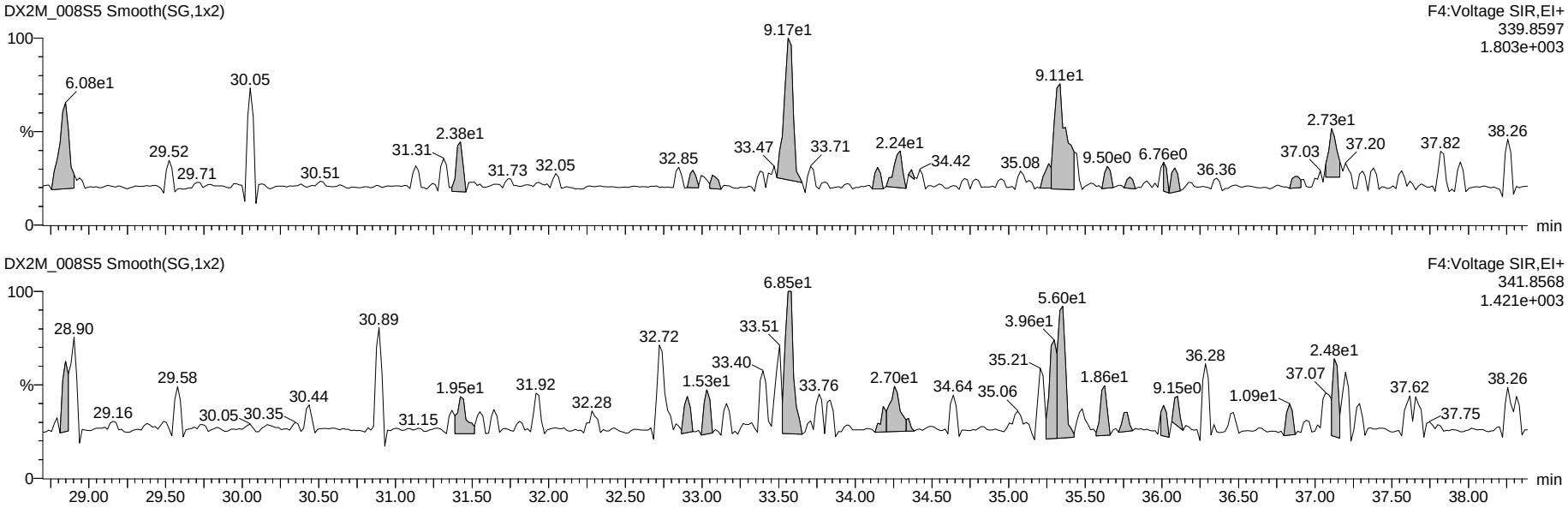
13C-Tetra-Furans



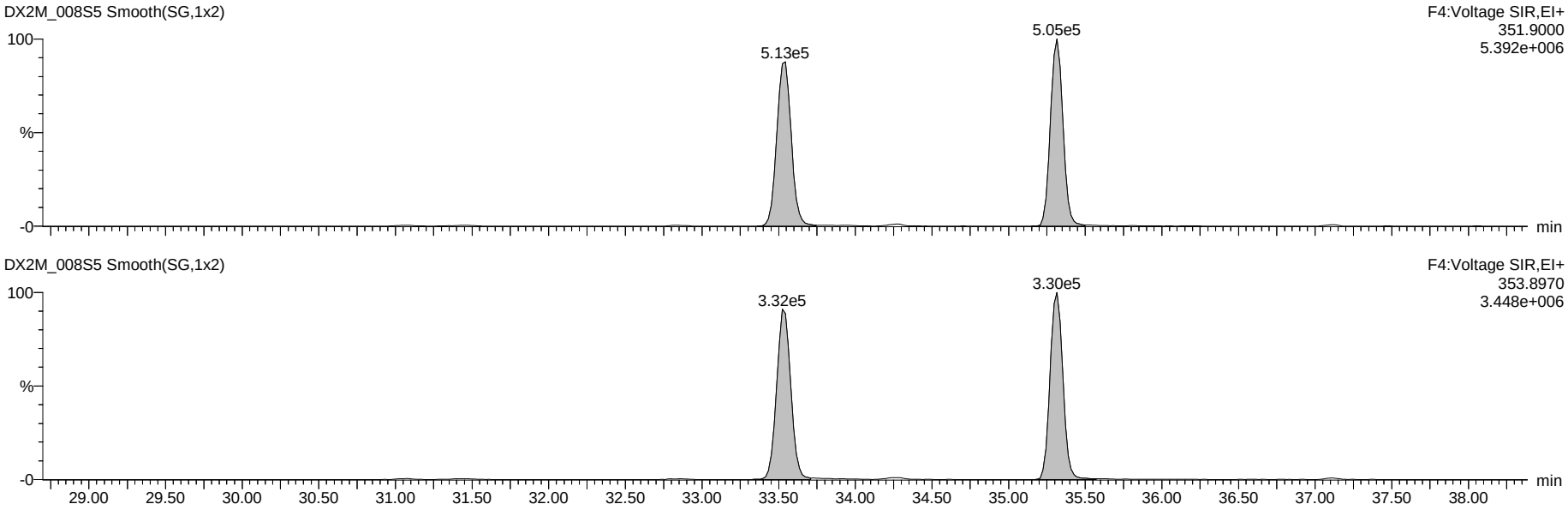
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Name: DX2M_008S5, Date: 10-Jan-2012, Time: 11:54:49, ID: WG38741-101,,Blank, Description: 1,WG38741,1.0/20uL

Total Penta-Furans



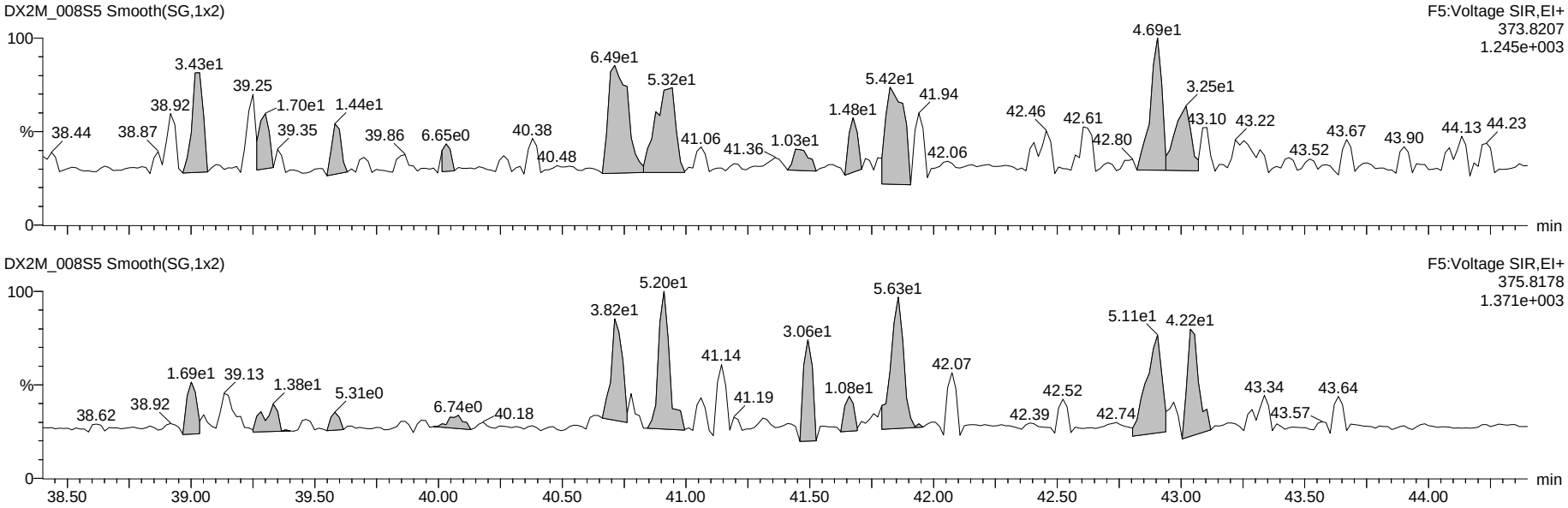
13C-Penta-Furans



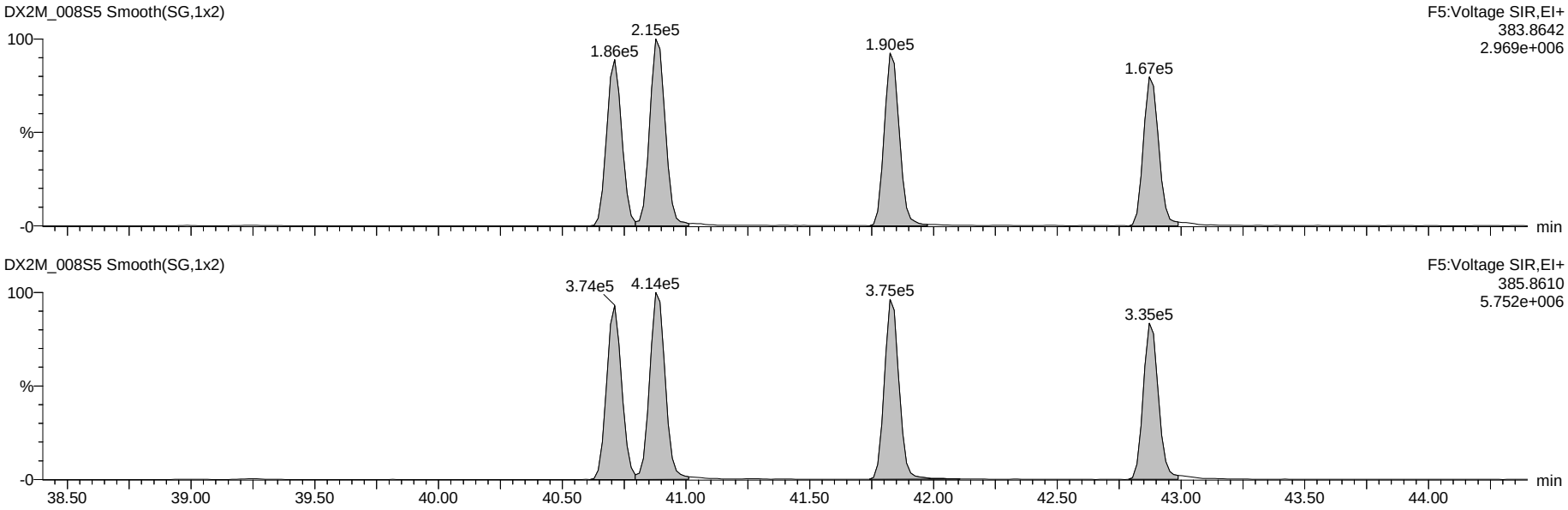
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Name: DX2M_008S5, Date: 10-Jan-2012, Time: 11:54:49, ID: WG38741-101,,Blank, Description: 1,WG38741,1.0/20uL

Total Hexa-Furans



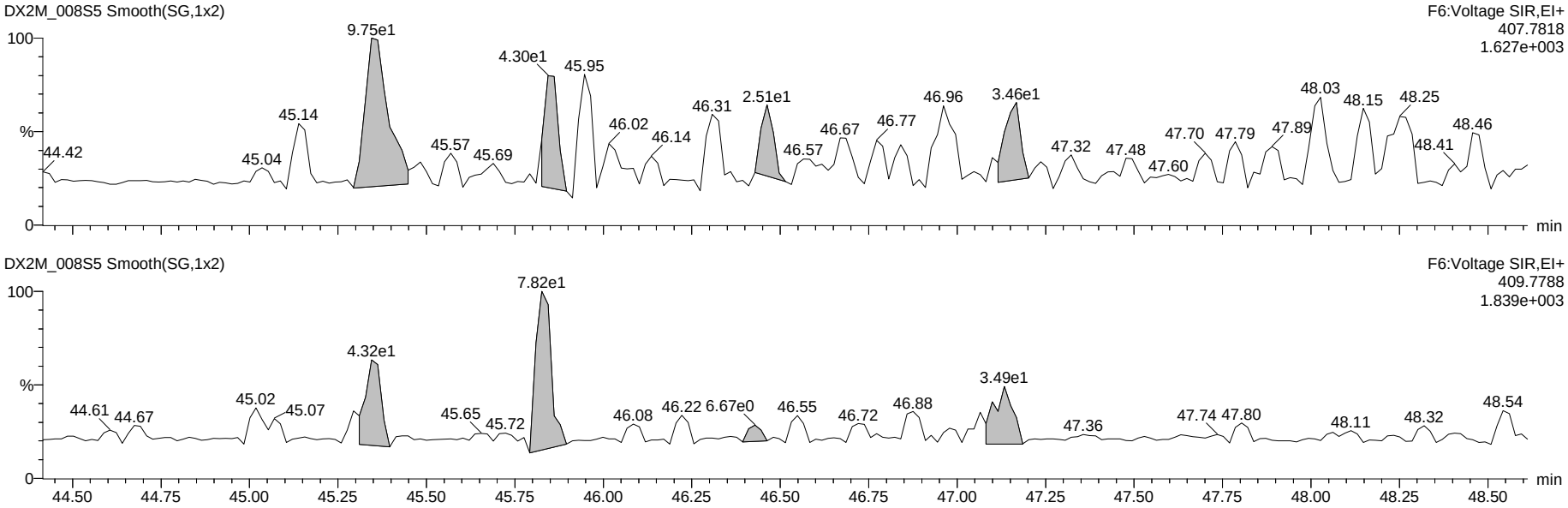
13C-Hexa-Furans



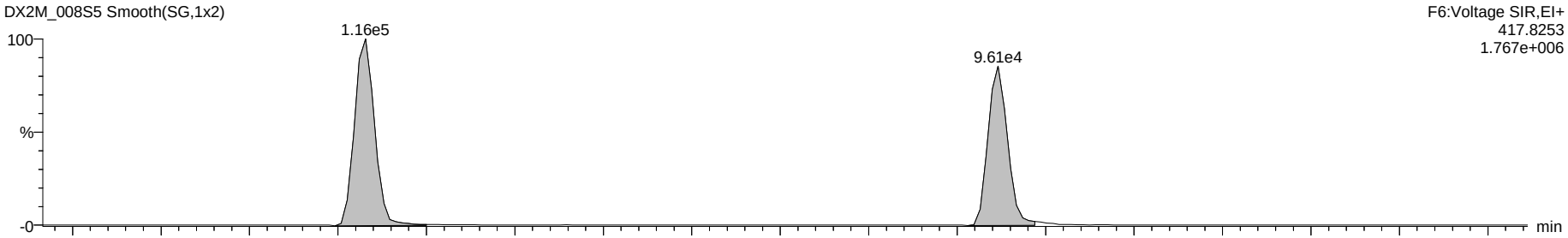
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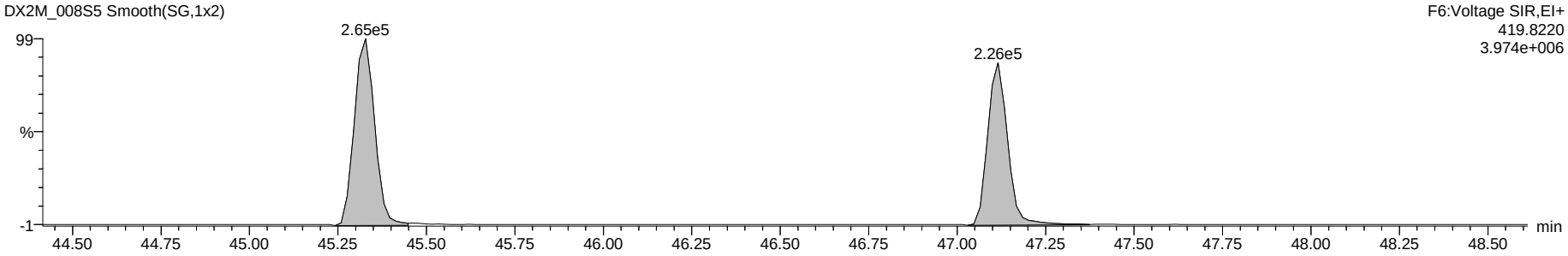
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Total Hepta-Furans



13C-Hepta-Furans

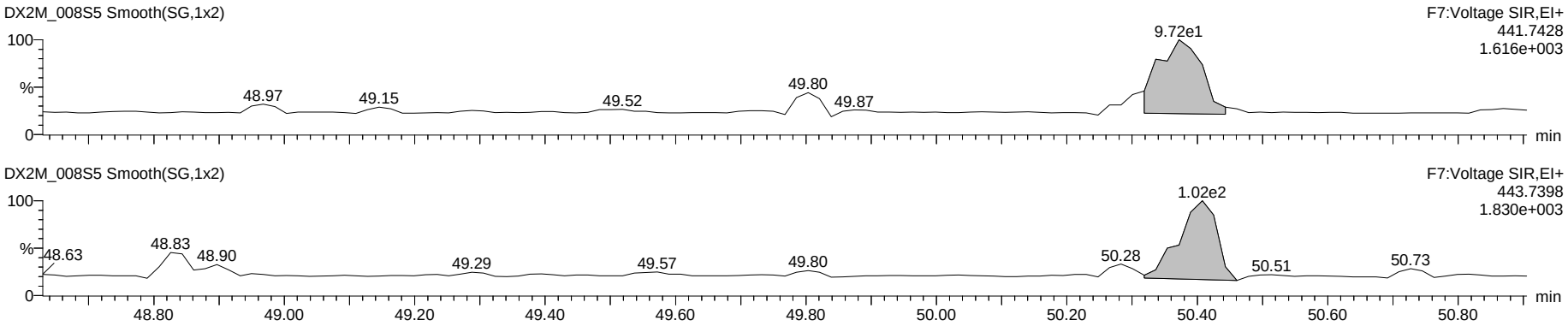




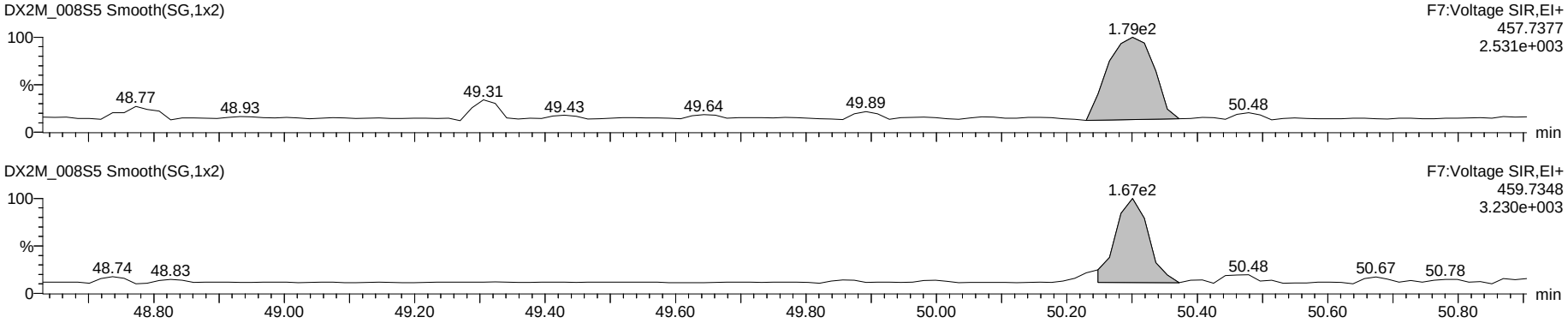
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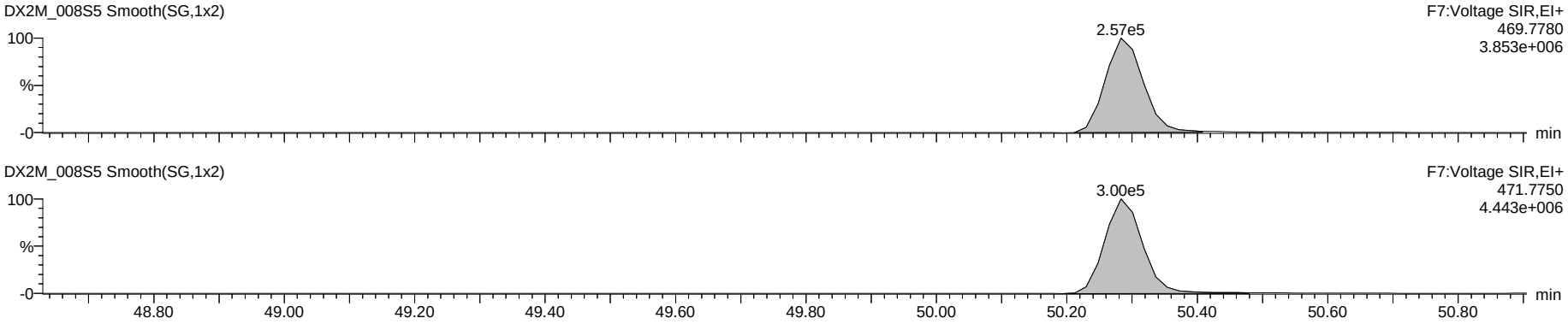
OCDF



OCDD



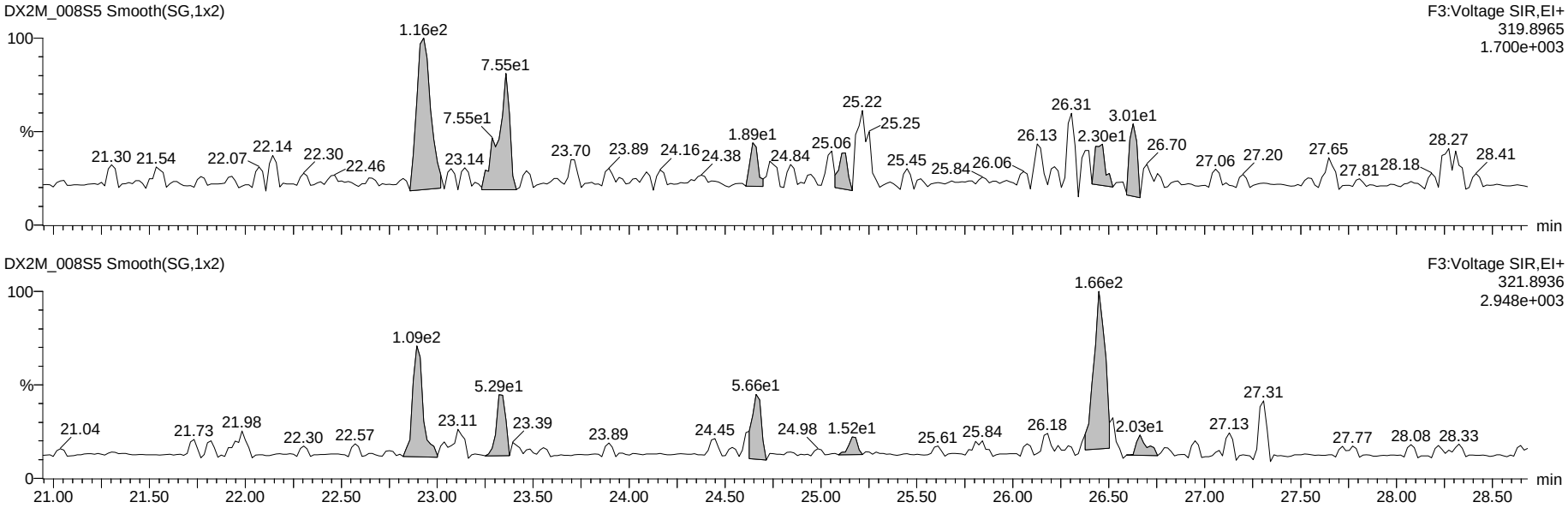
13C-OCDD



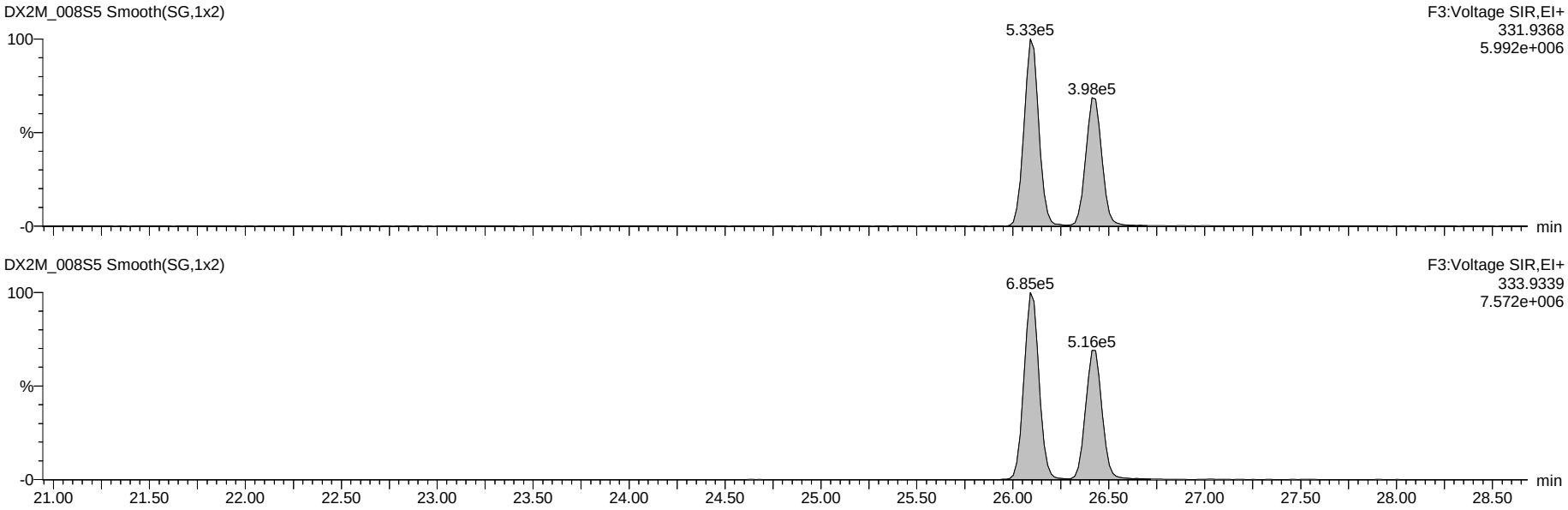
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Name: DX2M_008S5, Date: 10-Jan-2012, Time: 11:54:49, ID: WG38741-101,,Blank, Description: 1,WG38741,1.0/20uL

Total Tetra-Dioxins



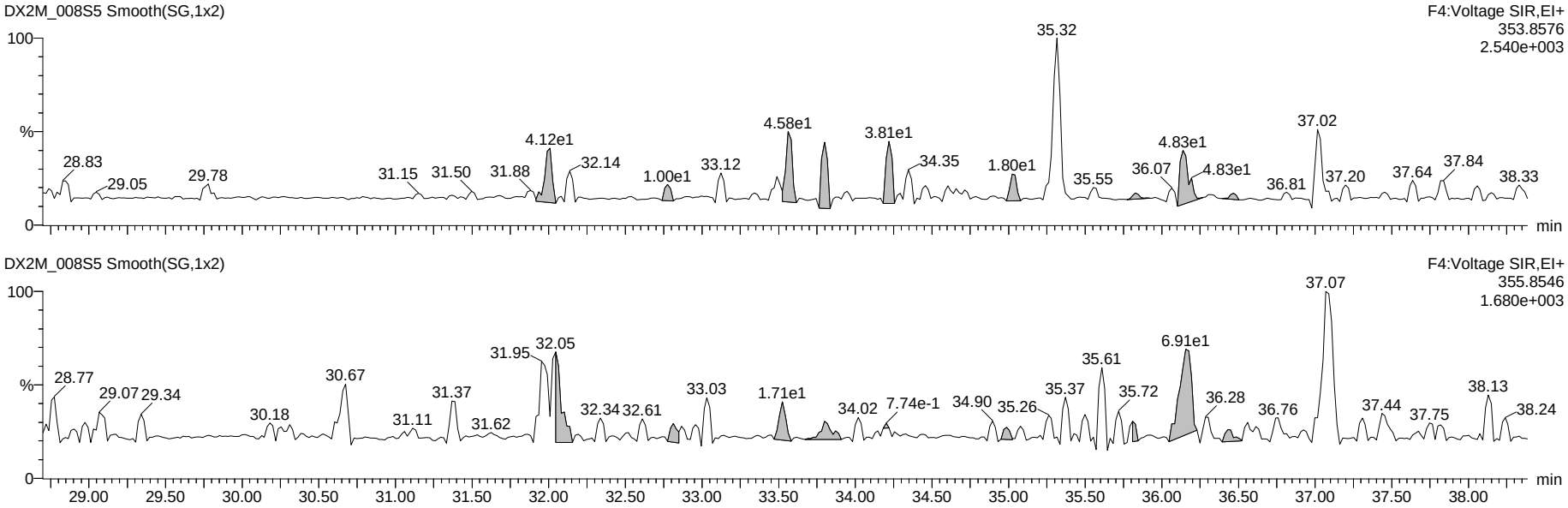
13C-Tetra-Dioxins



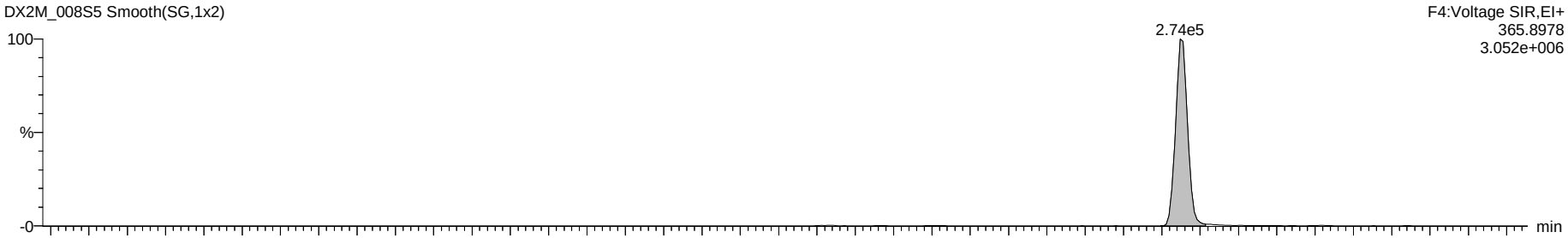
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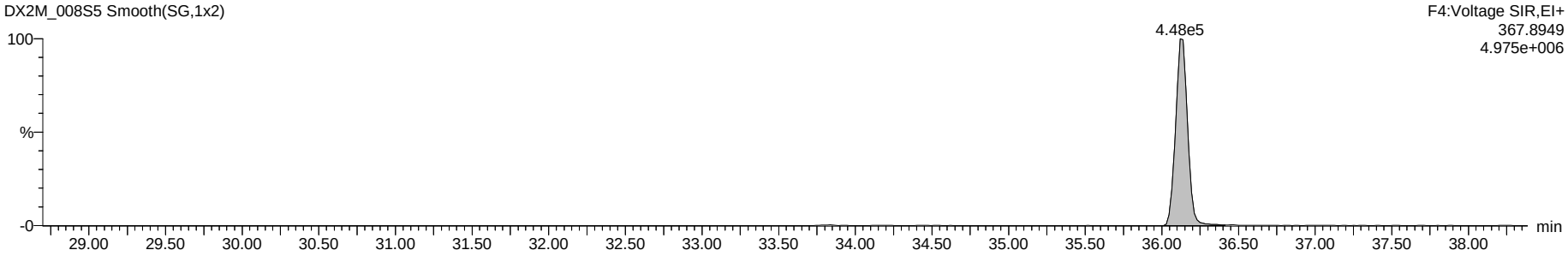
Name: DX2M_008S5, Date: 10-Jan-2012, Time: 11:54:49, ID: WG38741-101,,Blank, Description: 1,WG38741,1.0/20uL

Total Penta-Dioxins



13C-Penta-Dioxins

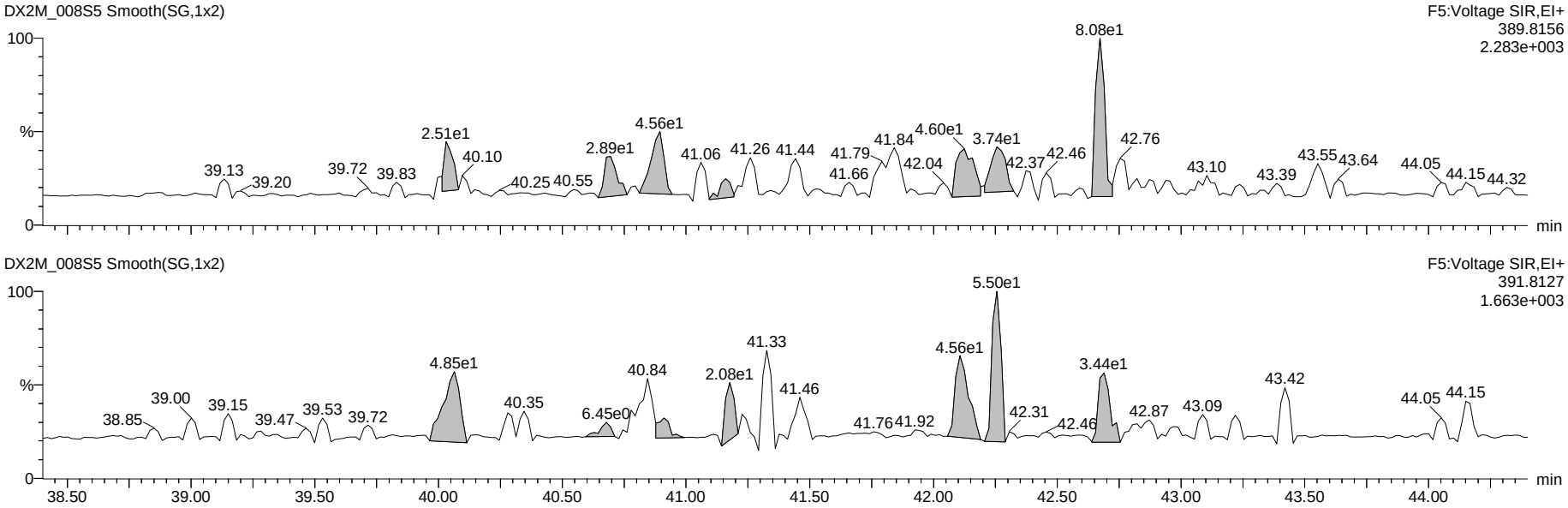




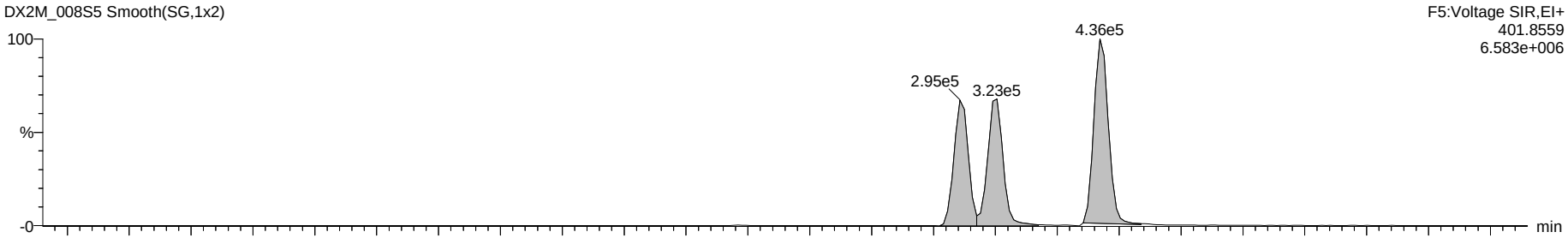
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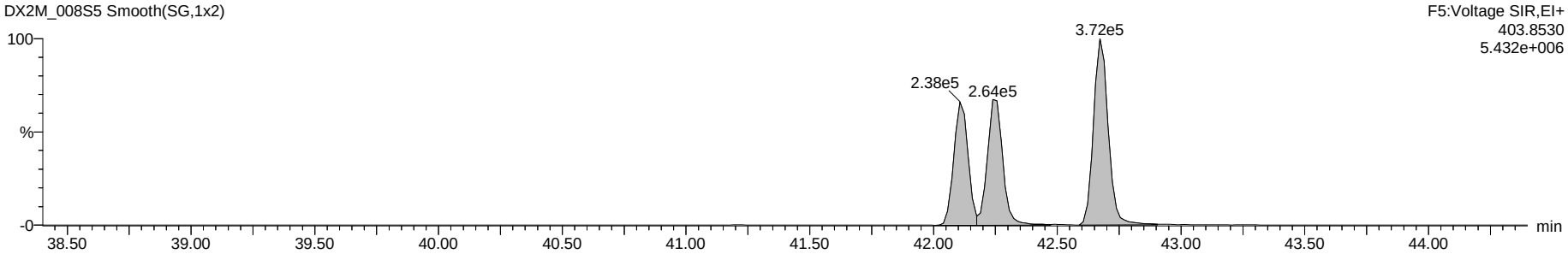
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Total Hexa-Dioxins



13C-Hexa-Dioxins

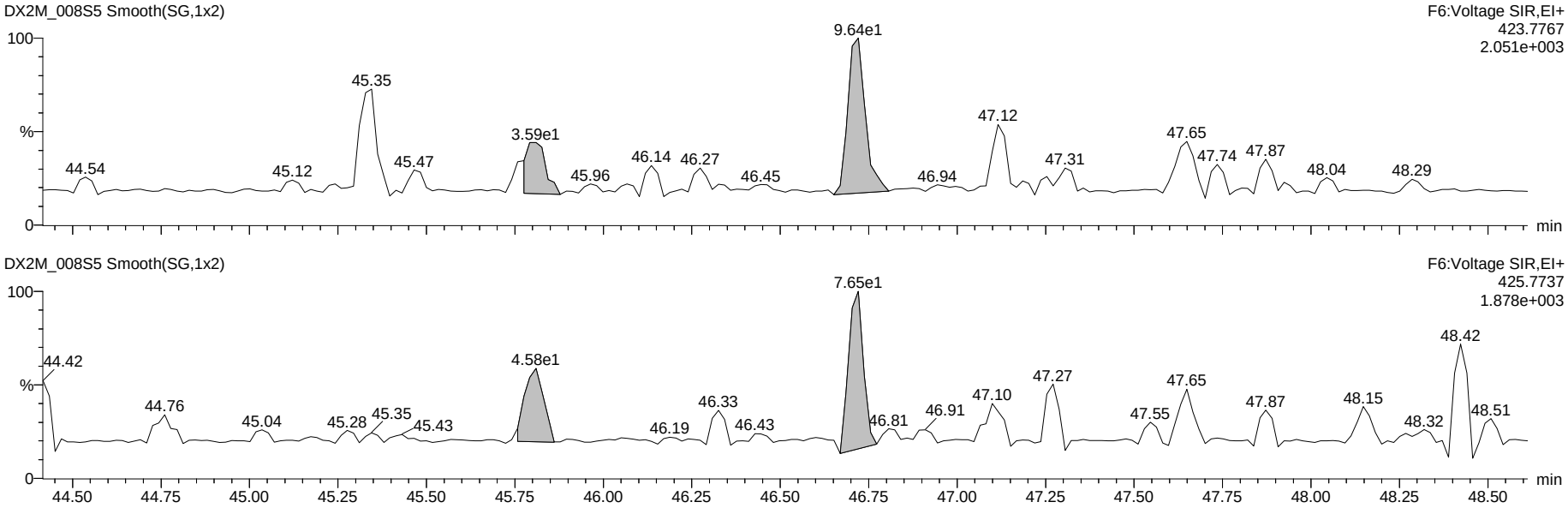




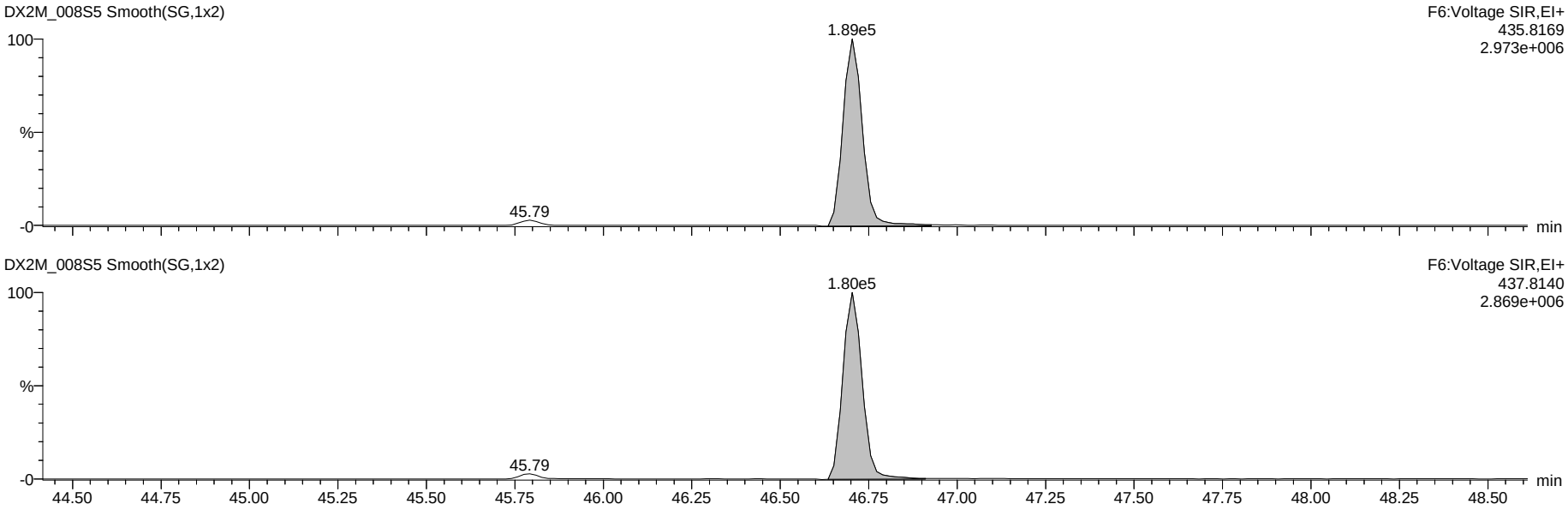
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Name: DX2M_008S5, Date: 10-Jan-2012, Time: 11:54:49, ID: WG38741-101,,Blank, Description: 1,WG38741,1.0/20uL

Total Hepta-Dioxins



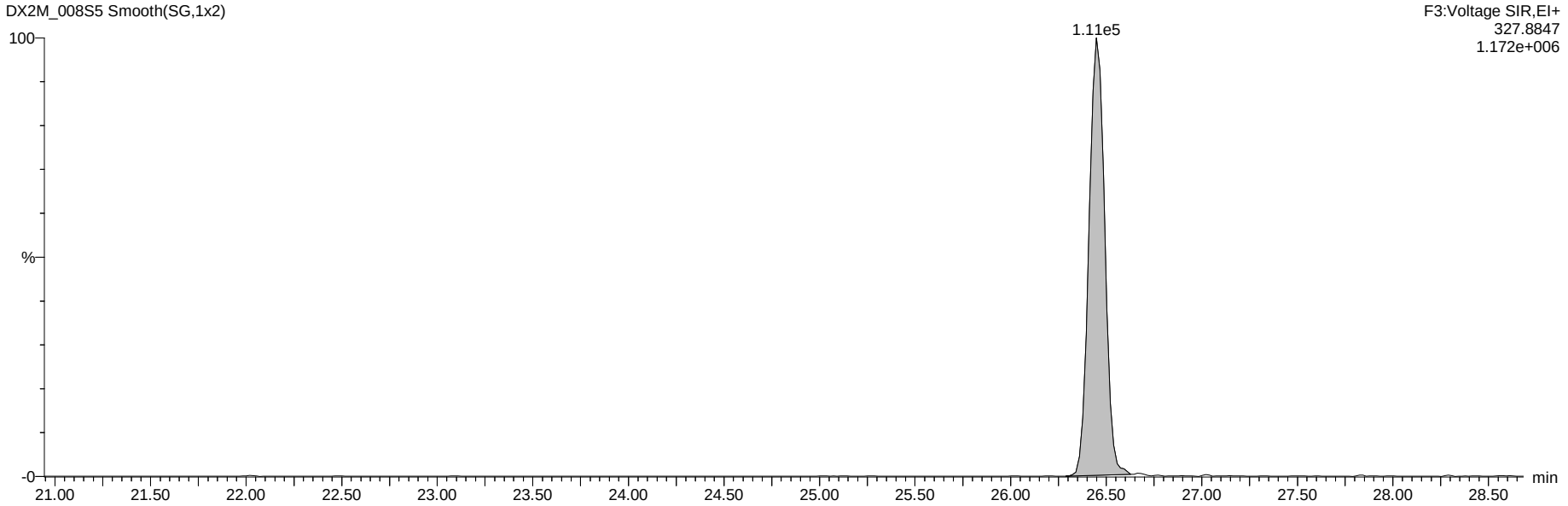
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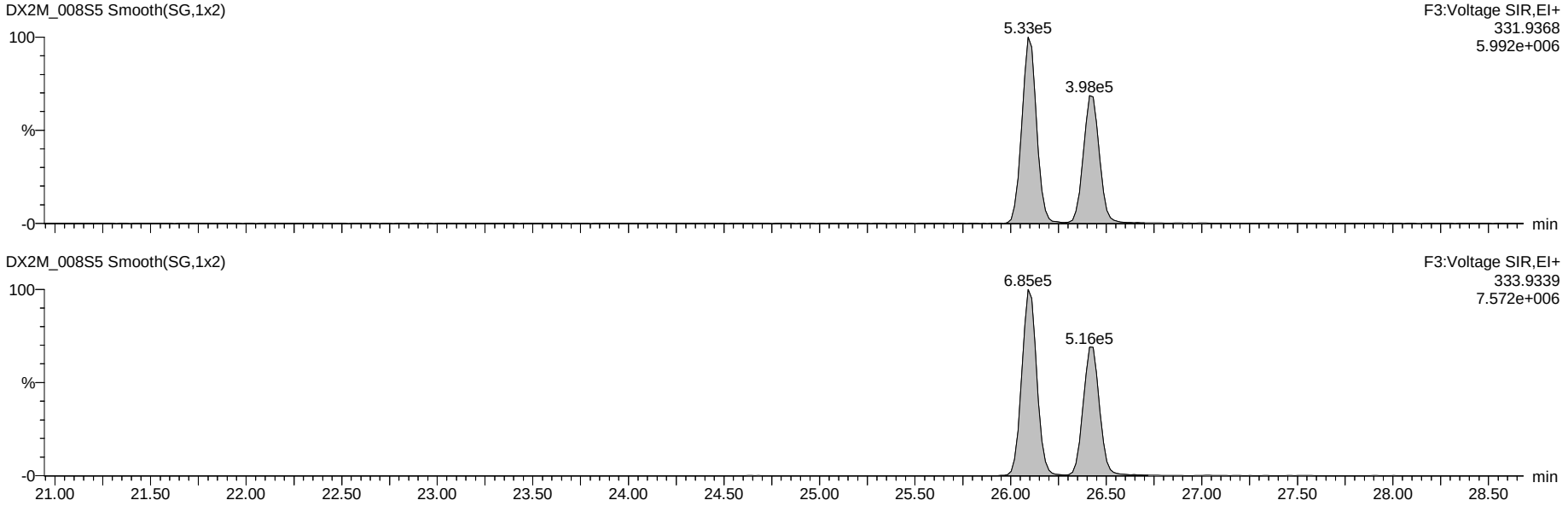
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Name: DX2M_008S5, Date: 10-Jan-2012, Time: 11:54:49, ID: WG38741-101,,Blank, Description: 1,WG38741,1.0/20uL

37Cl-2,3,7,8-TCDD



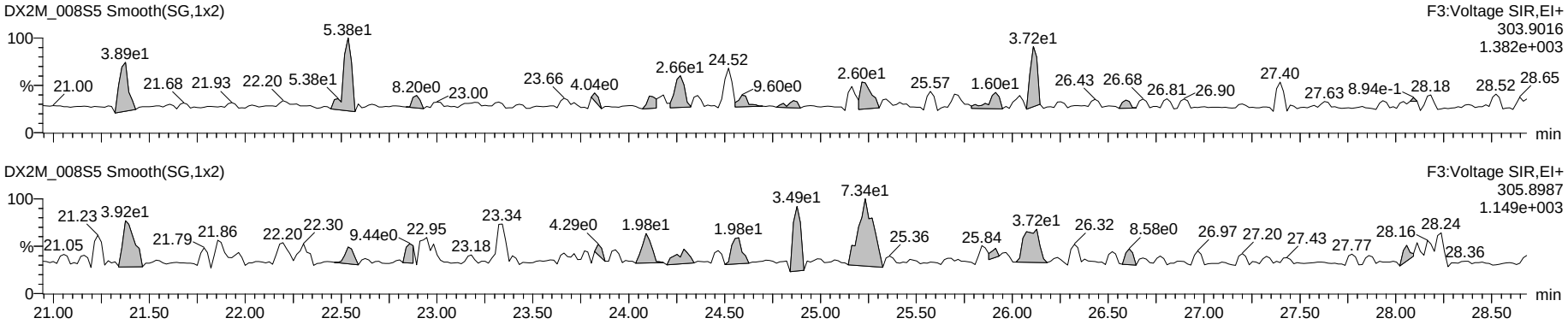
13C-Tetra-Dioxins



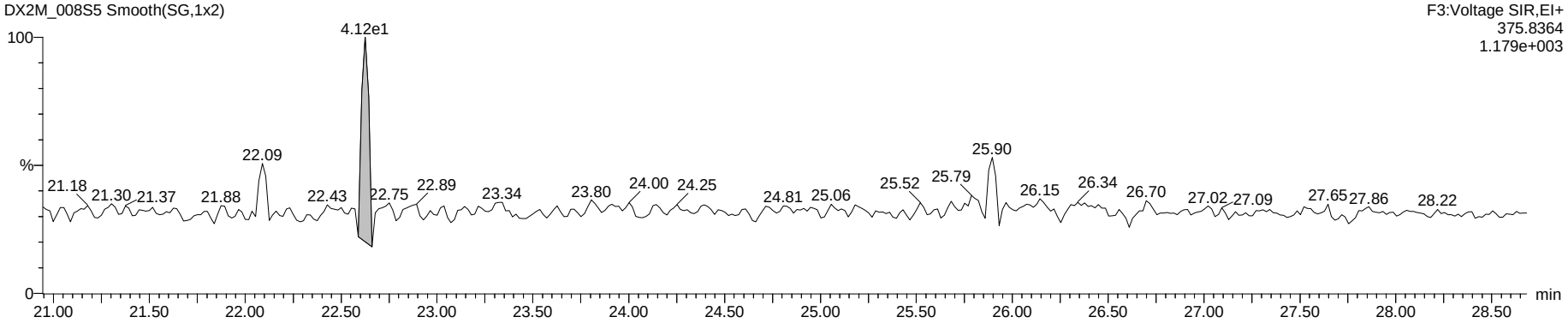
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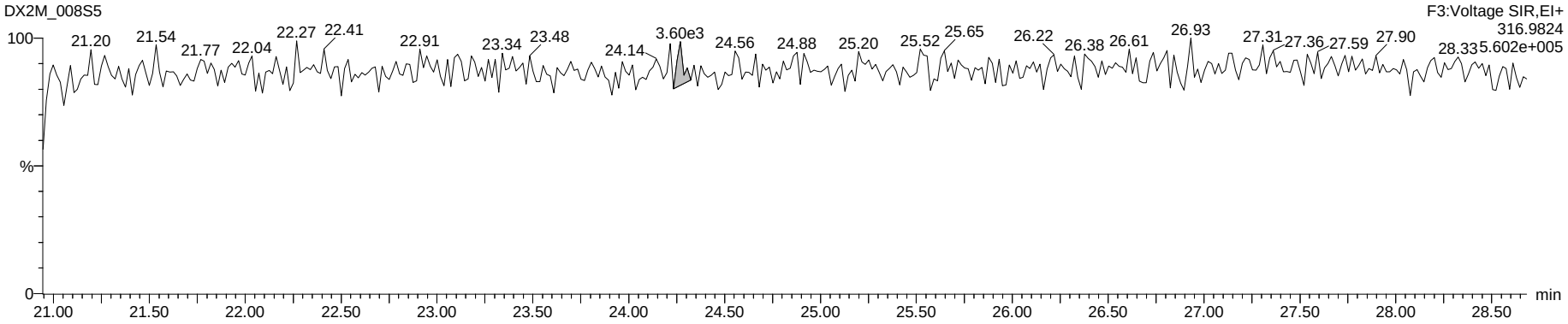
Total Tetra-Furans



Hexa DPE



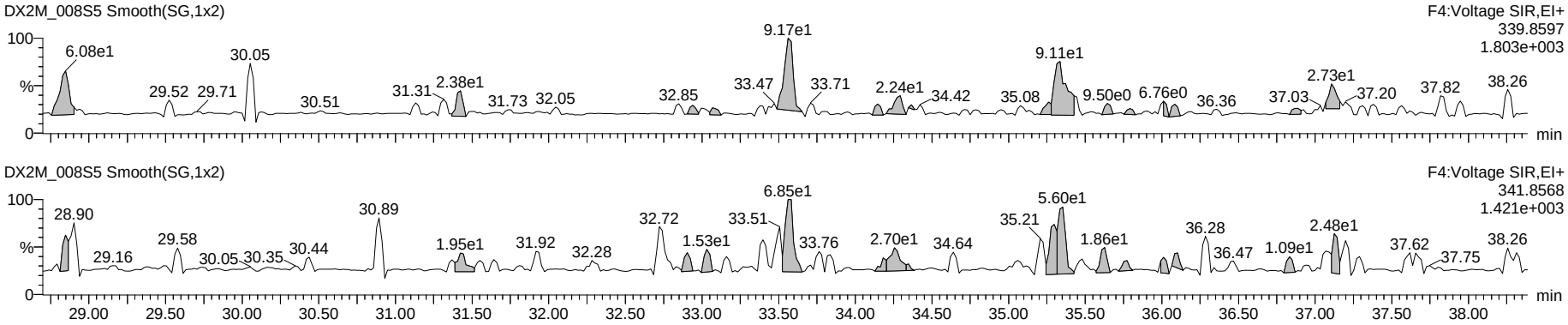
Tetra Lock



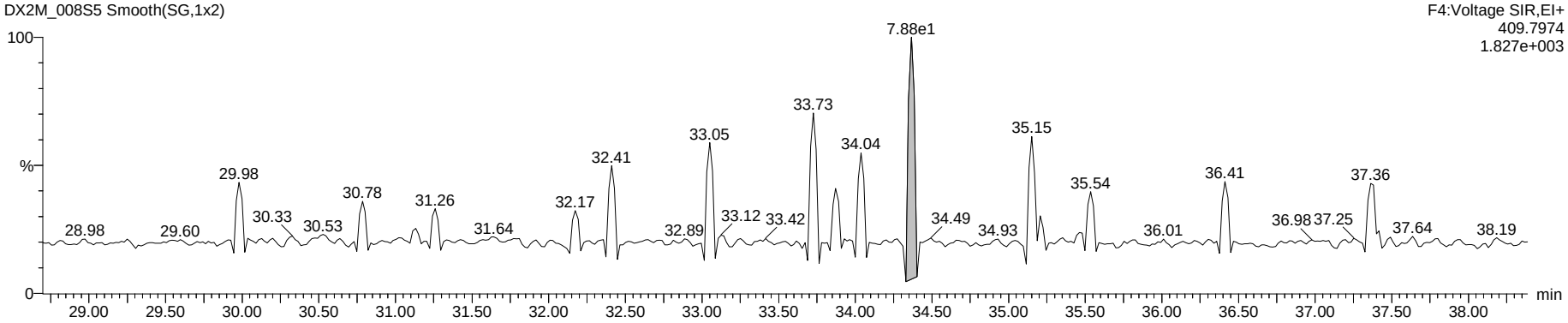
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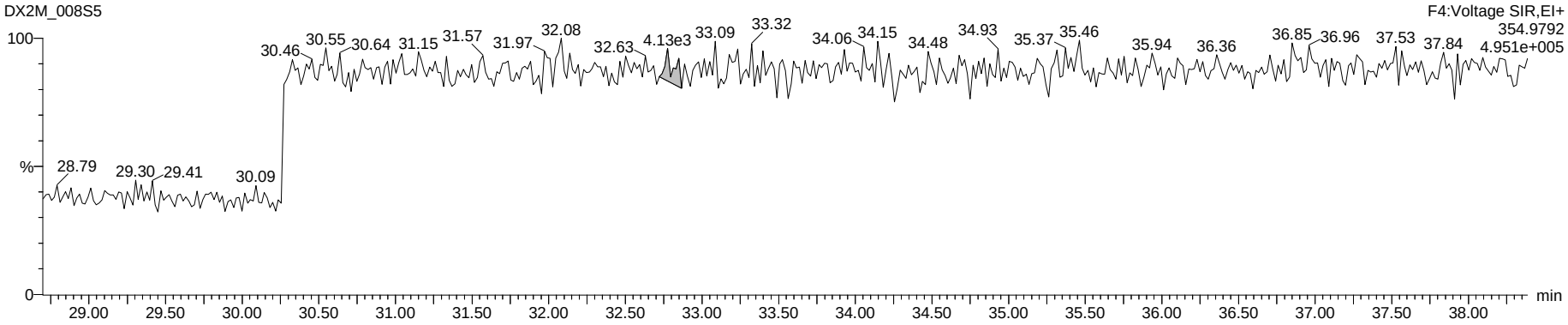
Total Penta-Furans



Hepta DPE



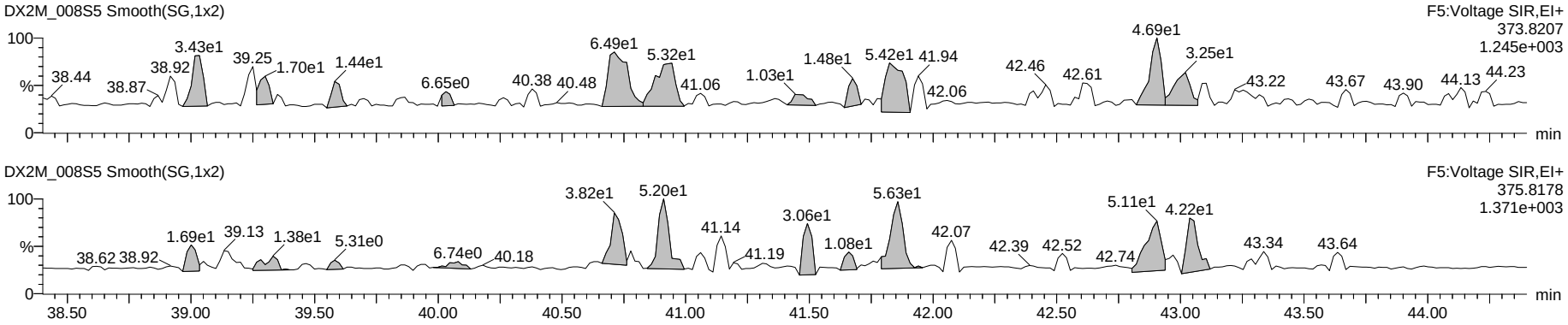
Penta Lock



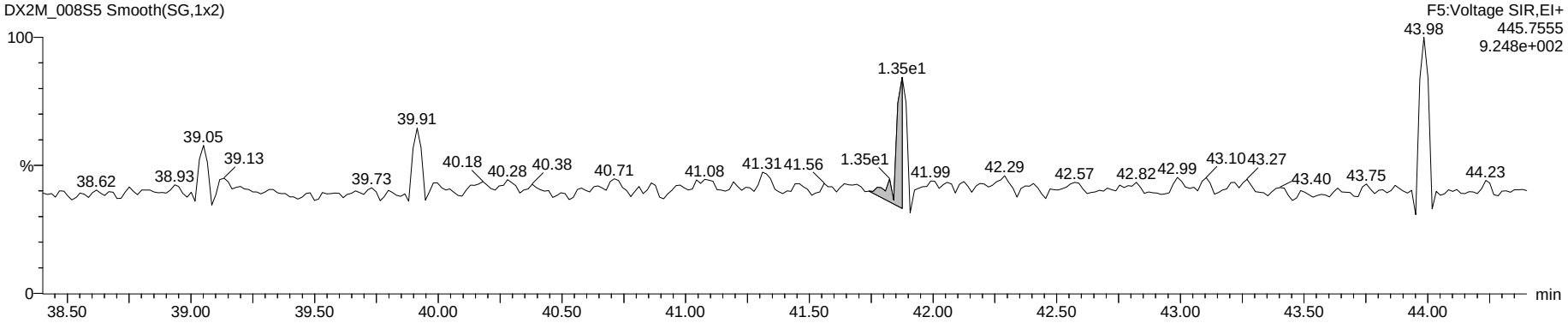
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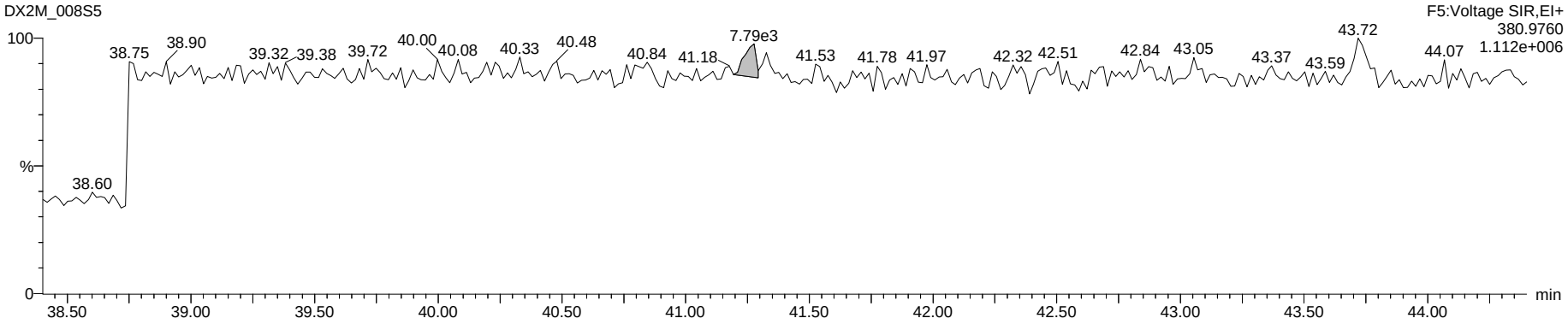
Total Hexa-Furans



Octa DPE



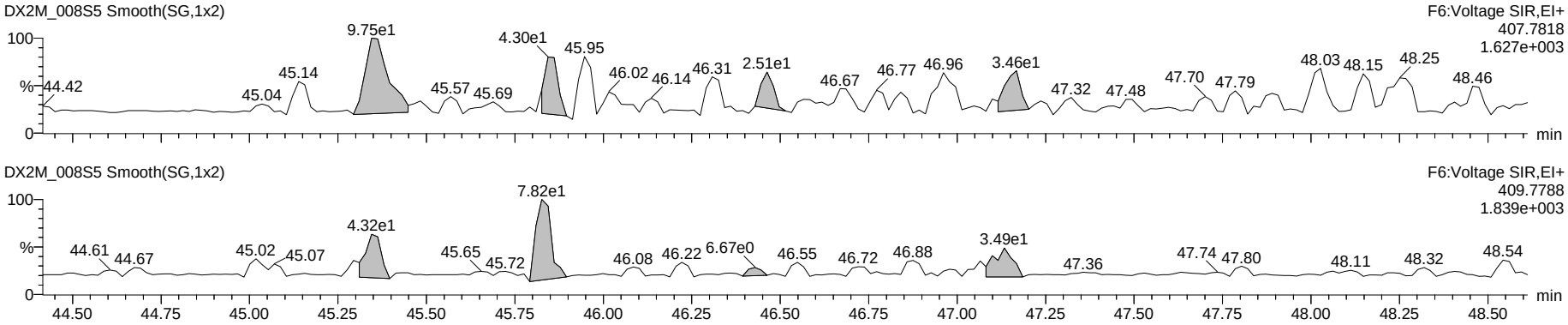
Hexa Lock



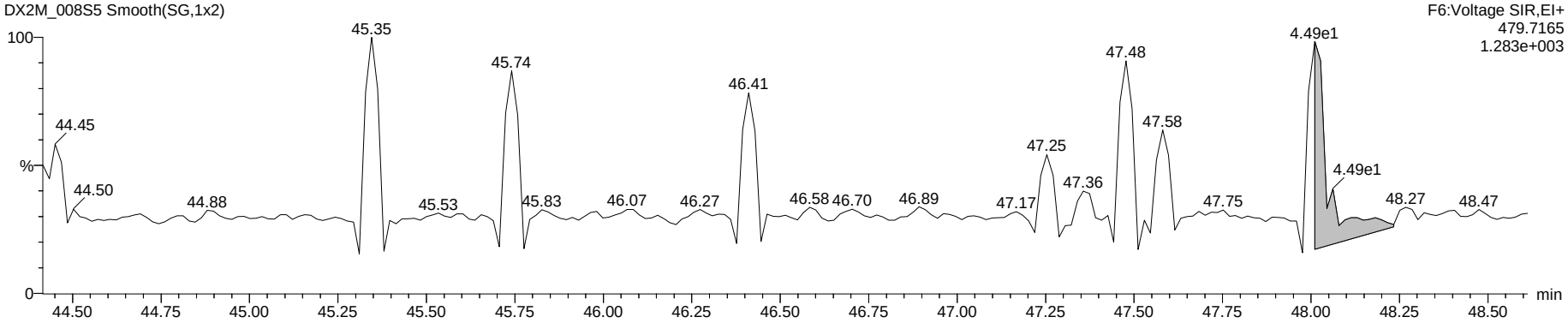
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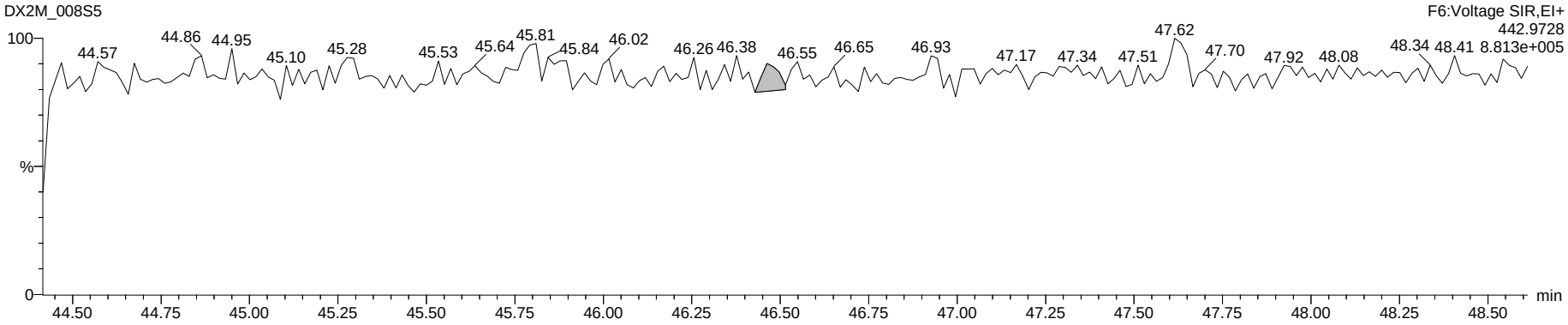
Total Hepta-Furans



Nona DPE



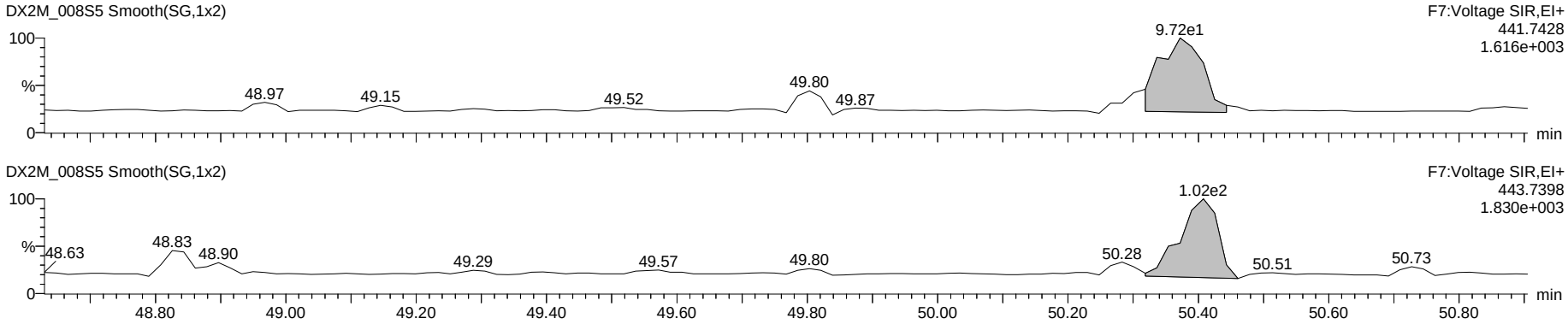
Hepta Lock



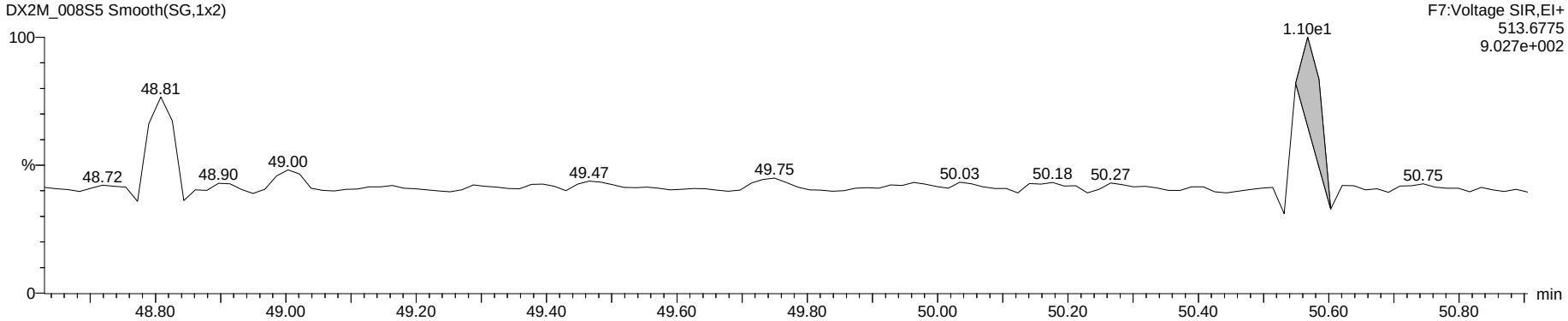
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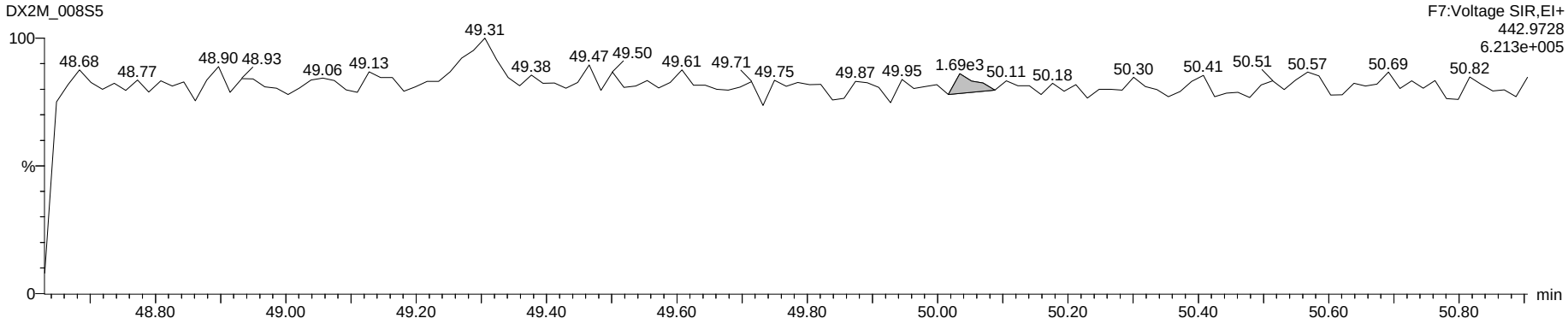
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	20.000	9.21e4	0.74	NO	25.23	11.222	0.0197		3.61e2	3.65e2
2	1,2,3,7,8-PeCDF	20.000	3.38e5	1.52	NO	33.56	48.823	0.0388		3.32e2	6.88e2
3	2,3,4,7,8-PeCDF	20.000	3.50e5	1.52	NO	35.33	49.990	0.0336		3.32e2	6.88e2
4	1,2,3,4,7,8-HxCDF	20.000	2.86e5	1.21	NO	40.73	53.919	0.0468		5.71e2	8.56e2
5	1,2,3,6,7,8-HxCDF	20.000	2.98e5	1.23	NO	40.91	51.212	0.0454		5.71e2	8.56e2
6	2,3,4,6,7,8-HxCDF	20.000	2.76e5	1.22	NO	41.86	56.952	0.0511		5.71e2	8.56e2
7	1,2,3,7,8,9-HxCDF	20.000	2.37e5	1.24	NO	42.90	55.608	0.0604		5.71e2	8.56e2
8	1,2,3,4,6,7,8-HpCDF	20.000	2.46e5	0.99	NO	45.35	56.837	0.0360		5.07e2	4.54e2
9	1,2,3,4,7,8,9-HpCDF	20.000	1.82e5	0.98	NO	47.13	54.431	0.0467		5.07e2	4.54e2
10	OCDF	20.000	2.84e5	0.89	NO	50.39	110.206	0.0065		5.06e1	4.81e1
11	2,3,7,8-TCDD	20.000	7.57e4	0.77	NO	26.45	10.710	0.0243		3.98e2	3.32e2
12	1,2,3,7,8-PeCDD	20.000	3.25e5	0.60	NO	36.16	57.699	0.0435		4.72e2	6.11e2
13	1,2,3,4,7,8-HxCDD	20.000	2.44e5	1.21	NO	42.12	60.967	0.0328		4.04e2	4.08e2
14	1,2,3,6,7,8-HxCDD	20.000	2.53e5	1.25	NO	42.27	61.872	0.0362		4.04e2	4.08e2
15	1,2,3,7,8,9-HxCDD	20.000	2.50e5	1.18	NO	42.69	60.662	0.0339		4.04e2	4.08e2
16	1,2,3,4,6,7,8-HpCDD	20.000	1.81e5	1.02	NO	46.72	50.365	0.0506		4.24e2	7.42e2
17	OCDD	20.000	2.80e5	0.88	NO	50.30	105.292	0.0684		3.24e2	7.41e2
18	13C-2,3,7,8-TCDF	20.000	1.07e6	0.76	NO	25.22	67.061	0.0538	67.1	2.35e3	1.31e3
19	13C-1,2,3,7,8-PeCDF	20.000	7.99e5	1.55	NO	33.54	64.597	0.0570	64.6	1.85e3	1.17e3
20	13C-2,3,4,7,8-PeCDF	20.000	7.96e5	1.51	NO	35.32	66.968	0.0593	67.0	1.85e3	1.17e3
21	13C-1,2,3,4,7,8-HxCDF	20.000	5.32e5	0.50	NO	40.71	64.471	0.0709	64.5	1.86e3	1.55e3
22	13C-1,2,3,6,7,8-HxCDF	20.000	5.91e5	0.53	NO	40.89	63.581	0.0629	63.6	1.86e3	1.55e3
23	13C-2,3,4,6,7,8-HxCDF	20.000	5.37e5	0.50	NO	41.82	63.528	0.0692	63.5	1.86e3	1.55e3
24	13C-1,2,3,7,8,9-HxCDF	20.000	4.92e5	0.51	NO	42.87	64.746	0.0769	64.7	1.86e3	1.55e3
25	13C-1,2,3,4,6,7,8-HpCDF	20.000	3.73e5	0.44	NO	45.33	58.706	0.0668	58.7	1.58e3	9.00e2
26	13C-1,2,3,4,7,8,9-HpCDF	20.000	3.21e5	0.45	NO	47.12	57.710	0.0763	57.7	1.58e3	9.00e2
27	13C-2,3,7,8-TCDD	20.000	8.61e5	0.75	NO	26.43	63.823	0.0569	63.8	2.08e3	1.21e3
28	13C-1,2,3,7,8-PeCDD	20.000	6.77e5	0.63	NO	36.14	72.476	0.0437	72.5	1.19e3	5.57e2
29	13C-1,2,3,4,7,8-HxCDD	20.000	5.10e5	1.24	NO	42.11	63.448	0.0429	63.4	6.32e2	1.38e3
30	13C-1,2,3,6,7,8-HxCDD	20.000	5.56e5	1.24	NO	42.24	62.932	0.0390	62.9	6.32e2	1.38e3
31	13C-1,2,3,4,6,7,8-HpCDD	20.000	3.73e5	1.03	NO	46.70	58.135	0.0462	58.1	9.20e2	8.09e2
32	13C-OCDD	20.000	5.84e5	0.87	NO	50.28	91.680	0.0199	45.8	7.09e2	2.95e1
33	13C-1,2,3,4-TCDD	20.000	1.17e6	0.77	NO	26.11	5.815	0.0038	5.8	2.08e3	1.21e3
34	13C-1,2,3,7,8,9-HxCDD	20.000	8.17e5	1.20	NO	42.67	5.442	0.0023	5.4	6.32e2	1.38e3
35	37Cl-2,3,7,8-TCDD	20.000	1.12e5			26.47	8.252	0.0178	82.5		1.03e3
36	Total Tetra-Furans	20.000					39.937	0.0197			3.65e2
37	Total Tetra-Dioxins	20.000					42.945	0.0243			3.32e2
38	Total Penta-Furans	20.000					153.762	0.0365			6.88e2
39	Total Penta-Dioxins	20.000					111.337	0.0435			6.11e2
40	Total Hexa-Furans	20.000					220.986	0.0474			8.56e2
41	Total Hexa-Dioxins	20.000					185.278	0.0334			4.08e2
42	Total Hepta-Furans	20.000					113.010	0.0388			4.54e2
43	Total Hepta-Dioxins	20.000					52.408	0.0506			7.42e2
44	Hexa DPE	1.000	4.00e1			25.95					4.00e1
45	Hepta DPE	1.000	4.80e1			36.16					6.25e1
46	Octa DPE	1.000	1.18e1			40.89					2.45e1
47	Nona DPE	1.000	4.98e1			48.54					2.84e1
48	Deca DPE	1.000	4.73e1			50.82					2.20e1
49	Tetra Lock	1.000									9.25e4
50	Penta Lock	1.000	3.18e3			32.48					8.56e4
51	Hexa Lock	1.000	1.24e4			41.28					1.05e5
52	Hepta Lock	1.000	5.01e3			46.34					1.12e5
53	Octa Lock	1.000	2.53e3			49.82					6.54e4
54	13C-Tetra-Furans	20.000					67.061	0.0538			1.31e3
55	13C-Tetra-Dioxins	20.000					69.638	0.0608			1.21e3

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

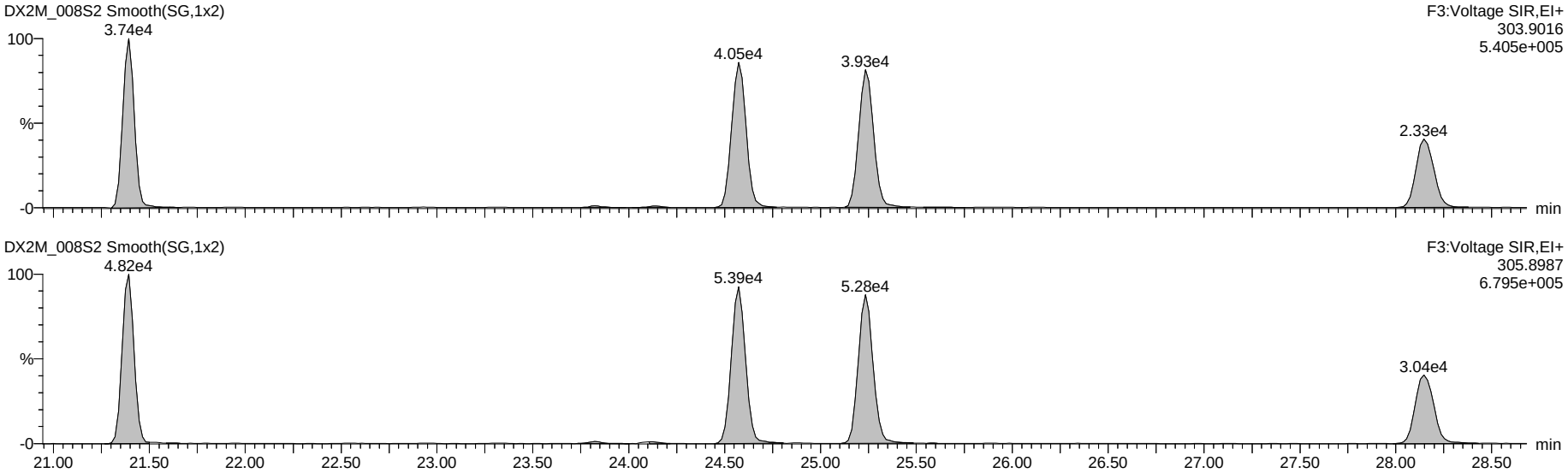
SV'D BY DF 12-Jan-2012

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

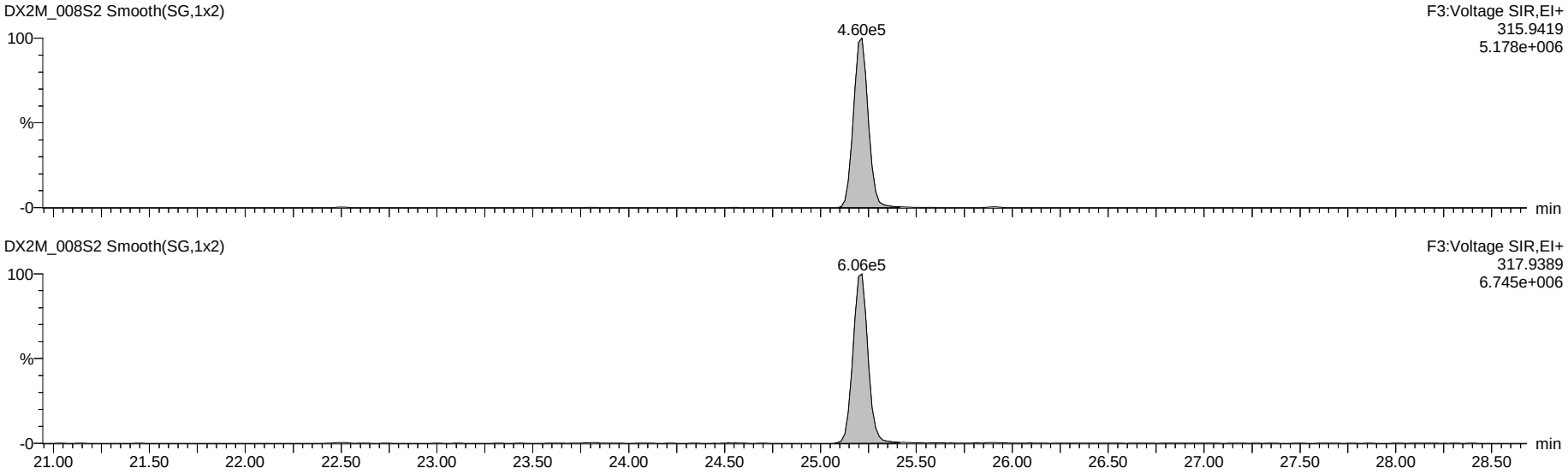
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Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

Total Tetra-Furans



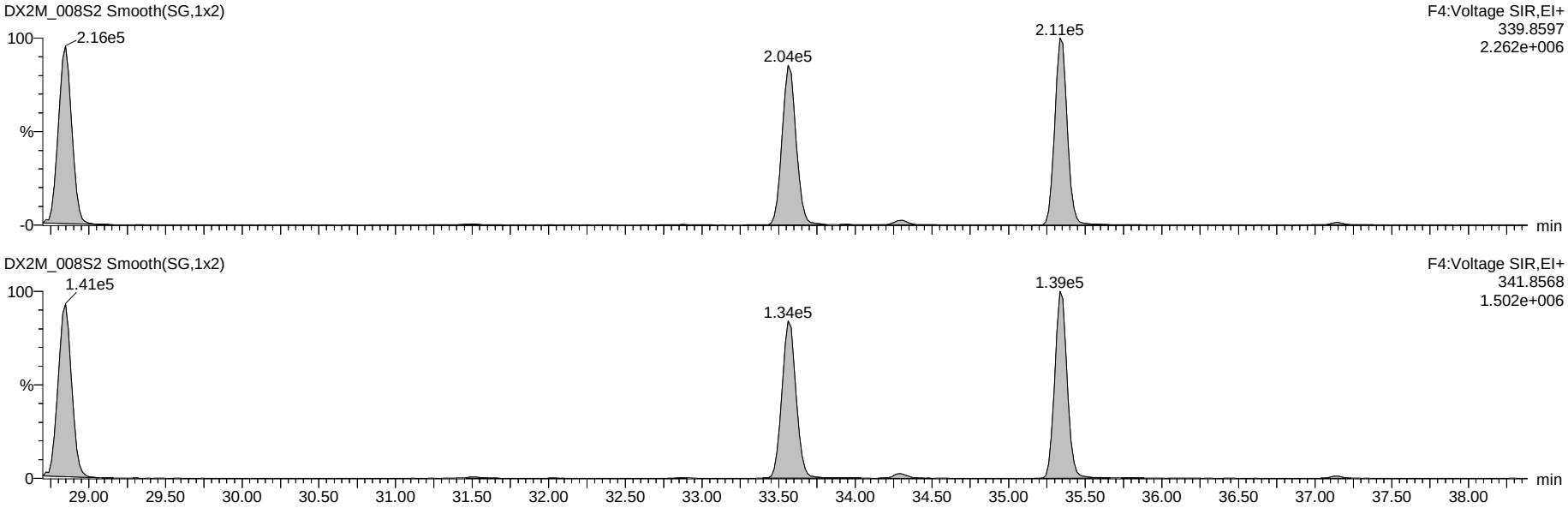
13C-Tetra-Furans



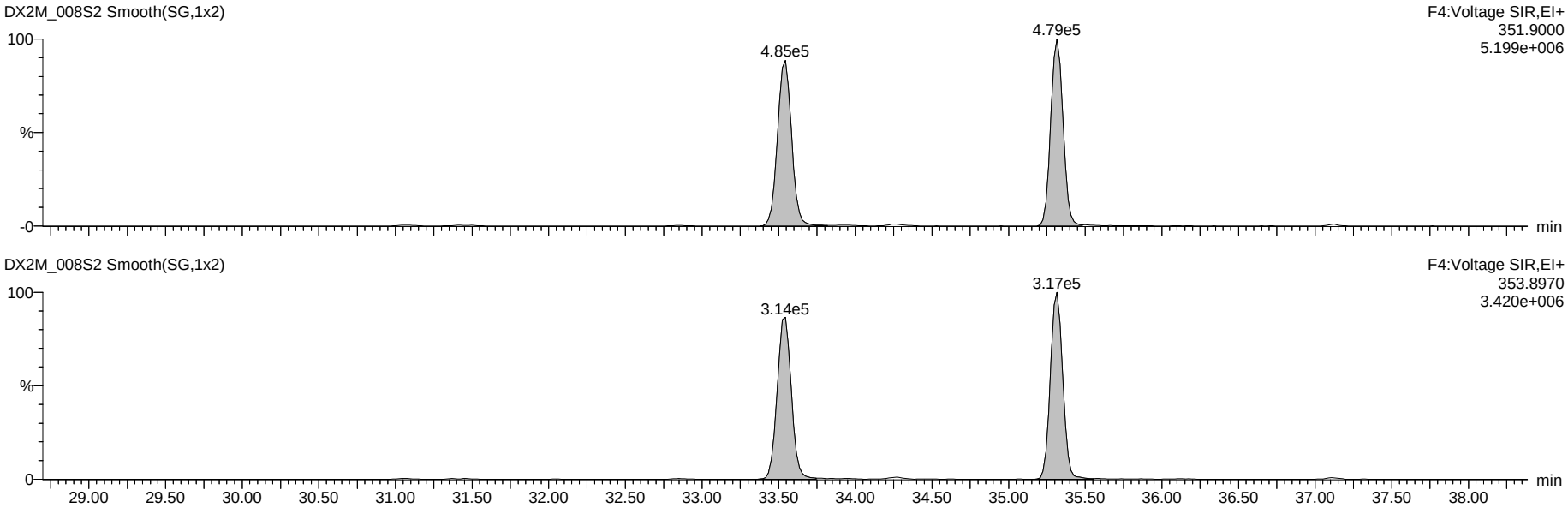
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Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

Total Penta-Furans



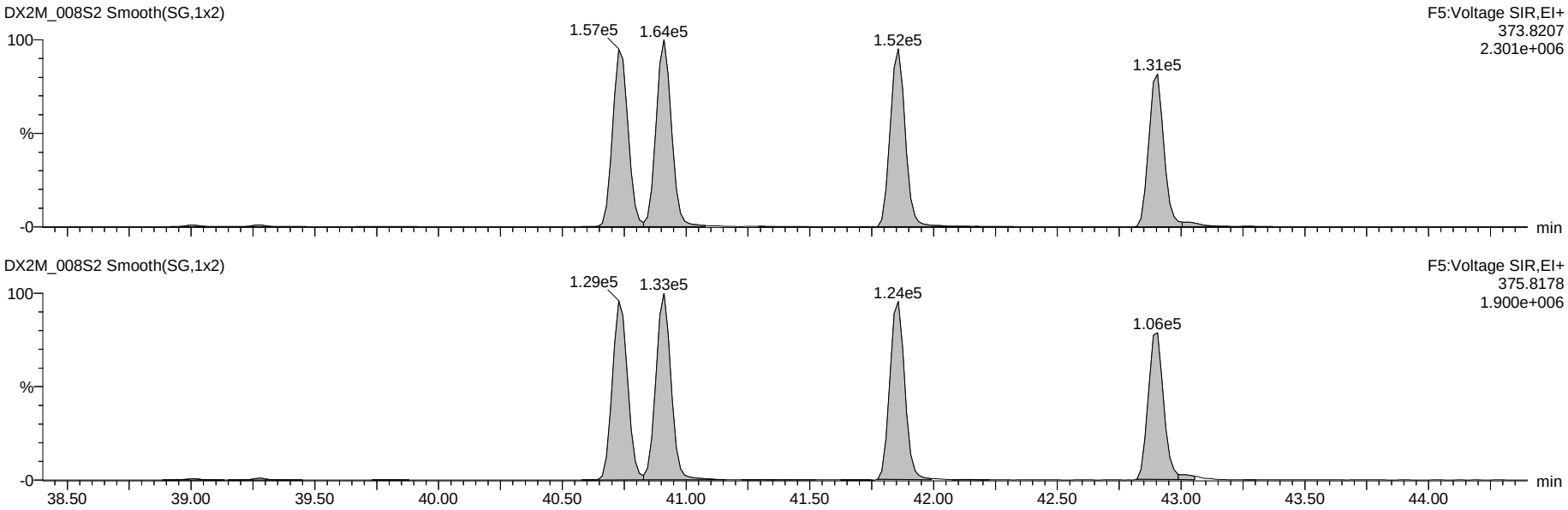
13C-Penta-Furans



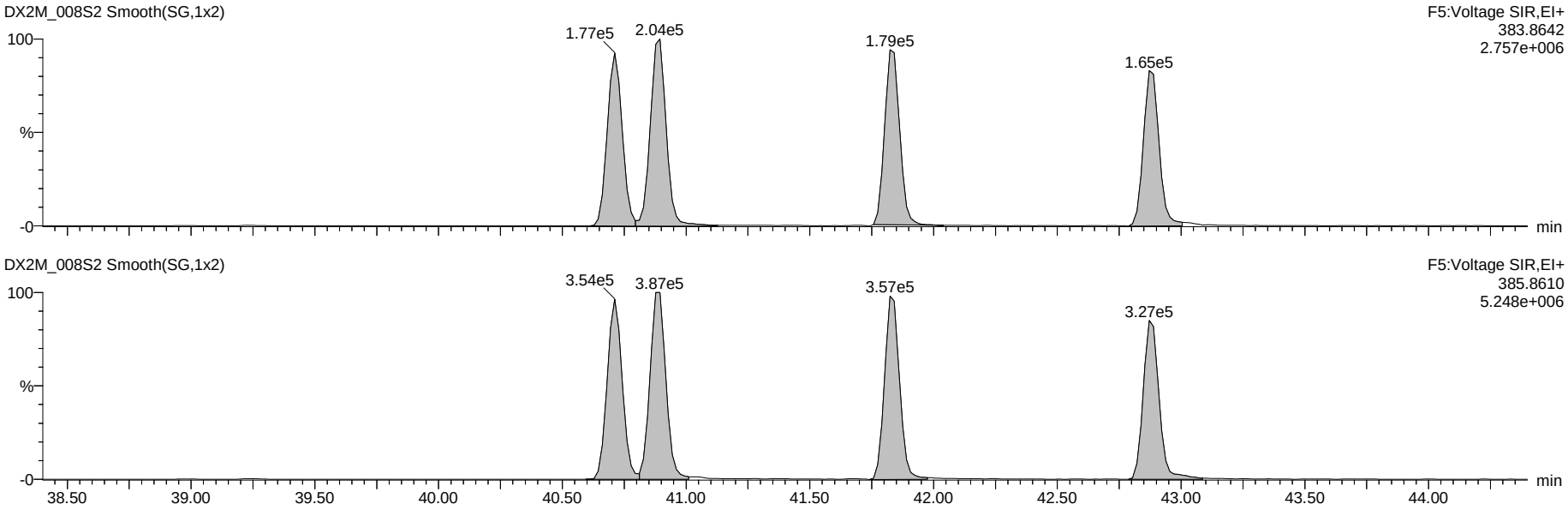
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Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

Total Hexa-Furans



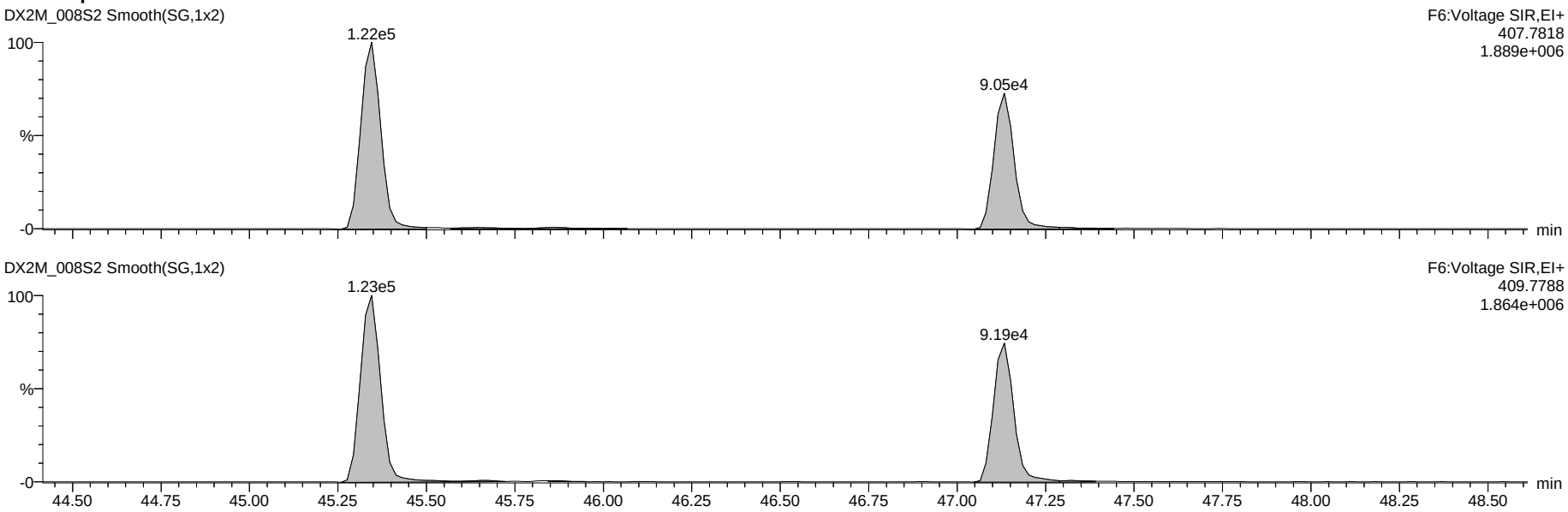
13C-Hexa-Furans



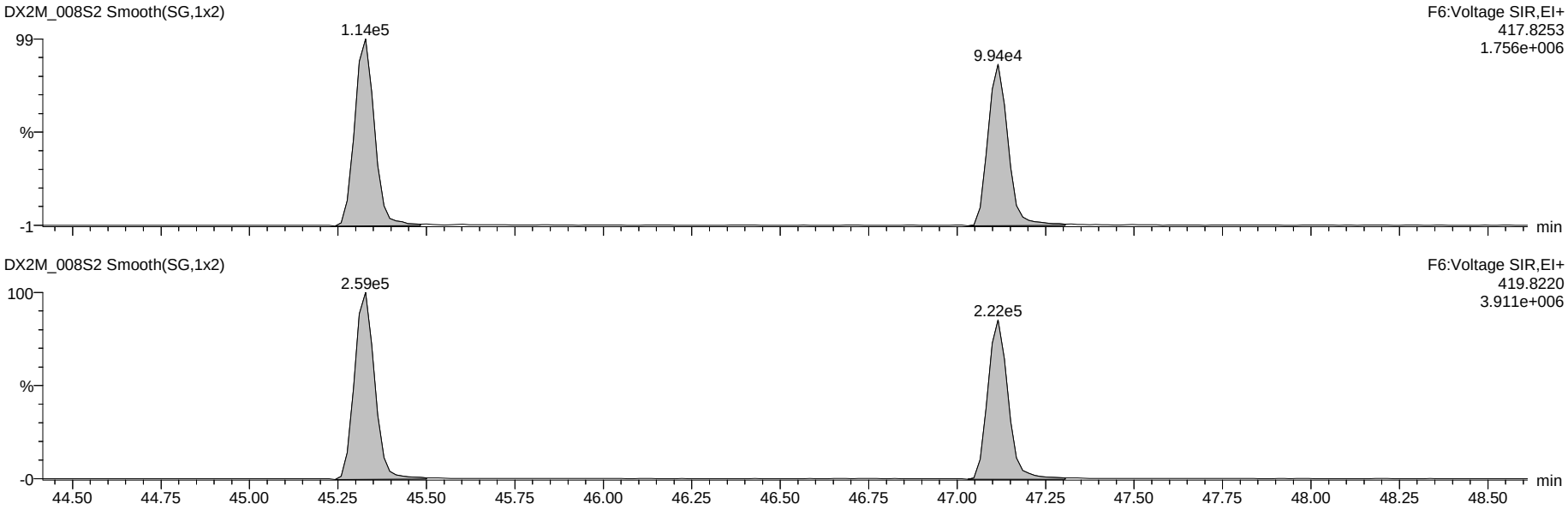
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

Total Hepta-Furans



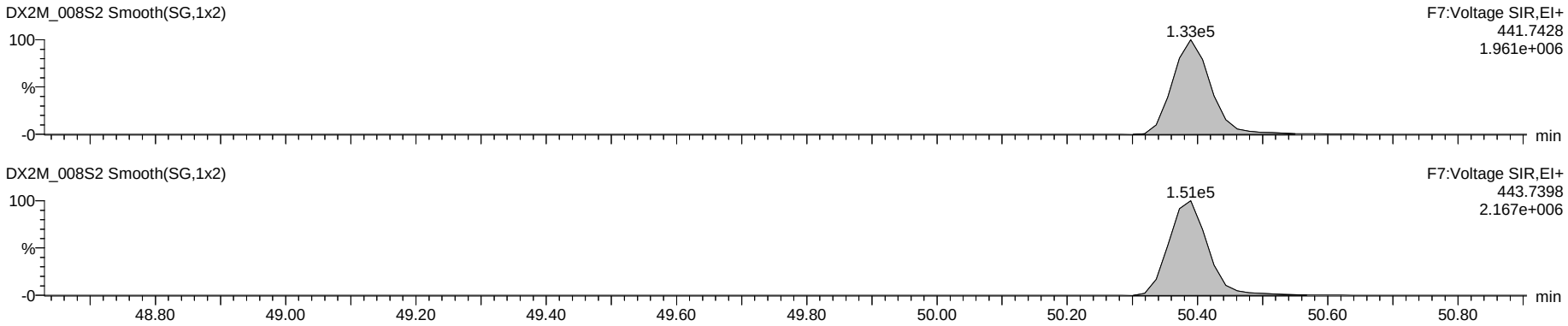
13C-Hepta-Furans



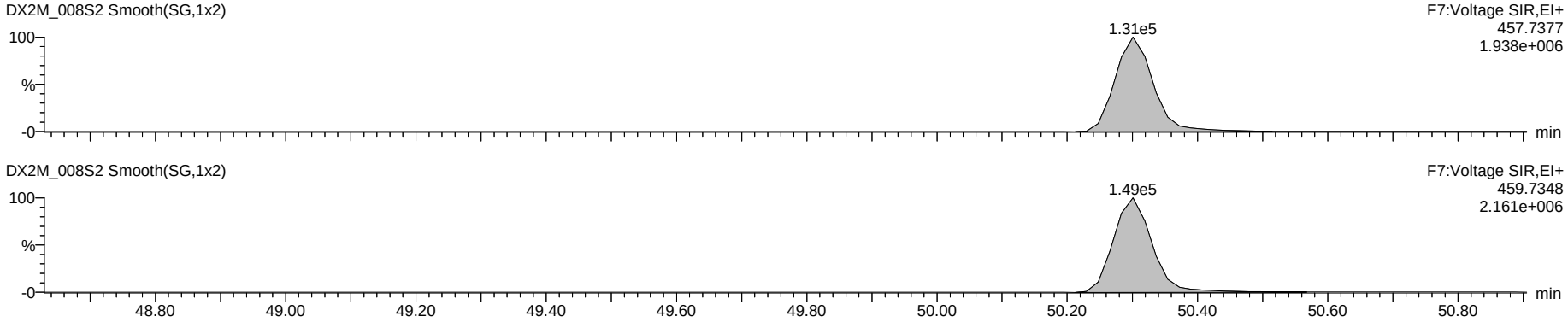
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Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

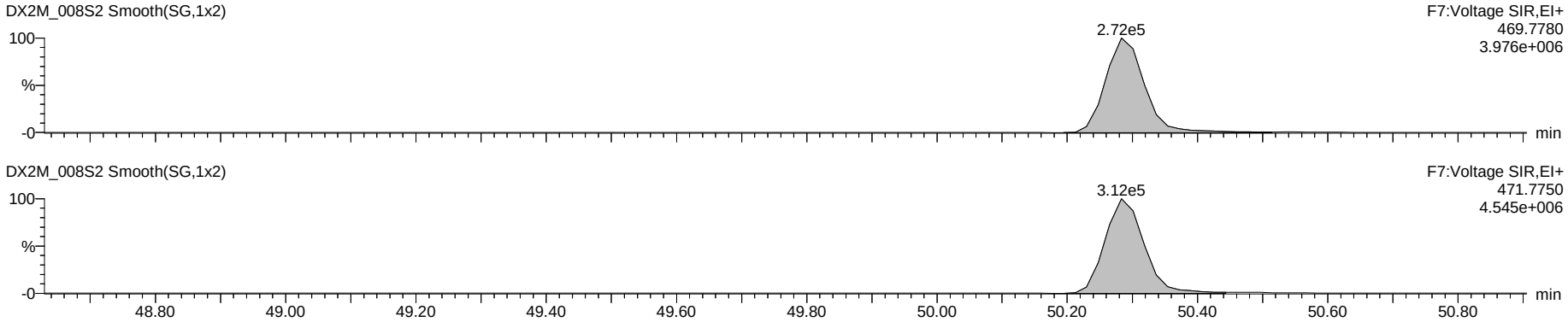
OCDF



OCDD



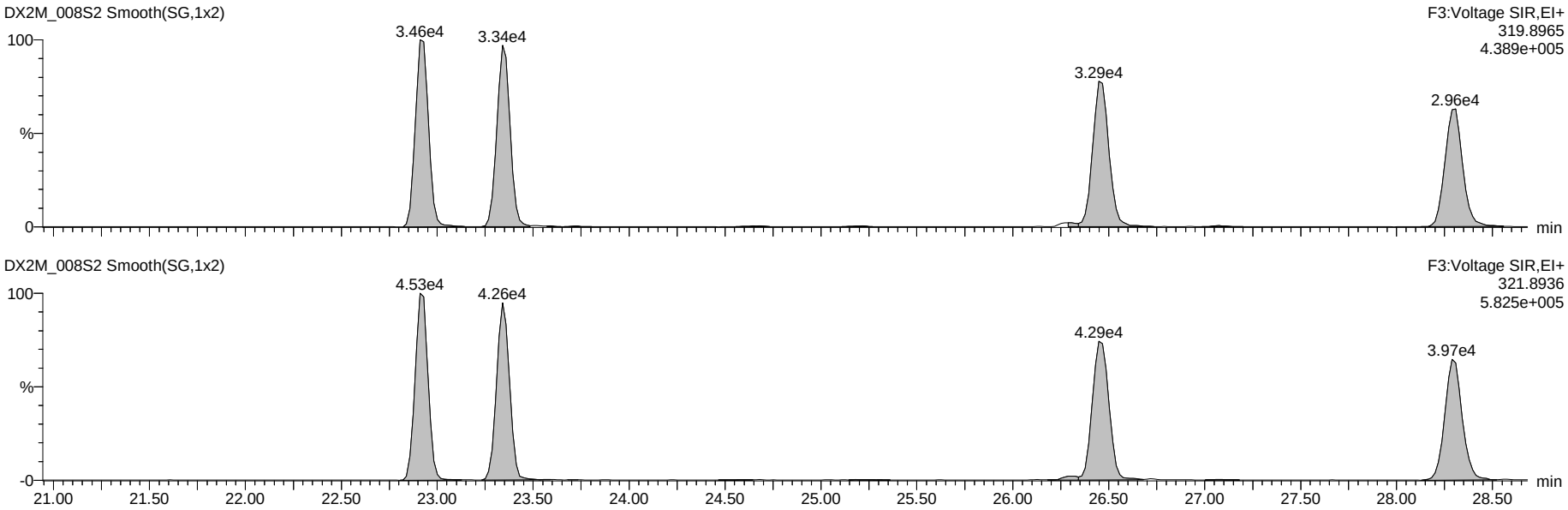
13C-OCDD



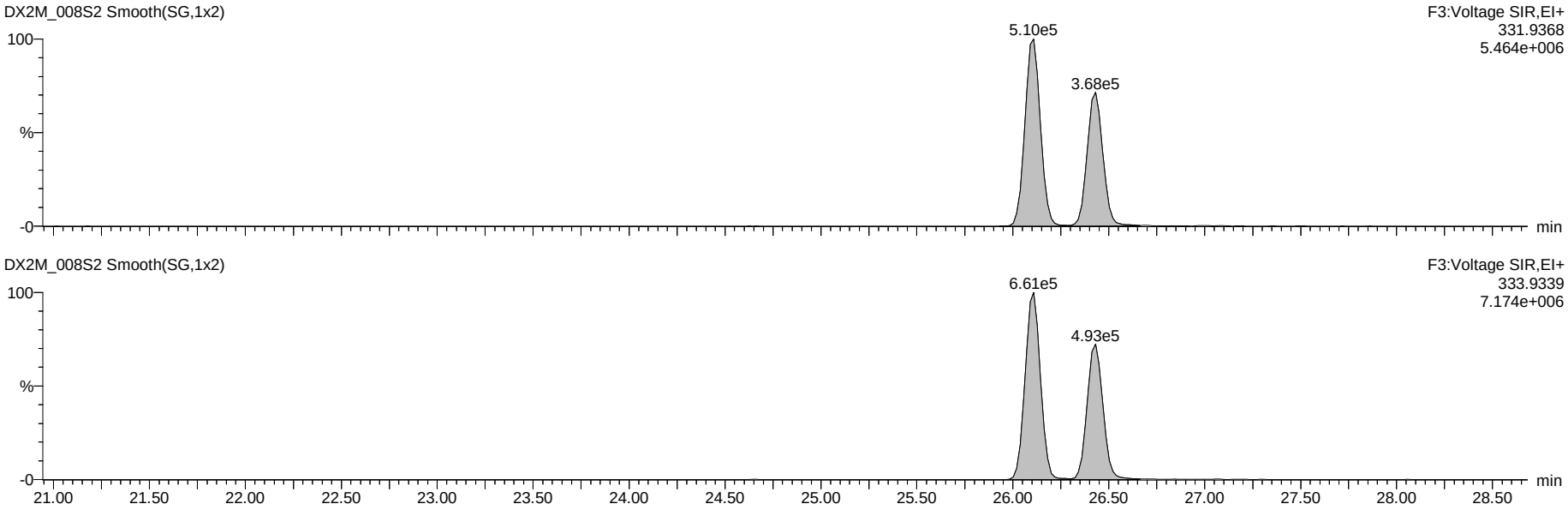
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Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

Total Tetra-Dioxins



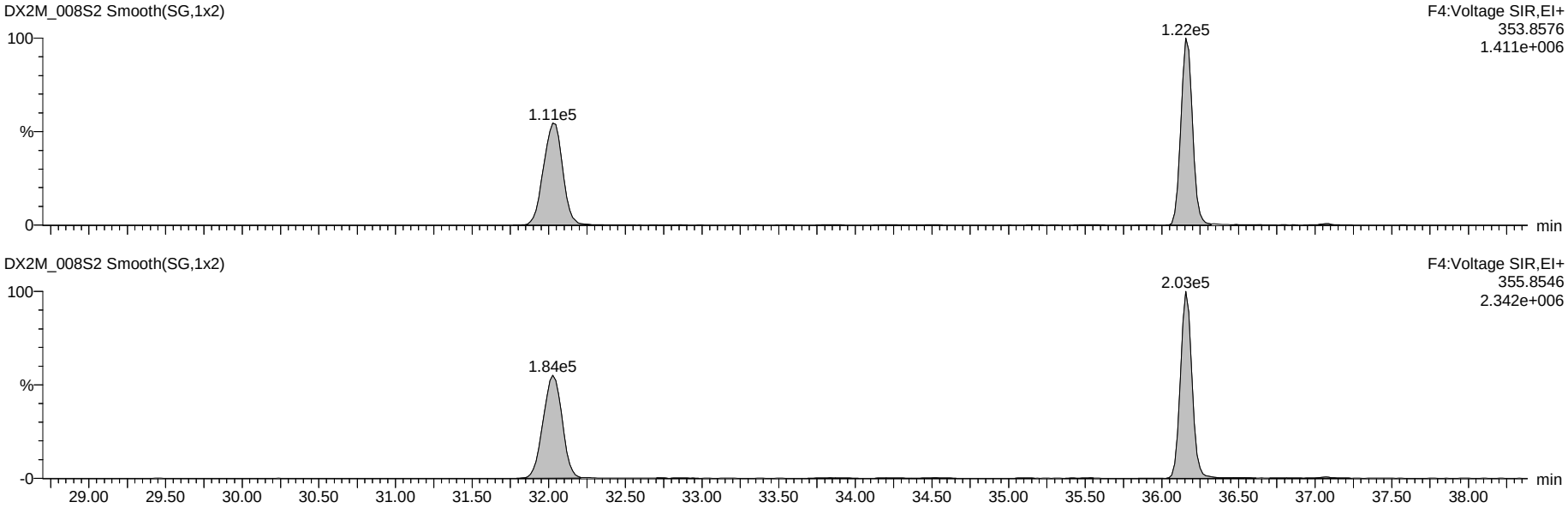
13C-Tetra-Dioxins



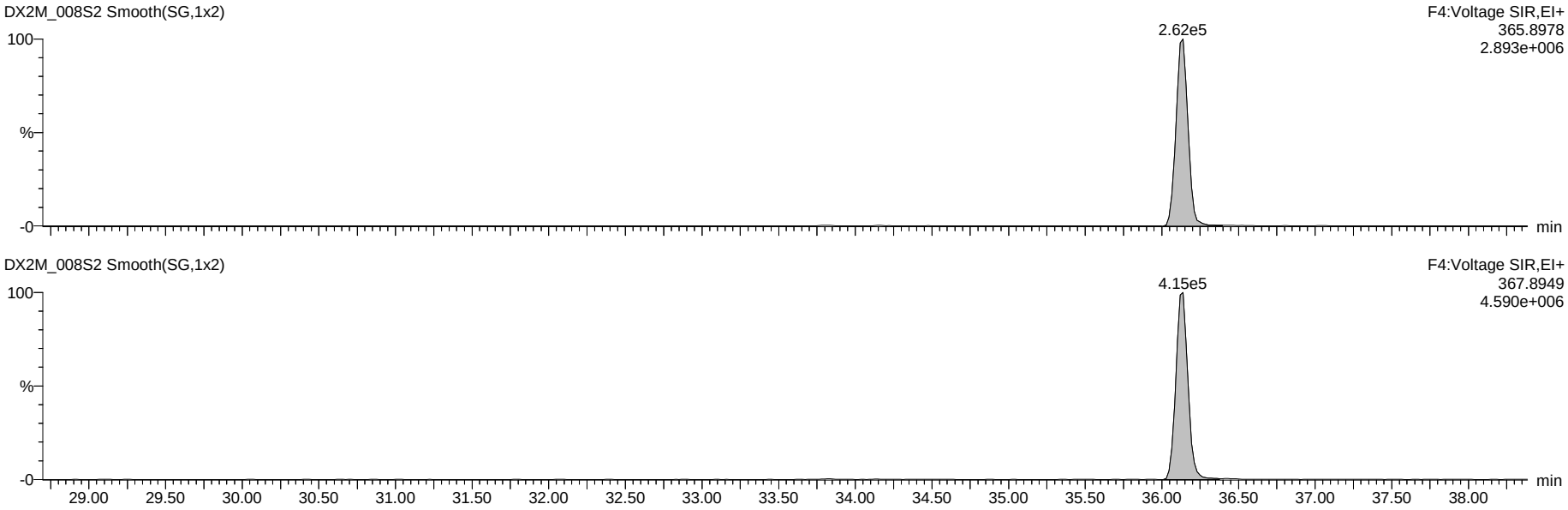
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Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

Total Penta-Dioxins



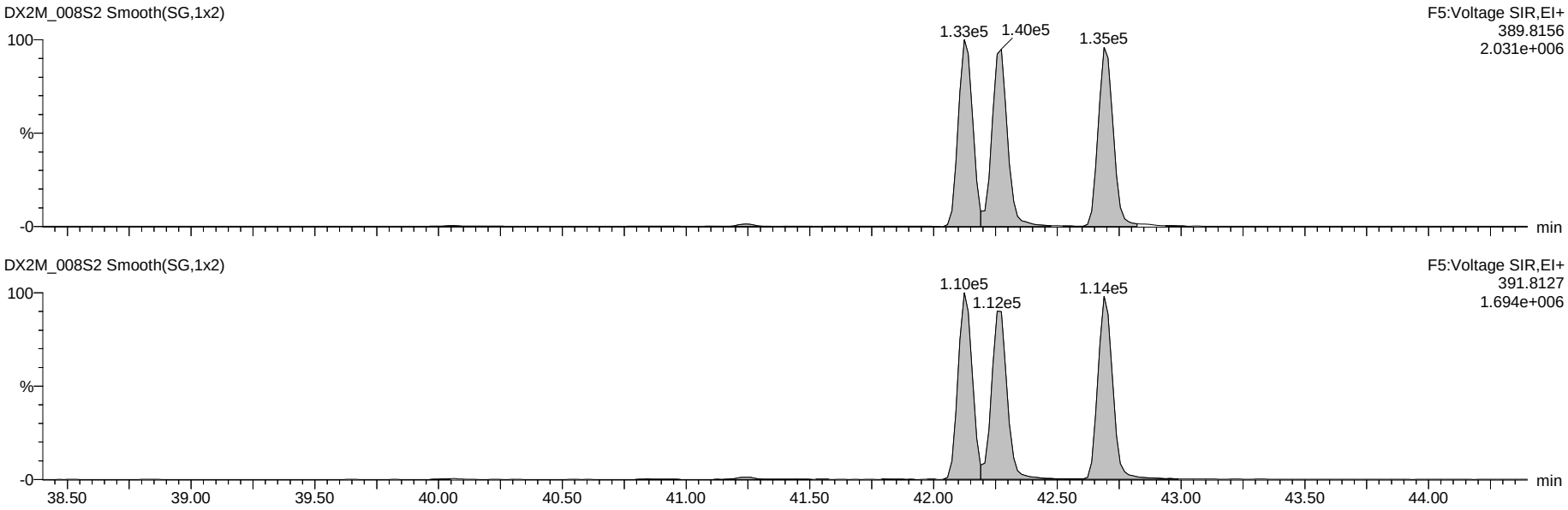
13C-Penta-Dioxins



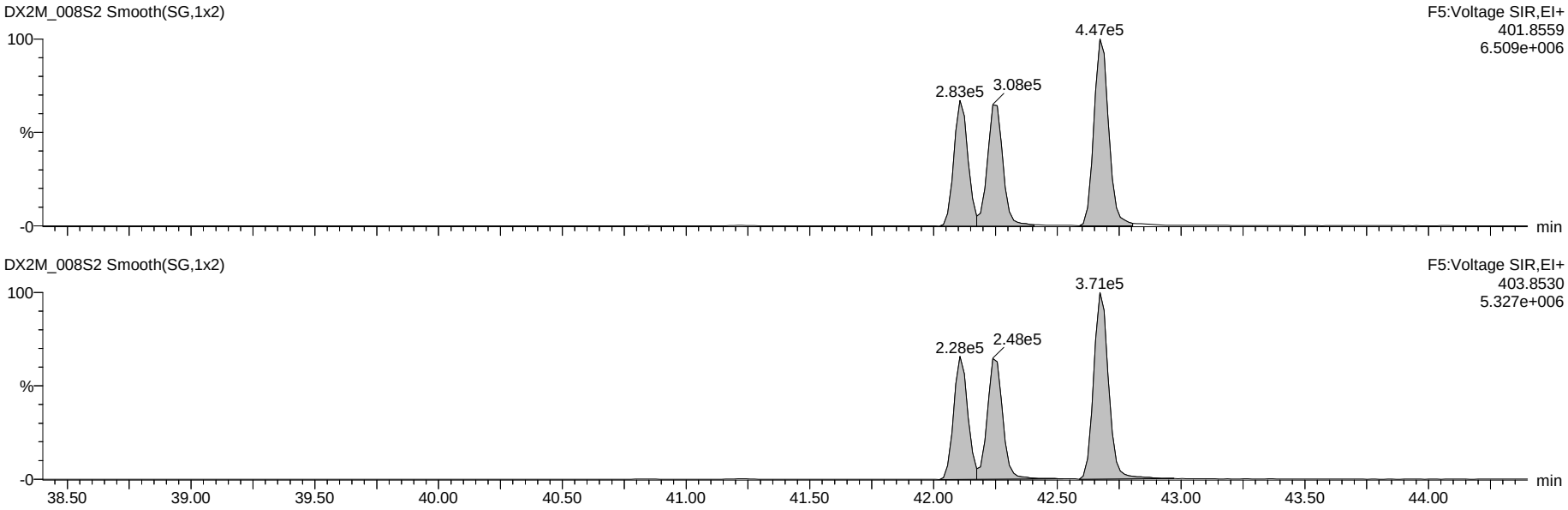
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Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

Total Hexa-Dioxins



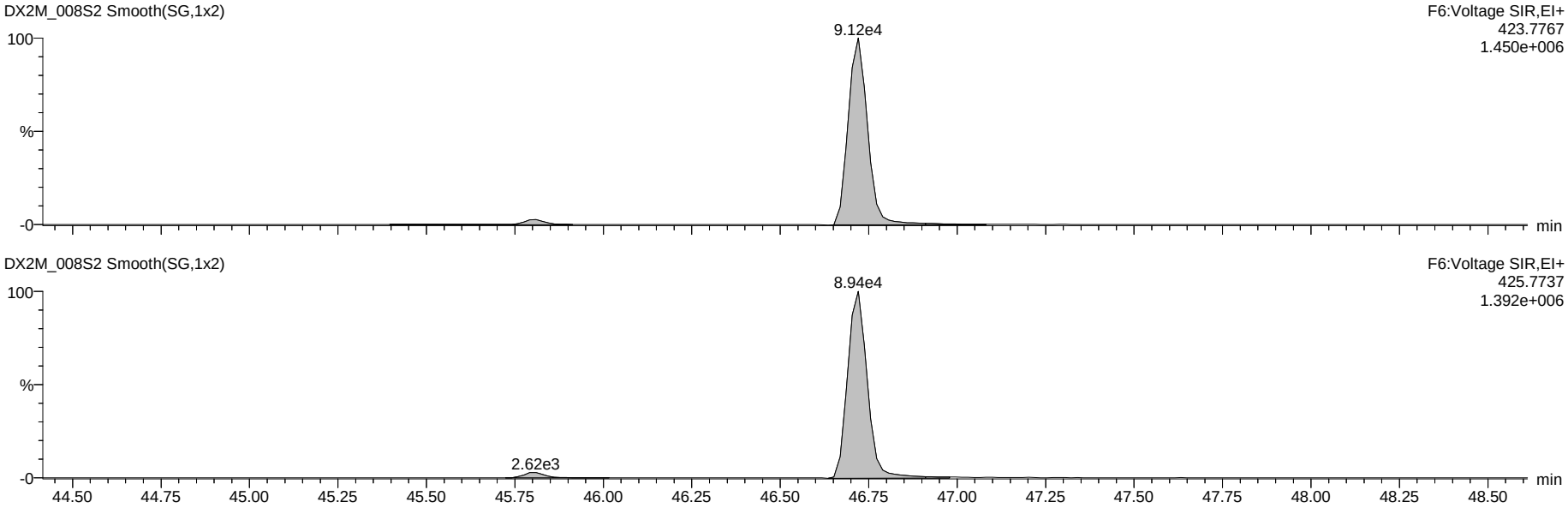
13C-Hexa-Dioxins



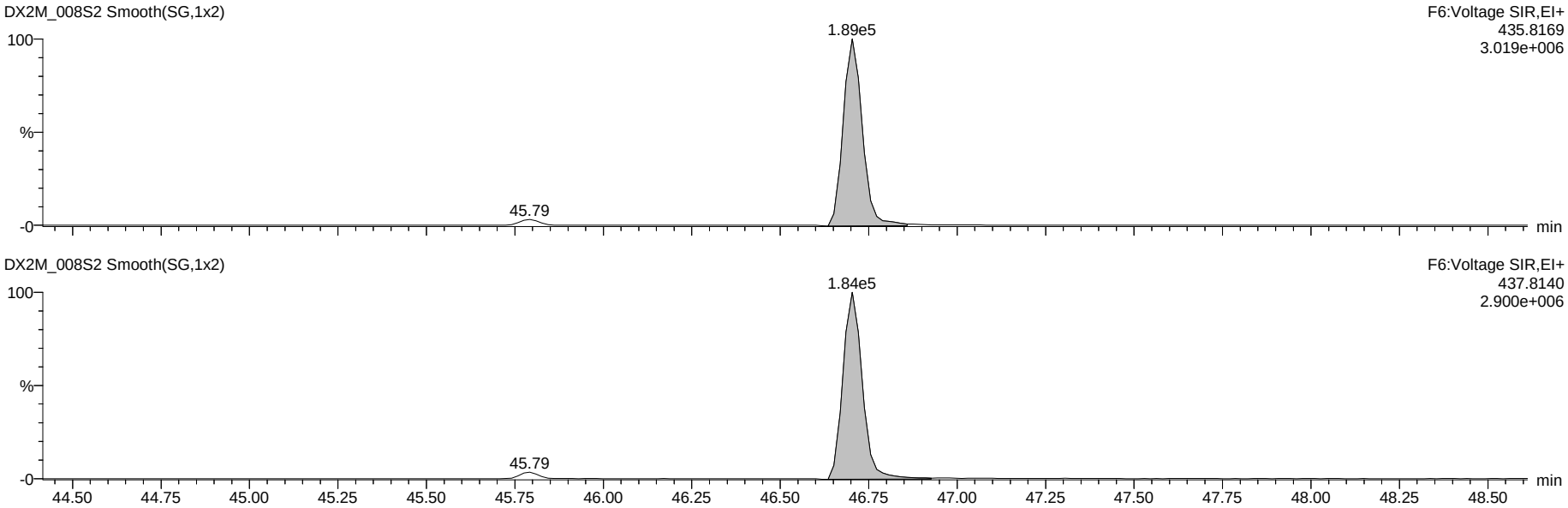
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Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

Total Hepta-Dioxins



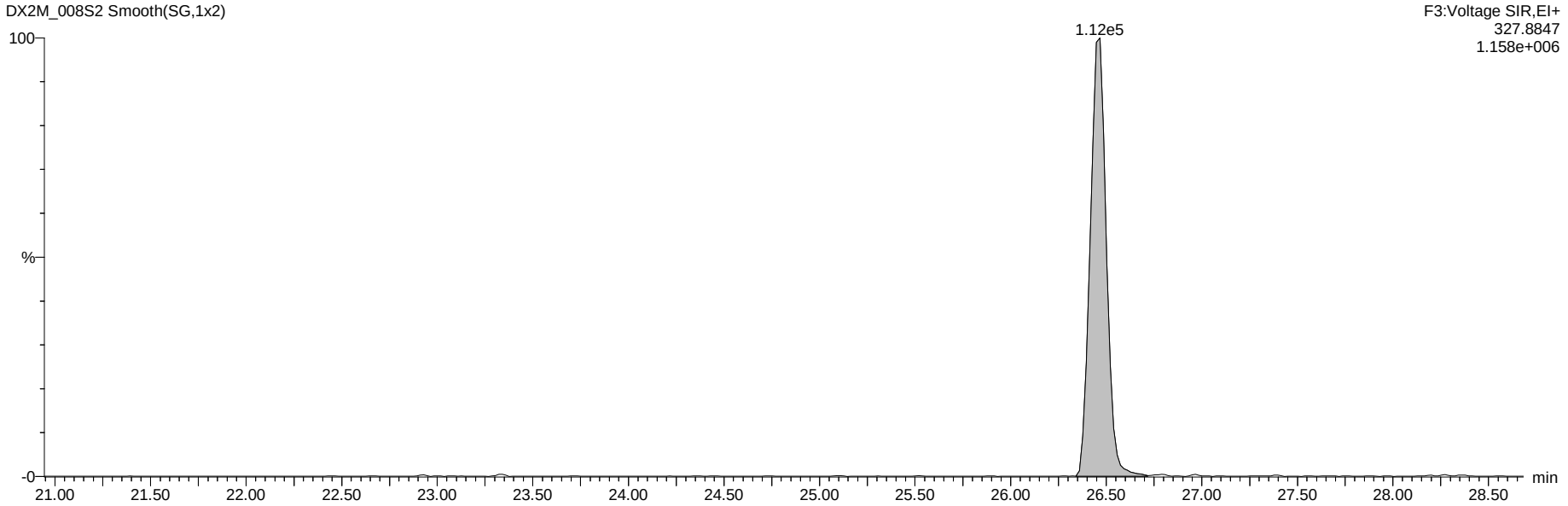
13C-Hepta-Dioxins



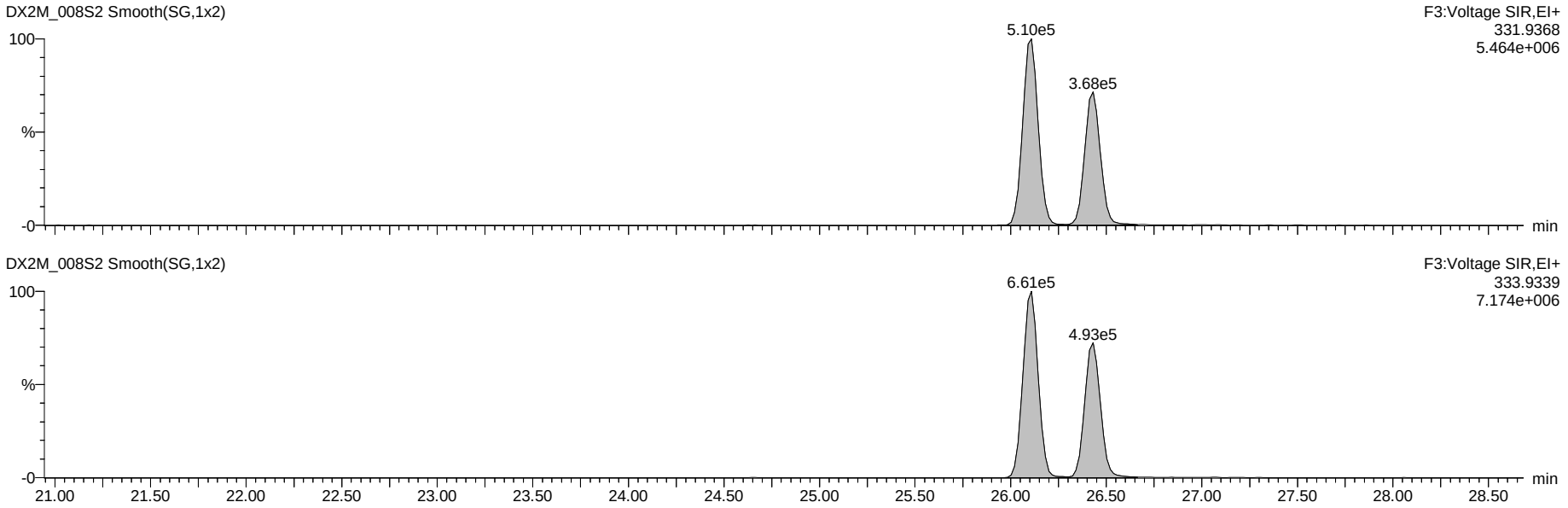
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Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

37Cl-2,3,7,8-TCDD



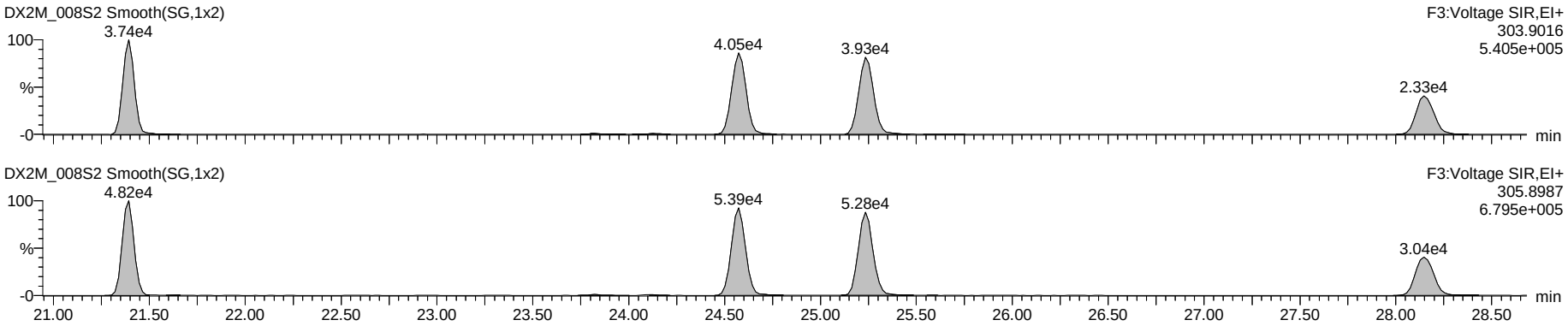
13C-Tetra-Dioxins



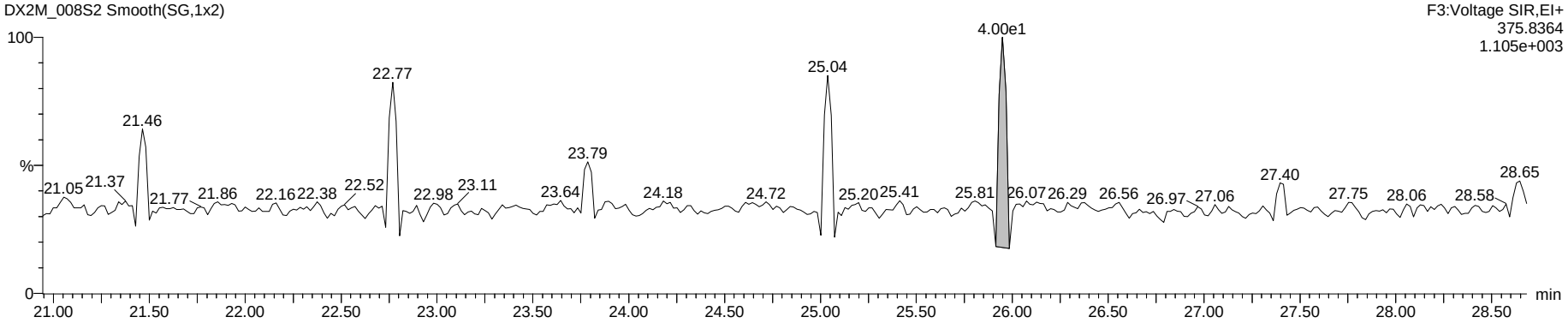
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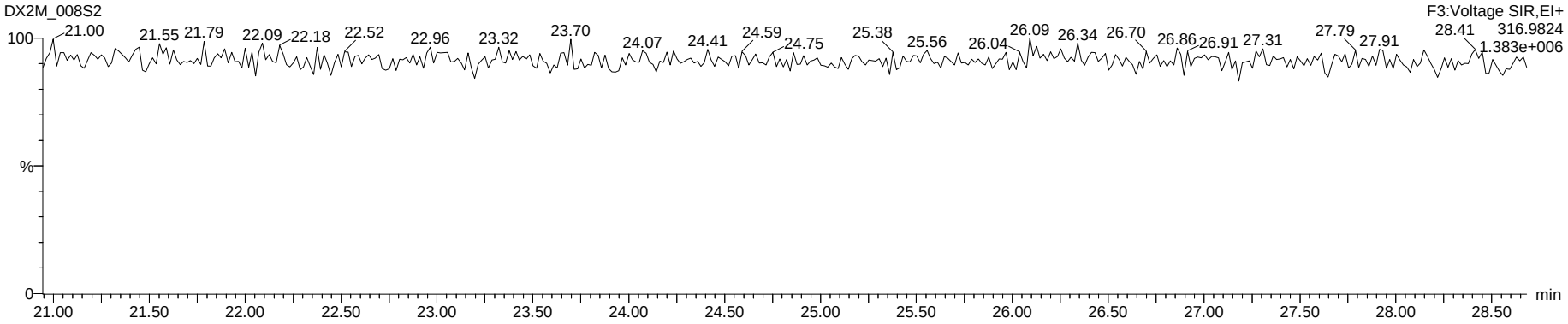
Total Tetra-Furans



Hexa DPE



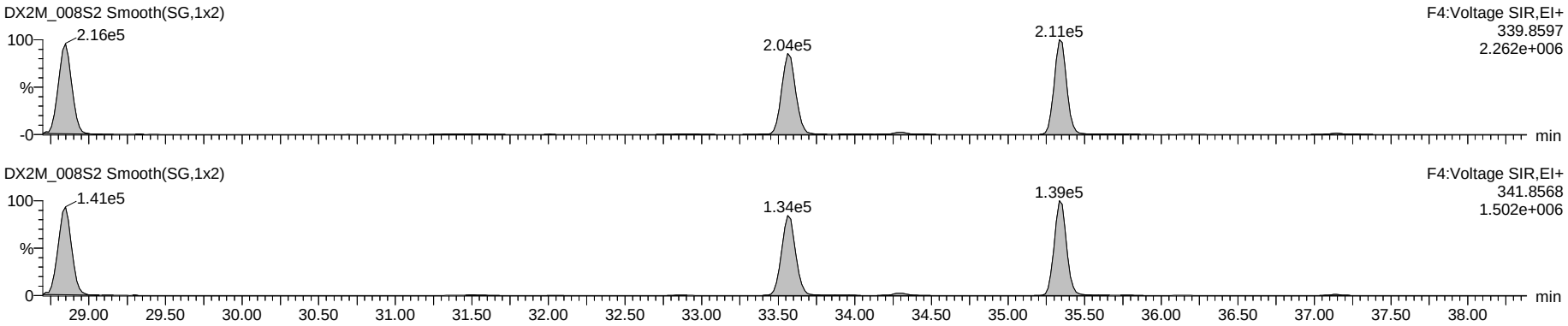
Tetra Lock



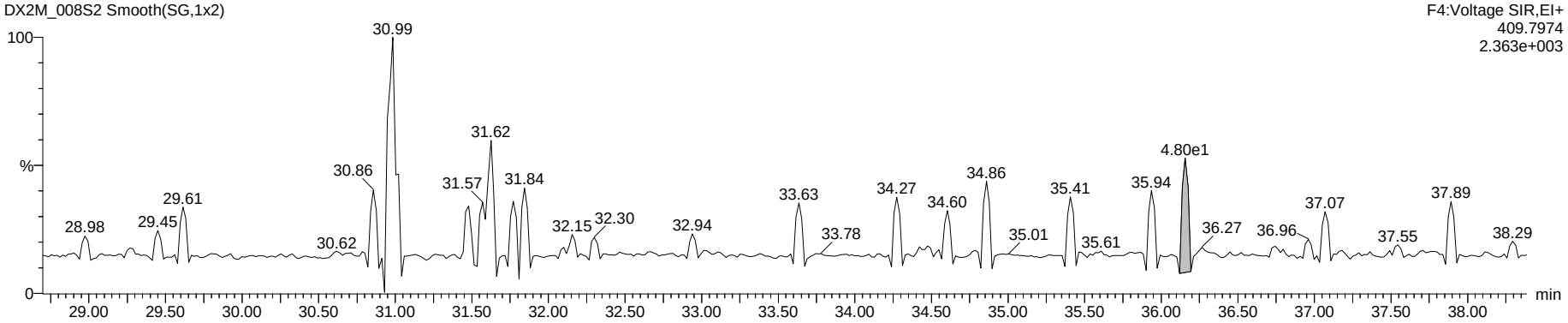
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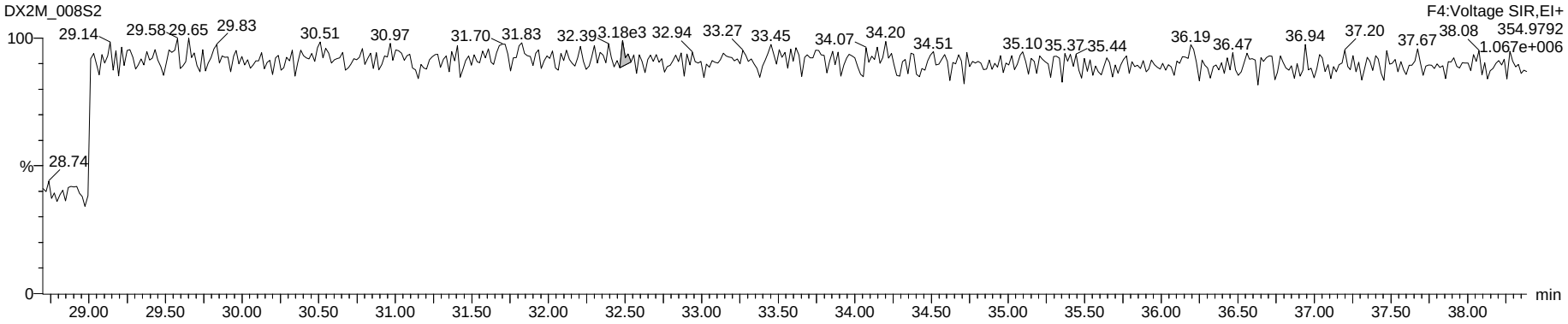
Total Penta-Furans



Hepta DPE



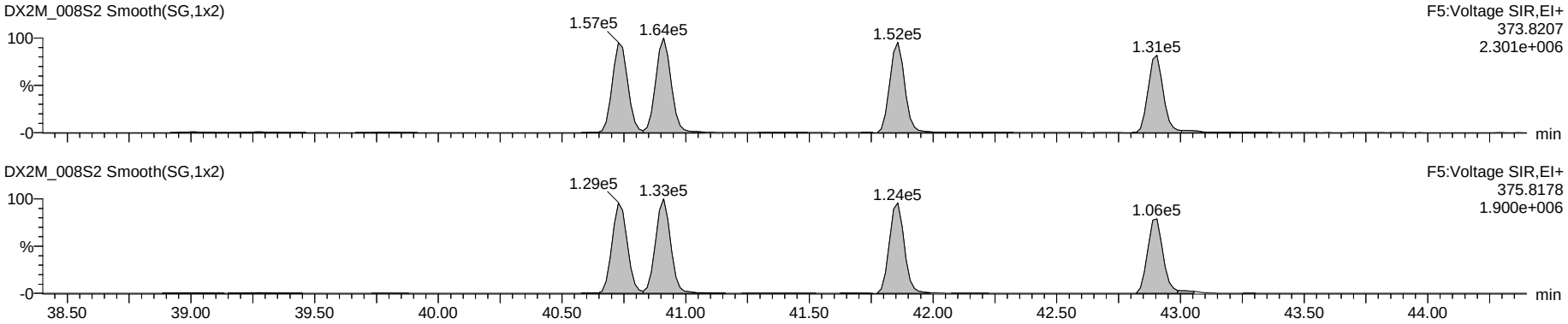
Penta Lock



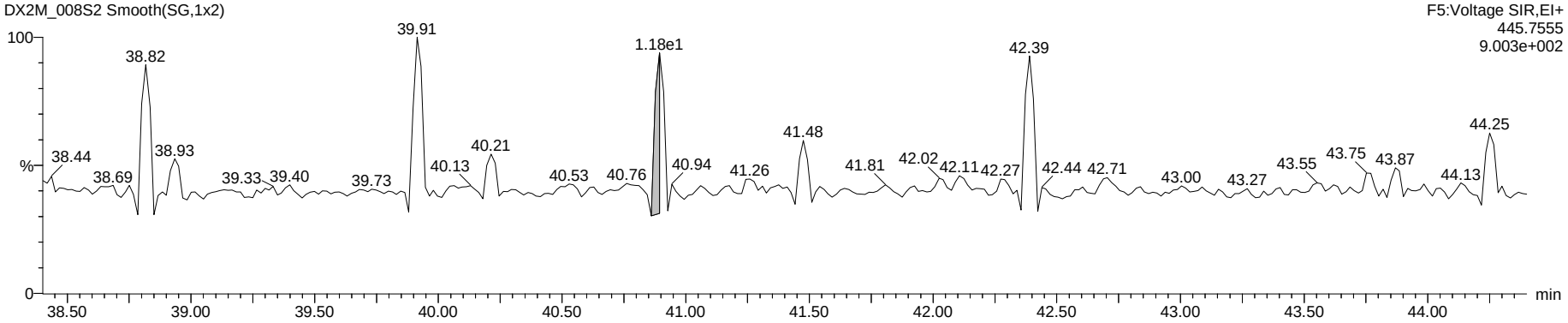
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Name: DX2M_008S2, Date: 10-Jan-2012, Time: 09:11:17, ID: WG38741-102,,SPM, Description: 1,WG38741,1.0/20uL

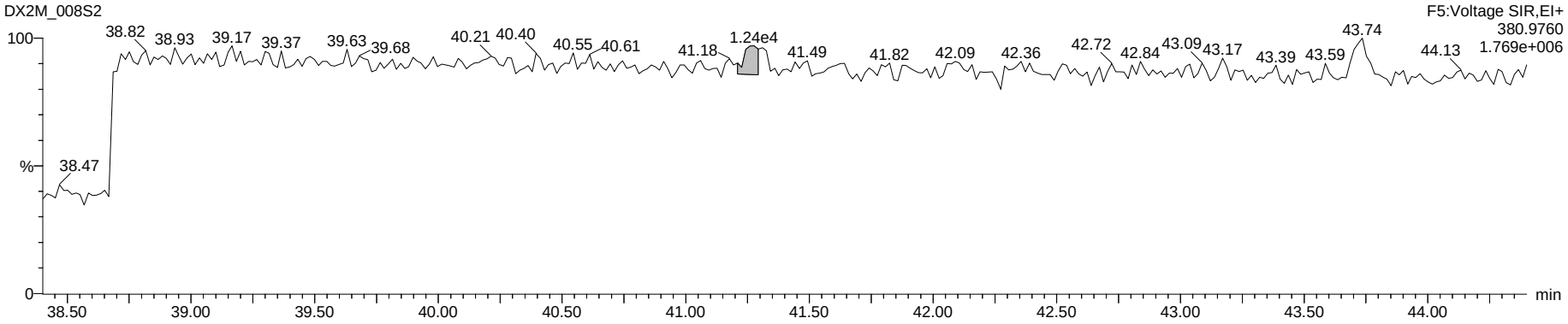
Total Hexa-Furans



Octa DPE



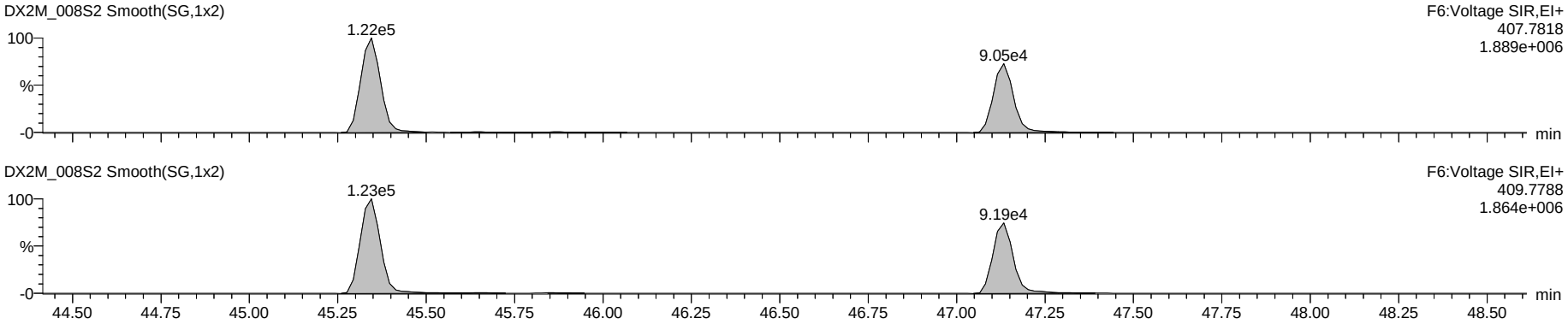
Hexa Lock



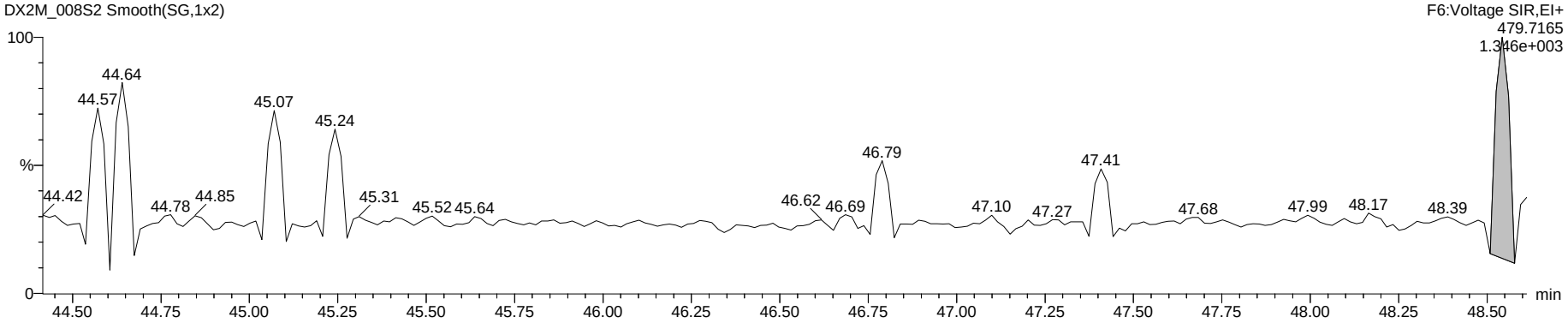
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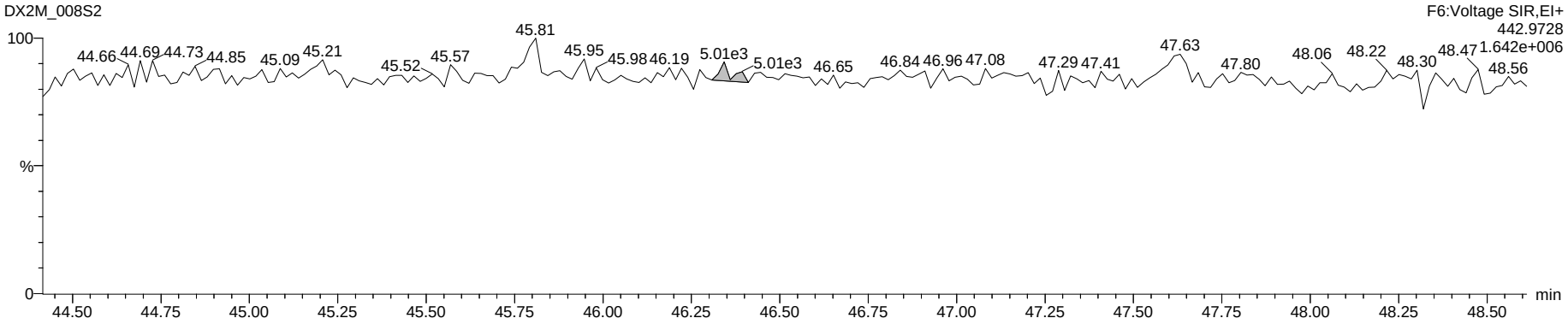
Total Hepta-Furans



Nona DPE



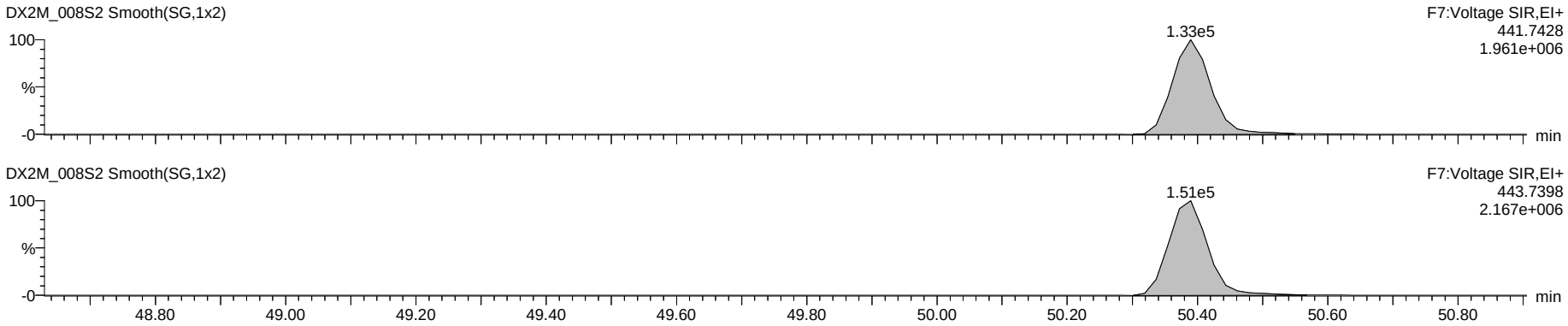
Hepta Lock



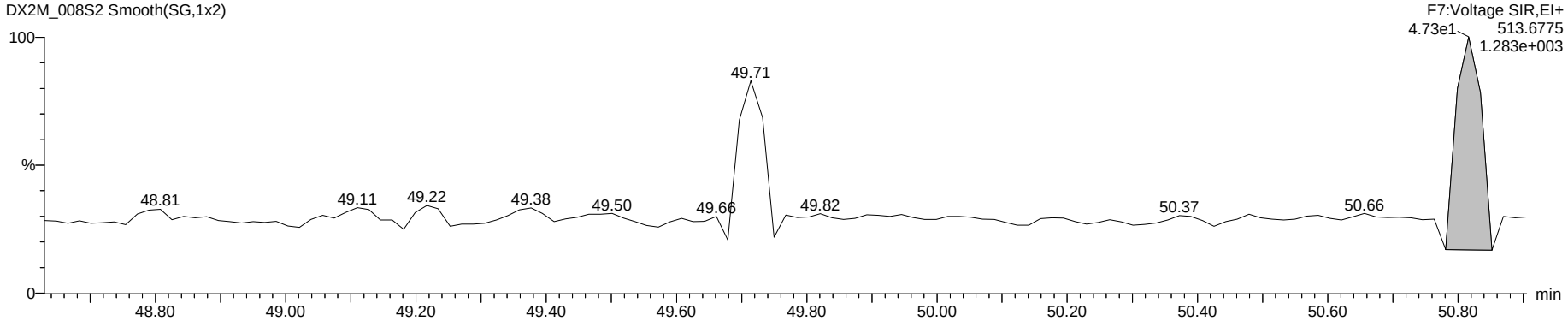
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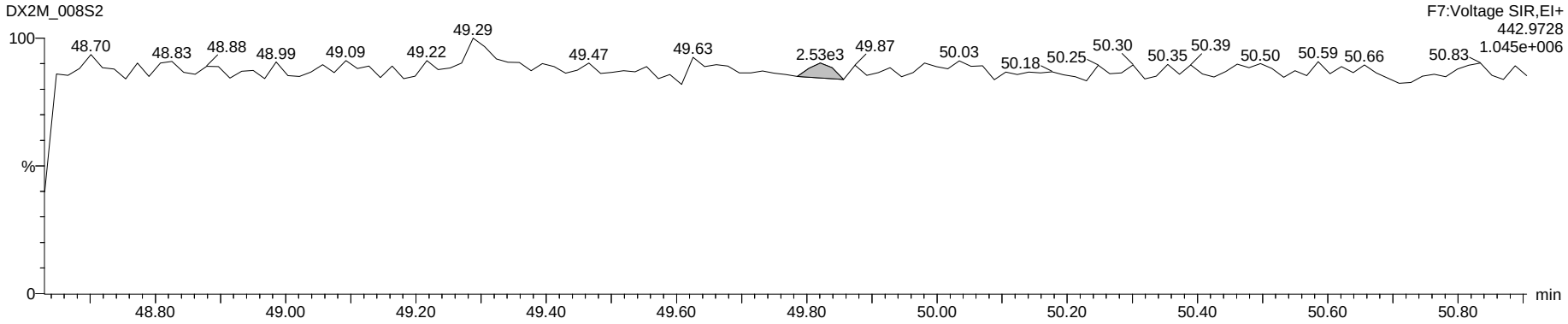
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qid

Name: DX2M_008S10, Date: 10-Jan-2012, Time: 16:30:36, ID: WG38741-103,,MS, Description: 1,WG38741,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	0.897	1.09e5	0.75	NO	25.23	246.929	0.4125		4.50e2	3.78e2
2	1,2,3,7,8-PeCDF	0.897	4.18e5	1.51	NO	33.56	1129.394	0.7122		3.82e2	6.36e2
3	2,3,4,7,8-PeCDF	0.897	4.24e5	1.50	NO	35.33	1135.491	0.6355		3.82e2	6.36e2
4	1,2,3,4,7,8-HxCDF	0.897	3.63e5	1.20	NO	40.73	1263.070	0.6948		4.79e2	6.38e2
5	1,2,3,6,7,8-HxCDF	0.897	3.77e5	1.20	NO	40.89	1201.631	0.6299		4.79e2	6.38e2
6	2,3,4,6,7,8-HxCDF	0.897	3.53e5	1.17	NO	41.84	1318.320	0.6832		4.79e2	6.38e2
7	1,2,3,7,8,9-HxCDF	0.897	3.12e5	1.21	NO	42.89	1356.383	0.8268		4.79e2	6.38e2
8	1,2,3,4,6,7,8-HpCDF	0.897	3.00e5	1.01	NO	45.33	1303.207	0.8047		6.21e2	6.40e2
9	1,2,3,4,7,8,9-HpCDF	0.897	2.34e5	1.02	NO	47.12	1307.216	1.1807		6.21e2	6.40e2
10	OCDF	0.897	3.93e5	0.89	NO	50.39	2762.906	0.4032		2.23e2	1.19e2
11	2,3,7,8-TCDD	0.897	9.17e4	0.76	NO	26.45	239.389	0.5665		3.30e2	5.63e2
12	1,2,3,7,8-PeCDD	0.897	3.80e5	0.62	NO	36.16	1251.384	0.4696		4.62e2	2.04e2
13	1,2,3,4,7,8-HxCDD	0.897	3.14e5	1.22	NO	42.12	1444.606	0.8711		8.20e2	3.42e2
14	1,2,3,6,7,8-HxCDD	0.897	3.12e5	1.20	NO	42.26	1427.646	0.8945		8.20e2	3.42e2
15	1,2,3,7,8,9-HxCDD	0.897	3.19e5	1.22	NO	42.69	1434.029	0.8663		8.20e2	3.42e2
16	1,2,3,4,6,7,8-HpCDD	0.897	2.33e5	1.01	NO	46.70	1219.688	0.8857		5.84e2	4.86e2
17	OCDD	0.897	8.64e5	0.87	NO	50.30	5883.276	0.1283		8.91e1	2.34e1
18	13C-2,3,7,8-TCDF	0.897	1.28e6	0.75	NO	25.20	1609.161	0.8018	72.2	1.67e3	1.04e3
19	13C-1,2,3,7,8-PeCDF	0.897	9.53e5	1.54	NO	33.53	1545.485	1.5269	69.3	1.74e3	2.28e3
20	13C-2,3,4,7,8-PeCDF	0.897	9.46e5	1.54	NO	35.30	1597.700	1.5897	71.7	1.74e3	2.28e3
21	13C-1,2,3,4,7,8-HxCDF	0.897	6.43e5	0.50	NO	40.70	1503.455	1.5695	67.4	2.53e3	1.43e3
22	13C-1,2,3,6,7,8-HxCDF	0.897	7.12e5	0.52	NO	40.88	1475.341	1.3916	66.2	2.53e3	1.43e3
23	13C-2,3,4,6,7,8-HxCDF	0.897	6.61e5	0.51	NO	41.83	1508.310	1.5323	67.7	2.53e3	1.43e3
24	13C-1,2,3,7,8,9-HxCDF	0.897	5.91e5	0.51	NO	42.87	1500.272	1.7025	67.3	2.53e3	1.43e3
25	13C-1,2,3,4,6,7,8-HpCDF	0.897	4.44e5	0.45	NO	45.31	1345.518	0.9902	60.4	1.16e3	7.61e2
26	13C-1,2,3,4,7,8,9-HpCDF	0.897	3.82e5	0.44	NO	47.12	1323.619	1.1315	59.4	1.16e3	7.61e2
27	13C-2,3,7,8-TCDD	0.897	1.04e6	0.75	NO	26.41	1545.452	1.2262	69.3	1.71e3	1.81e3
28	13C-1,2,3,7,8-PeCDD	0.897	8.13e5	0.61	NO	36.12	1746.351	0.8564	78.3	9.80e2	7.21e2
29	13C-1,2,3,4,7,8-HxCDD	0.897	6.19e5	1.25	NO	42.11	1485.436	1.0903	66.6	9.42e2	1.74e3
30	13C-1,2,3,6,7,8-HxCDD	0.897	6.63e5	1.24	NO	42.24	1448.464	0.9927	65.0	9.42e2	1.74e3
31	13C-1,2,3,4,6,7,8-HpCDD	0.897	4.42e5	1.03	NO	46.70	1329.029	0.7086	59.6	7.64e2	6.26e2
32	13C-OCDD	0.897	7.19e5	0.89	NO	50.28	2175.090	0.5794	48.8	7.80e2	3.49e2
33	13C-1,2,3,4-TCDD	0.897	1.30e6	0.76	NO	26.09	144.069	0.0912	6.5	1.71e3	1.81e3
34	13C-1,2,3,7,8,9-HxCDD	0.897	9.45e5	1.22	NO	42.67	140.277	0.0675	6.3	9.42e2	1.74e3
35	37Cl-2,3,7,8-TCDD	0.897	1.37e5			26.45	203.464	0.3660	91.3		1.05e3
36	Total Tetra-Furans	0.897					881.541	0.4125			3.78e2
37	Total Tetra-Dioxins	0.897					942.861	0.5665			5.63e2
38	Total Penta-Furans	0.897					3448.276	0.6791			6.36e2
39	Total Penta-Dioxins	0.897					2427.439	0.4696			2.04e2
40	Total Hexa-Furans	0.897					5166.638	0.6608			6.38e2
41	Total Hexa-Dioxins	0.897					4329.832	0.8545			3.42e2
42	Total Hepta-Furans	0.897					2645.988	0.9785			6.40e2
43	Total Hepta-Dioxins	0.897					1256.331	0.8857			4.86e2
44	Hexa DPE	1.000	2.57e1			22.46					3.76e1
45	Hepta DPE	1.000	5.42e1			36.08					3.74e1
46	Octa DPE	1.000	3.29e1			43.55					2.79e1
47	Nona DPE	1.000	8.58e1			47.05					3.74e2
48	Deca DPE	1.000	5.88e1			50.21					2.68e1
49	Tetra Lock	1.000	7.80e3			24.52					5.05e4
50	Penta Lock	1.000	3.76e4			32.63					3.86e4
51	Hexa Lock	1.000	1.96e4			41.26					6.90e4
52	Hepta Lock	1.000	9.57e2			46.33					6.87e4
53	Octa Lock	1.000	2.04e3			49.91					4.79e4
54	13C-Tetra-Furans	0.897					1609.161	0.8018			1.04e3
55	13C-Tetra-Dioxins	0.897					1689.522	1.3174			1.81e3

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

S/D BY SF 12-Jan-2012

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S10, Date: 10-Jan-2012, Time: 16:30:36, ID: WG38741-103,,MS, Description: 1,WG38741,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	25.23	0.753	NO	246.929
2	24.57	0.761	NO	249.673
3	24.11	1.050	YES	4.197
4	23.82	0.722	NO	2.444
5	23.30	0.660	NO	0.684
6	22.91	0.973	YES	0.688
7	21.37	0.745	NO	227.592
8	28.15	0.778	NO	149.334

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	24.68	0.473	YES	1.036
2	23.80	1.548	YES	0.203
3	23.55	1.212	YES	0.754
4	23.34	0.750	NO	231.979
5	22.91	0.761	NO	244.401
6	28.29	0.738	NO	218.199
7	27.13	4.509	YES	0.119
8	27.06	0.726	NO	0.263
9	26.45	0.765	NO	239.389
10	26.27	0.680	NO	5.538
11	26.15	0.590	YES	0.806
12	25.59	2.216	YES	0.175

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	33.56	1.514	NO	1129.3...
2	32.89	1.255	YES	3.783
3	28.83	1.521	NO	1140.1...
4	37.13	1.702	NO	9.806
5	35.33	1.504	NO	1135.4...
6	34.29	1.567	NO	30.609

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	32.03	0.597	NO	1163.3...
2	36.43	0.574	NO	2.858
3	36.16	0.616	NO	1251.3...
4	35.52	0.217	YES	1.992
5	35.10	0.705	YES	0.338
6	34.51	0.622	NO	1.197
7	34.20	1.014	YES	2.181
8	33.85	0.627	NO	1.980
9	37.07	0.715	YES	2.167

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S10, Date: 10-Jan-2012, Time: 16:30:36, ID: WG38741-103,,MS, Description: 1,WG38741,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	42.89	1.207	NO	1356.3...
2	42.24	0.630	YES	2.380
3	41.84	1.175	NO	1318.3...
4	40.89	1.202	NO	1201.6...
5	40.73	1.196	NO	1263.0...
6	40.08	1.149	NO	2.081
7	39.78	1.380	NO	3.485
8	39.27	1.337	NO	13.667
9	39.00	1.078	NO	5.621

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	42.69	1.219	NO	1434.0...
2	42.26	1.200	NO	1427.6...
3	42.12	1.215	NO	1444.6...
4	41.24	1.092	NO	19.656
5	40.86	1.711	YES	2.044
6	40.70	1.138	NO	0.331
7	40.05	0.777	YES	1.520

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	47.12	1.018	NO	1307.2...
2	45.84	0.800	YES	21.104
3	45.66	0.695	YES	14.462
4	45.33	1.013	NO	1303.2...

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.70	1.014	NO	1219.6...
2	45.79	0.964	NO	36.643

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.20	0.750	NO	1609.1...

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.41	0.753	NO	1545.4...
2	26.09	0.765	NO	144.069

13C-PF

	RT	1° Ratio (A...	Fails?	pg
1	33.53	1.539	NO	1545.4...
2	35.30	1.539	NO	1597.7...

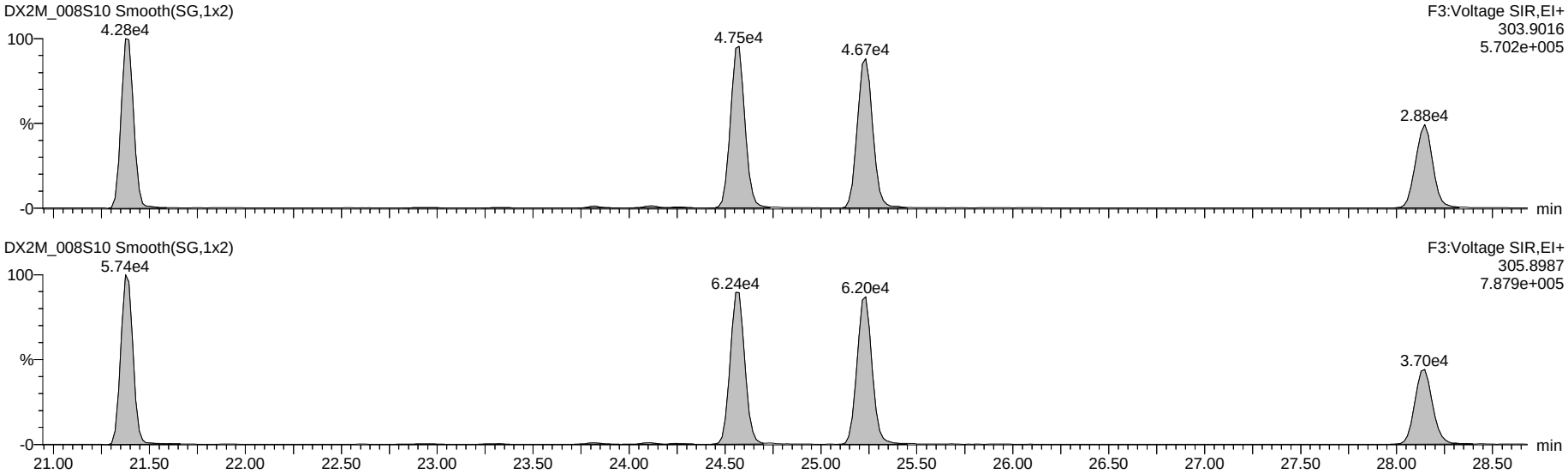
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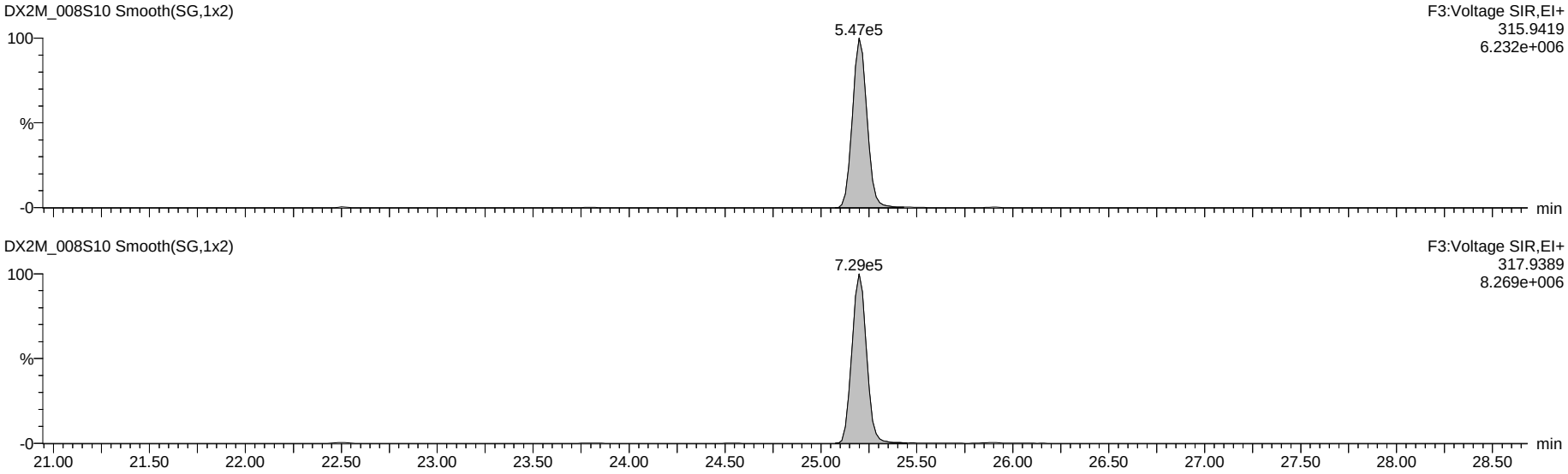
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Name: DX2M_008S10, Date: 10-Jan-2012, Time: 16:30:36, ID: WG38741-103,,MS, Description: 1,WG38741,1.0/20uL

Total Tetra-Furans



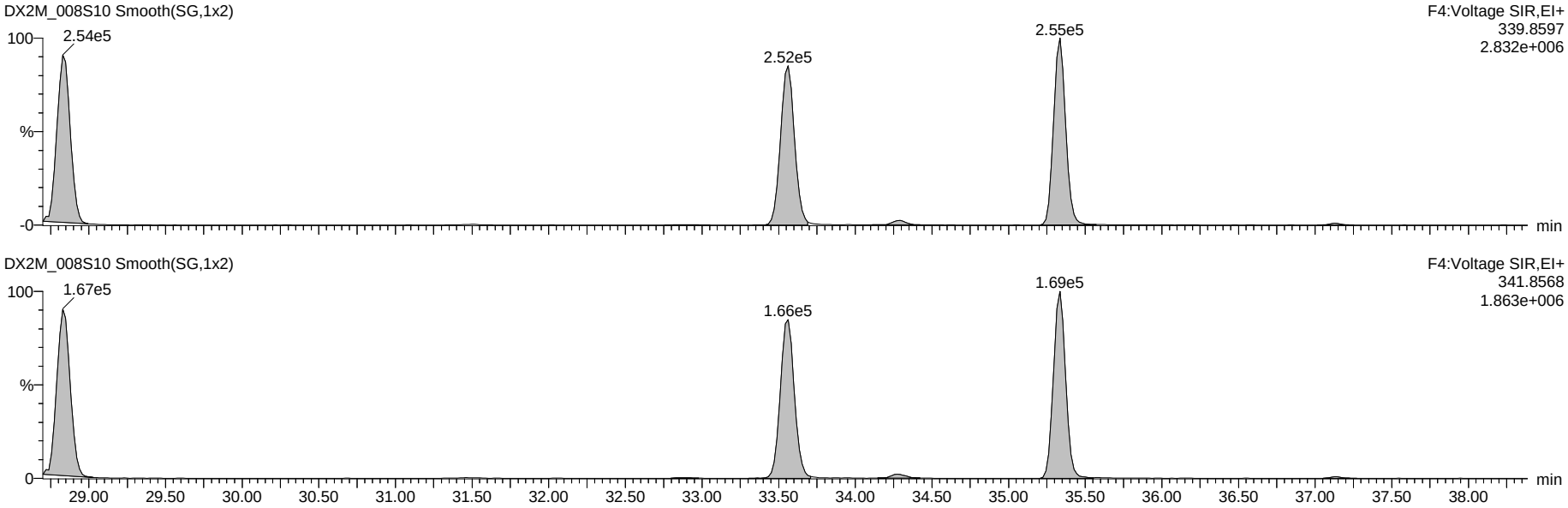
13C-Tetra-Furans



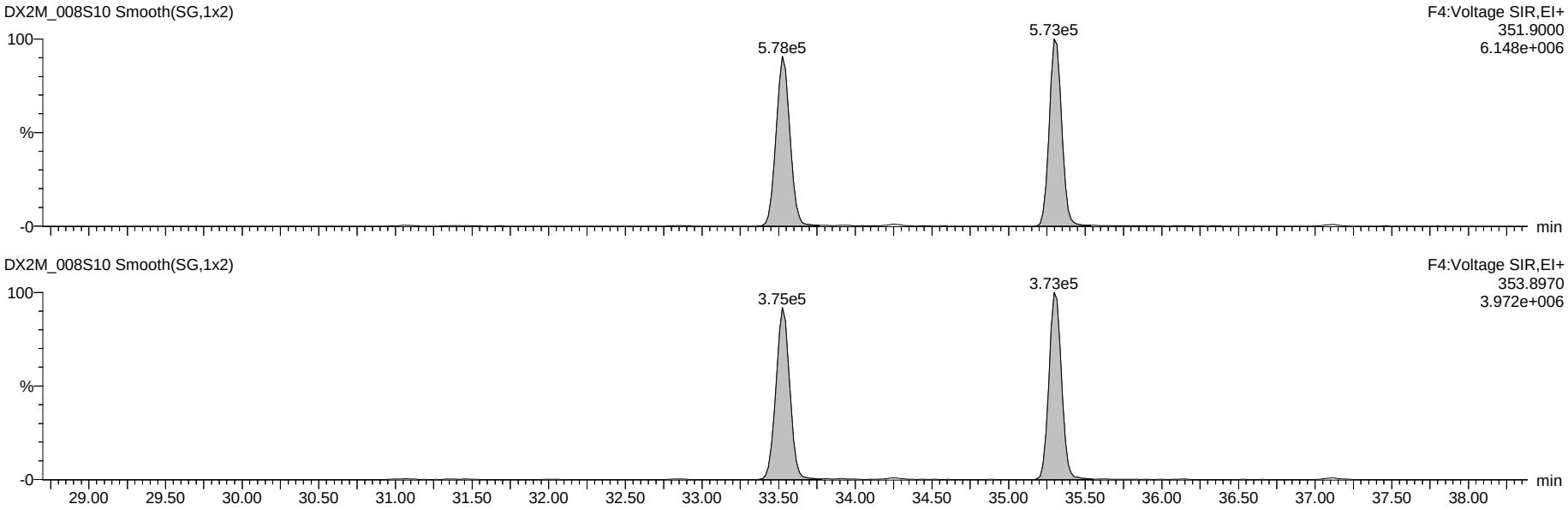
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Total Penta-Furans



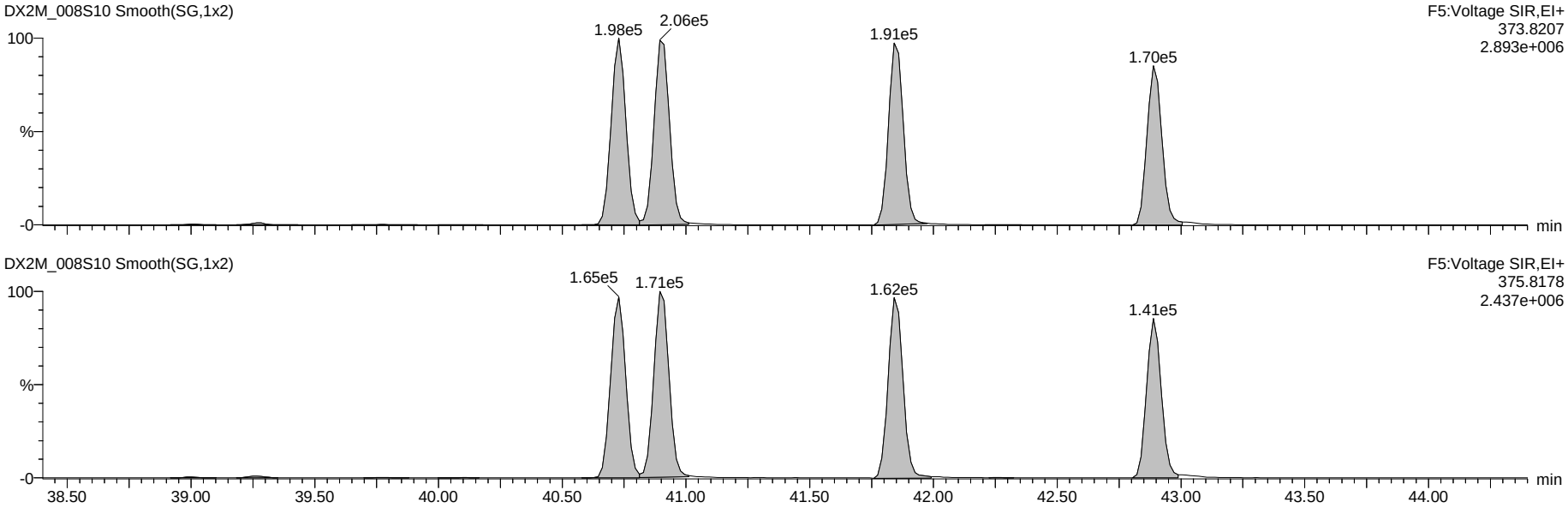
13C-Penta-Furans



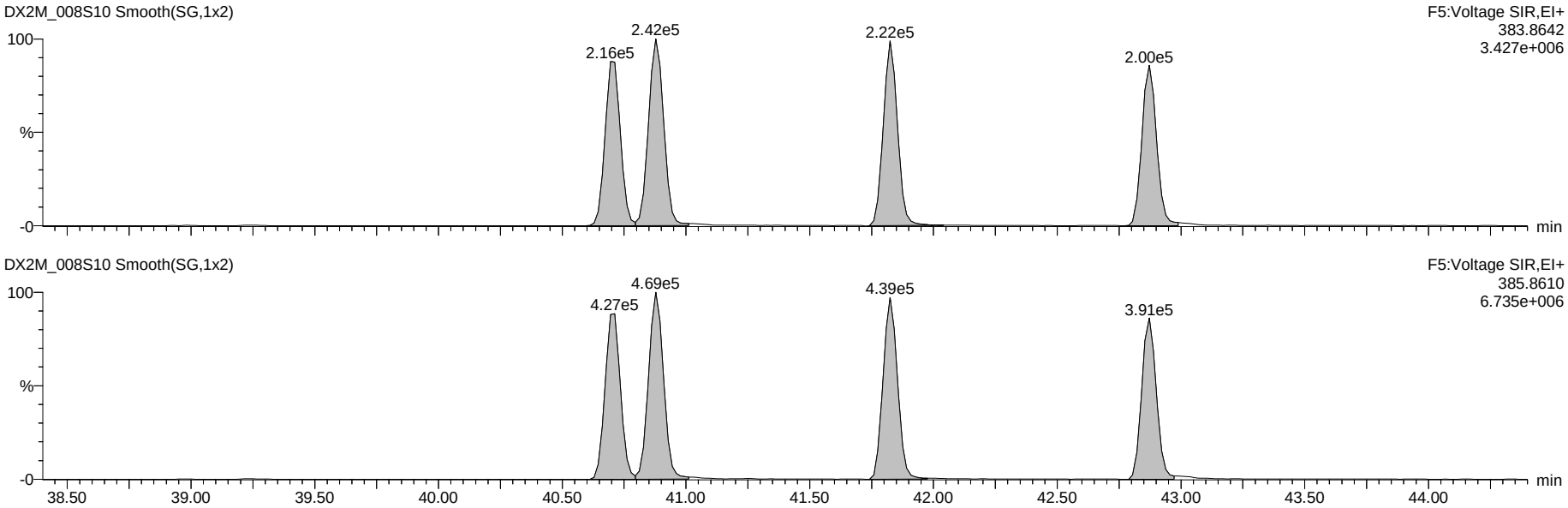
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Total Hexa-Furans



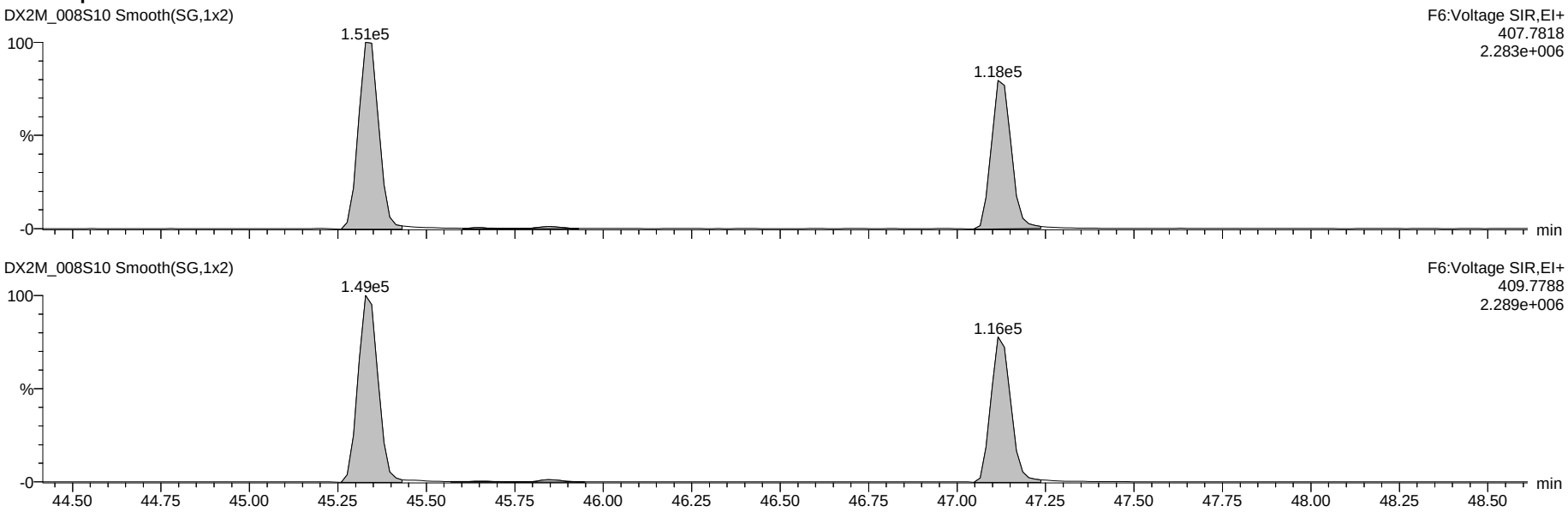
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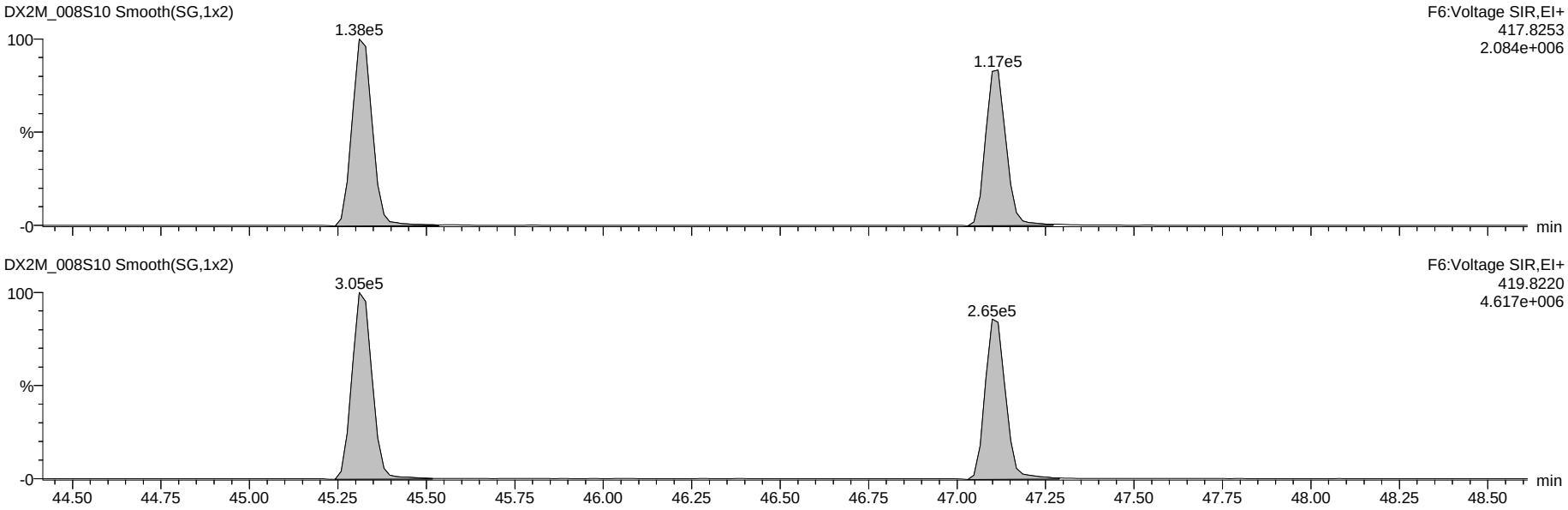
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Total Hepta-Furans



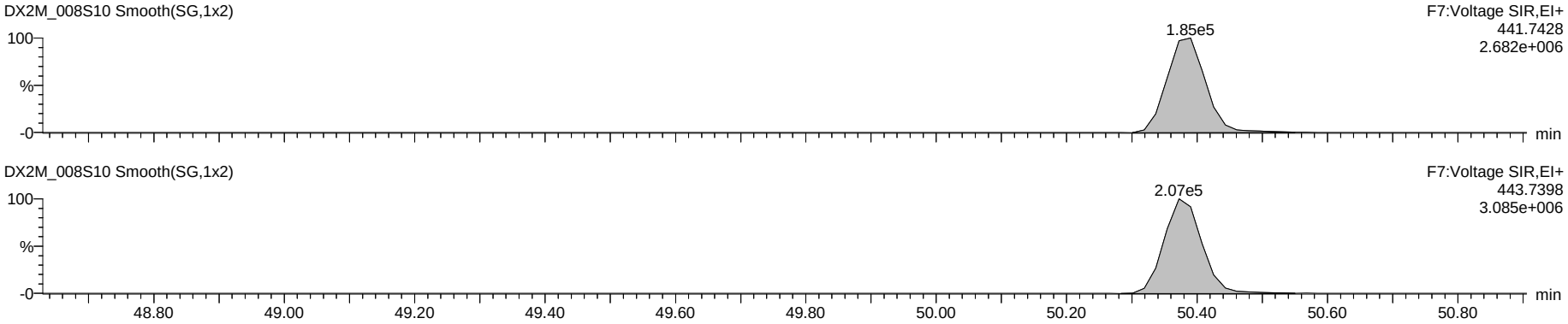
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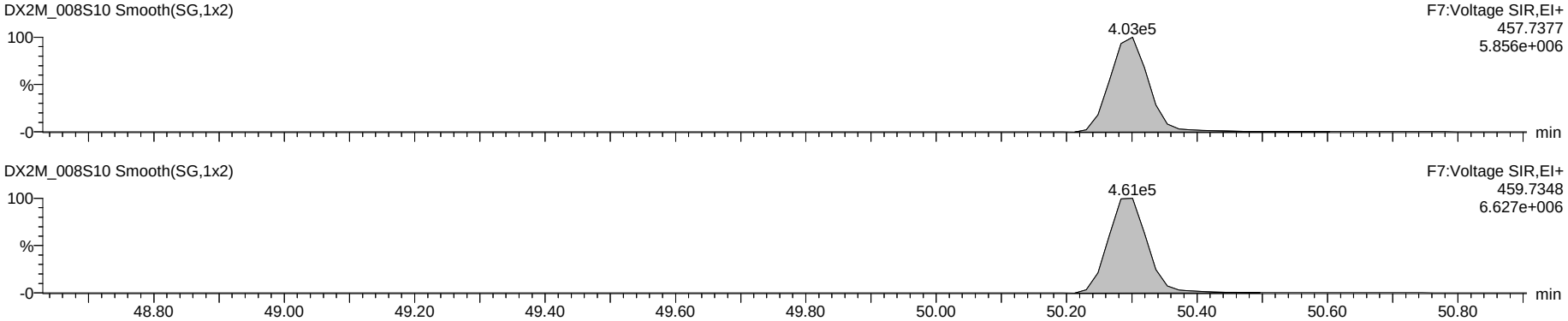
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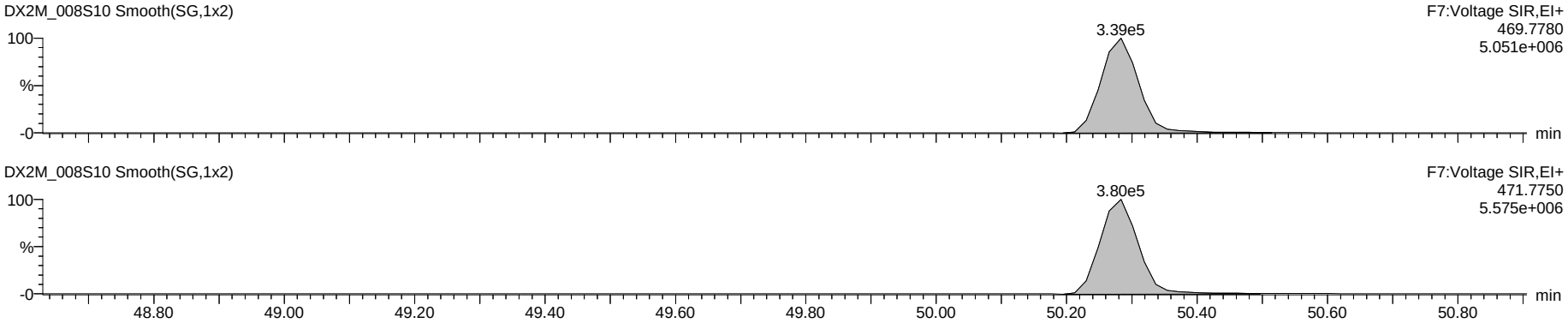
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OCDD



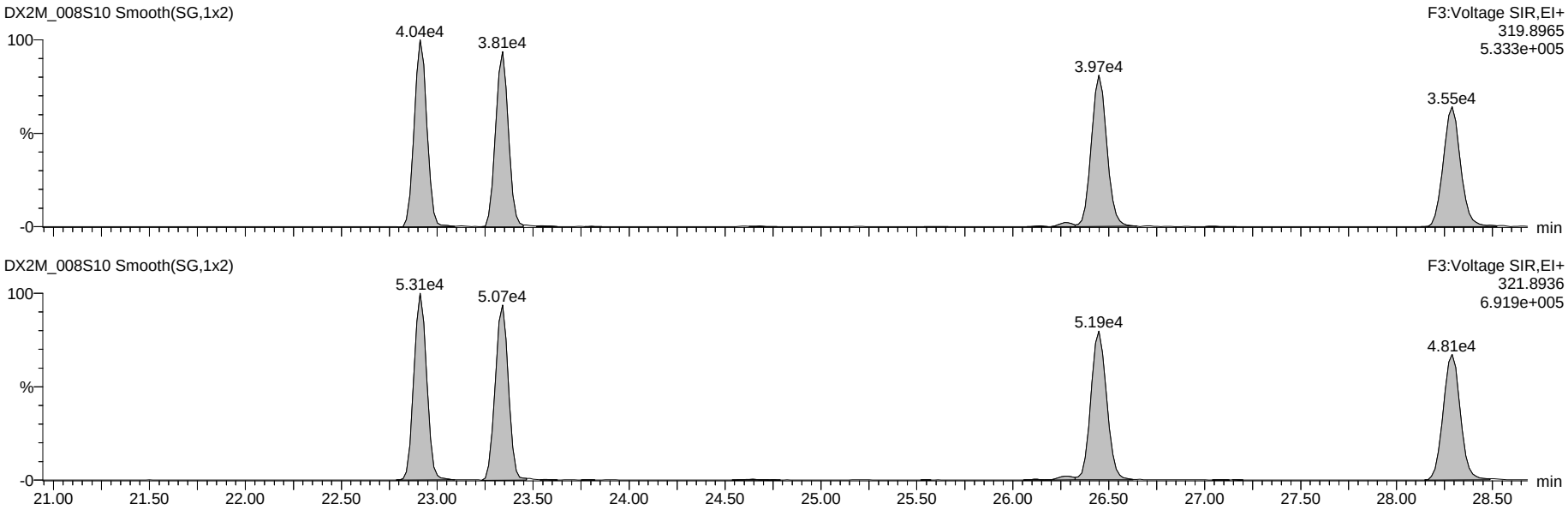
13C-OCDD



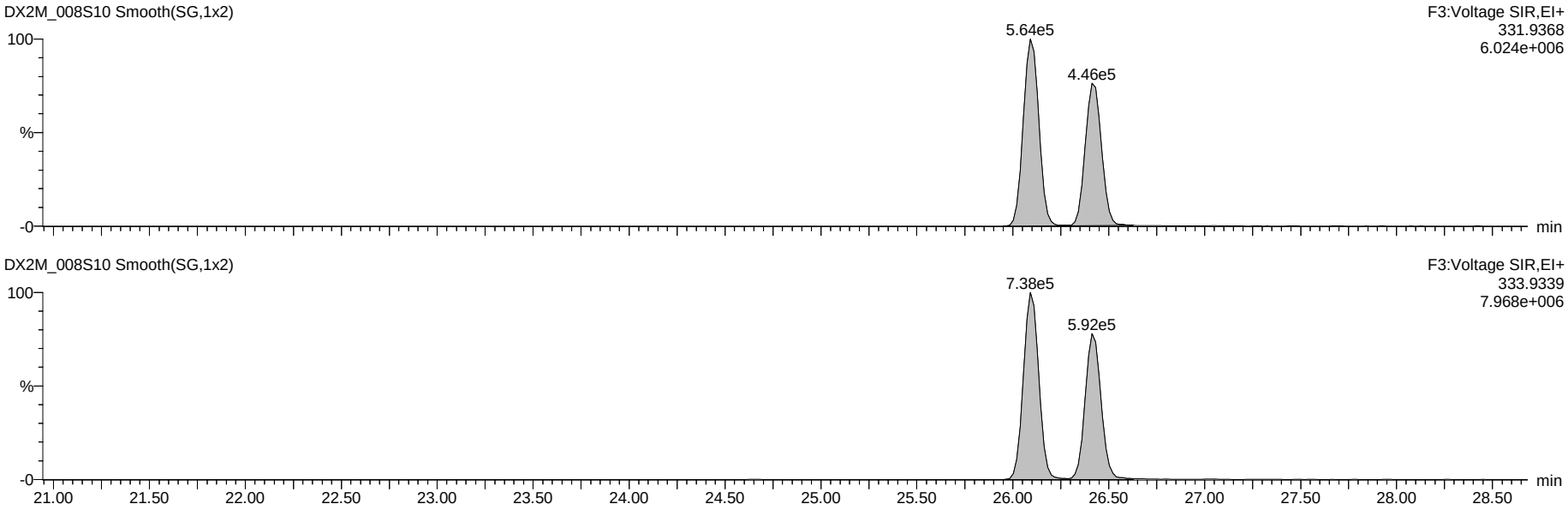
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Total Tetra-Dioxins



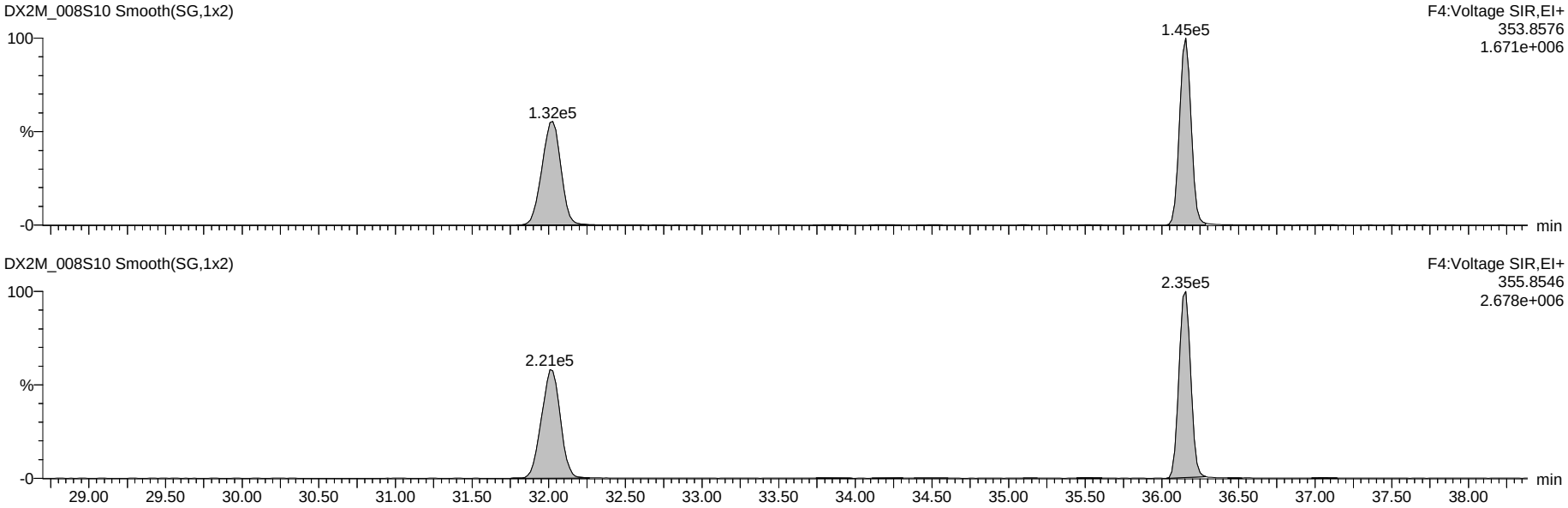
13C-Tetra-Dioxins



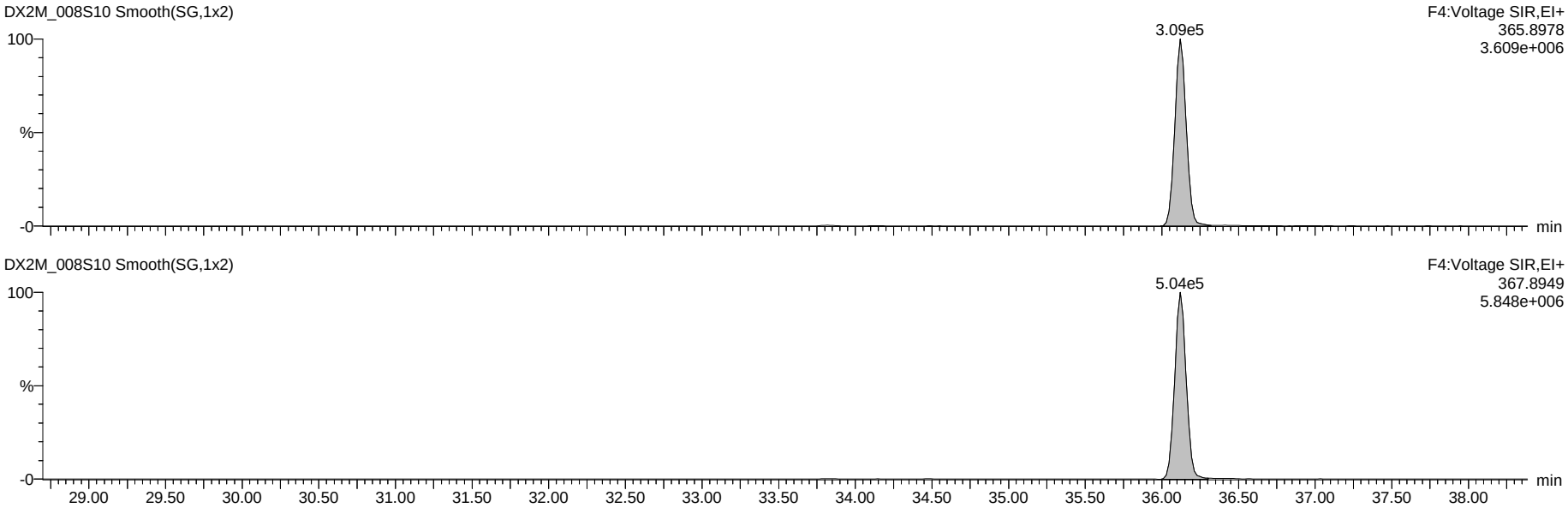
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Total Penta-Dioxins



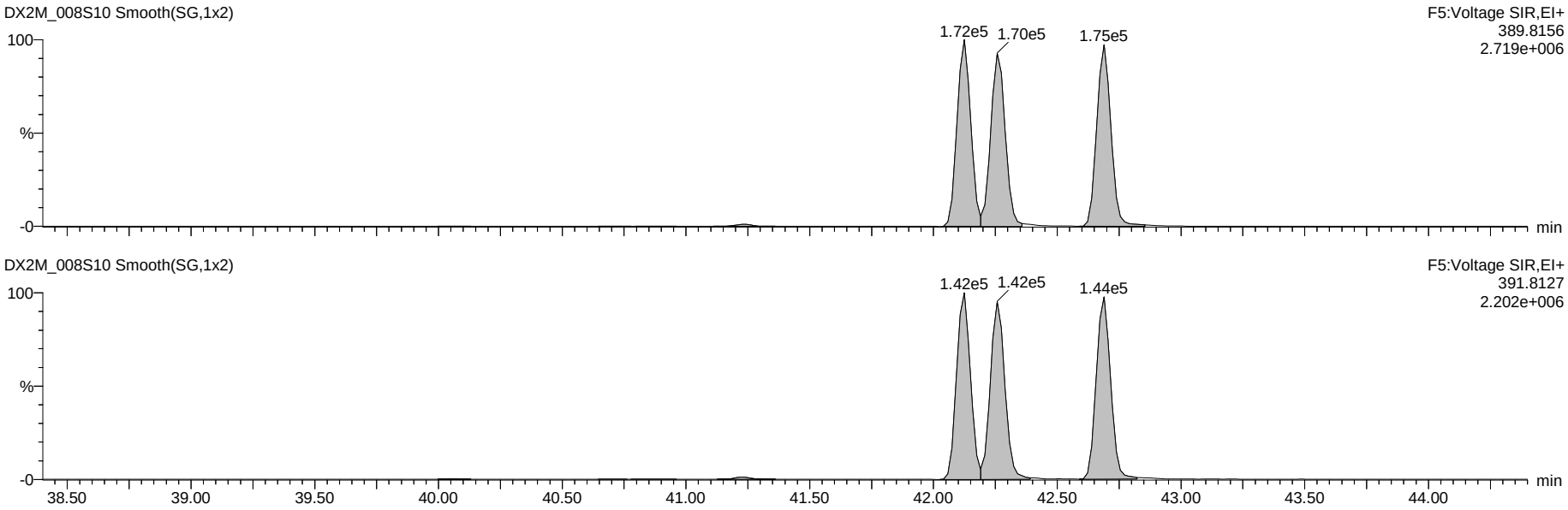
13C-Penta-Dioxins



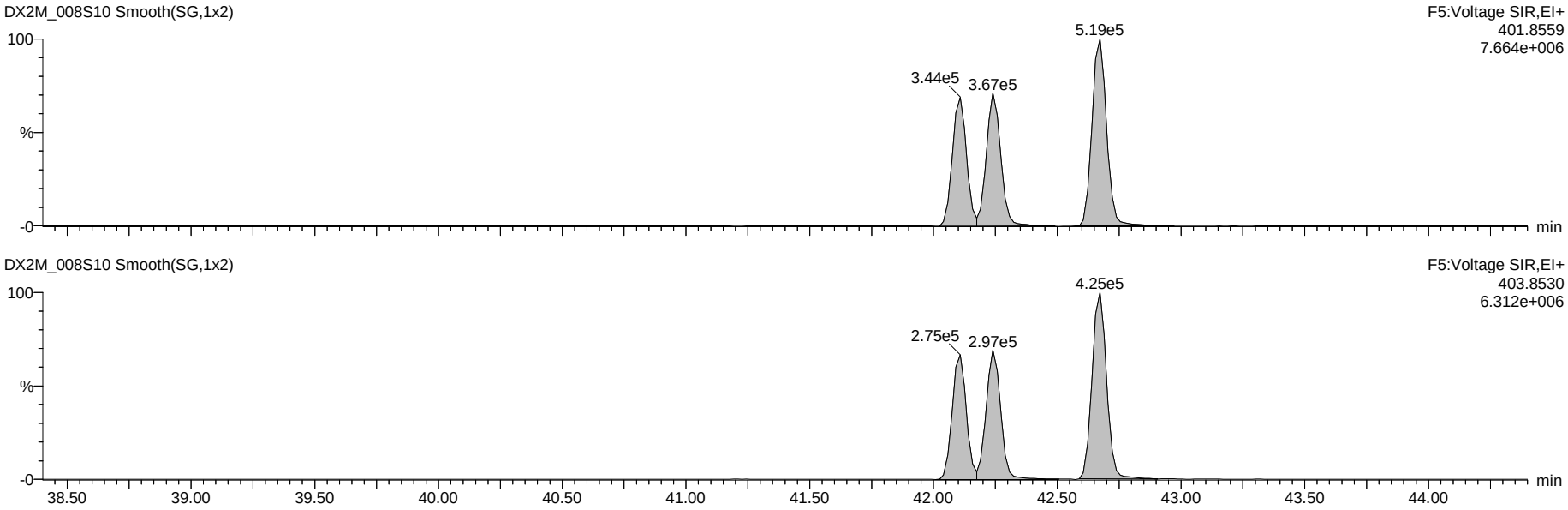
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Total Hexa-Dioxins



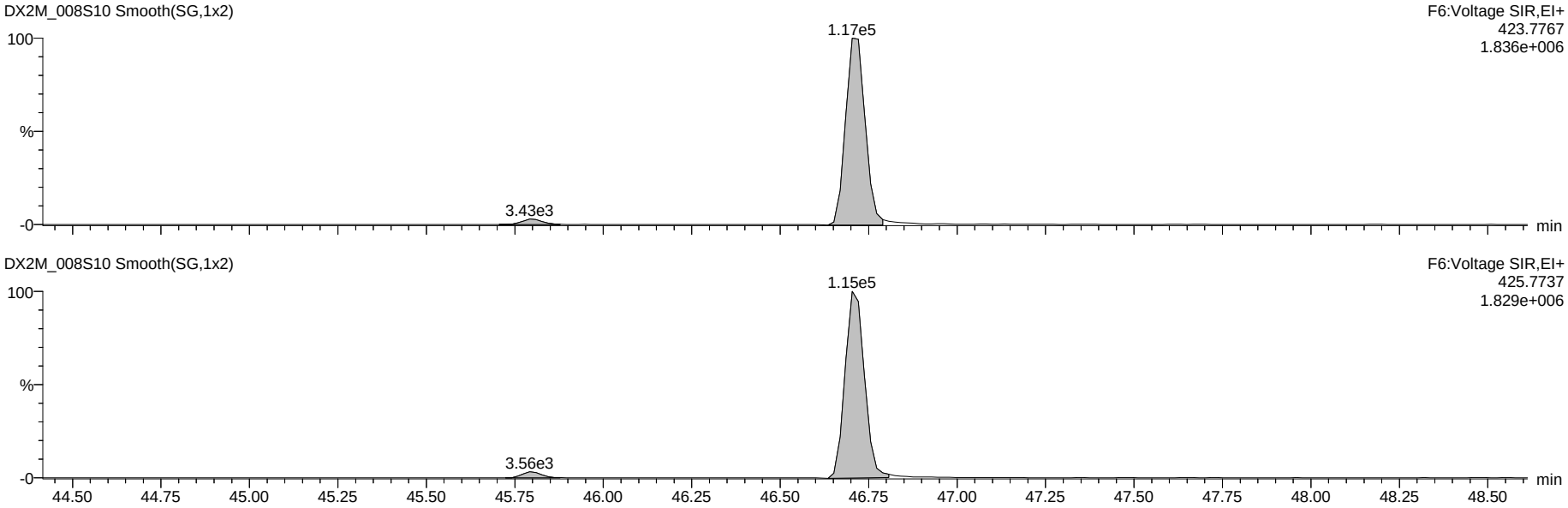
13C-Hexa-Dioxins



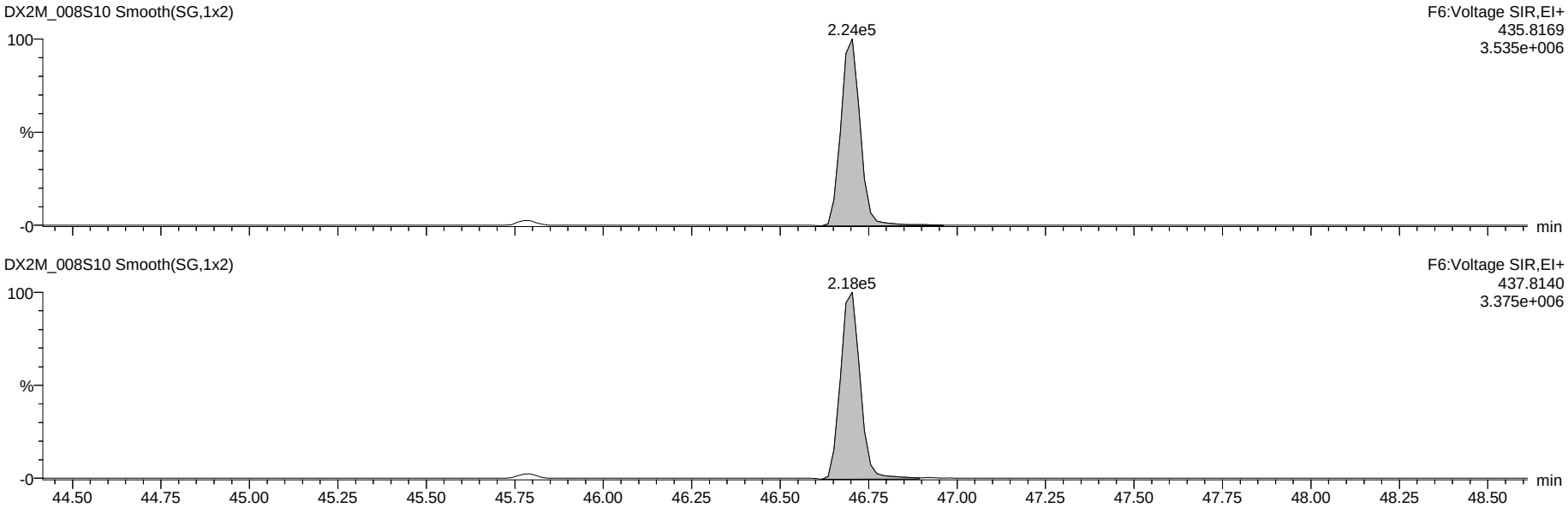
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Total Hepta-Dioxins



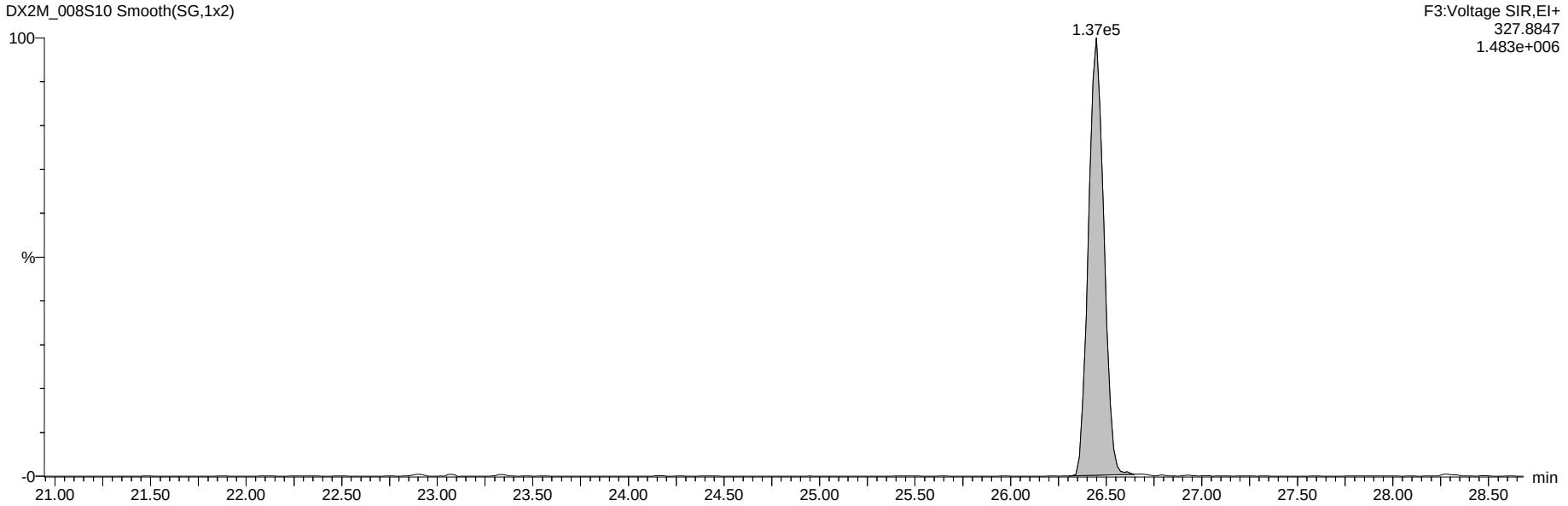
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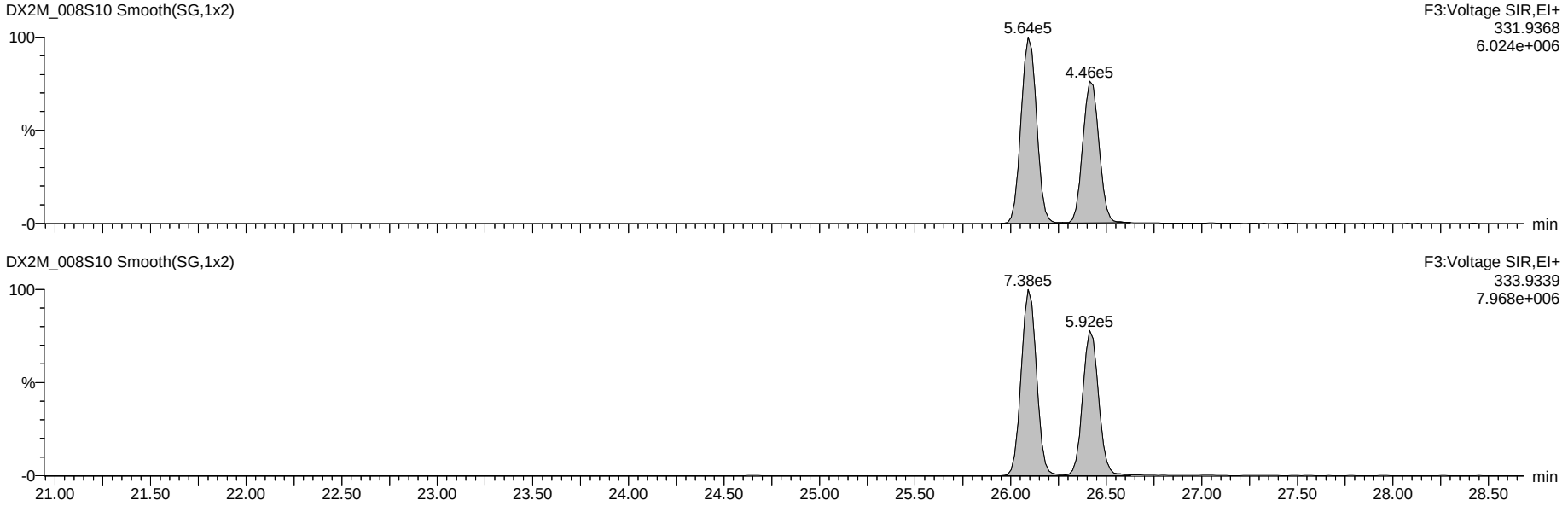
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37Cl-2,3,7,8-TCDD



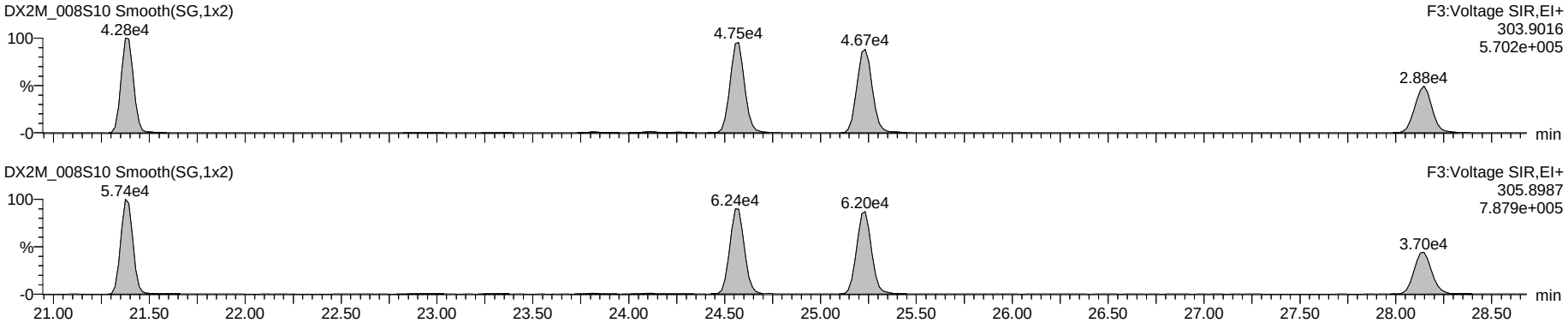
13C-Tetra-Dioxins



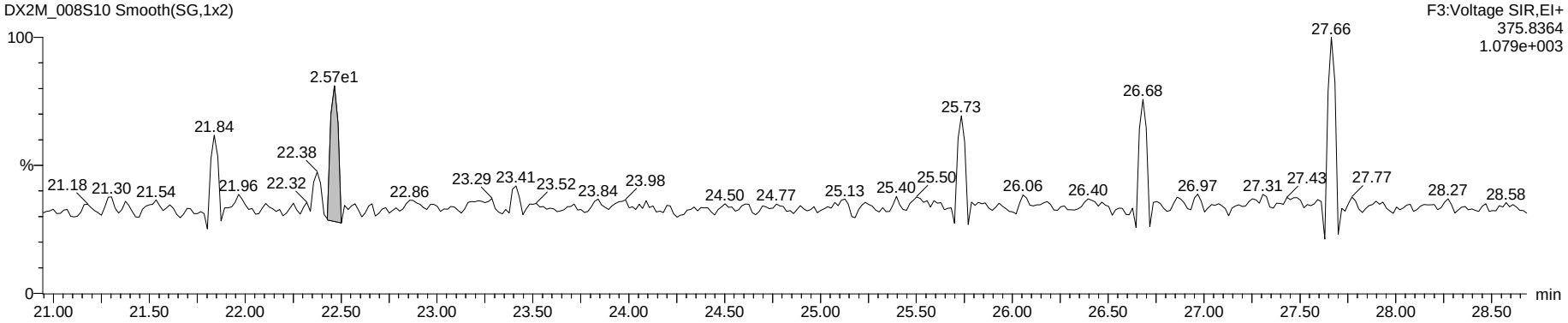
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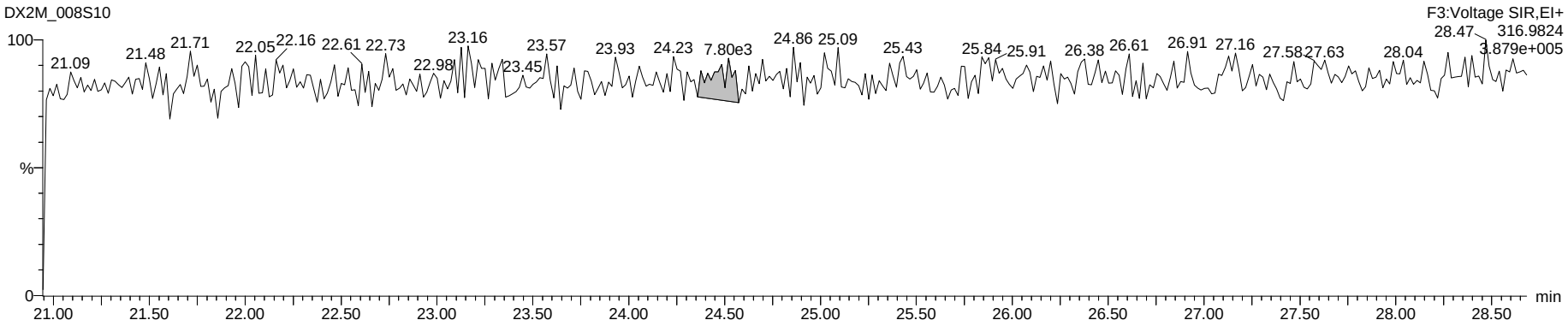
Total Tetra-Furans



Hexa DPE



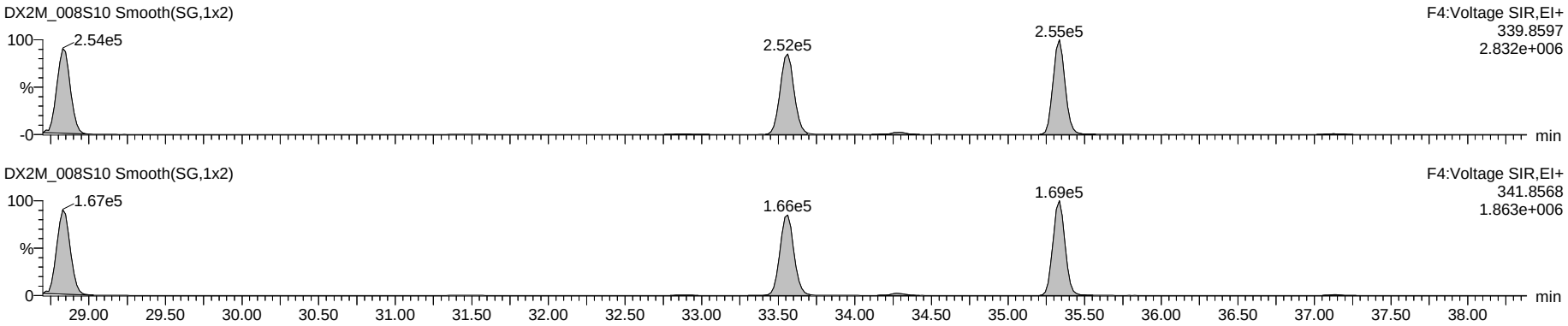
Tetra Lock



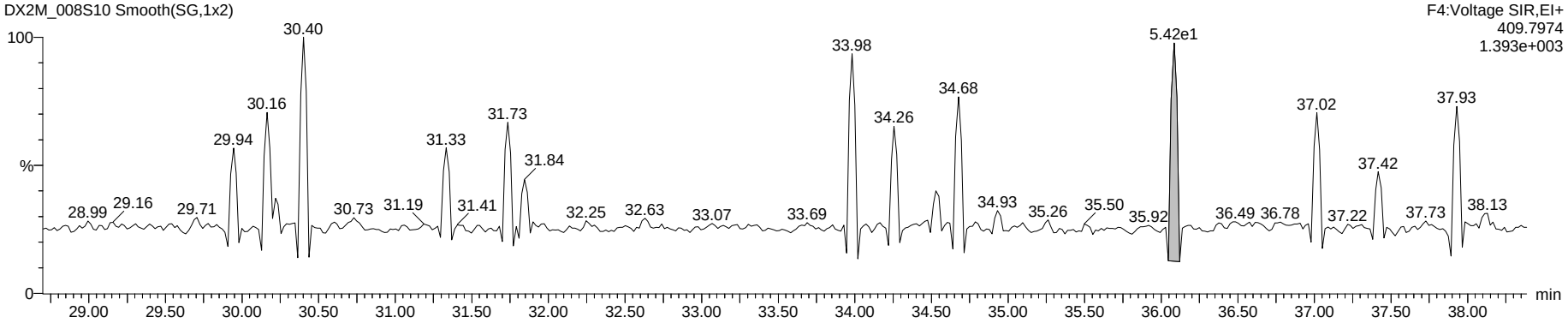
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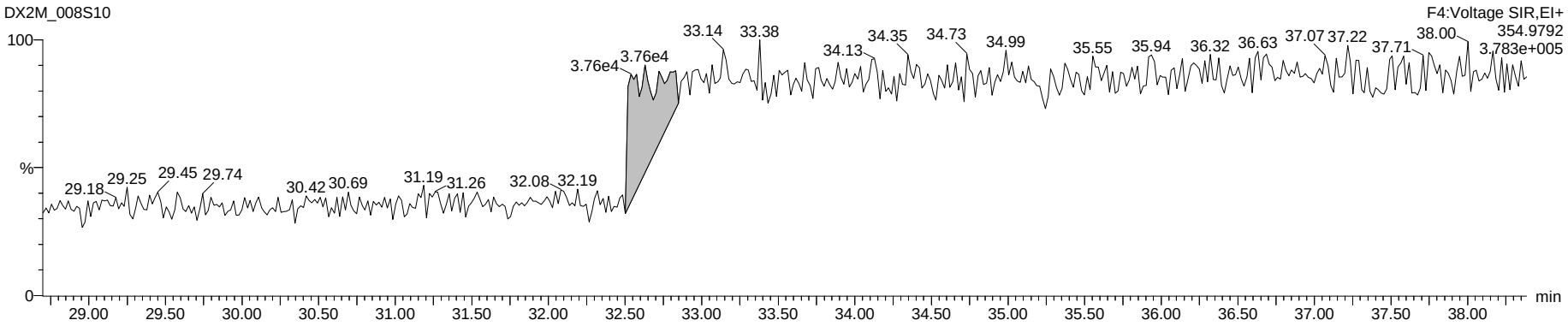
Total Penta-Furans



Hepta DPE



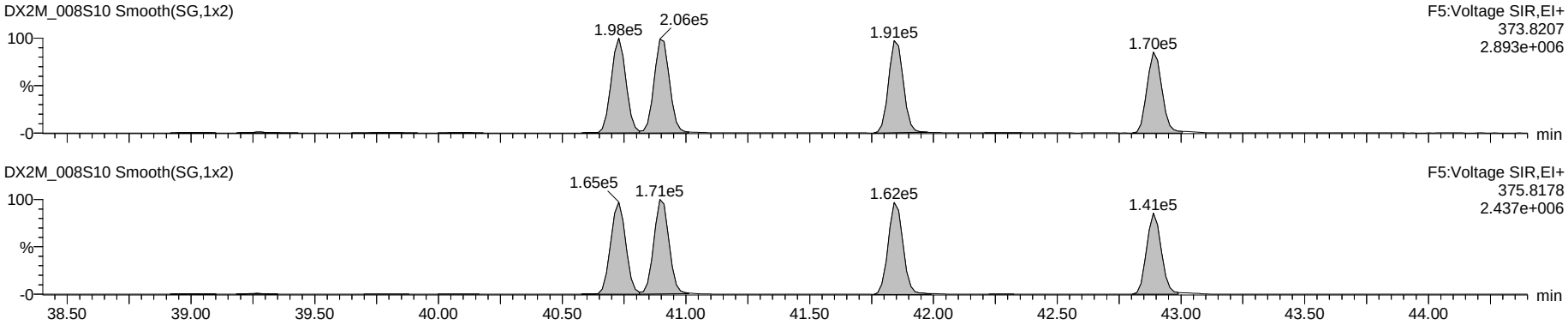
Penta Lock



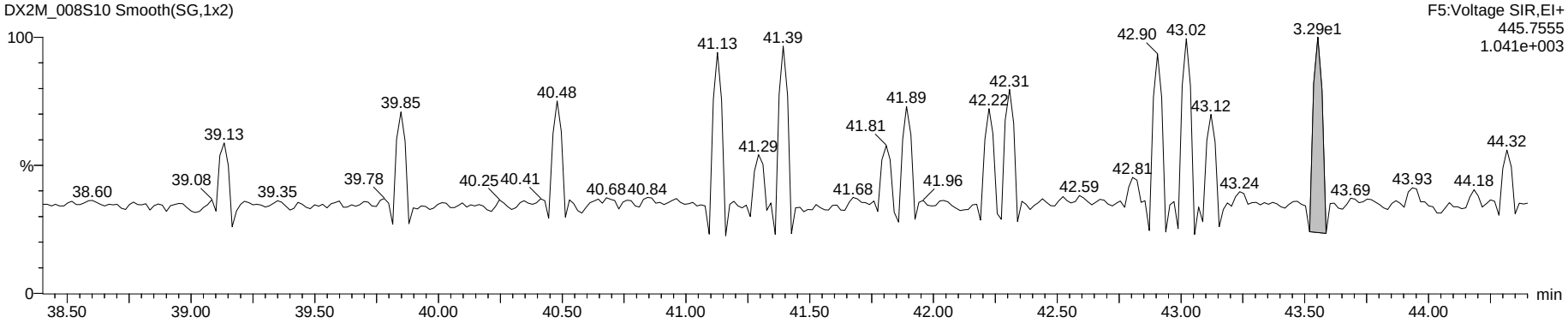
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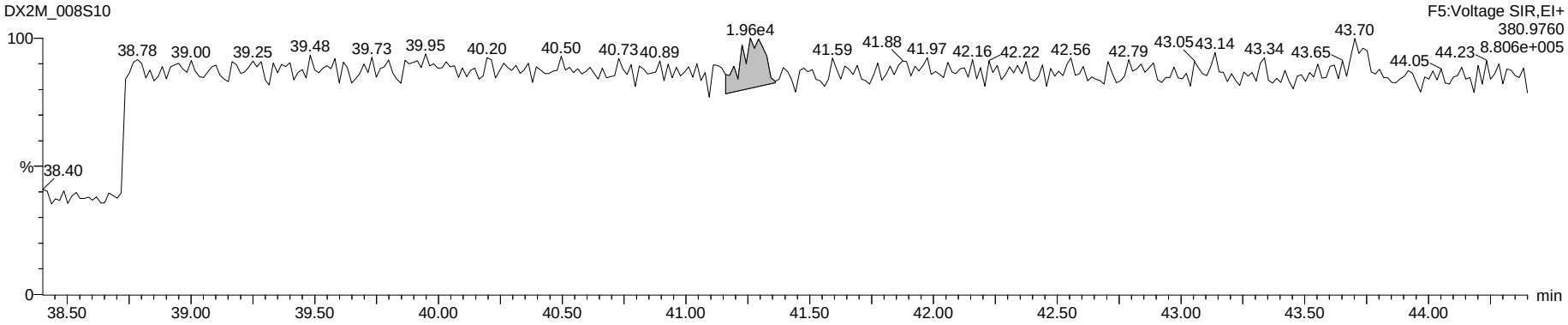
Total Hexa-Furans



Octa DPE



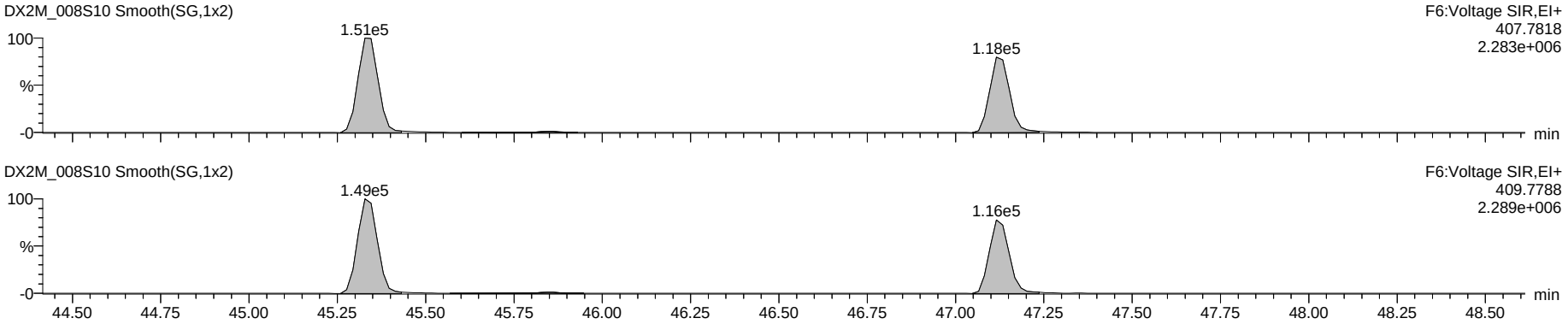
Hexa Lock



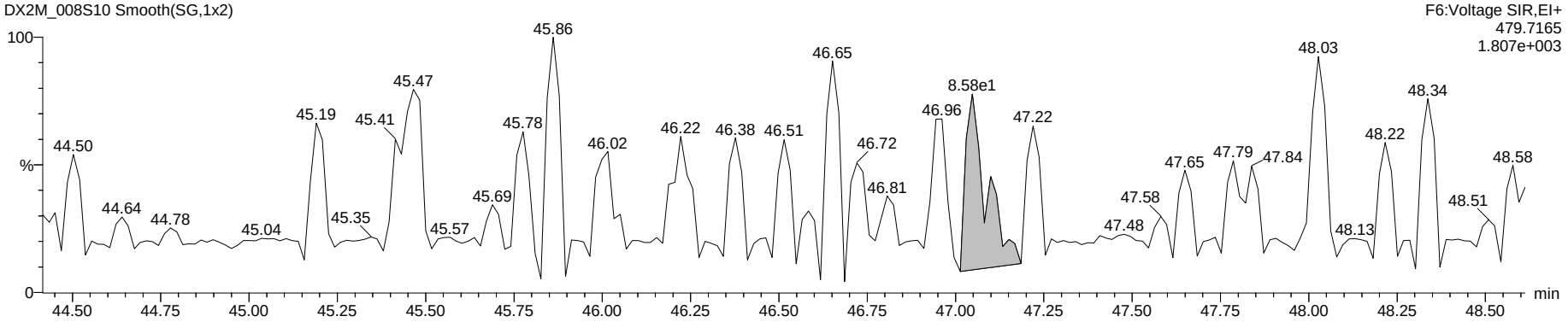
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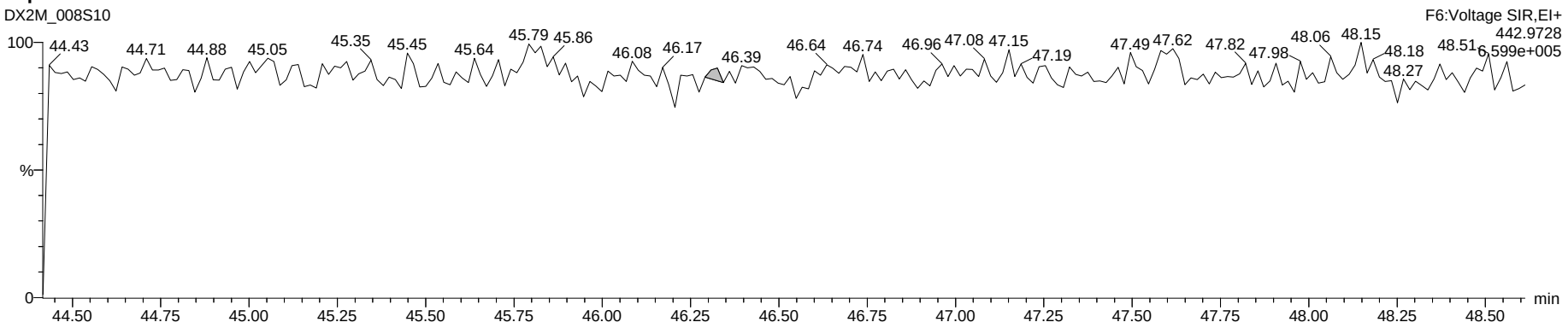
Total Hepta-Furans



Nona DPE



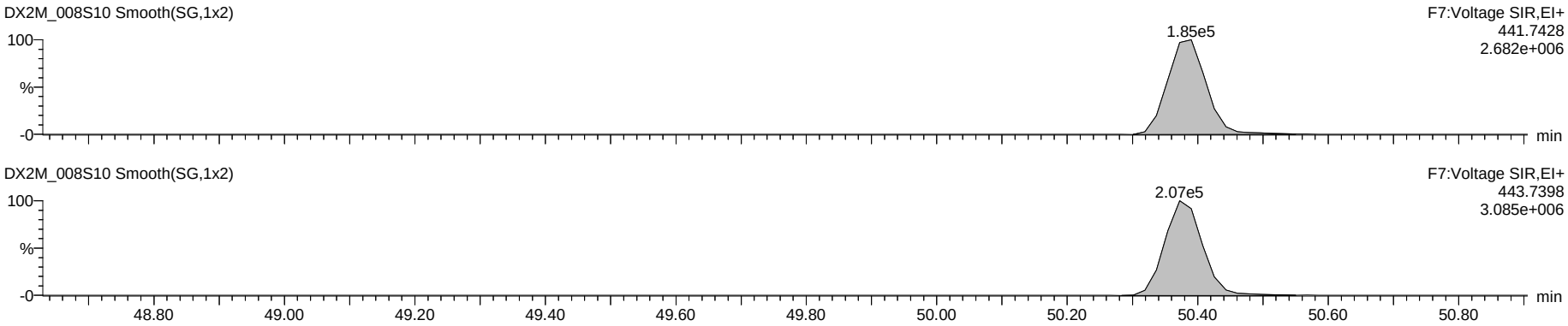
Hepta Lock



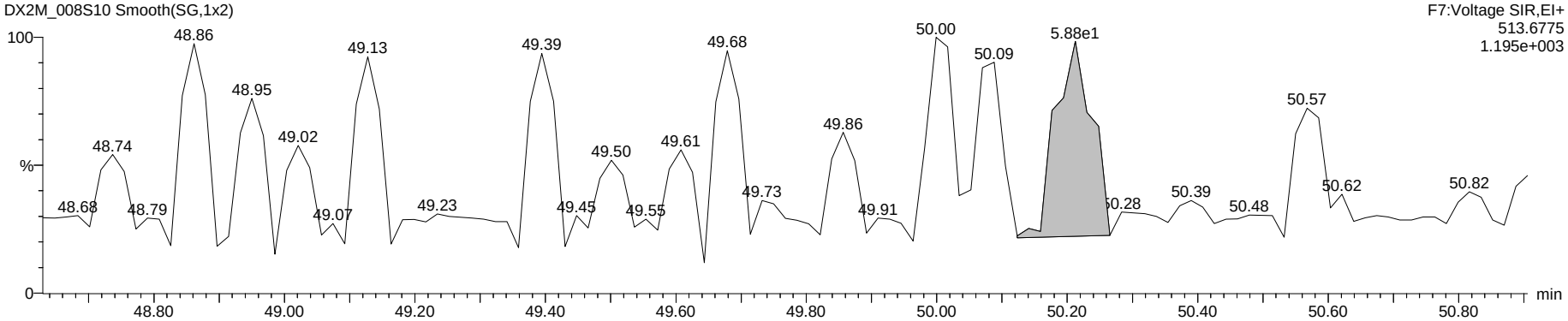
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Name: DX2M_008S10, Date: 10-Jan-2012, Time: 16:30:36, ID: WG38741-103,,MS, Description: 1,WG38741,1.0/20uL

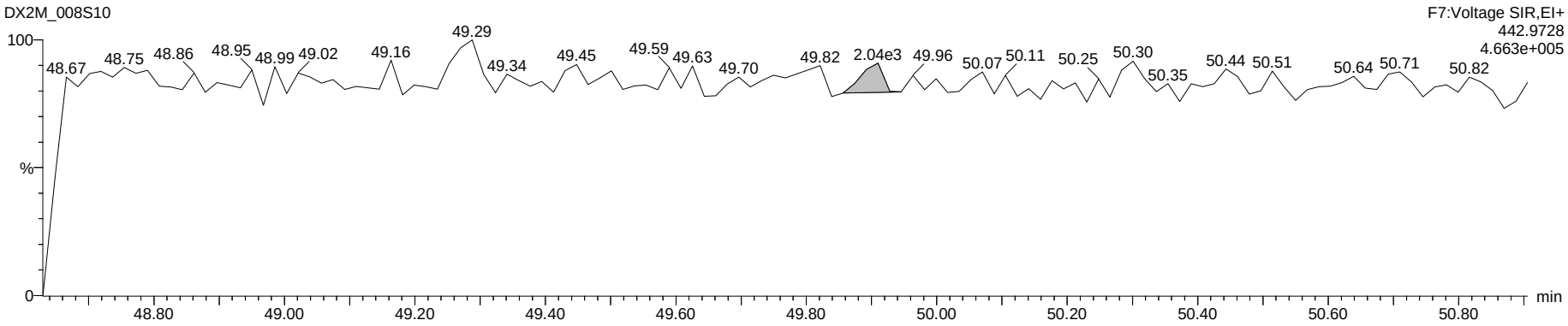
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	0.869	8.13e4	0.74	NO	25.23	259.280	0.4416		3.40e2	2.90e2
2	1,2,3,7,8-PeCDF	0.869	2.96e5	1.53	NO	33.56	1111.449	1.0684		6.37e2	4.36e2
3	2,3,4,7,8-PeCDF	0.869	2.99e5	1.51	NO	35.33	1127.064	0.9515		6.37e2	4.36e2
4	1,2,3,4,7,8-HxCDF	0.869	2.49e5	1.22	NO	40.73	1221.132	1.6585		1.21e3	6.77e2
5	1,2,3,6,7,8-HxCDF	0.869	2.63e5	1.22	NO	40.89	1168.651	1.4732		1.21e3	6.77e2
6	2,3,4,6,7,8-HxCDF	0.869	2.47e5	1.20	NO	41.84	1298.716	1.6691		1.21e3	6.77e2
7	1,2,3,7,8,9-HxCDF	0.869	2.19e5	1.21	NO	42.89	1310.427	1.9373		1.21e3	6.77e2
8	1,2,3,4,6,7,8-HpCDF	0.869	2.19e5	0.98	NO	45.33	1294.308	0.6519		3.63e2	3.19e2
9	1,2,3,4,7,8,9-HpCDF	0.869	1.66e5	1.02	NO	47.12	1247.955	0.8369		3.63e2	3.19e2
10	OCDF	0.869	3.13e5	0.89	NO	50.39	2676.668	0.6109		2.59e2	1.73e2
11	2,3,7,8-TCDD	0.869	6.64e4	0.75	NO	26.45	236.503	0.4996		3.81e2	2.12e2
12	1,2,3,7,8-PeCDD	0.869	2.71e5	0.59	NO	36.16	1264.093	0.7295		3.35e2	3.85e2
13	1,2,3,4,7,8-HxCDD	0.869	2.20e5	1.23	NO	42.12	1404.868	0.7705		4.91e2	2.58e2
14	1,2,3,6,7,8-HxCDD	0.869	2.22e5	1.22	NO	42.26	1397.036	0.7865		4.91e2	2.58e2
15	1,2,3,7,8,9-HxCDD	0.869	2.26e5	1.23	NO	42.69	1404.925	0.7639		4.91e2	2.58e2
16	1,2,3,4,6,7,8-HpCDD	0.869	1.75e5	1.01	NO	46.70	1206.974	1.0687		5.41e2	4.14e2
17	OCDD	0.869	2.08e6	0.87	NO	50.30	17255.926	0.7342		5.17e2	1.93e1
18	13C-2,3,7,8-TCDF	0.869	9.37e5	0.76	NO	25.20	1183.229	1.1545	51.4	3.22e3	8.62e2
19	13C-1,2,3,7,8-PeCDF	0.869	7.07e5	1.54	NO	33.53	1147.875	1.0576	49.9	1.36e3	1.55e3
20	13C-2,3,4,7,8-PeCDF	0.869	6.94e5	1.47	NO	35.30	1171.857	1.1011	50.9	1.36e3	1.55e3
21	13C-1,2,3,4,7,8-HxCDF	0.869	4.70e5	0.53	NO	40.71	1093.859	0.9655	47.6	1.11e3	1.37e3
22	13C-1,2,3,6,7,8-HxCDF	0.869	5.26e5	0.51	NO	40.88	1085.379	0.8560	47.2	1.11e3	1.37e3
23	13C-2,3,4,6,7,8-HxCDF	0.869	4.85e5	0.51	NO	41.82	1101.358	0.9425	47.9	1.11e3	1.37e3
24	13C-1,2,3,7,8,9-HxCDF	0.869	4.44e5	0.52	NO	42.87	1121.284	1.0472	48.7	1.11e3	1.37e3
25	13C-1,2,3,4,6,7,8-HpCDF	0.869	3.35e5	0.45	NO	45.31	1012.464	0.8011	44.0	9.60e2	6.23e2
26	13C-1,2,3,4,7,8,9-HpCDF	0.869	2.93e5	0.44	NO	47.12	1011.349	0.9154	44.0	9.60e2	6.23e2
27	13C-2,3,7,8-TCDD	0.869	7.86e5	0.75	NO	26.41	1169.672	1.0005	50.8	1.39e3	1.61e3
28	13C-1,2,3,7,8-PeCDD	0.869	5.92e5	0.62	NO	36.12	1272.014	0.6706	55.3	7.81e2	6.13e2
29	13C-1,2,3,4,7,8-HxCDD	0.869	4.61e5	1.21	NO	42.11	1100.126	0.9861	47.8	9.52e2	1.51e3
30	13C-1,2,3,6,7,8-HxCDD	0.869	4.98e5	1.24	NO	42.24	1083.209	0.8978	47.1	9.52e2	1.51e3
31	13C-1,2,3,4,6,7,8-HpCDD	0.869	3.46e5	1.04	NO	46.70	1035.635	1.0083	45.0	9.26e2	1.08e3
32	13C-OCDD	0.869	6.10e5	0.88	NO	50.28	1837.158	0.0349	39.9	4.73e1	2.18e1
33	13C-1,2,3,4-TCDD	0.869	1.34e6	0.76	NO	26.09	153.315	0.0767	6.7	1.39e3	1.61e3
34	13C-1,2,3,7,8,9-HxCDD	0.869	9.80e5	1.21	NO	42.67	150.046	0.0633	6.5	9.52e2	1.51e3
35	37Cl-2,3,7,8-TCDD	0.869	9.65e4			26.45	143.245	0.3326	62.3		1.00e3
36	Total Tetra-Furans	0.869					917.020	0.4416			2.90e2
37	Total Tetra-Dioxins	0.869					927.043	0.4996			2.12e2
38	Total Penta-Furans	0.869					3442.653	1.0182			4.36e2
39	Total Penta-Dioxins	0.869					2452.429	0.7295			3.85e2
40	Total Hexa-Furans	0.869					5031.210	1.5711			6.77e2
41	Total Hexa-Dioxins	0.869					4231.049	0.7535			2.58e2
42	Total Hepta-Furans	0.869					2575.971	0.6998			3.19e2
43	Total Hepta-Dioxins	0.869					1280.374	1.0687			4.14e2
44	Hexa DPE	1.000	1.67e1			25.97					3.58e1
45	Hepta DPE	1.000	3.78e1			37.84					3.47e1
46	Octa DPE	1.000	3.41e1			40.20					2.86e1
47	Nona DPE	1.000	8.07e1			45.76					3.39e2
48	Deca DPE	1.000	5.11e1			49.70					2.52e2
49	Tetra Lock	1.000									5.40e4
50	Penta Lock	1.000									4.60e4
51	Hexa Lock	1.000									8.63e4
52	Hepta Lock	1.000	5.03e3			46.53					7.08e4
53	Octa Lock	1.000	2.50e3			50.14					4.87e4
54	13C-Tetra-Furans	0.869					1183.229	1.1545			8.62e2
55	13C-Tetra-Dioxins	0.869					1322.986	1.0772			1.61e3

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

S'd B4 8F 12-Jan-2012

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

Tetrafurans

	RT	1° Ratio (A...	Fails?	pg
1	28.15	0.733	NO	151.359
2	25.23	0.735	NO	259.280
3	24.56	0.757	NO	258.875
4	24.11	0.738	NO	4.206
5	23.82	0.790	NO	4.484
6	23.30	2.161	YES	0.743
7	21.93	0.466	YES	0.577
8	21.37	0.742	NO	237.496

Tetradioxins

	RT	1° Ratio (A...	Fails?	pg
1	23.34	0.742	NO	232.744
2	22.91	0.747	NO	237.736
3	27.11	0.560	YES	0.412
4	26.45	0.754	NO	236.503
5	26.27	0.668	NO	5.444
6	25.23	0.609	YES	0.343
7	25.16	2.261	YES	0.397
8	24.84	0.443	YES	0.437
9	24.66	1.676	YES	1.248
10	23.77	0.537	YES	0.595
11	23.64	0.989	YES	0.504
12	28.29	0.764	NO	210.679

Pentafurans

	RT	1° Ratio (A...	Fails?	pg
1	31.48	1.412	NO	12.642
2	28.83	1.503	NO	1146.1...
3	37.14	1.472	NO	9.567
4	35.33	1.514	NO	1127.0...
5	34.29	1.583	NO	29.215
6	33.56	1.528	NO	1111.4...
7	32.87	1.286	YES	6.562

Pentadioxins

	RT	1° Ratio (A...	Fails?	pg
1	33.87	0.975	YES	1.906
2	33.71	0.364	YES	0.402
3	33.21	1.871	YES	0.289
4	33.03	1.098	YES	0.393
5	32.03	0.609	NO	1177.1...
6	35.52	0.579	NO	2.054
7	35.32	0.618	NO	0.182
8	34.48	0.097	YES	1.301
9	34.18	0.634	NO	2.137
10	37.07	0.552	NO	2.548
11	36.16	0.595	NO	1264.0...

pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

Hexafurans

	RT	1° Ratio (A...	Fails?	pg
1	42.89	1.212	NO	1310.4...
2	41.84	1.195	NO	1298.7...
3	41.68	1.035	YES	2.067
4	40.89	1.222	NO	1168.6...
5	40.73	1.217	NO	1221.1...
6	40.08	1.017	YES	3.099
7	39.80	1.011	YES	3.429
8	39.27	1.068	NO	16.203
9	39.00	1.230	NO	7.486

Hexadioxins

	RT	1° Ratio (A...	Fails?	pg
1	41.44	1.147	NO	0.601
2	41.23	1.183	NO	19.171
3	40.86	1.037	YES	1.376
4	40.05	1.765	YES	3.071
5	42.69	1.228	NO	1404.9...
6	42.26	1.224	NO	1397.0...
7	42.12	1.233	NO	1404.8...

Heptafurans

	RT	1° Ratio (A...	Fails?	pg
1	47.12	1.016	NO	1247.9...
2	45.66	0.648	YES	23.879
3	45.65	0.376	YES	9.829
4	45.33	0.981	NO	1294.3...

Heptadioxins

	RT	1° Ratio (A...	Fails?	pg
1	46.70	1.007	NO	1206.9...
2	45.79	1.042	NO	73.400

13C-TF

	RT	1° Ratio (A...	Fails?	pg
1	25.20	0.758	NO	1183.2...

13C-TD

	RT	1° Ratio (A...	Fails?	pg
1	26.41	0.752	NO	1169.6...
2	26.09	0.761	NO	153.315

13C-PF

	RT	1° Ratio (A...	Fails?	pg
1	35.30	1.468	NO	1171.8...
2	33.53	1.541	NO	1147.8...

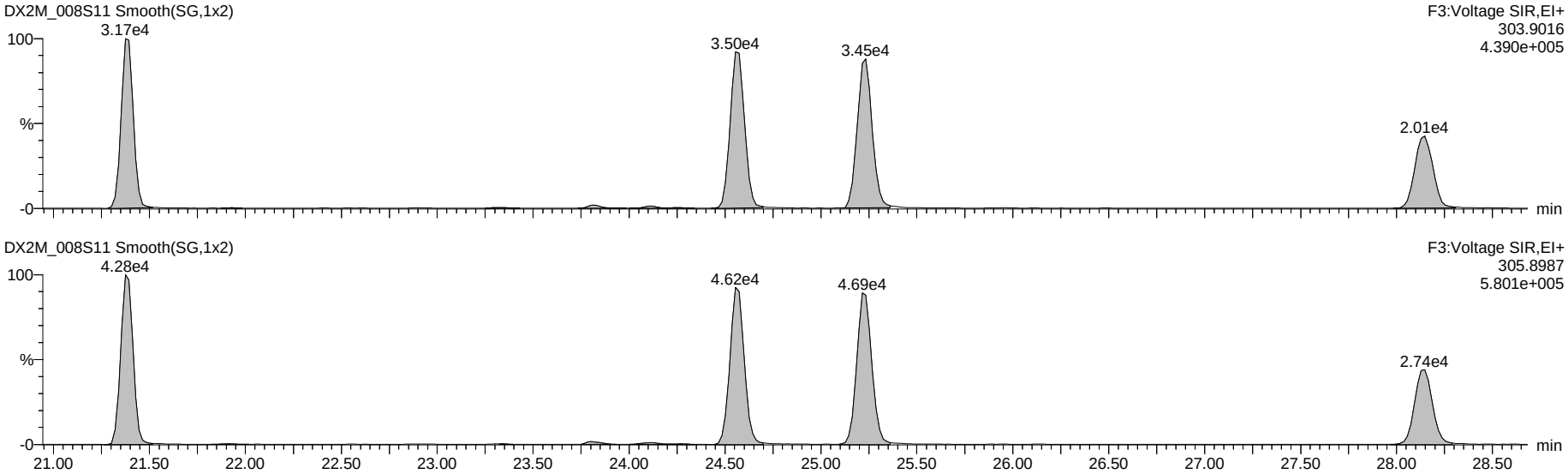
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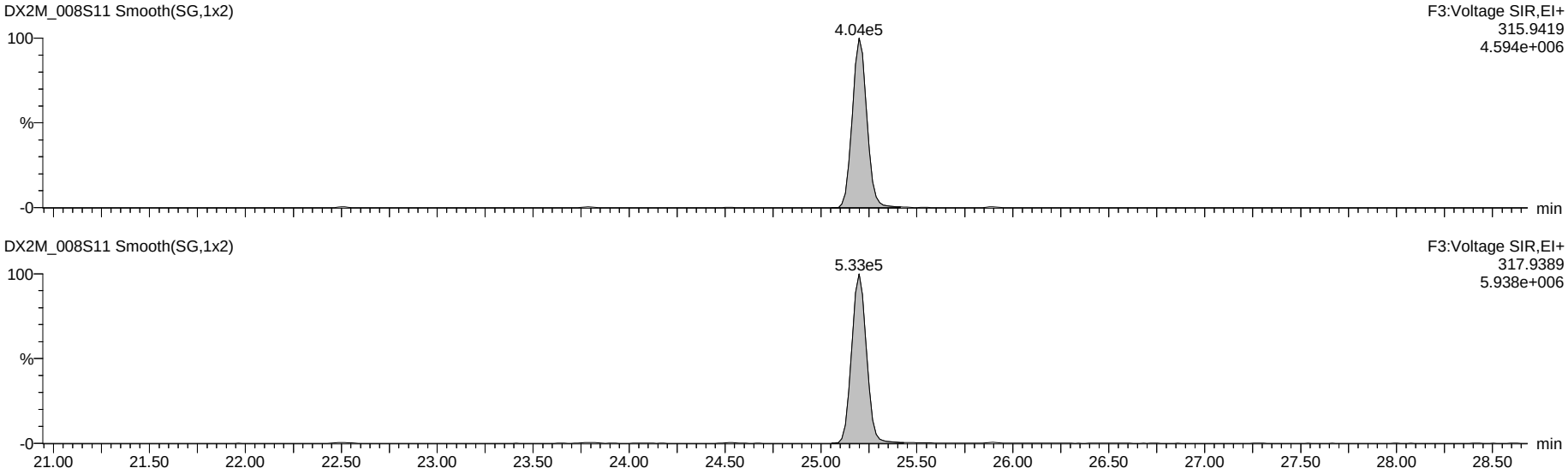
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Calibration: G:\Masslynx\Inst_M\Projects\111213DX.PRO\CurveDB\DX1M_179B-B.cdb 15 Dec 2011 09:33:42

Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

Total Tetra-Furans



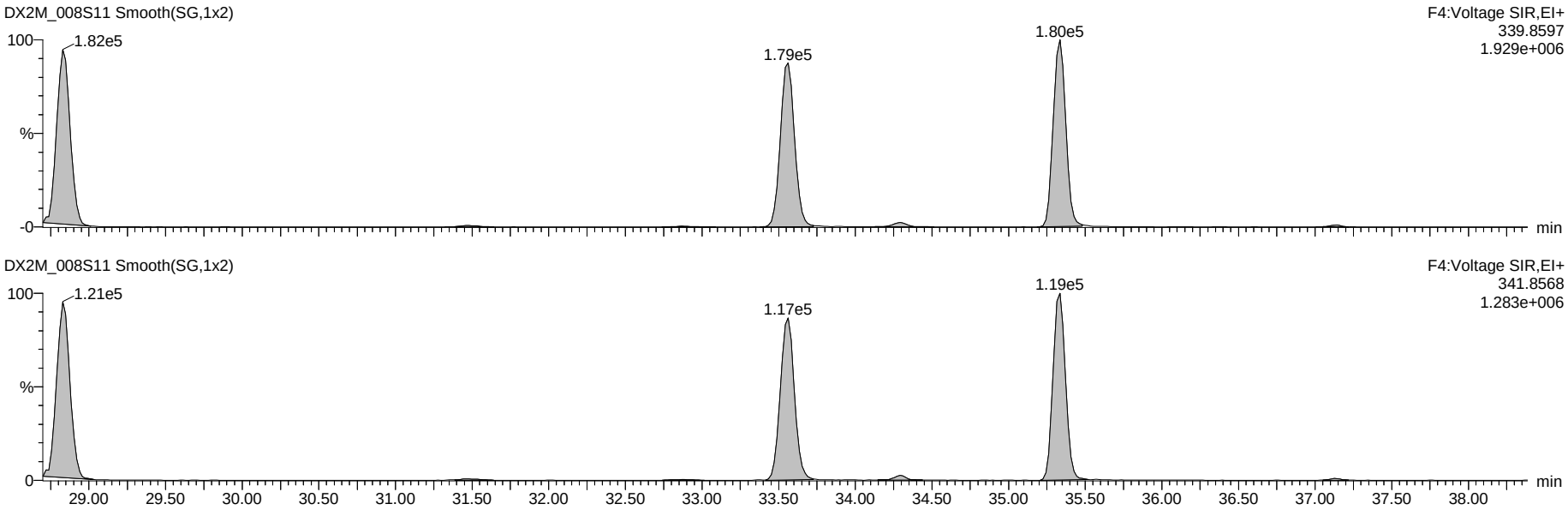
13C-Tetra-Furans



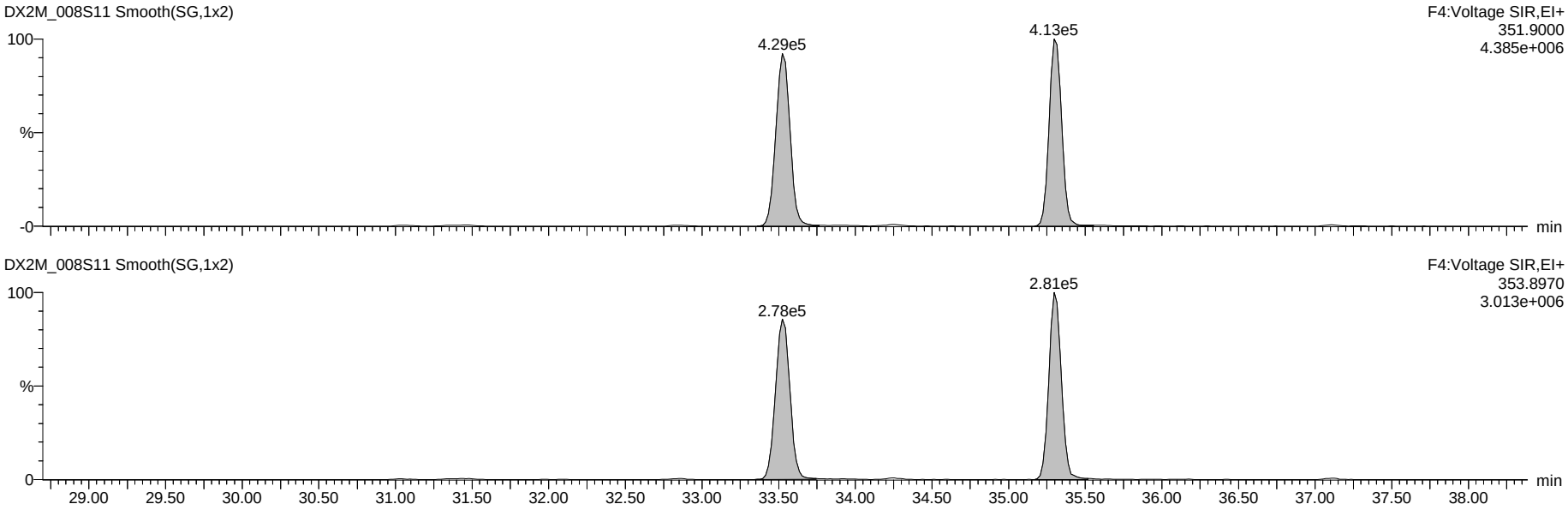
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Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

Total Penta-Furans



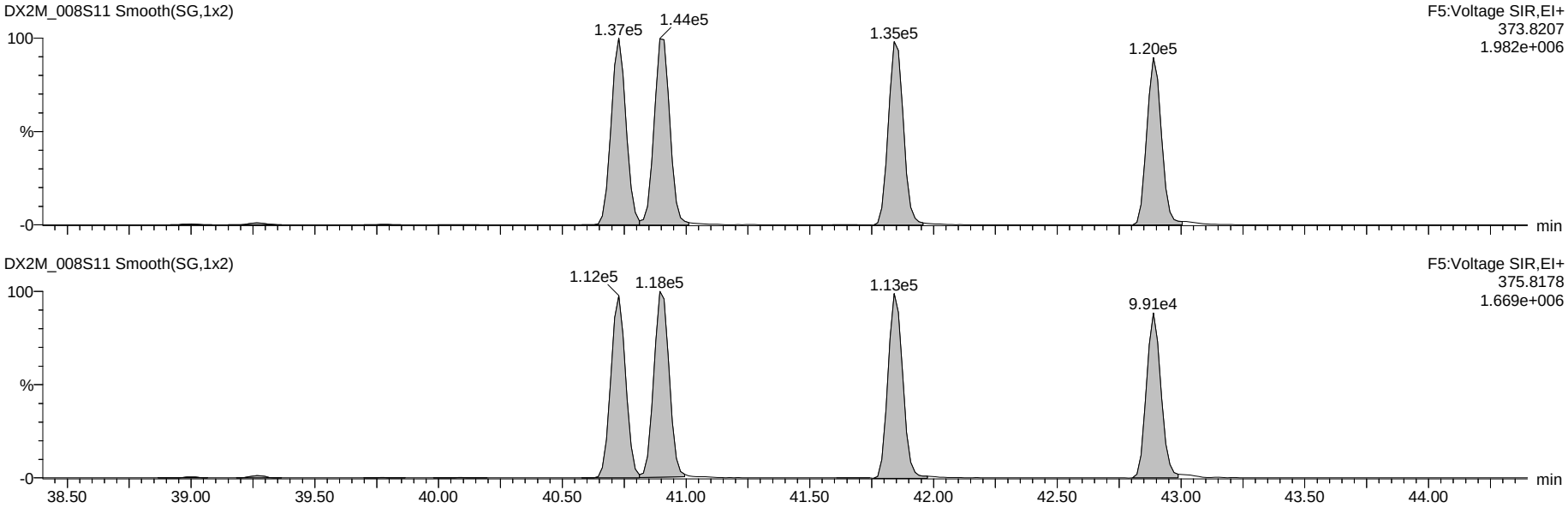
13C-Penta-Furans



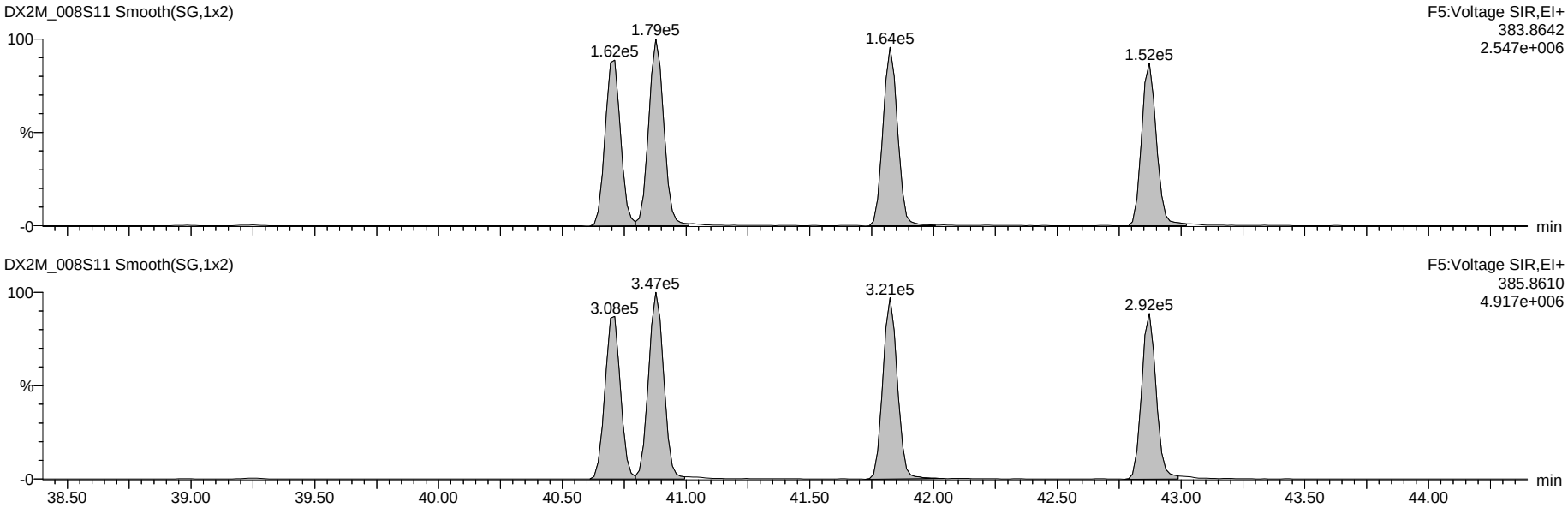
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Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

Total Hexa-Furans



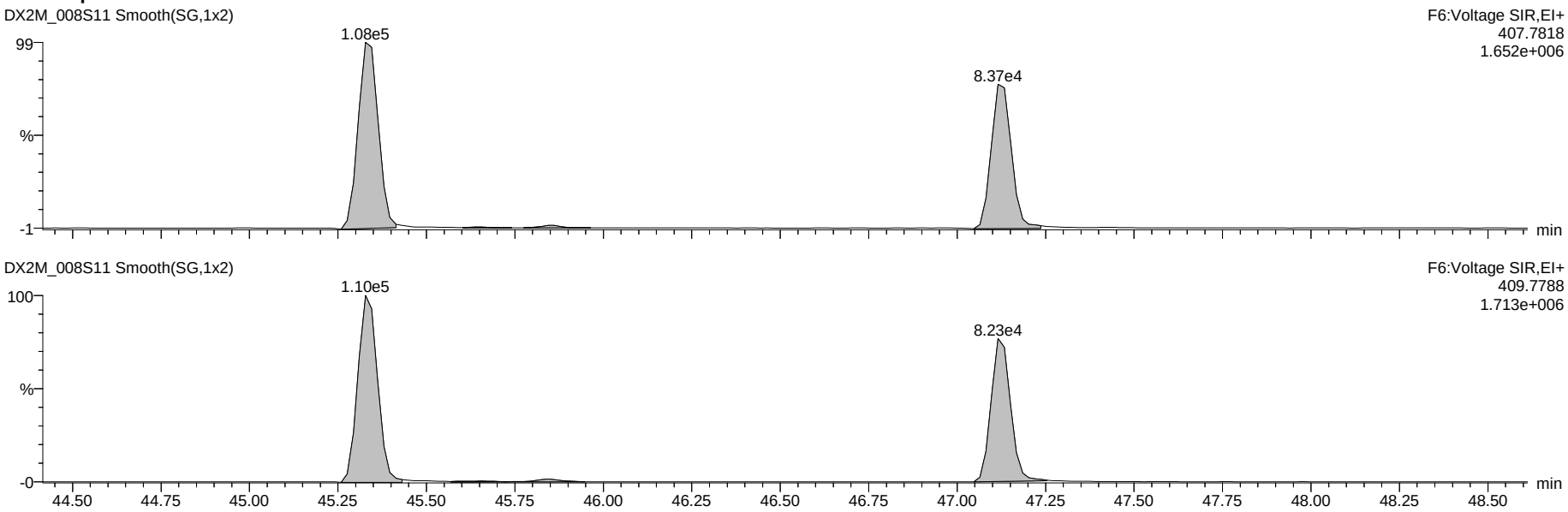
13C-Hexa-Furans



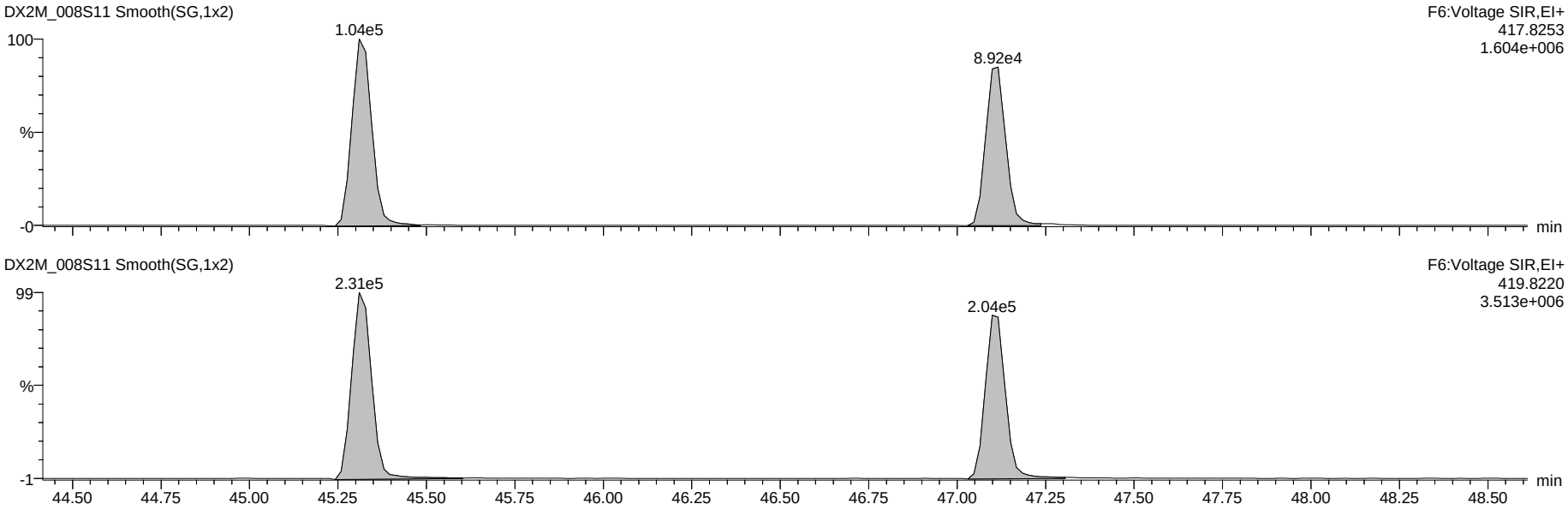
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Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

Total Hepta-Furans



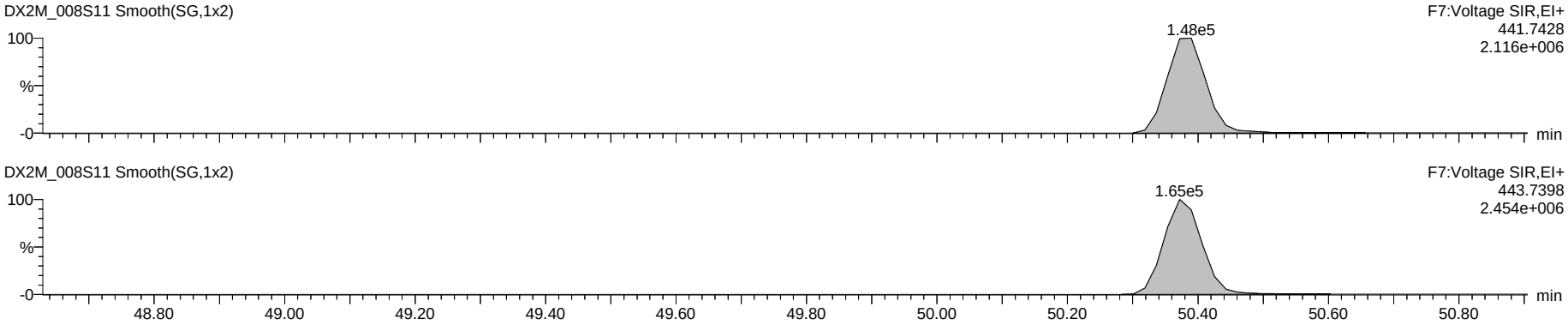
13C-Hepta-Furans



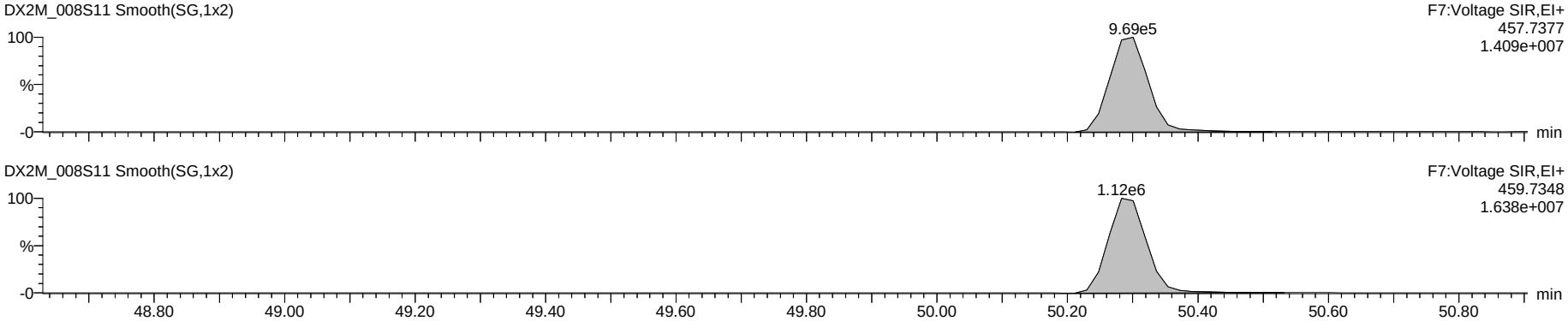
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Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

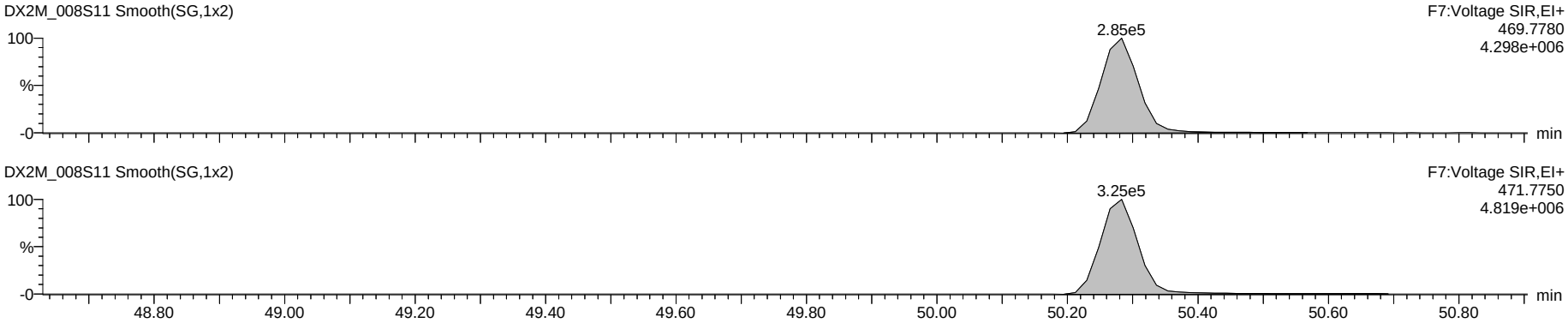
OCDF



OCDD



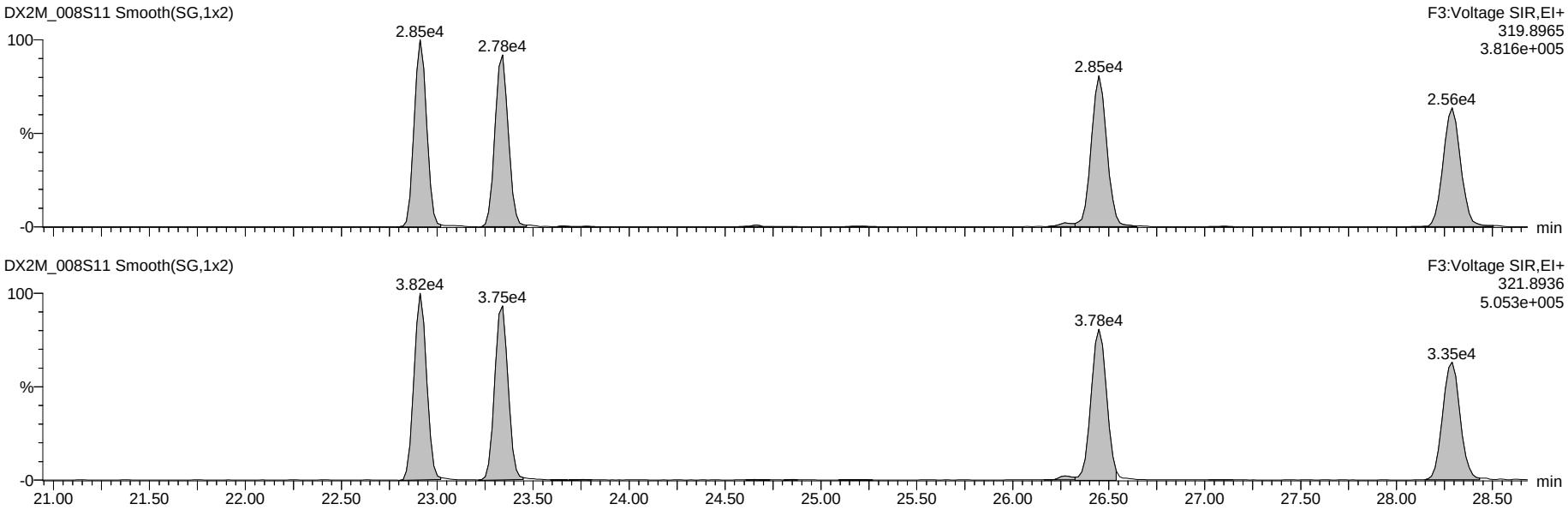
13C-OCDD



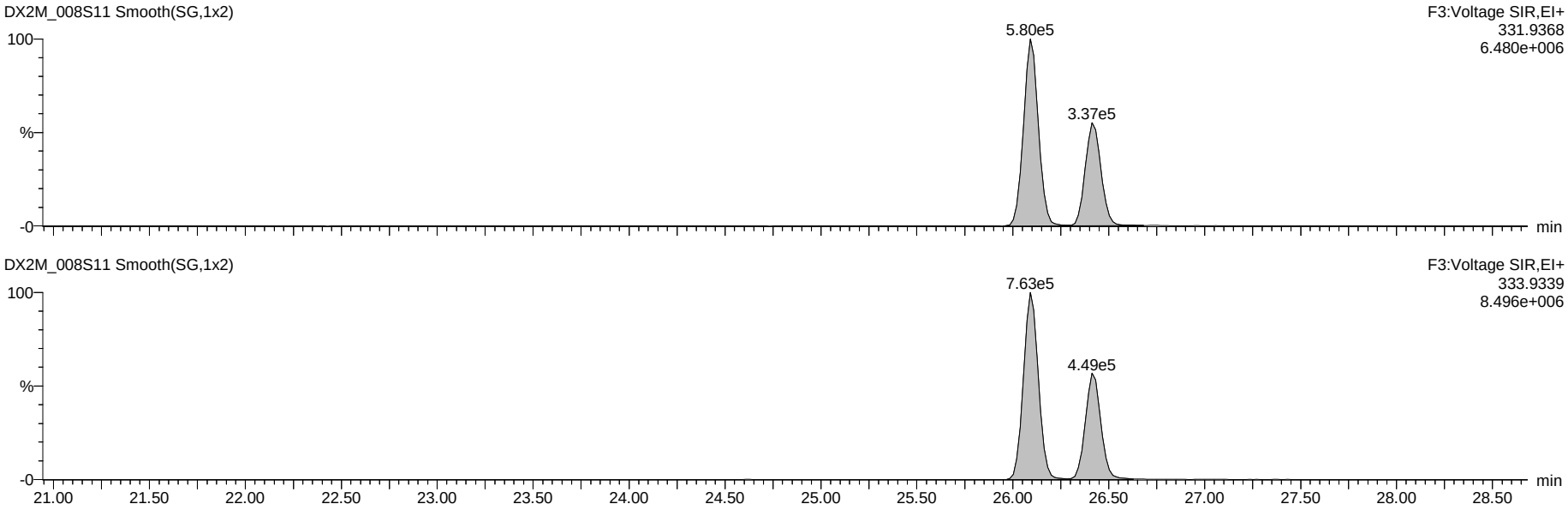
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Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

Total Tetra-Dioxins



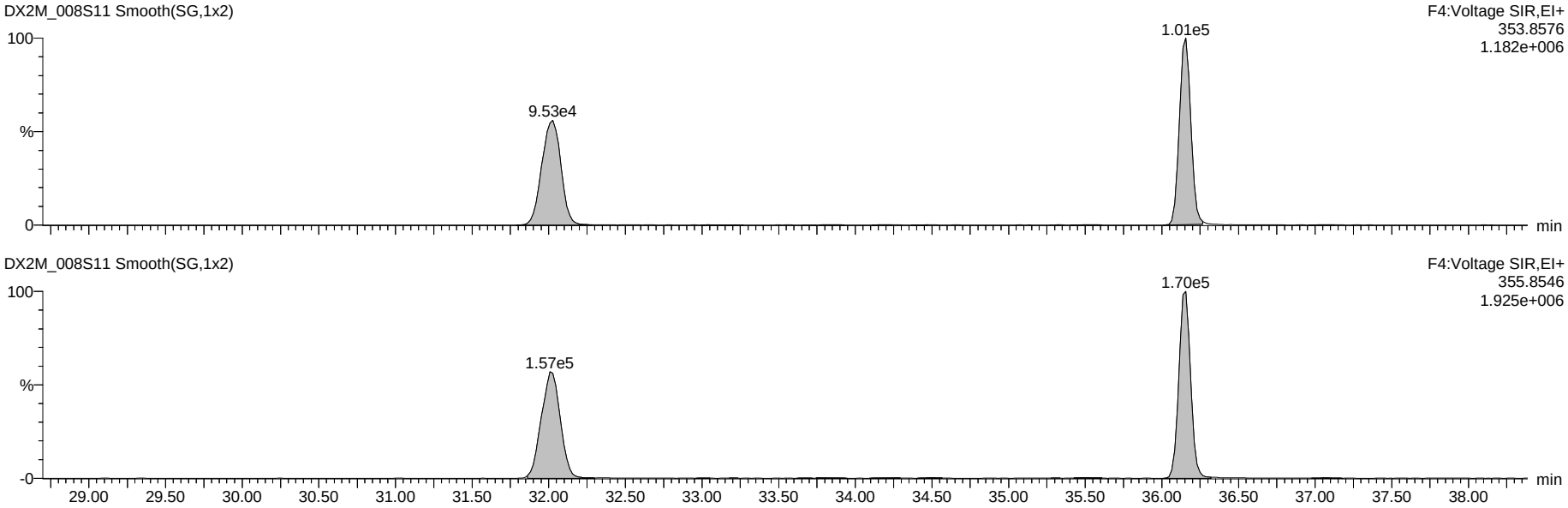
13C-Tetra-Dioxins



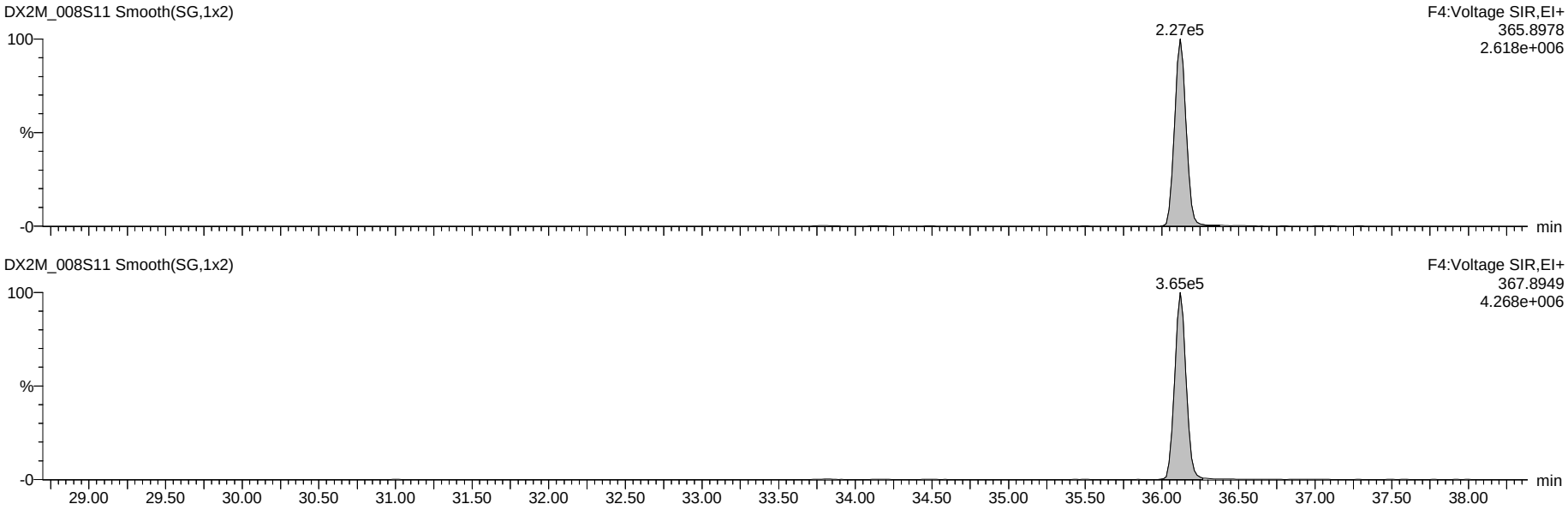
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

Total Penta-Dioxins



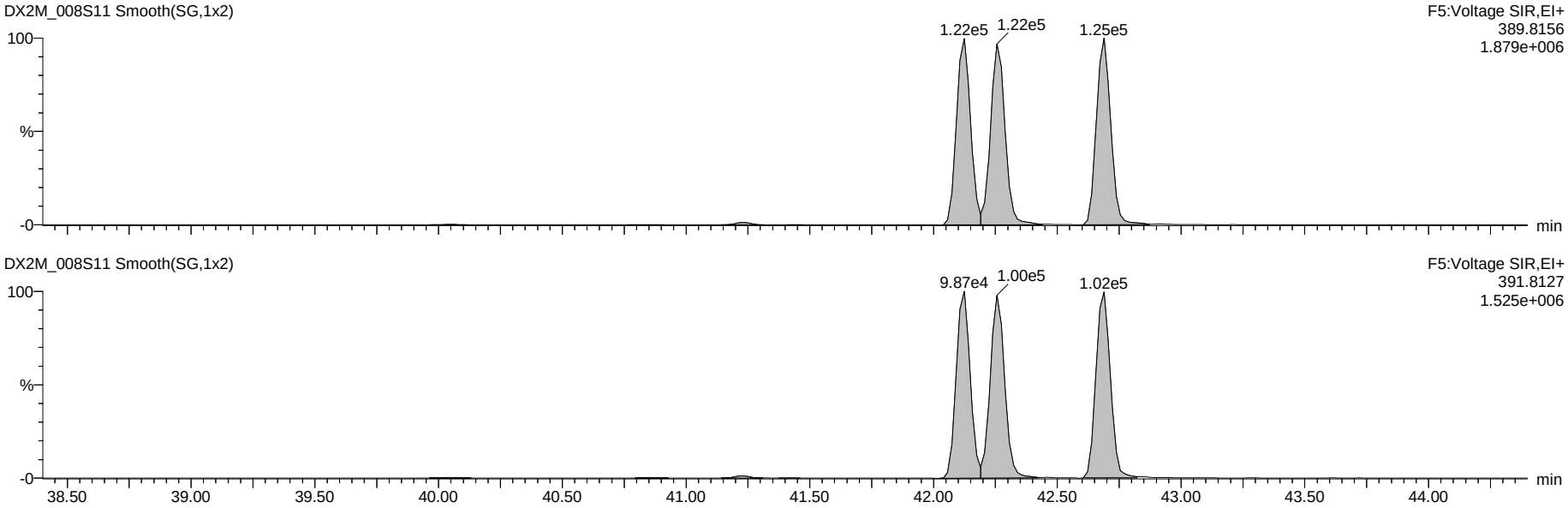
13C-Penta-Dioxins



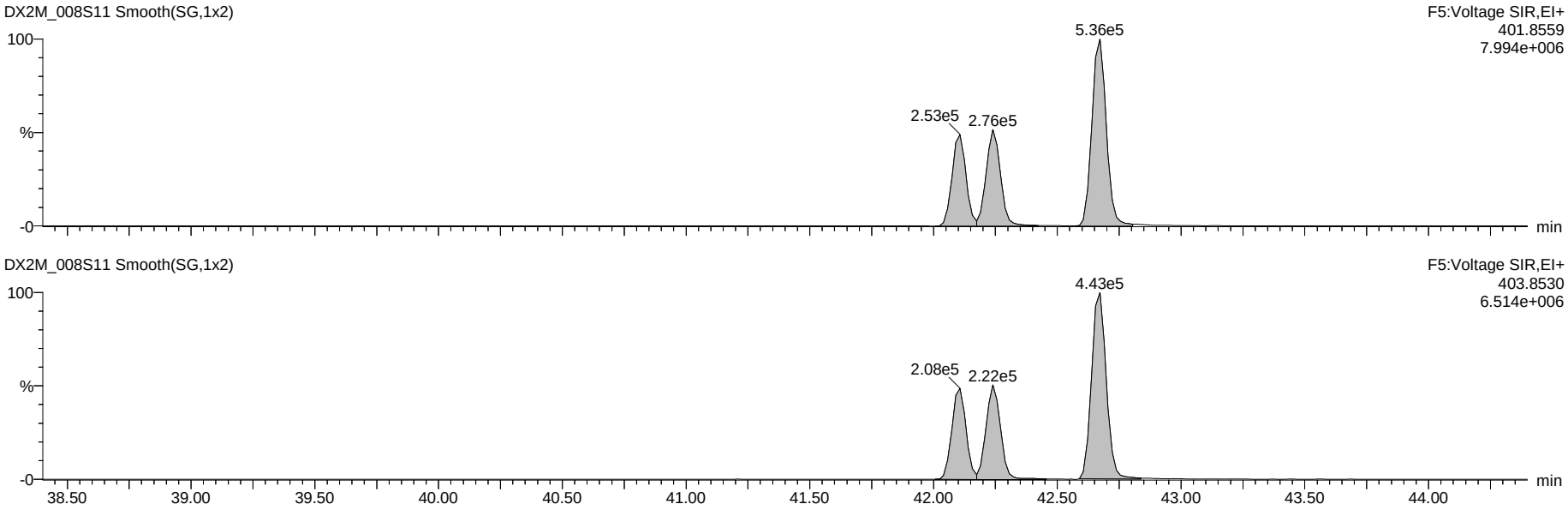
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Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

Total Hexa-Dioxins



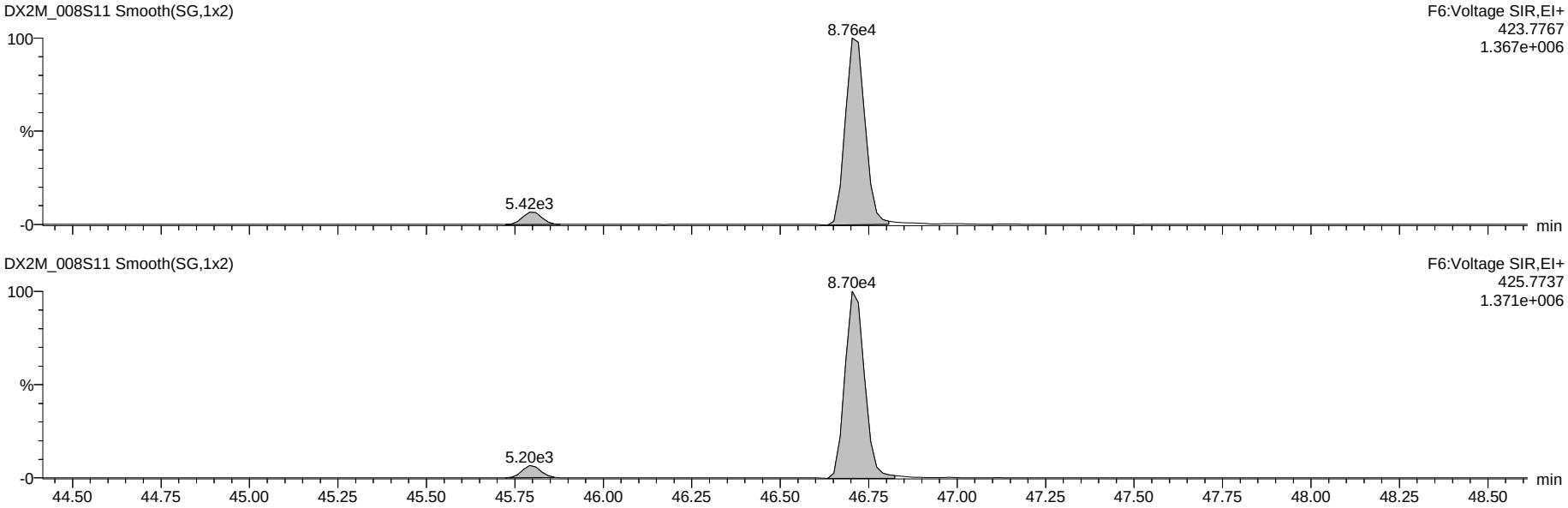
13C-Hexa-Dioxins



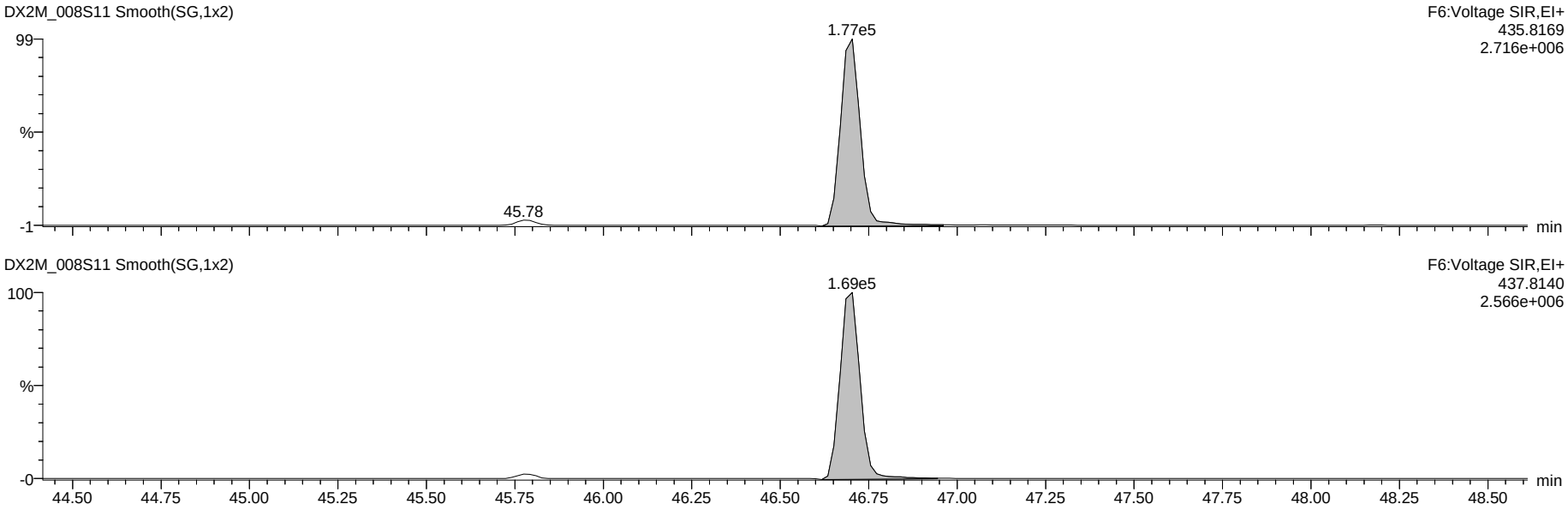
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Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

Total Hepta-Dioxins



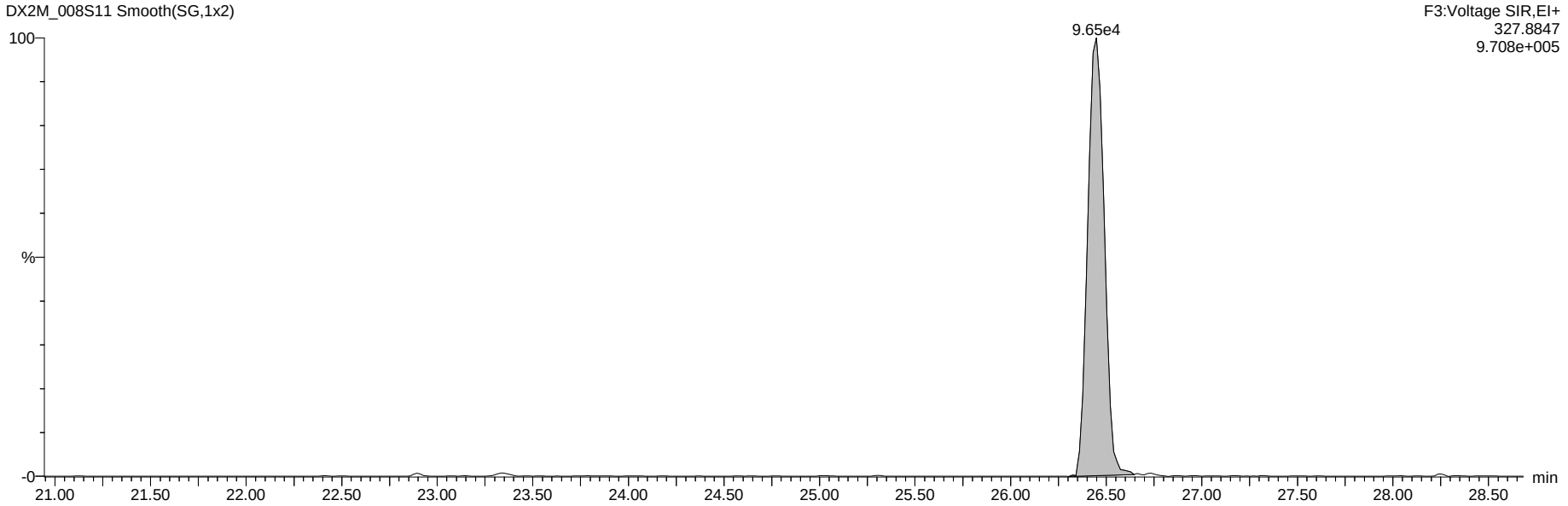
13C-Hepta-Dioxins



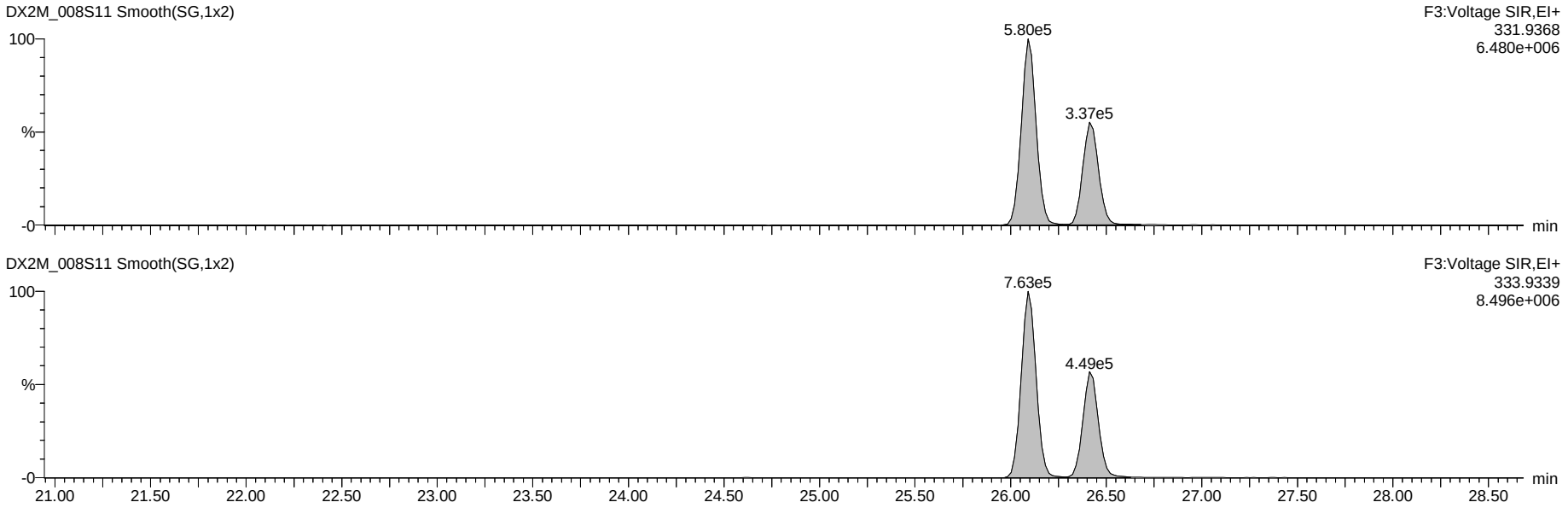
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Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

37Cl-2,3,7,8-TCDD



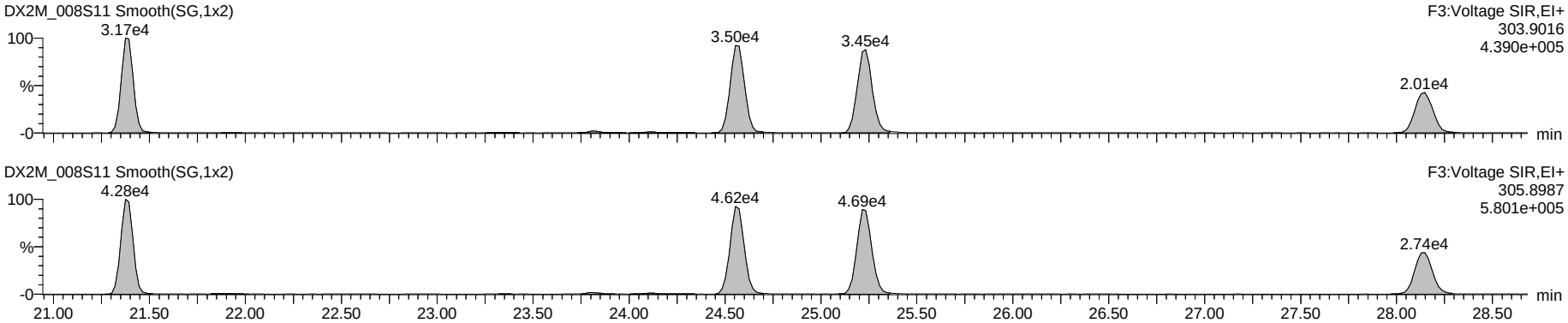
13C-Tetra-Dioxins



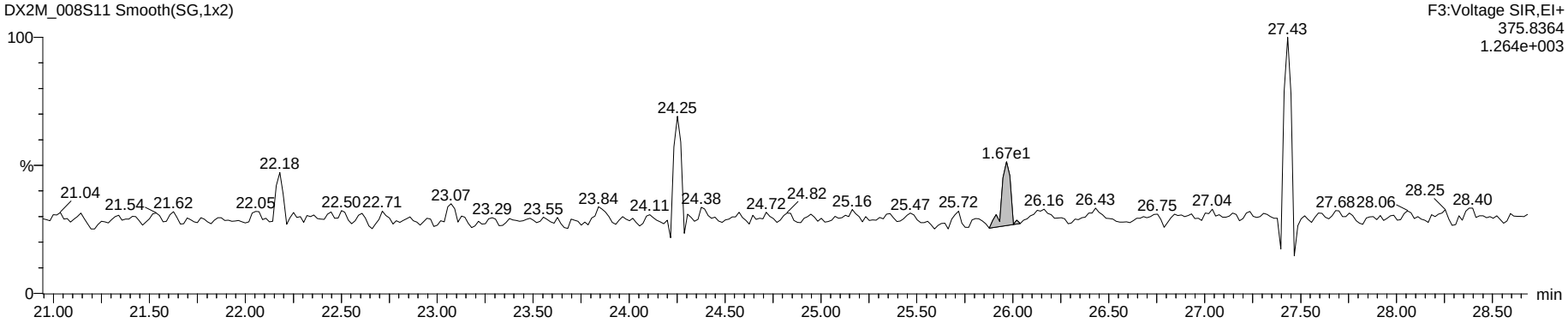
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Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

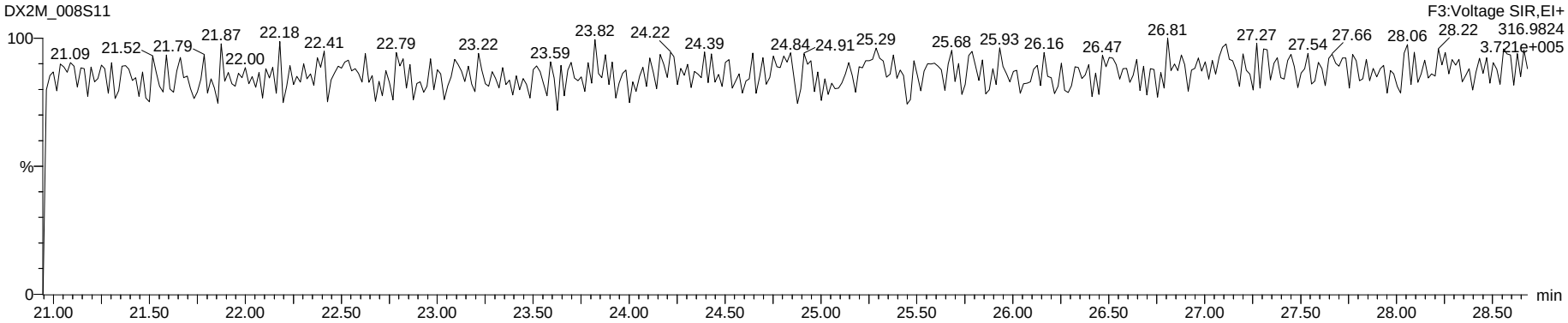
Total Tetra-Furans



Hexa DPE



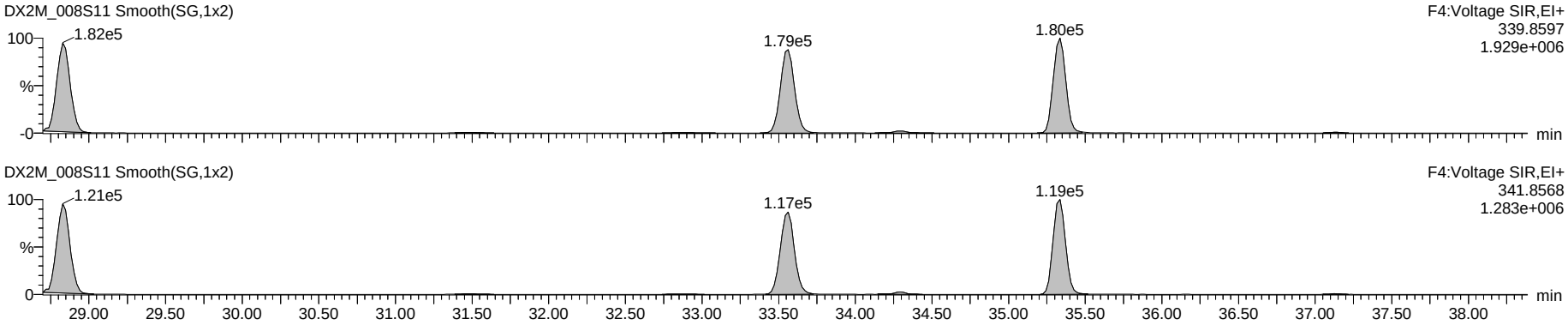
Tetra Lock



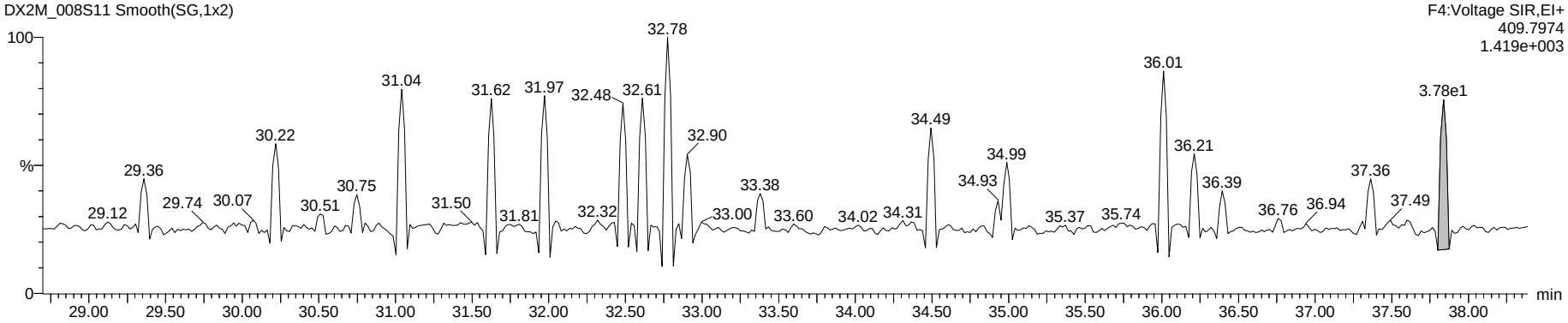
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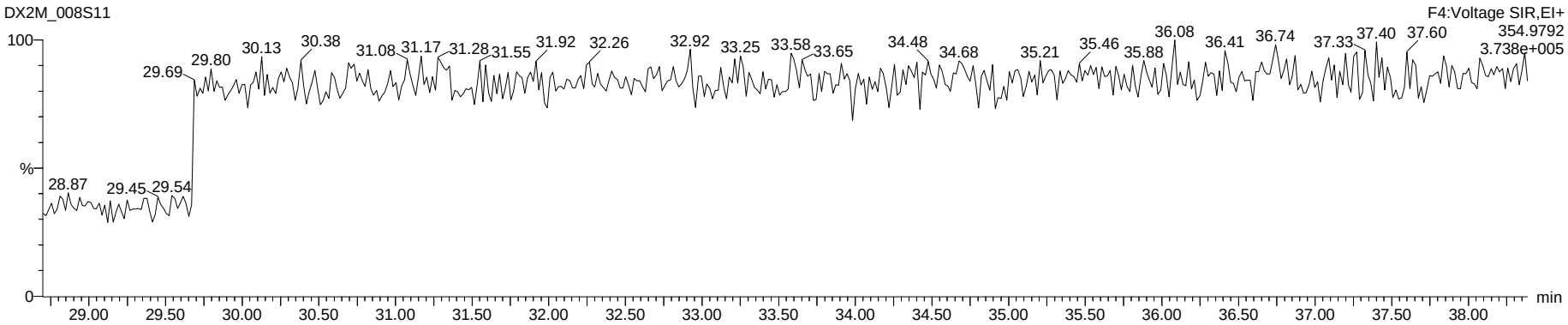
Total Penta-Furans



Hepta DPE



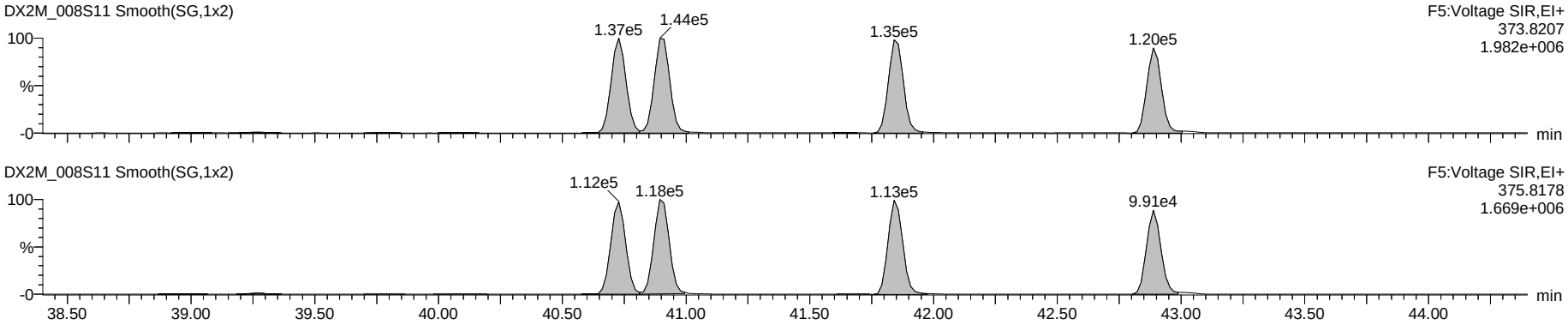
Penta Lock



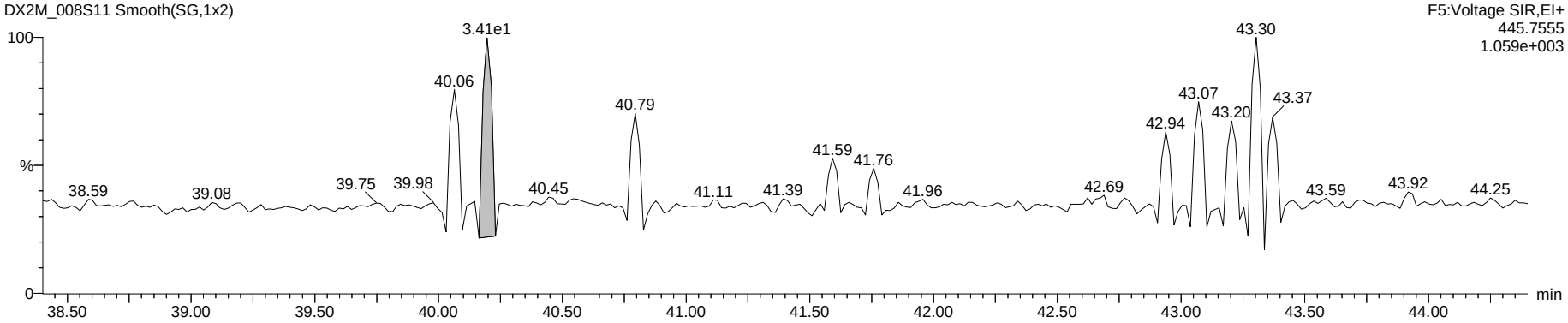
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Name: DX2M_008S11, Date: 10-Jan-2012, Time: 17:25:51, ID: WG38741-104,,MSD, Description: 1,WG38741,1.0/20uL

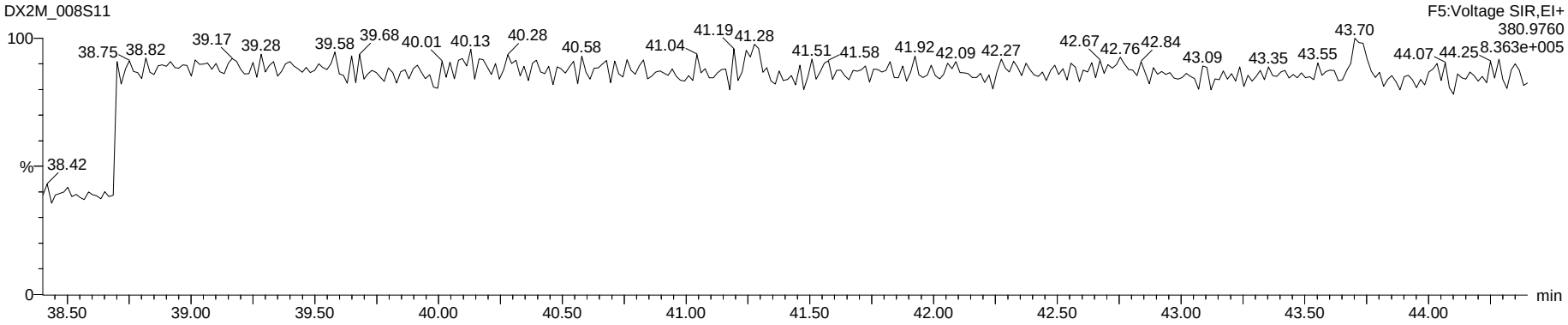
Total Hexa-Furans



Octa DPE



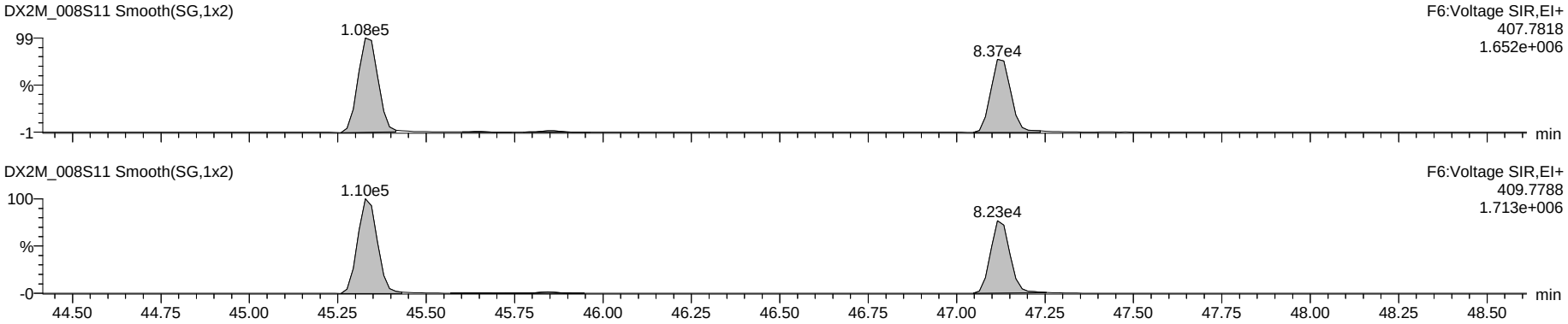
Hexa Lock



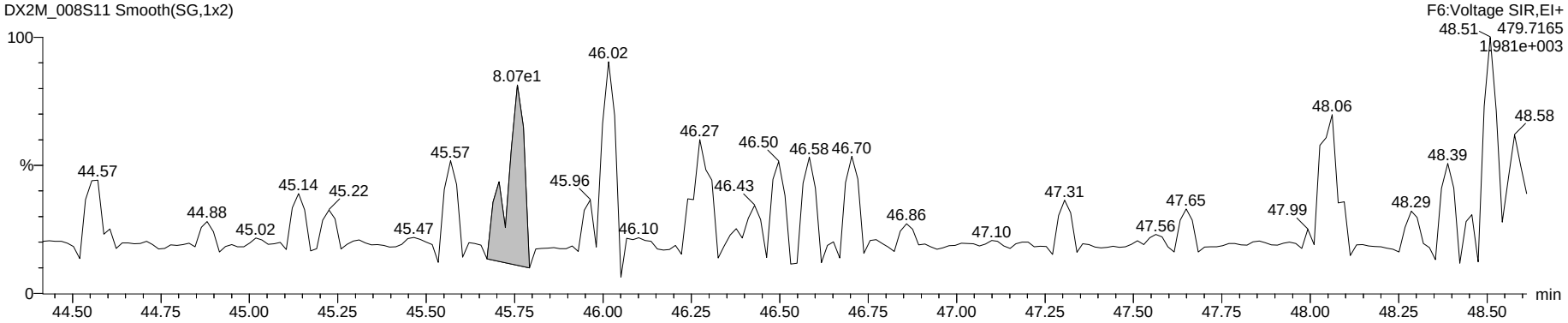
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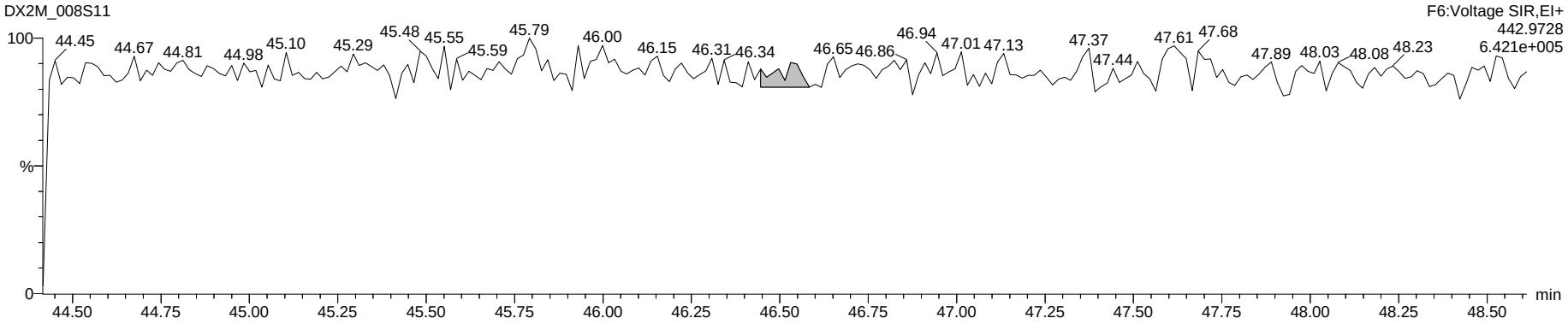
Total Hepta-Furans



Nona DPE



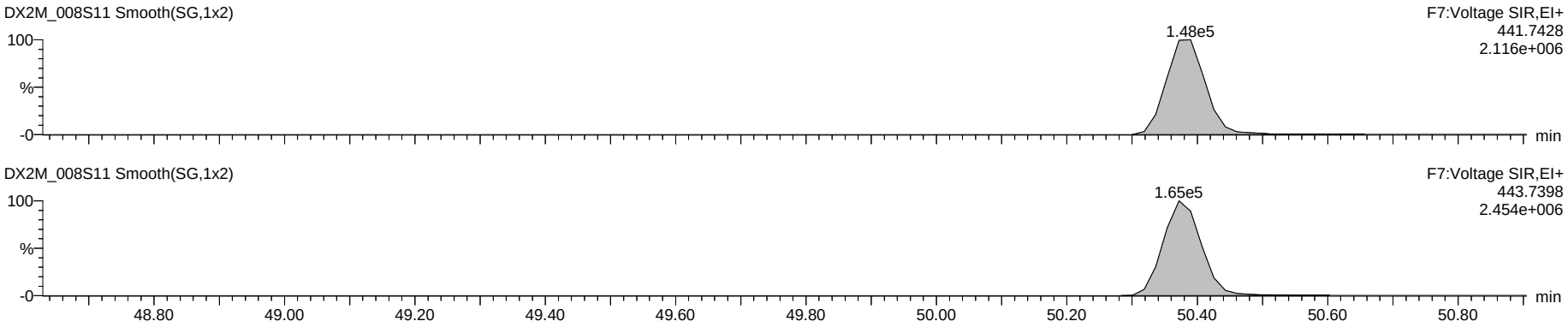
Hepta Lock



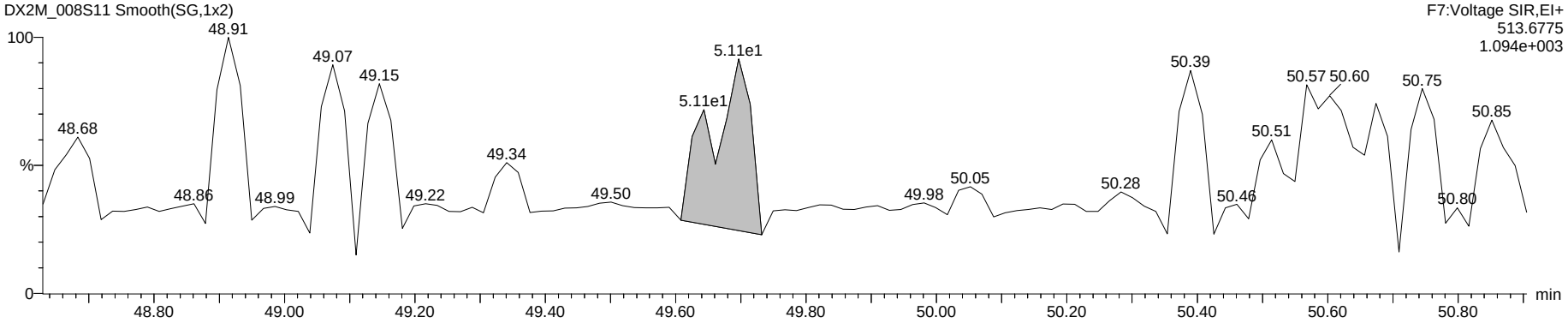
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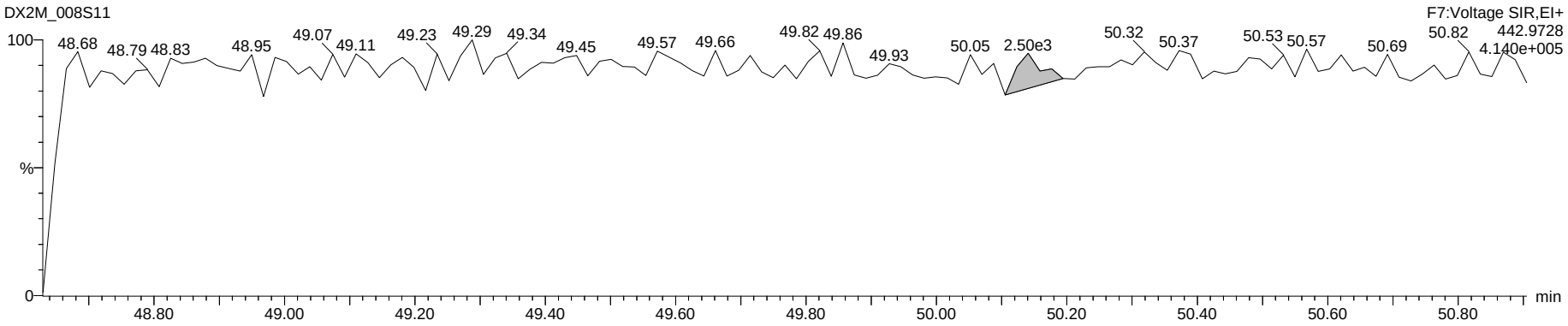
OCDF



Deca DPE



Octa Lock



Axys Analytical Services, Ltd.

Method: G:\Masslynx\Inst_M\Master methods and layouts\Current Methods\log.mdb 21 Nov 2008 10:39:44
Calibration: G:\Masslynx\Inst_M\Projects\111213DX.pro\CurveDB\DX1M_179B-A.cdb 15 Dec 2011 09:14:12

Compound name: -

#	Name	ID	Sample Text	Acq Date	Acq Time
1	DX1M_179BS1	DX036D-CAL,,/02-08	1,,1.0uL CS-3 Win/Res	14-Dec-11	09:07:08
2	DX1M_179BS2	DX036C-CAL,,/01-04	1,,1.0uL CS-2	14-Dec-11	10:01:07
3	DX1M_179BS3	DX0369-CAL,,/01-04	1,,1.0uL CS-1	14-Dec-11	10:54:47
4	DX1M_179BS4	DX0368Z-CAL,,/01-03	1,,1.0uL CS-1	14-Dec-11	11:49:57
5	DX1M_179BS5	DX036A-CAL,,/02-03	1,,1.0uL CS-0.2 Sens	14-Dec-11	12:45:03
6	DX1M_179BS6	DX036A-CAL,,/02-03	1,,1.0uL CS-0.2 Sens	14-Dec-11	13:44:15
7	DX1M_179BS7	DX036F-CAL,,/02-02	1,,1.0uL CS-5	14-Dec-11	14:38:28
8	DX1M_179BS8	DX036E-CAL,,/01-04	1,,1.0uL CS-4	14-Dec-11	15:31:57
9	DX1M_179BS9	DX036D-CAL,,/02-08	1,,1.0uL CS-3 Win/Res	14-Dec-11	17:08:21
10	DX1M_179BS10	DX042A-SUR,,/01	1,,1.0uL Inst Blank	14-Dec-11	18:00:49
11	DX1M_179BS11	DX042A-SUR,,/01	1,,1.0uL Inst Blank	14-Dec-11	18:55:58
12	DX1M_179BS12	L16731-22,NK,	100,WG38356,1.0/20uL	14-Dec-11	19:52:48
13	DX1M_179BS13	L17177-1,W,	30,WG38356,1.0/600uL	14-Dec-11	20:46:14
14	DX1M_179BS14	L16731-9,NK,	500,WG38356,1.0/50uL	14-Dec-11	21:41:21
15	DX1M_179BS15	DX036D-CAL,,/02-08	1,,1.0uL CS-3 Win/Res	14-Dec-11	22:36:29
16	DX1M_179BS16	DX042A-SUR,,/02	1,,1.0uL Inst Blank	14-Dec-11	23:38:01
17	DX1M_179BS17	DX042A-SUR,,/02	1,,1.0uL Inst Blank	15-Dec-11	00:30:30
18	DX1M_179BS18	WG38553-101,,BLK	1,WG38553,1.0/20uL	15-Dec-11	01:25:38
19	DX1M_179BS19	L7837-76,,PRF	1,WG38553,1.0/20uL	15-Dec-11	02:20:45
20	DX1M_179BS20	L5940-31,,PRF	1,WG38553,1.0/20uL	15-Dec-11	03:15:53
21	DX1M_179BS21	DX042A-SUR,,/02	1,,1.0uL Inst Blank	15-Dec-11	04:11:01
22	DX1M_179BS22	WG38549-101,,CUTPT	1,WG38549,1.0/20uL	15-Dec-11	05:06:08
23	DX1M_179BS23	WG38549-102,,SAR	1,WG38549,1.0/20uL	15-Dec-11	06:01:17
24	DX1M_179BS24	DX036D-CAL,,/02-08	1,,1.0uL CS-3 Win/Res	15-Dec-11	06:56:24

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX1M_179B-B.qld

Name: DX1M_179BS3, Date: 14-Dec-2011, Time: 10:54:47, ID: DX036B-CAL,,/01-04, Description: 1,,1.0uL CS-1

	Name	Amount	Resp	Ratio	fails?	RT	RRF	RRF Mean	RRF SD	RRF %Rel SD	S/N	1/2 S/N
1	2,3,7,8-TCDF	0.535	5.42e3	0.79	NO	25.23	0.750	0.7697	0.011	1.48	389	304
2	1,2,3,7,8-PeCDF	2.300	1.91e4	1.56	NO	33.59	0.810	0.8662	0.039	4.45	215	302
3	2,3,4,7,8-PeCDF	2.350	1.91e4	1.38	NO	35.36	0.834	0.8802	0.034	3.88	234	361
4	1,2,3,4,7,8-HxCDF	2.500	1.71e4	1.25	NO	40.78	0.970	0.9969	0.026	2.61	501	615
5	1,2,3,6,7,8-HxCDF	2.375	1.83e4	1.26	NO	40.96	0.966	0.9824	0.012	1.24	562	645
6	2,3,4,6,7,8-HxCDF	2.650	1.67e4	1.15	NO	41.91	0.870	0.9038	0.022	2.42	506	608
7	1,2,3,7,8,9-HxCDF	2.625	1.48e4	1.15	NO	42.96	0.865	0.8660	0.011	1.24	442	552
8	1,2,3,4,6,7,8-HpCDF	2.500	1.49e4	1.03	NO	45.41	1.085	1.1582	0.042	3.62	927	617
9	1,2,3,4,7,8,9-HpCDF	2.500	1.19e4	0.90	NO	47.20	0.991	1.0440	0.035	3.34	699	541
10	OCDF	5.200	2.33e4	0.83	NO	50.48	0.824	0.8822	0.048	5.50	781	1060
11	2,3,7,8-TCDD	0.500	4.83e3	0.71	NO	26.47	0.855	0.8219	0.027	3.27	150	240
12	1,2,3,7,8-PeCDD	2.600	1.55e4	0.62	NO	36.21	0.790	0.8316	0.025	3.02	606	543
13	1,2,3,4,7,8-HxCDD	2.825	1.45e4	1.18	NO	42.19	0.757	0.7830	0.016	2.02	491	922
14	1,2,3,6,7,8-HxCDD	2.775	1.48e4	1.19	NO	42.32	0.712	0.7344	0.015	1.99	483	972
15	1,2,3,7,8,9-HxCDD	2.700	1.45e4	1.24	NO	42.78	0.752	0.7723	0.012	1.59	460	872
16	1,2,3,4,6,7,8-HpCDD	2.375	1.30e4	0.99	NO	46.79	0.982	0.9617	0.016	1.63	511	296
17	OCDD	5.000	2.36e4	0.88	NO	50.39	0.867	0.9112	0.027	2.98	1388	1174
18	13C-2,3,7,8-TCDF	100.000	1.35e6	0.77	NO	25.22	1.333	1.3572	0.036	2.62	3925	2950
19	13C-1,2,3,7,8-PeCDF	100.000	1.02e6	1.55	NO	33.57	1.012	1.0558	0.080	7.55	3122	1858
20	13C-2,3,4,7,8-PeCDF	100.000	9.76e5	1.55	NO	35.35	0.964	1.0140	0.076	7.52	3494	2062
21	13C-1,2,3,4,7,8-HxCDF	100.000	7.05e5	0.50	NO	40.76	1.004	1.0091	0.019	1.87	2639	3967
22	13C-1,2,3,6,7,8-HxCDF	100.000	7.98e5	0.51	NO	40.95	1.136	1.1381	0.023	2.00	2880	4061
23	13C-2,3,4,6,7,8-HxCDF	100.000	7.23e5	0.50	NO	41.89	1.029	1.0336	0.018	1.70	2758	3998
24	13C-1,2,3,7,8,9-HxCDF	100.000	6.41e5	0.50	NO	42.94	0.913	0.9303	0.016	1.71	2376	3487
25	13C-1,2,3,4,6,7,8-HpCDF	100.000	5.49e5	0.46	NO	45.39	0.781	0.7778	0.011	1.36	2654	3147
26	13C-1,2,3,4,7,8,9-HpCDF	100.000	4.82e5	0.43	NO	47.18	0.686	0.6807	0.010	1.45	2216	2900
27	13C-2,3,7,8-TCDD	100.000	1.13e6	0.76	NO	26.43	1.115	1.1507	0.050	4.32	936	2960
28	13C-1,2,3,7,8-PeCDD	100.000	7.56e5	0.63	NO	36.16	0.746	0.7972	0.067	8.35	6203	9598
29	13C-1,2,3,4,7,8-HxCDD	100.000	6.78e5	1.23	NO	42.16	0.966	0.9839	0.013	1.33	4824	3835
30	13C-1,2,3,6,7,8-HxCDD	100.000	7.50e5	1.21	NO	42.31	1.067	1.0807	0.012	1.15	5268	4163
31	13C-1,2,3,4,6,7,8-HpCDD	100.000	5.57e5	1.03	NO	46.77	0.792	0.7846	0.011	1.38	6210	6410
32	13C-OCDD	200.000	1.09e6	0.86	NO	50.37	0.775	0.7795	0.022	2.76	107562	8169
33	13C-1,2,3,4-TCDD	100.000	1.01e6	0.78	NO	26.11	101...	10075.1987	137.442	1.36	902	2785
34	13C-1,2,3,7,8,9-HxCDD	100.000	7.02e5	1.22	NO	42.72	702...	7508.7528	877.794	11.69	4793	3816
35	37Cl-2,3,7,8-TCDD	0.500	6.29e3			26.47	1.242	1.1539	0.084	7.32	97	
36	Total Tetra-Furans	0.547						0.7697	0.011	1.48		
37	Total Tetra-Dioxins	0.529						0.8219	0.027	3.27		
38	Total Penta-Furans	2.500						0.8662	0.039	4.45		
39	Total Penta-Dioxins	2.828						0.8316	0.025	3.02		
40	Total Hexa-Furans	2.500						0.9969	0.026	2.61		
41	Total Hexa-Dioxins	2.500						0.7830	0.016	2.02		
42	Total Hepta-Furans	2.500						1.1582	0.042	3.62		
43	Total Hepta-Dioxins	2.500						0.9617	0.016	1.63		
44	Hexa DPE	0.000	8.97e1			27.61	0.000				24	
45	Hepta DPE	0.000	6.58e1			33.79	0.000				24	
46	Octa DPE	0.000	3.23e1			42.57	0.000				13	
47	Nona DPE	0.000	4.15e1			48.00	0.000				22	
48	Deca DPE	0.000	3.00e1			49.95	0.000				21	
49	Tetra Lock	0.000	9.91e3			25.90	0.000				0	
50	Penta Lock	0.000										
51	Hexa Lock	0.000										
52	Hepta Lock	0.000	8.03e3			46.23	0.000				0	
53	Octa Lock	0.000	2.16e4			49.95	0.000				1	
54	13C-Tetra-Furans	100.000						1.3572	0.036	2.62		
55	13C-Tetra-Dioxins	100.000						1.1507	0.050	4.32		

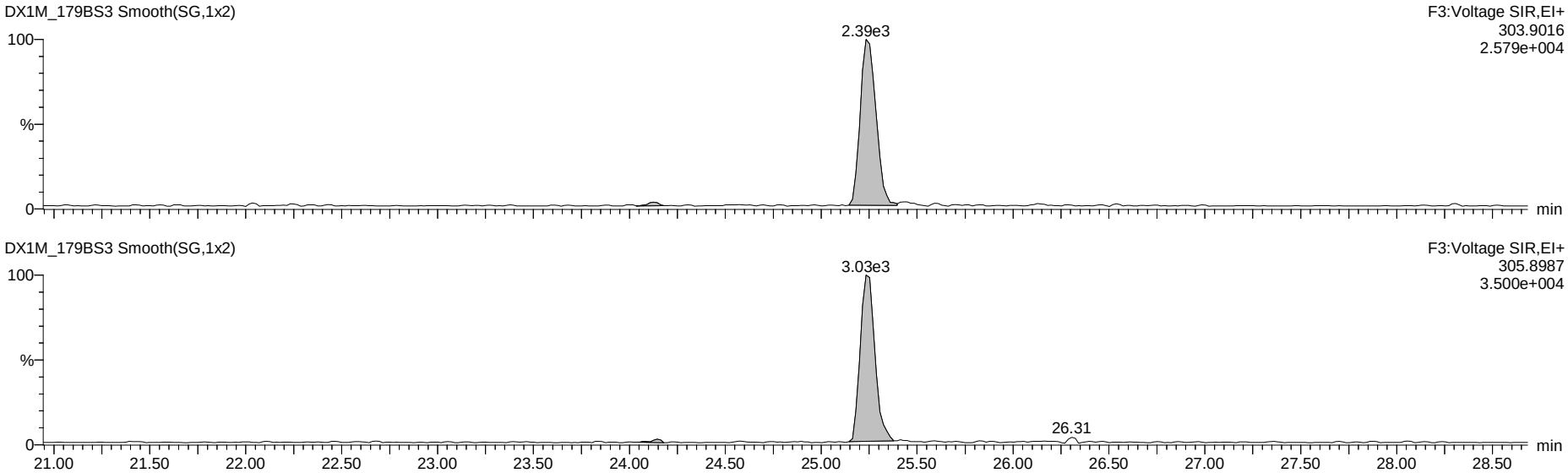
PV'd by RT 15-Dec-2011 SUBJ CW 15 DEC 11

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX1M_179B-A.qld

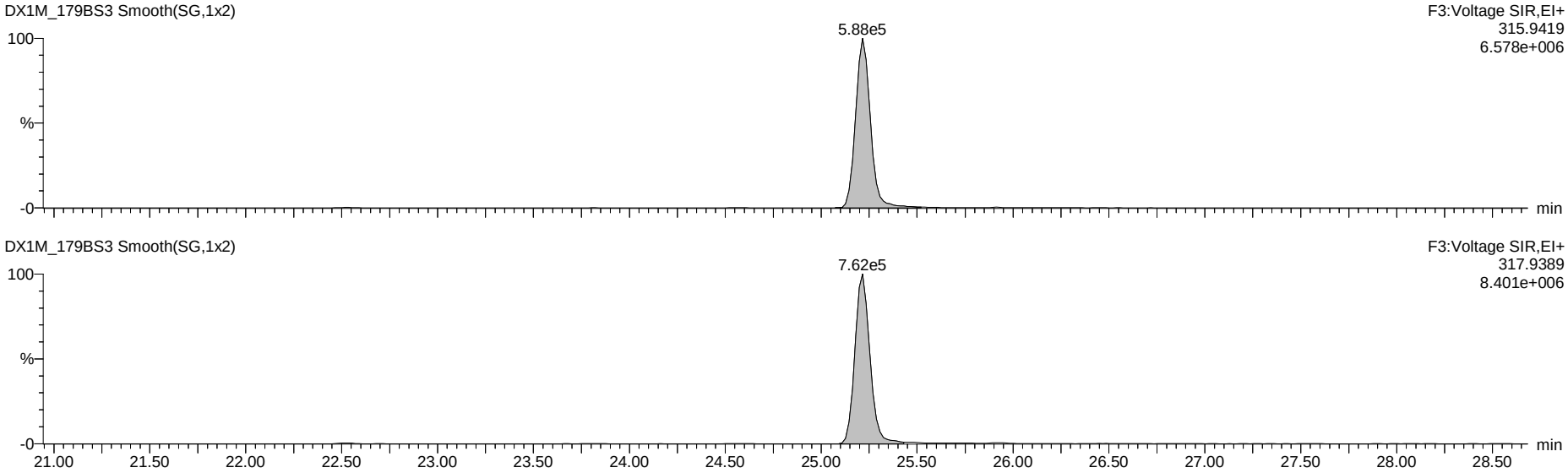
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Name: DX1M_179BS3, Date: 14-Dec-2011, Time: 10:54:47, ID: DX036B-CAL,,/01-04, Description: 1,,1.0uL CS-1

Total Tetra-Furans



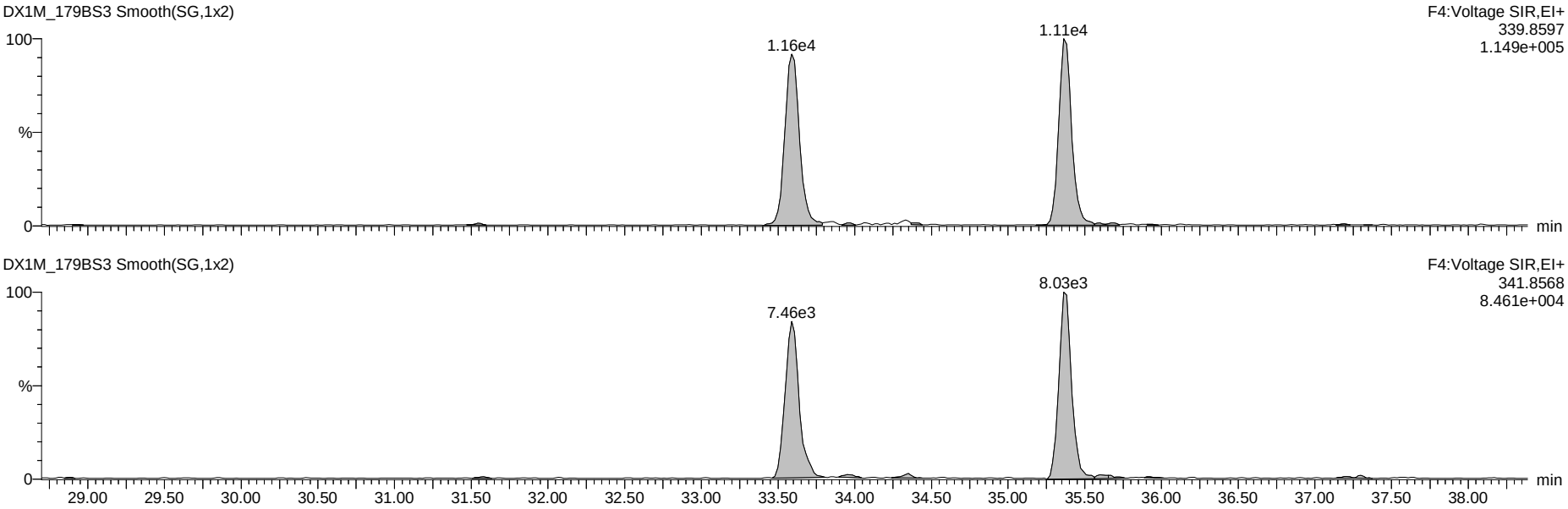
13C-Tetra-Furans



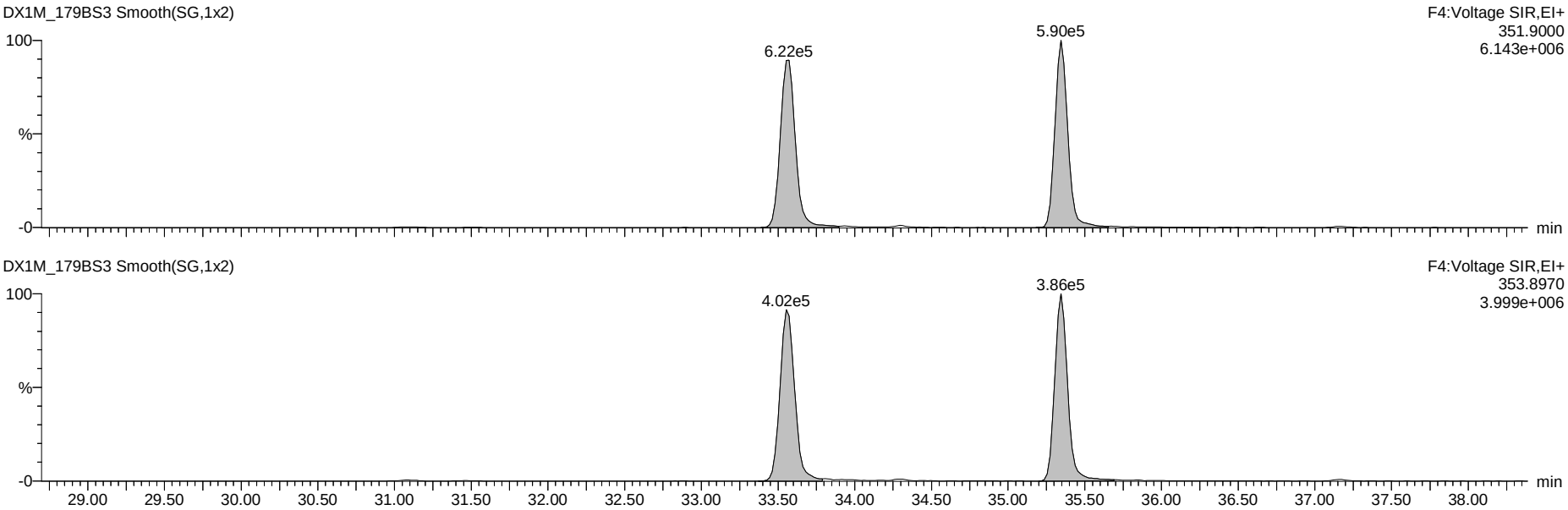
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Total Penta-Furans



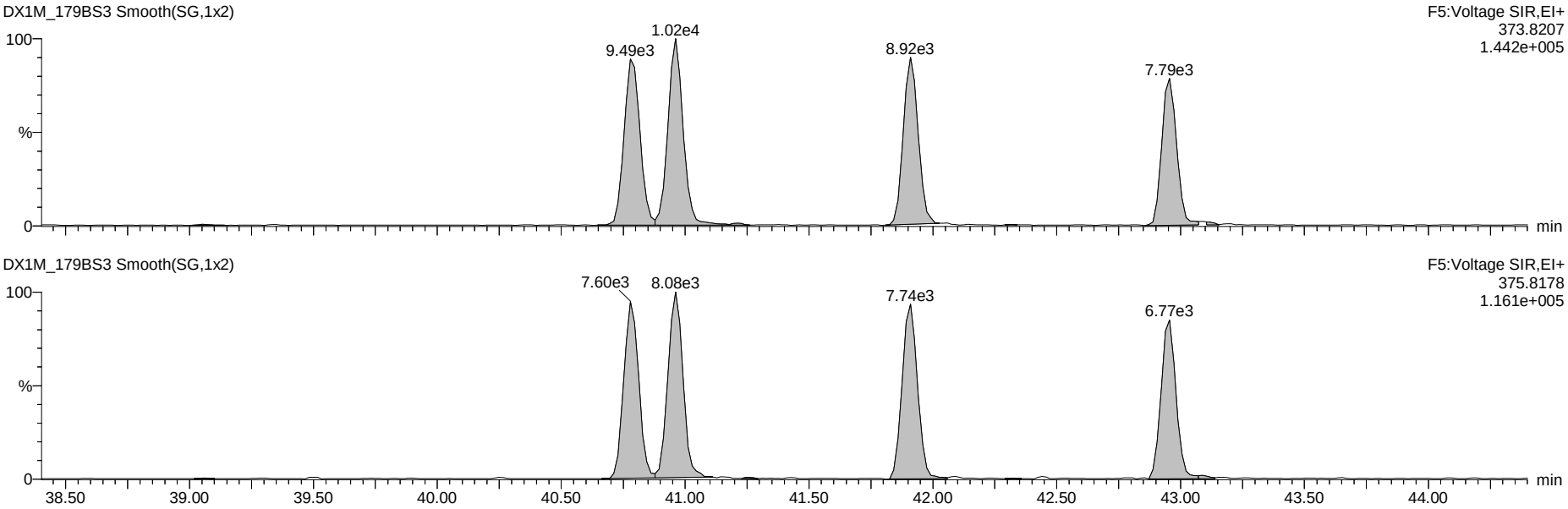
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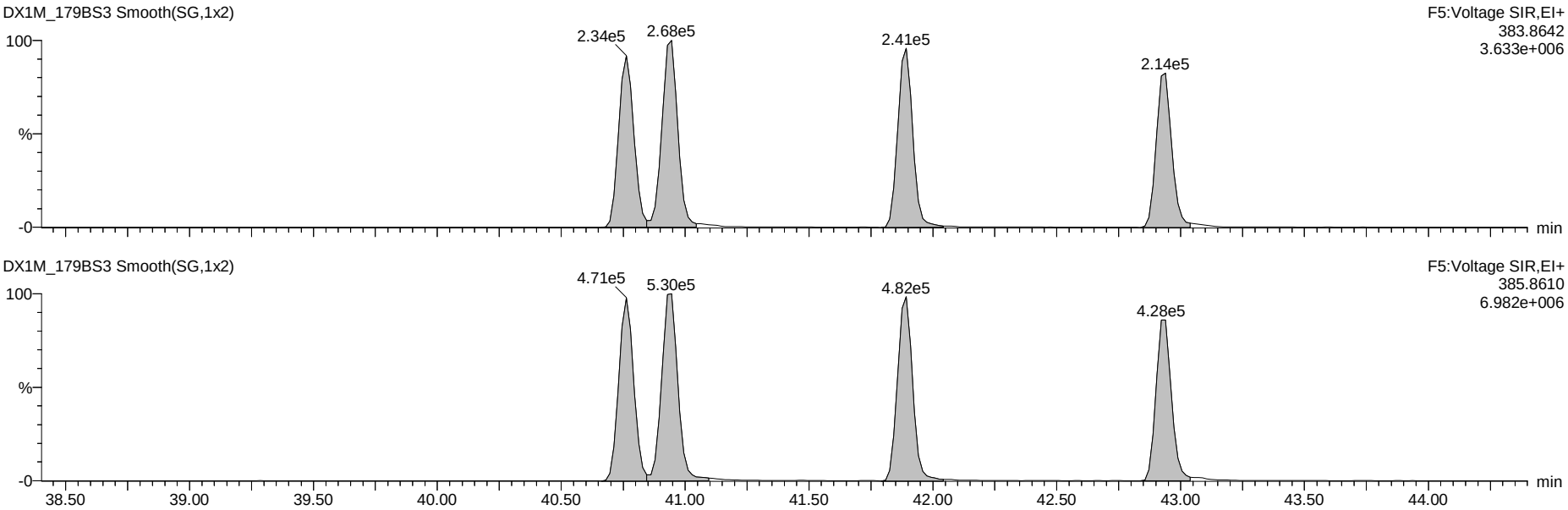
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Total Hexa-Furans



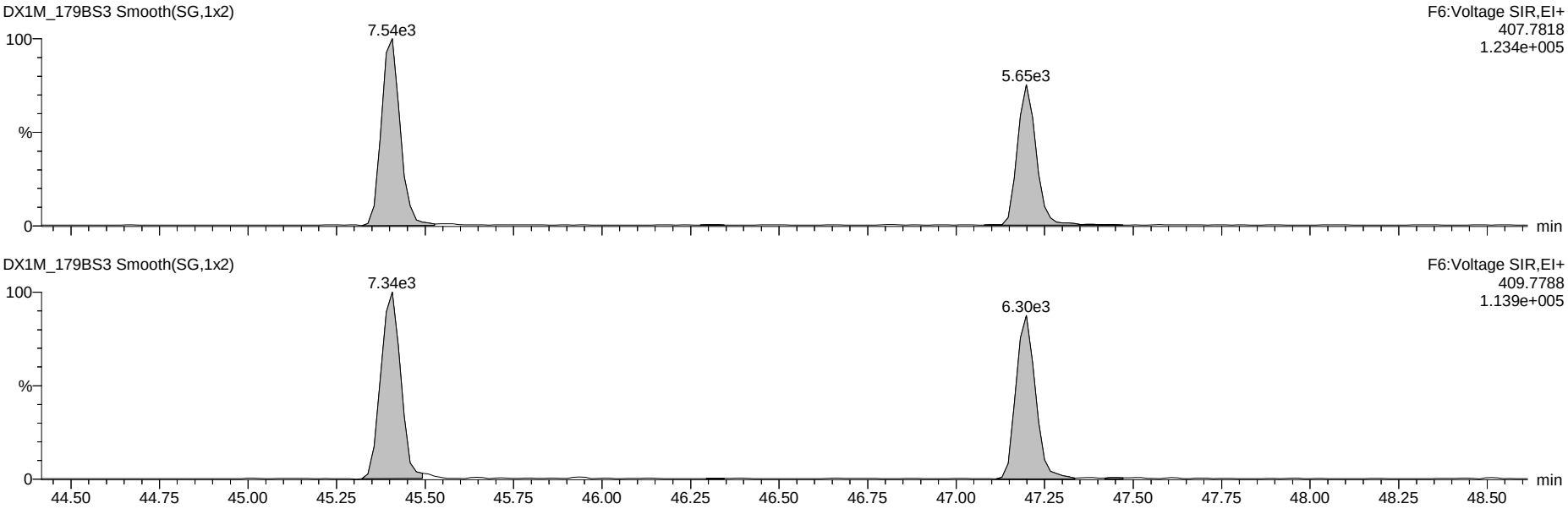
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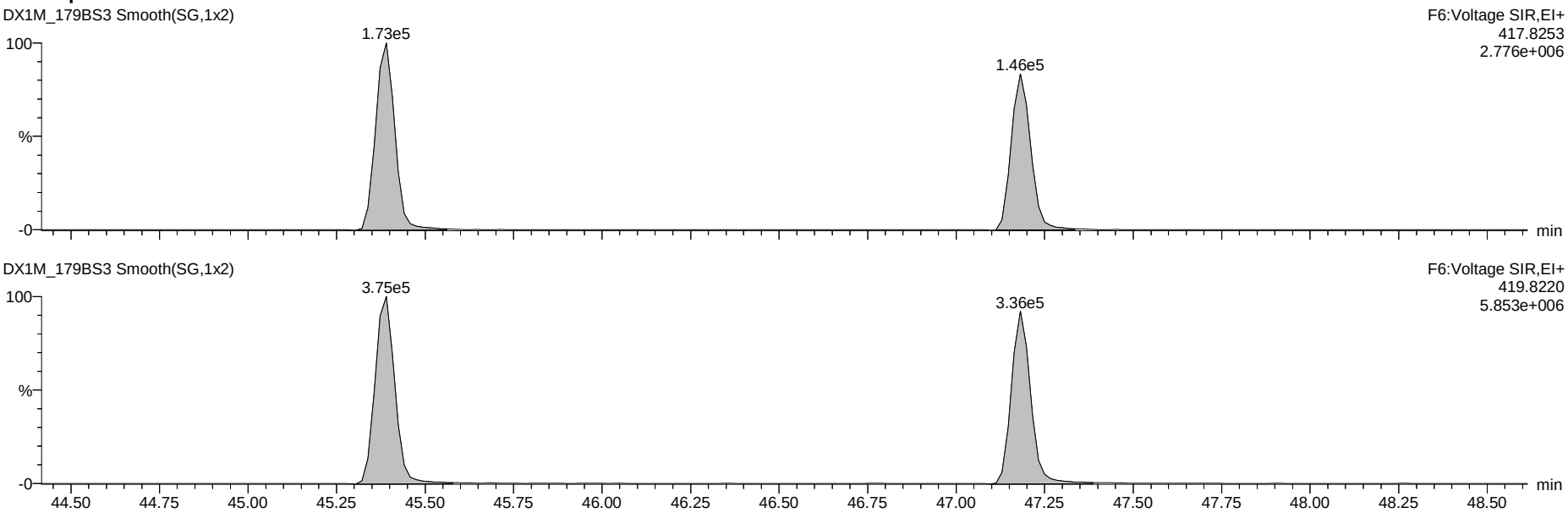
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Total Hepta-Furans



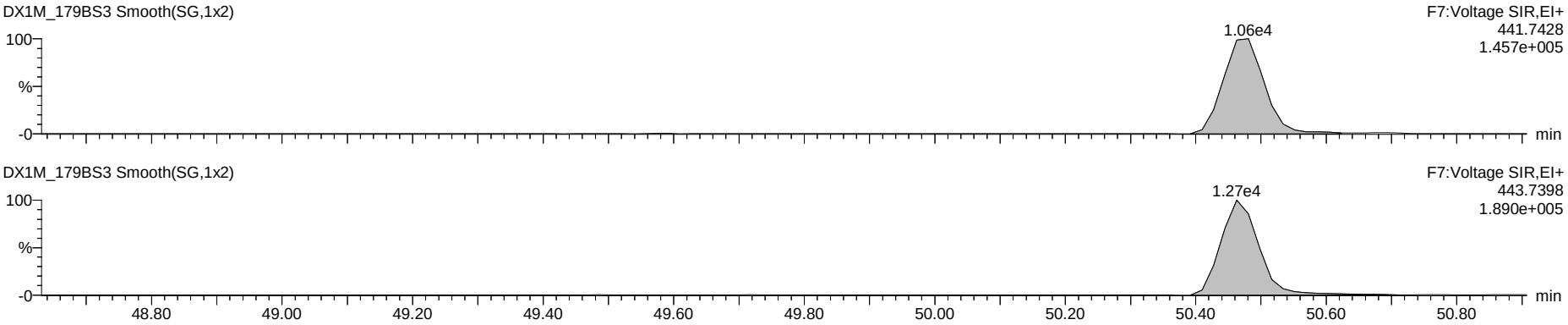
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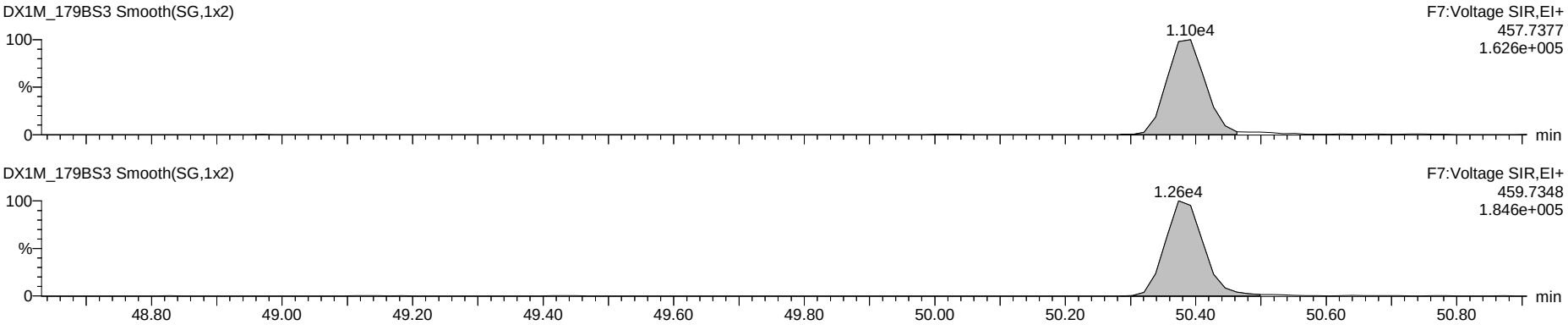
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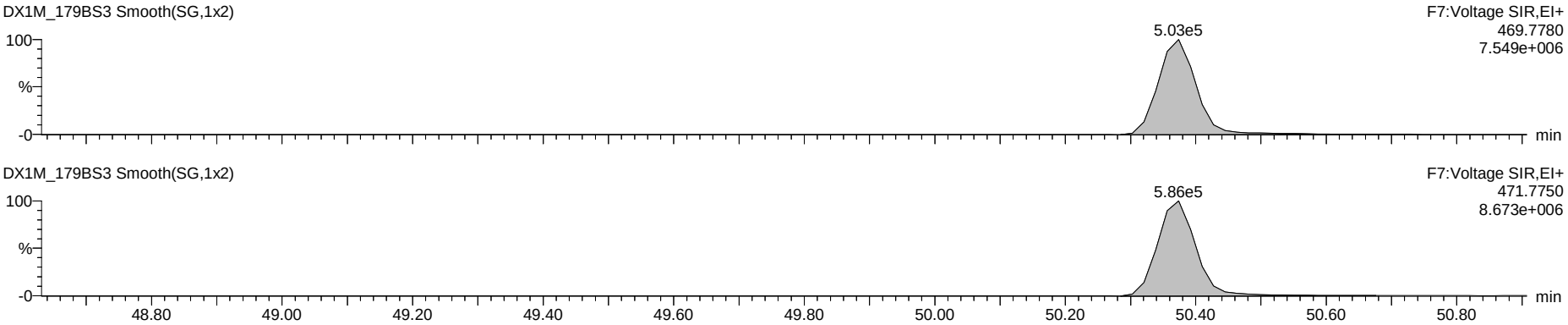
OCDF



OCDD



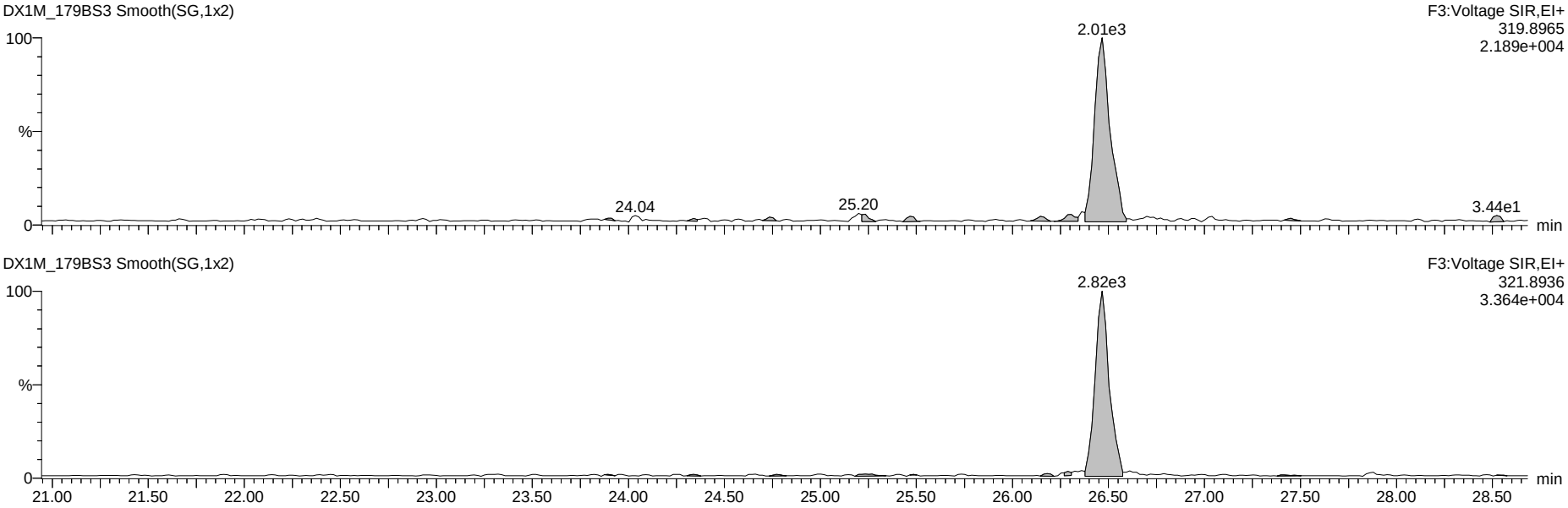
13C-OCDD



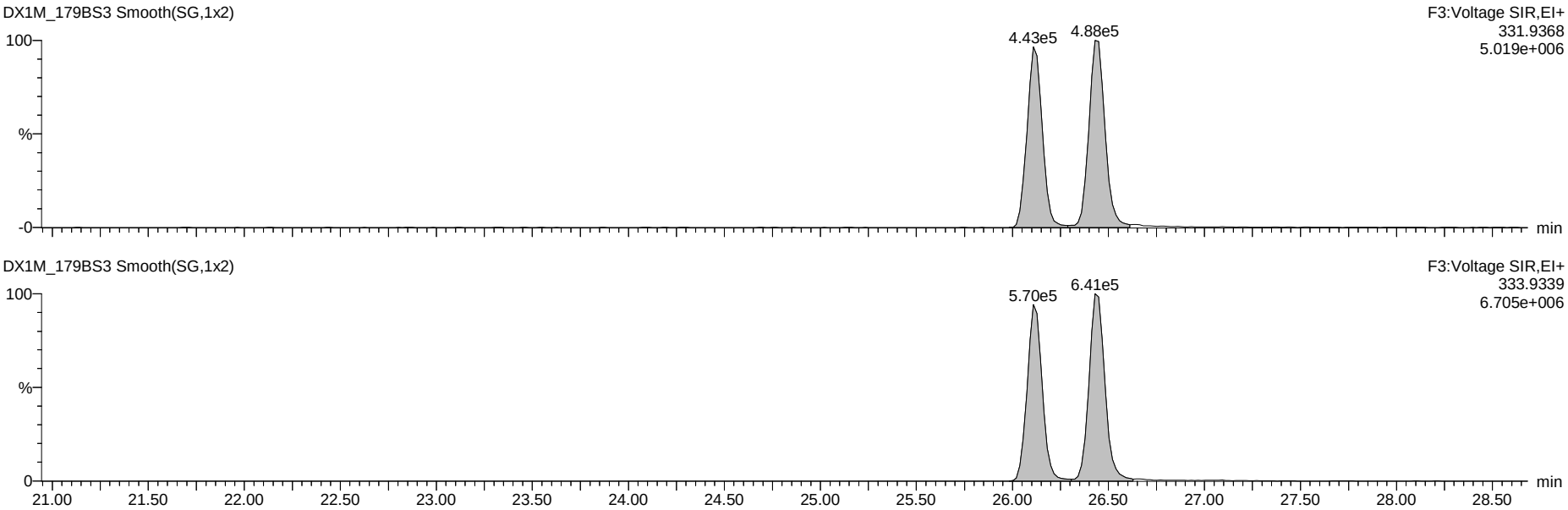
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Name: DX1M_179BS3, Date: 14-Dec-2011, Time: 10:54:47, ID: DX036B-CAL,,/01-04, Description: 1,,1.0uL CS-1

Total Tetra-Dioxins



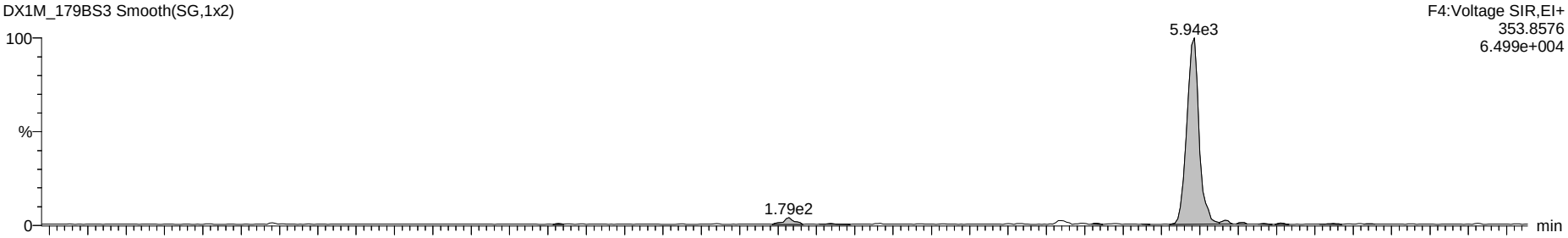
13C-Tetra-Dioxins

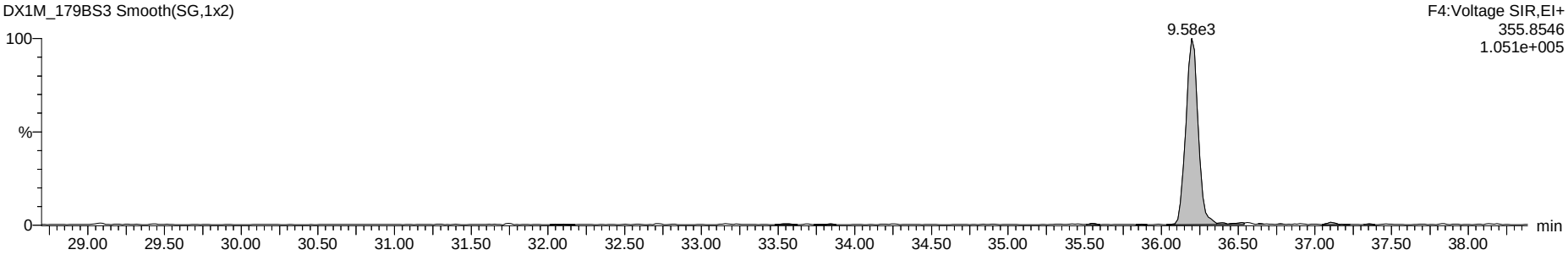


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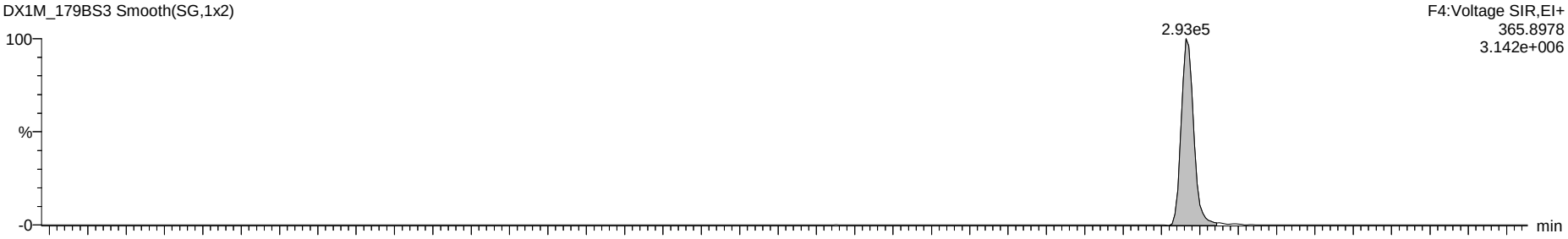
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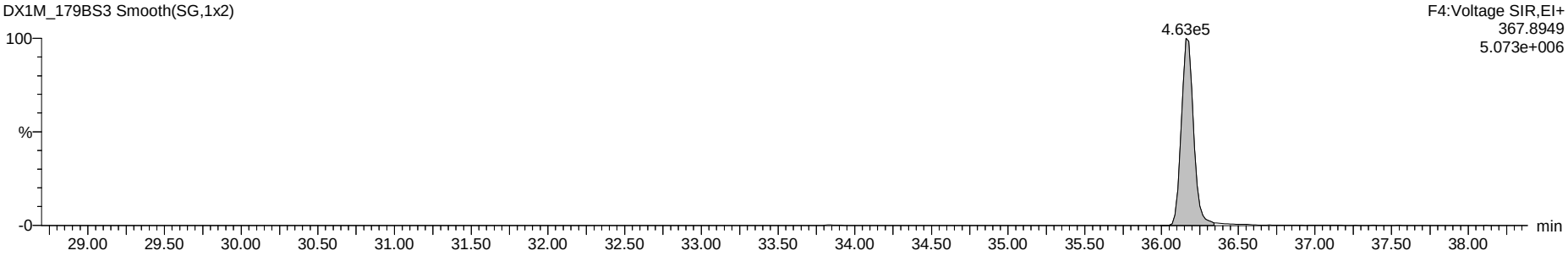
Total Penta-Dioxins





13C-Penta-Dioxins

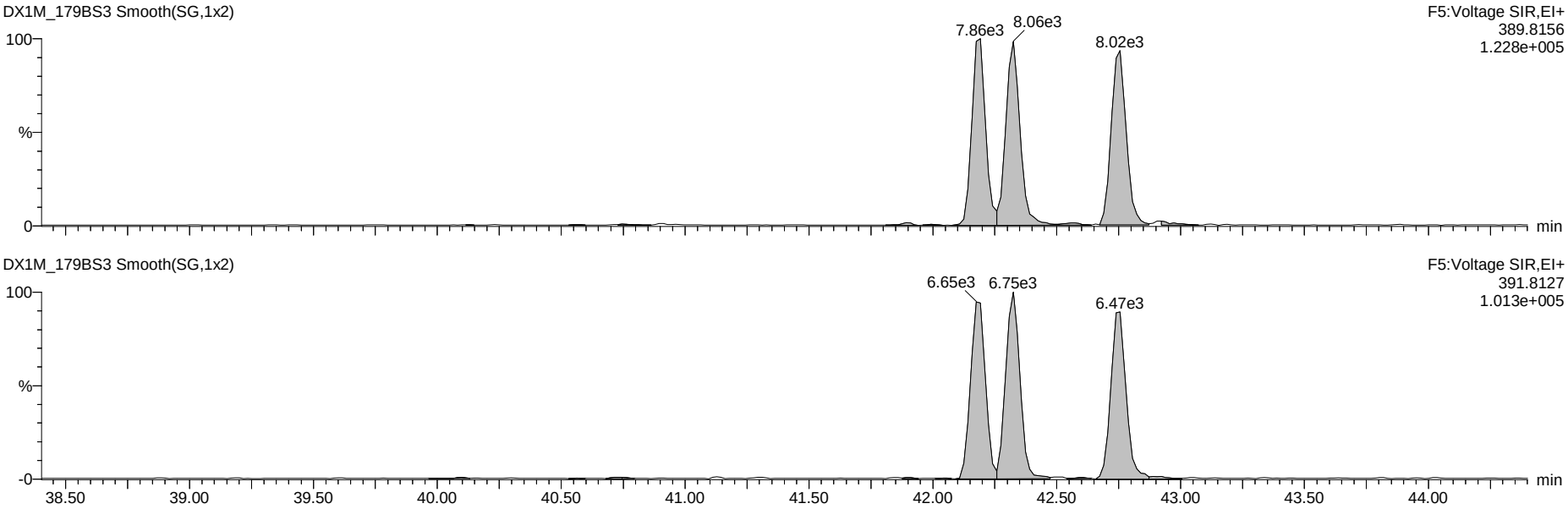




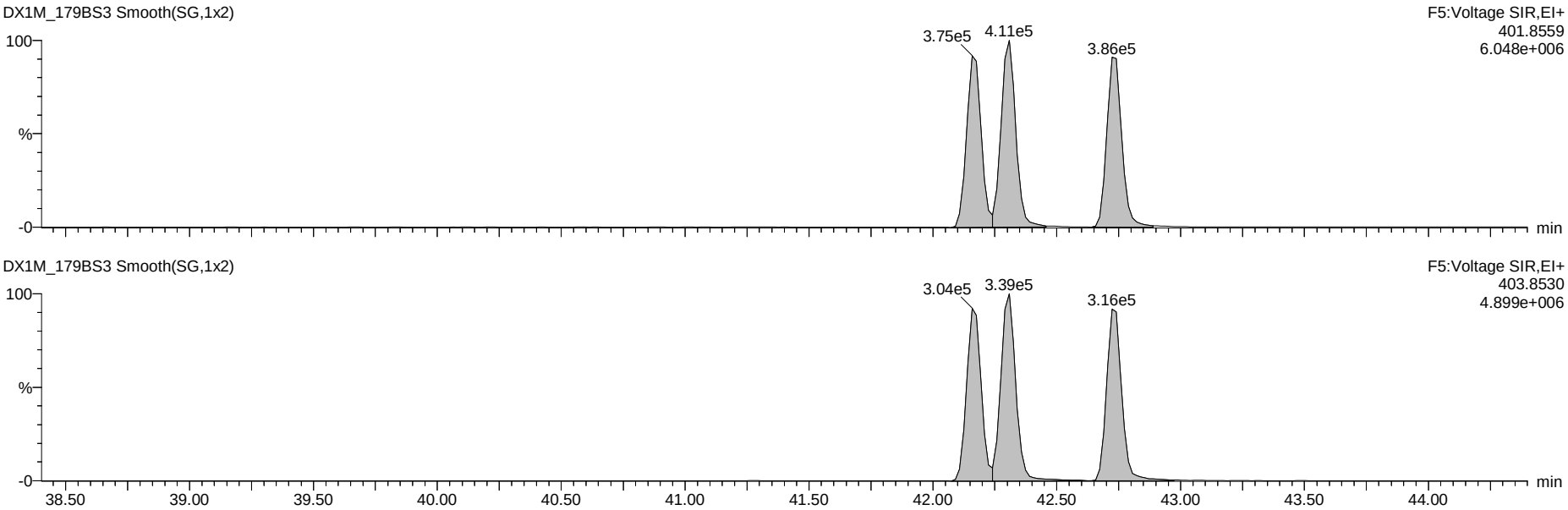
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Total Hexa-Dioxins



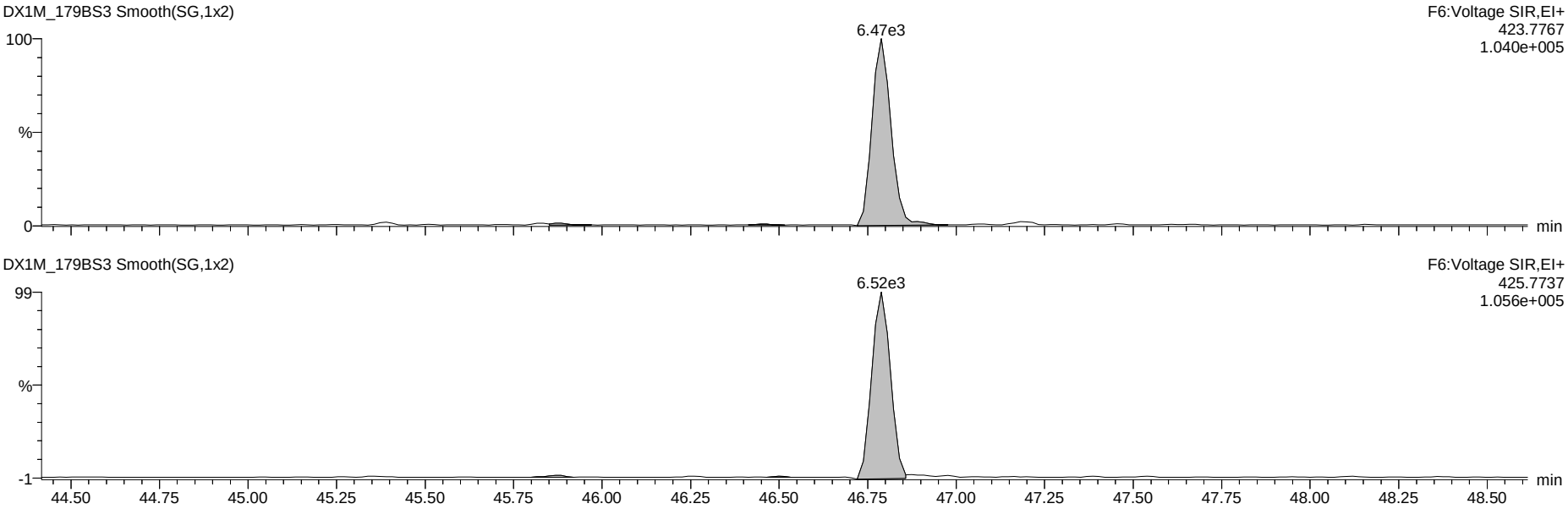
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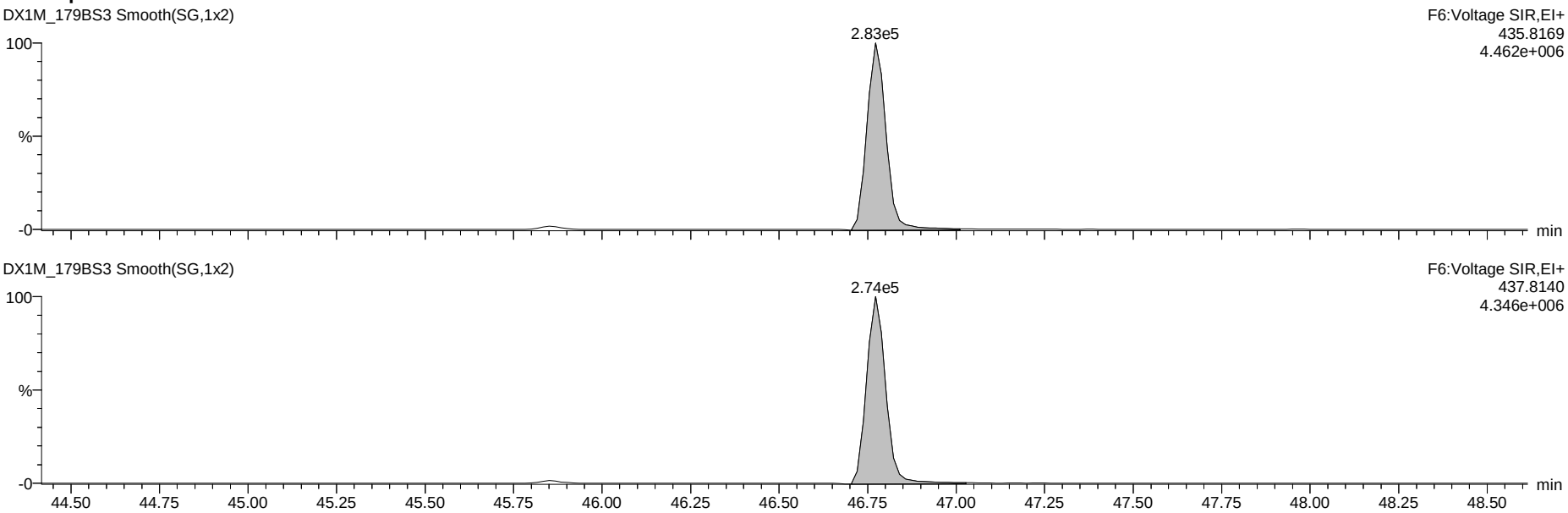
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Total Hepta-Dioxins



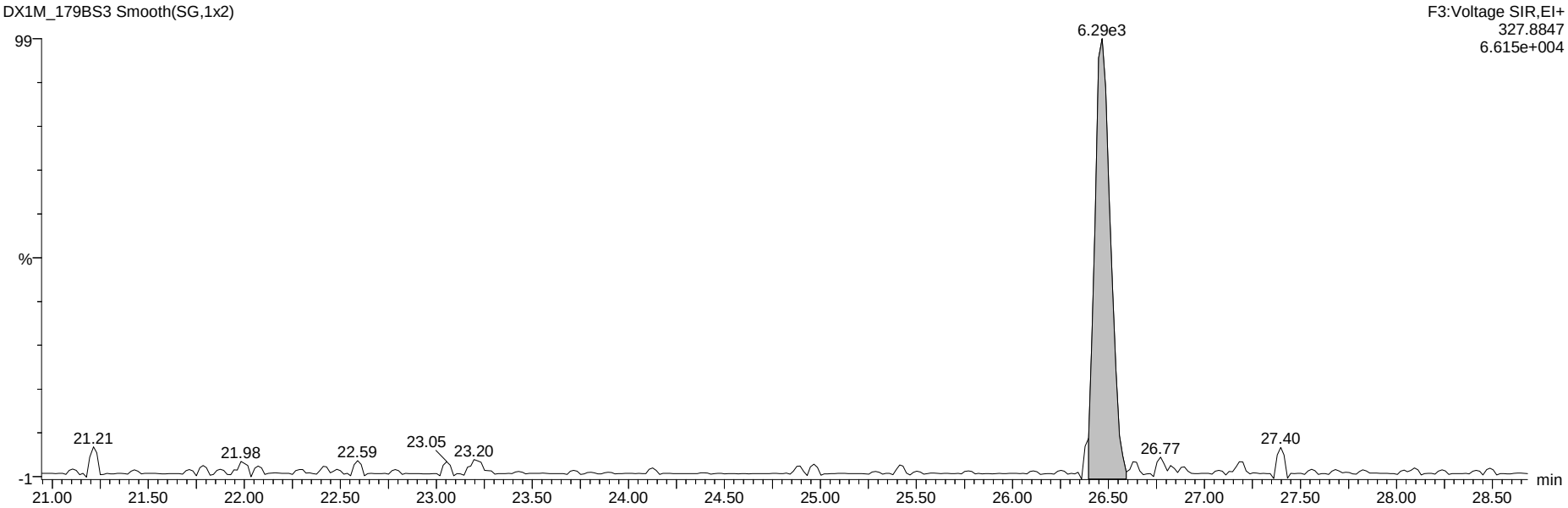
13C-Hepta-Dioxins



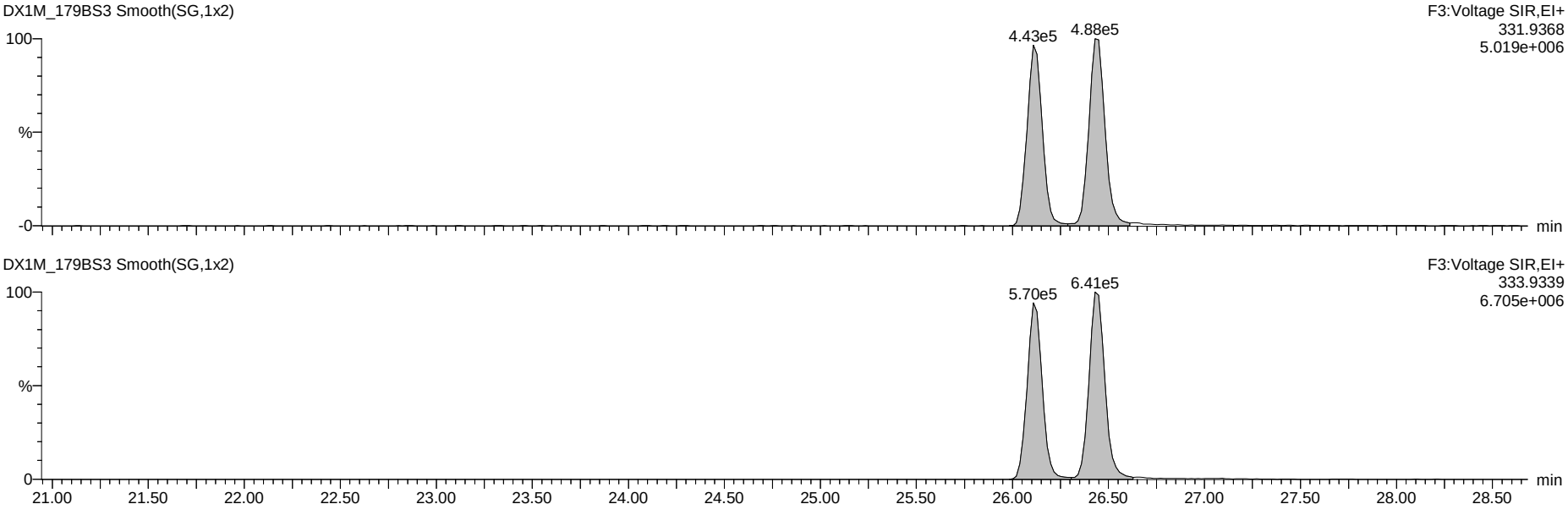
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37Cl-2,3,7,8-TCDD



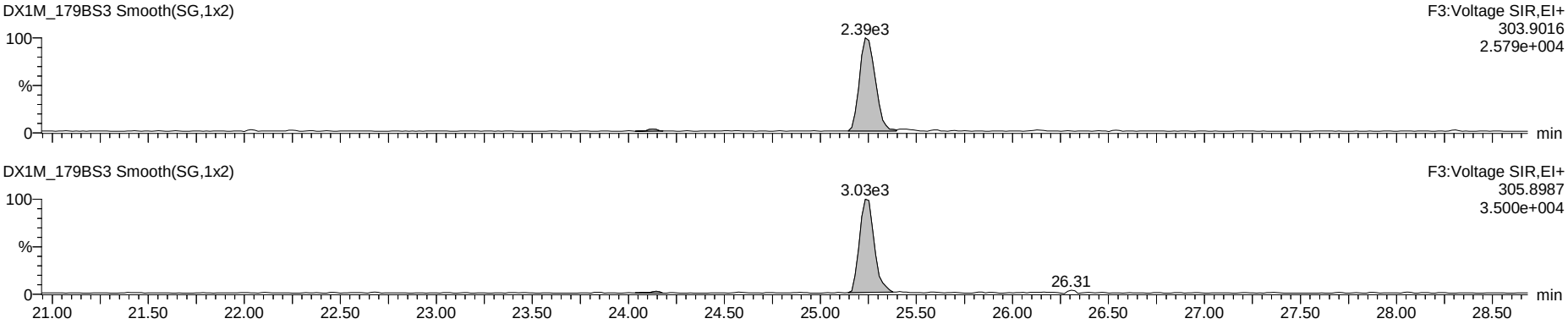
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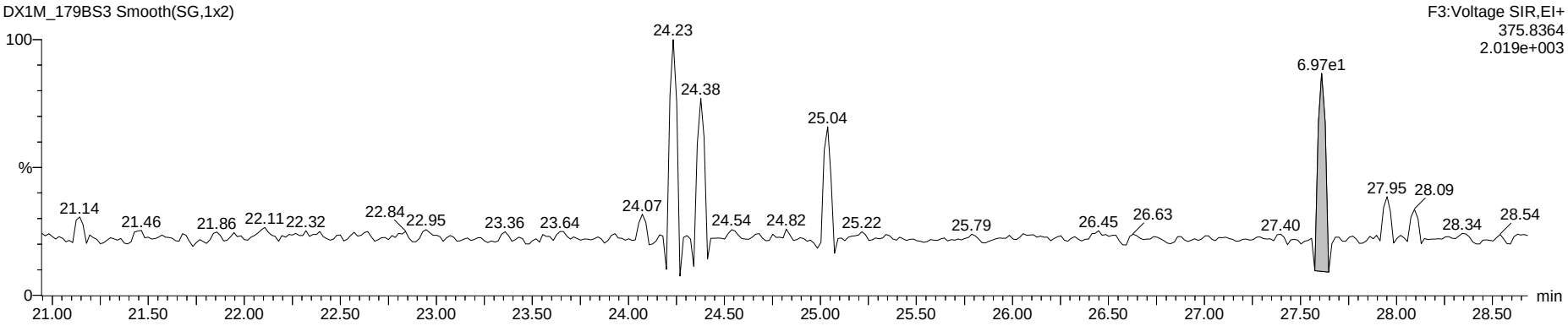
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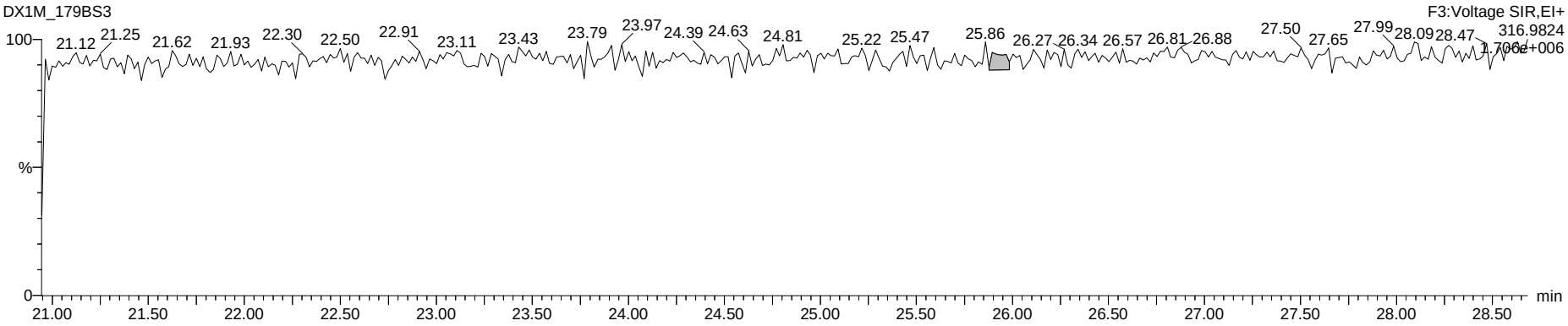
Total Tetra-Furans



Hexa DPE



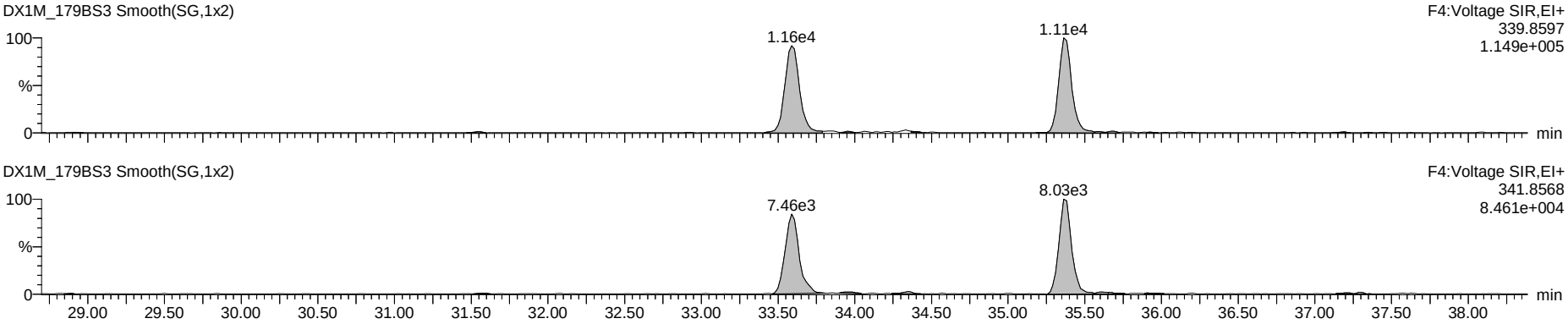
Tetra Lock



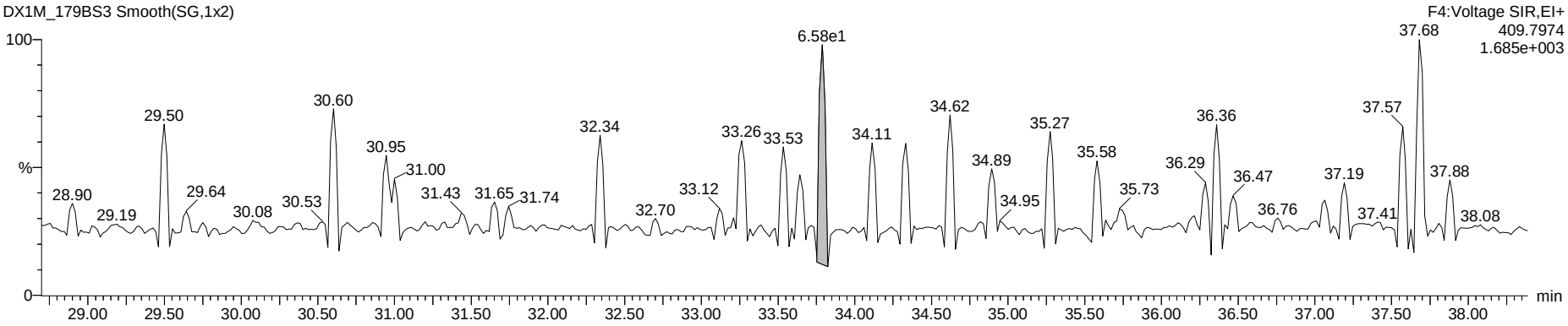
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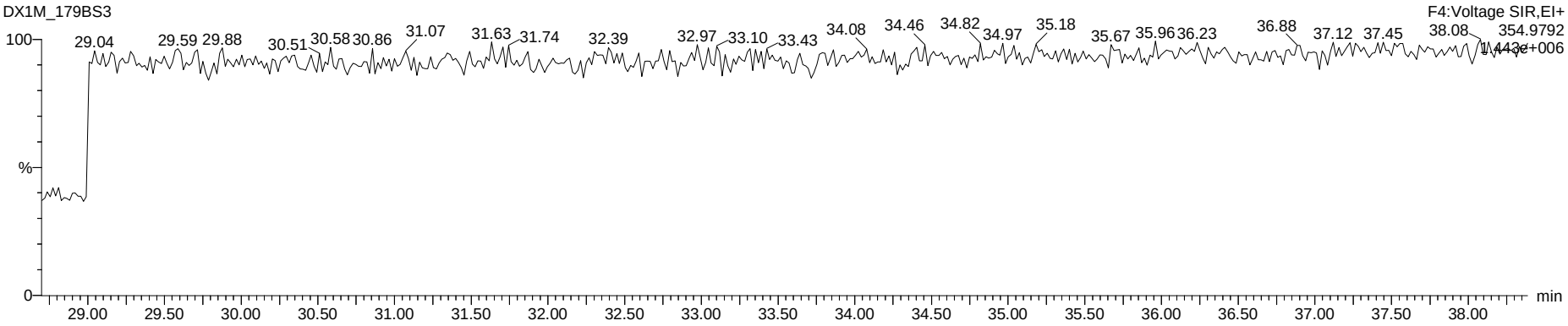
Total Penta-Furans



Hepta DPE



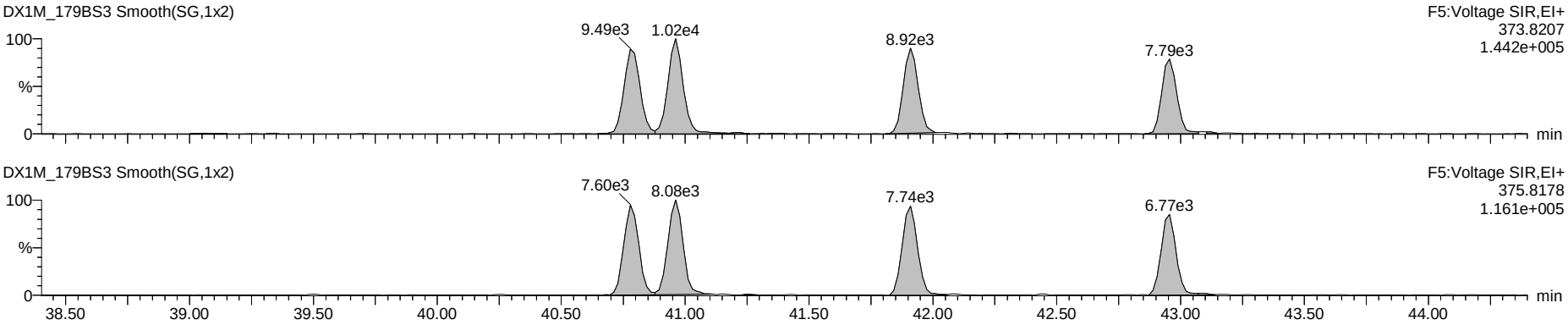
Penta Lock



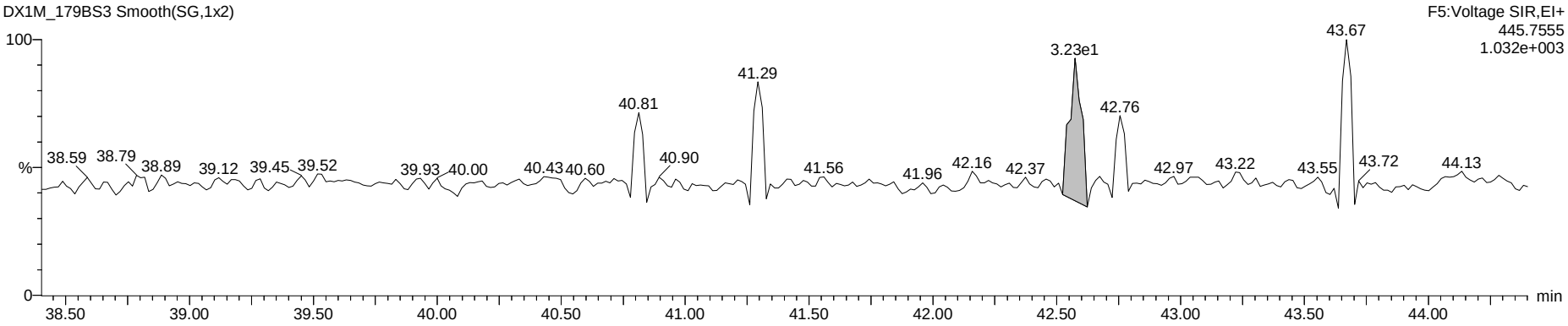
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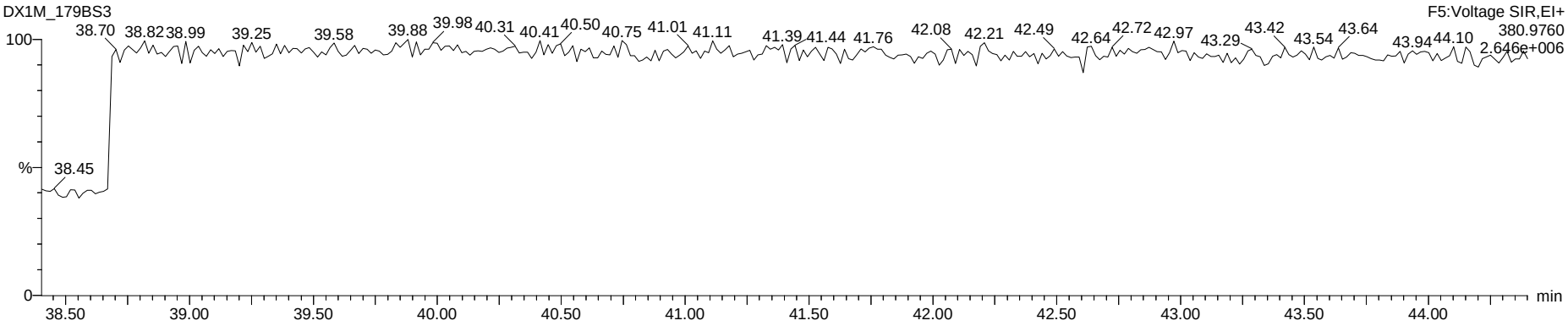
Total Hexa-Furans



Octa DPE



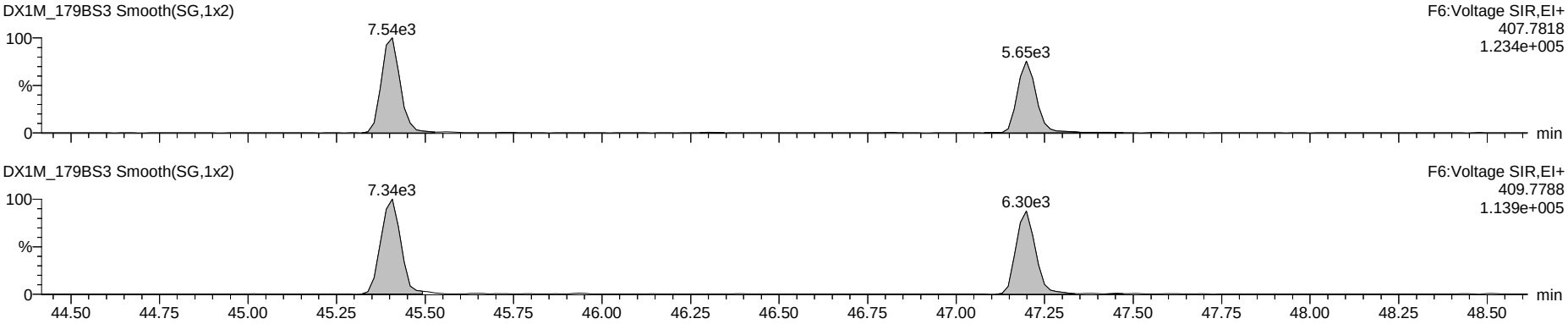
Hexa Lock



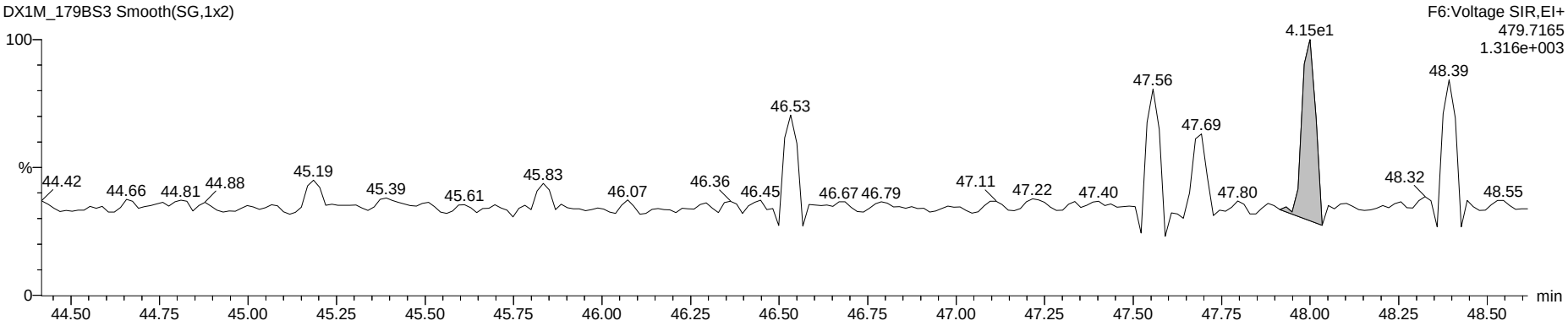
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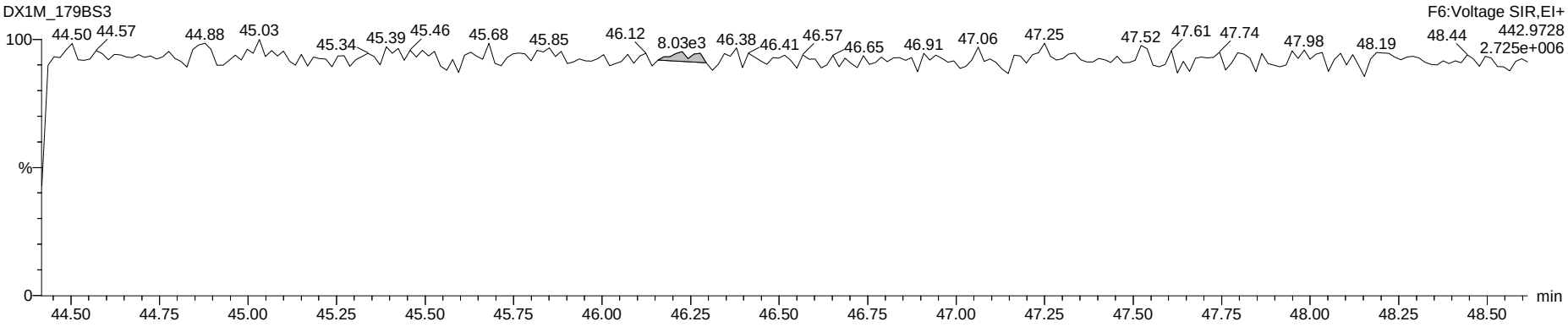
Total Hepta-Furans



Nona DPE



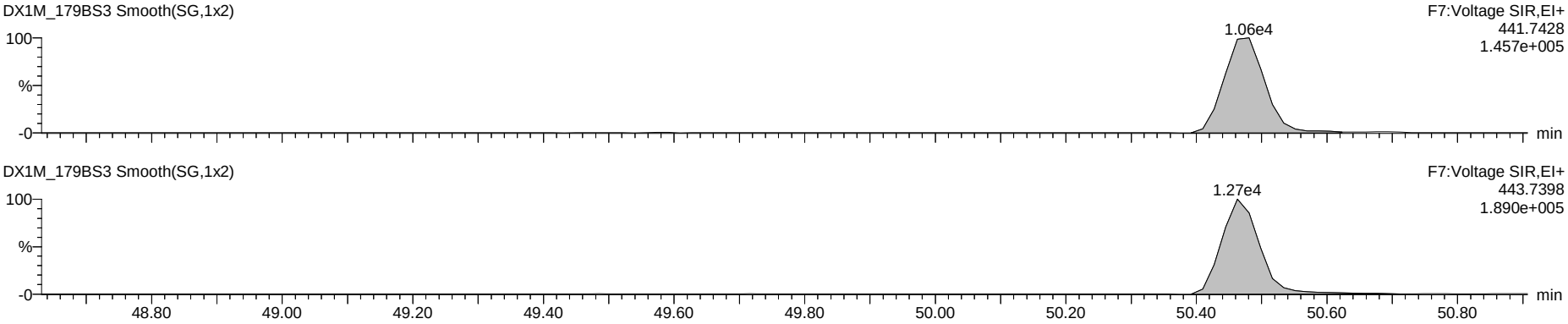
Hepta Lock



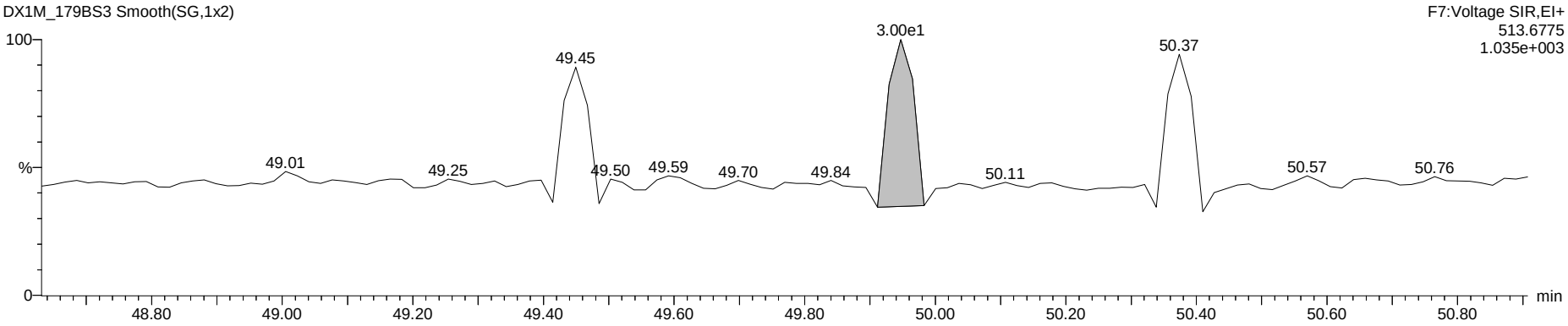
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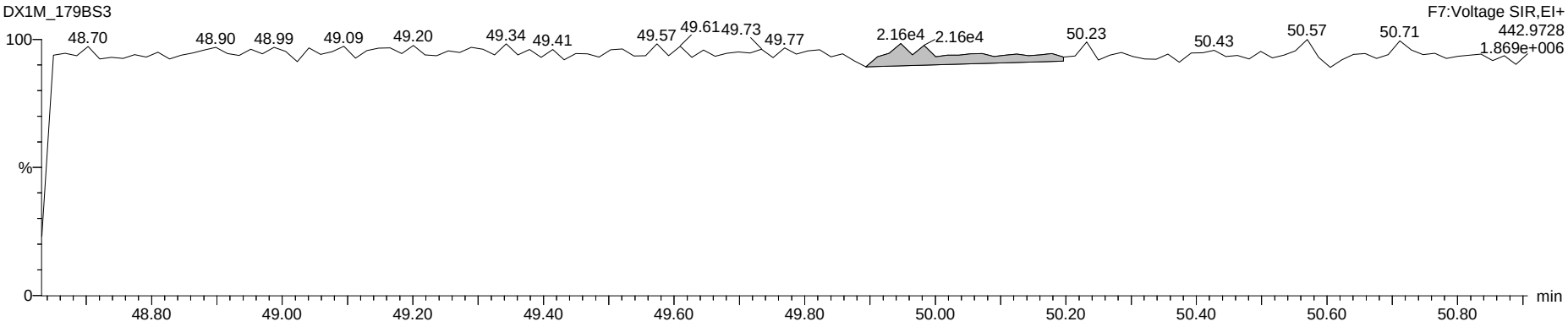
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX1M_179B-B.qld

Method: Untitled 02 Sep 2011 08:17:41
Calibration: G:\Masslynx\Inst_M\Projects\111213DX.PRO\CurveDB\DX1M_179B-B.cdb 15 Dec 2011 09:33:42

Name: DX1M_179BS2, Date: 14-Dec-2011, Time: 10:01:07, ID: DX036C-CAL,,/01-04, Description: 1,,1.0uL CS-2

	Name	Amount	Resp	Ratio	Tails?	RT	RRF	RRF Mean	RRF SD	RRF %Rel SD	S/N	I* S/N
1	2,3,7,8-TCDF	2.140	2.24e4	0.78	NO	25.27	0.776	0.7697	0.011	1.48	534	477
2	1,2,3,7,8-PeCDF	9.200	7.76e4	1.55	NO	33.61	0.842	0.8662	0.039	4.45	1391	836
3	2,3,4,7,8-PeCDF	9.400	7.81e4	1.55	NO	35.38	0.863	0.8802	0.034	3.88	1606	957
4	1,2,3,4,7,8-HxCDF	10.000	6.88e4	1.22	NO	40.80	0.970	0.9969	0.026	2.61	1330	1698
5	1,2,3,6,7,8-HxCDF	9.500	7.35e4	1.22	NO	40.98	0.979	0.9824	0.012	1.24	1396	1748
6	2,3,4,6,7,8-HxCDF	10.600	6.92e4	1.24	NO	41.93	0.898	0.9038	0.022	2.42	1382	1740
7	1,2,3,7,8,9-HxCDF	10.500	5.75e4	1.26	NO	42.97	0.852	0.8660	0.011	1.24	1130	1366
8	1,2,3,4,6,7,8-HpCDF	10.000	6.37e4	0.99	NO	45.41	1.167	1.1582	0.042	3.62	1825	1491
9	1,2,3,4,7,8,9-HpCDF	10.000	5.05e4	0.95	NO	47.22	1.054	1.0440	0.035	3.34	1506	1190
10	OCDF	20.800	9.52e4	0.89	NO	50.48	0.847	0.8822	0.048	5.50	10140	11669
11	2,3,7,8-TCDD	2.000	1.85e4	0.75	NO	26.49	0.824	0.8219	0.027	3.27	517	557
12	1,2,3,7,8-PeCDD	10.400	8.58e4	0.62	NO	36.21	0.827	0.8316	0.025	3.02	1768	3459
13	1,2,3,4,7,8-HxCDD	11.300	6.11e4	1.21	NO	42.19	0.798	0.783C	0.016	2.02	2039	1280
14	1,2,3,6,7,8-HxCDD	11.100	6.19e4	1.19	NO	42.34	0.732	0.7344	0.015	1.99	1995	1183
15	1,2,3,7,8,9-HxCDD	10.800	6.09e4	1.22	NO	42.76	0.784	0.7723	0.012	1.59	1991	1256
16	1,2,3,4,6,7,8-HpCDD	9.500	4.90e4	1.01	NO	46.81	0.940	0.9617	0.016	1.63	1457	1035
17	OCDD	20.000	1.00e5	0.88	NO	50.39	0.928	0.9112	0.027	2.98	4634	1664
18	13C-2,3,7,8-TCDF	100.000	1.35e6	0.76	NO	25.23	1.331	1.3572	0.036	2.62	5243	3198
19	13C-1,2,3,7,8-PeCDF	100.000	1.00e6	1.52	NO	33.57	0.990	1.0558	0.080	7.55	3567	2813
20	13C-2,3,4,7,8-PeCDF	100.000	9.63e5	1.54	NO	35.36	0.951	1.0140	0.076	7.52	3951	3051
21	13C-1,2,3,4,7,8-HxCDF	100.000	7.09e5	0.50	NO	40.78	1.021	1.0091	0.019	1.87	2334	2984
22	13C-1,2,3,6,7,8-HxCDF	100.000	7.90e5	0.52	NO	40.95	1.139	1.1381	0.023	2.00	2501	3117
23	13C-2,3,4,6,7,8-HxCDF	100.000	7.27e5	0.50	NO	41.89	1.048	1.0336	0.018	1.70	2315	2991
24	13C-1,2,3,7,8,9-HxCDF	100.000	6.43e5	0.50	NO	42.94	0.927	0.9303	0.016	1.71	2109	2755
25	13C-1,2,3,4,6,7,8-HpCDF	100.000	5.46e5	0.45	NO	45.39	0.787	0.7778	0.011	1.36	4306	5929
26	13C-1,2,3,4,7,8,9-HpCDF	100.000	4.79e5	0.44	NO	47.20	0.690	0.6807	0.010	1.45	3777	5232
27	13C-2,3,7,8-TCDD	100.000	1.12e6	0.75	NO	26.45	1.110	1.1507	0.050	4.32	2057	3686
28	13C-1,2,3,7,8-PeCDD	100.000	7.65e5	0.61	NO	36.18	0.756	0.7972	0.067	8.35	3917	4841
29	13C-1,2,3,4,7,8-HxCDD	100.000	6.77e5	1.24	NO	42.18	0.976	0.9839	0.013	1.33	5859	3200
30	13C-1,2,3,6,7,8-HxCDD	100.000	7.61e5	1.25	NO	42.32	1.097	1.0807	0.012	1.15	6002	3299
31	13C-1,2,3,4,6,7,8-HpCDD	100.000	5.48e5	1.02	NO	46.79	0.790	0.7846	0.011	1.38	4560	6139
32	13C-OCDD	200.000	1.08e6	0.87	NO	50.38	0.779	0.7795	0.022	2.78	6615	219651
33	13C-1,2,3,4-TCDD	100.000	1.01e6	0.76	NO	26.13	101...	10075.1967	137.442	1.36	1990	3437
34	13C-1,2,3,7,8,9-HxCDD	100.000	6.94e5	1.23	NO	42.74	693...	7508.7528	877.794	11.69	5693	3152
35	37Cl-2,3,7,8-TCDD	2.000	2.10e4			26.49	1.038	1.1539	0.084	7.32	830	
36	Total Tetra-Furans	2.188						0.7697	0.011	1.48		
37	Total Tetra-Dioxins	2.118						0.8219	0.027	3.27		
38	Total Penta-Furans	10.000						0.8662	0.039	4.45		
39	Total Penta-Dioxins	11.310						0.8316	0.025	3.02		
40	Total Hexa-Furans	10.000						0.9969	0.026	2.61		
41	Total Hexa-Dioxins	10.000						0.7830	0.016	2.02		
42	Total Hepta-Furans	10.000						1.1582	0.042	3.62		
43	Total Hepta-Dioxins	10.000						0.9617	0.016	1.63		
44	Hexa DPE	0.000	2.17e1			23.47	0.000				10	
45	Hepta DPE	0.000	7.61e1			33.50	0.000				5	
46	Octa DPE	0.000	5.09e1			39.42	0.000				32	
47	Nona DPE	0.000	3.15e1			48.26	0.000				13	
48	Deca DPE	0.000	2.99e1			49.82	0.000				24	
49	Tetra Lock	0.000										
50	Penta Lock	0.000	2.80e5			29.39	0.000				1	
51	Hexa Lock	0.000	9.57e5			36.92	0.000				1	

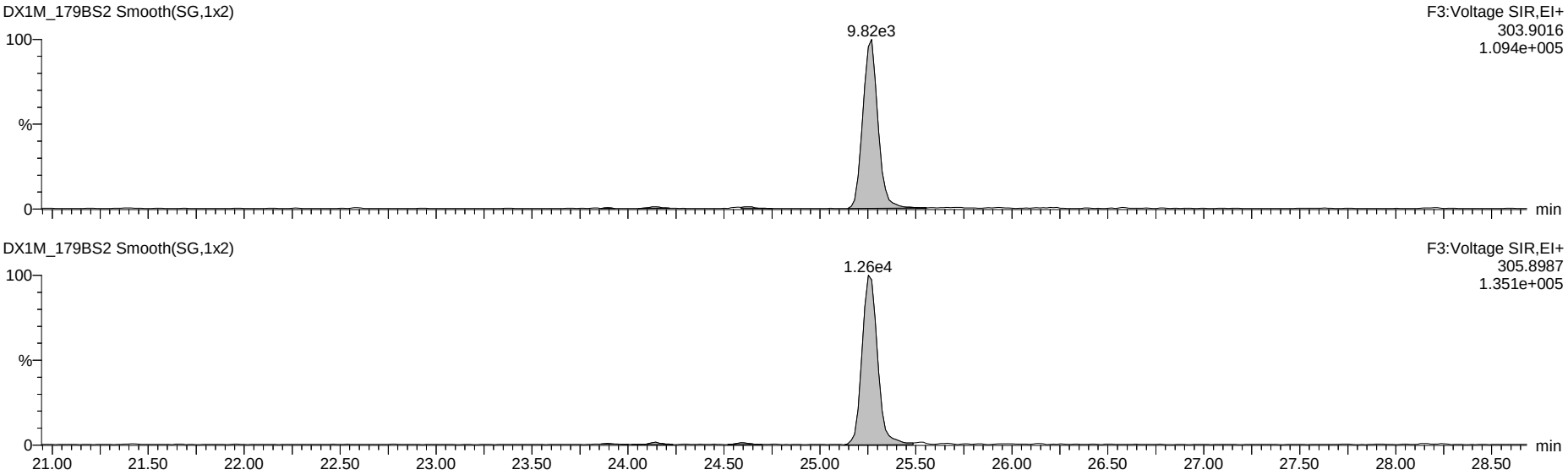
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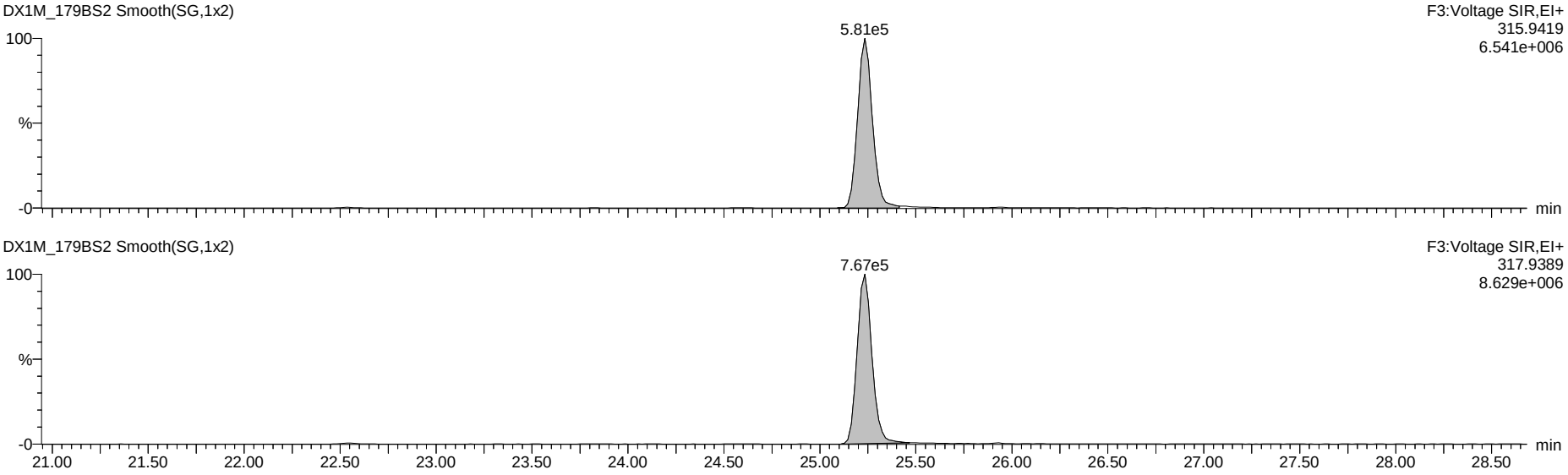
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Name: DX1M_179BS2, Date: 14-Dec-2011, Time: 10:01:07, ID: DX036C-CAL,,/01-04, Description: 1,,1.0uL CS-2

Total Tetra-Furans



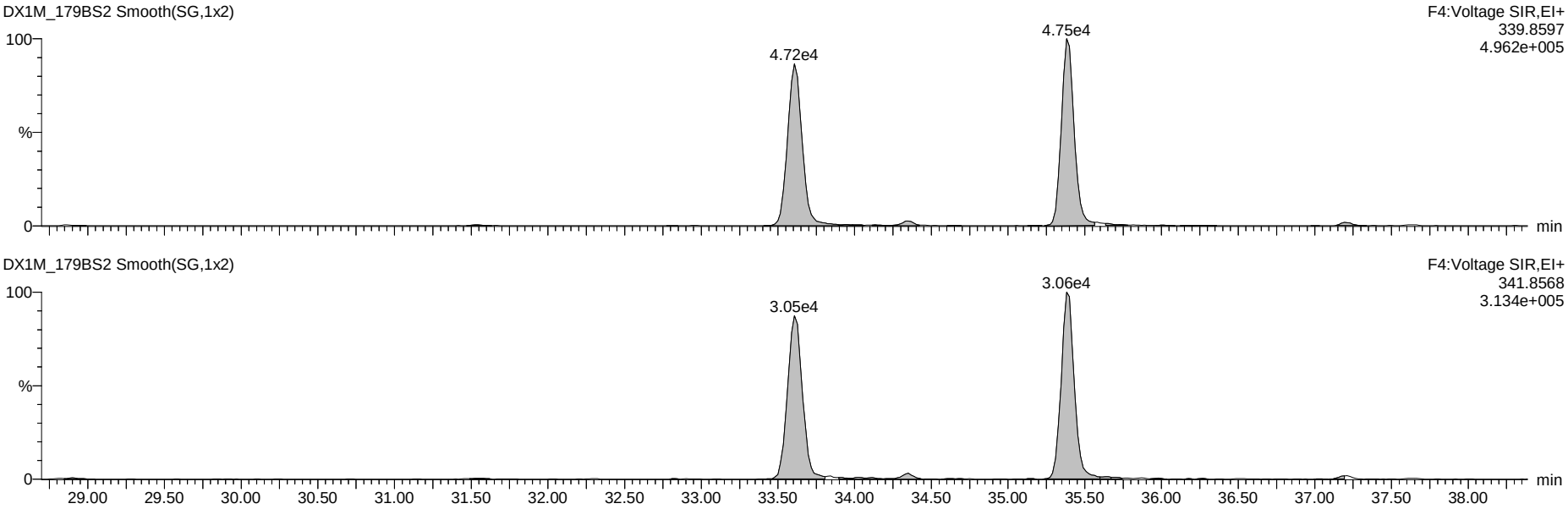
13C-Tetra-Furans



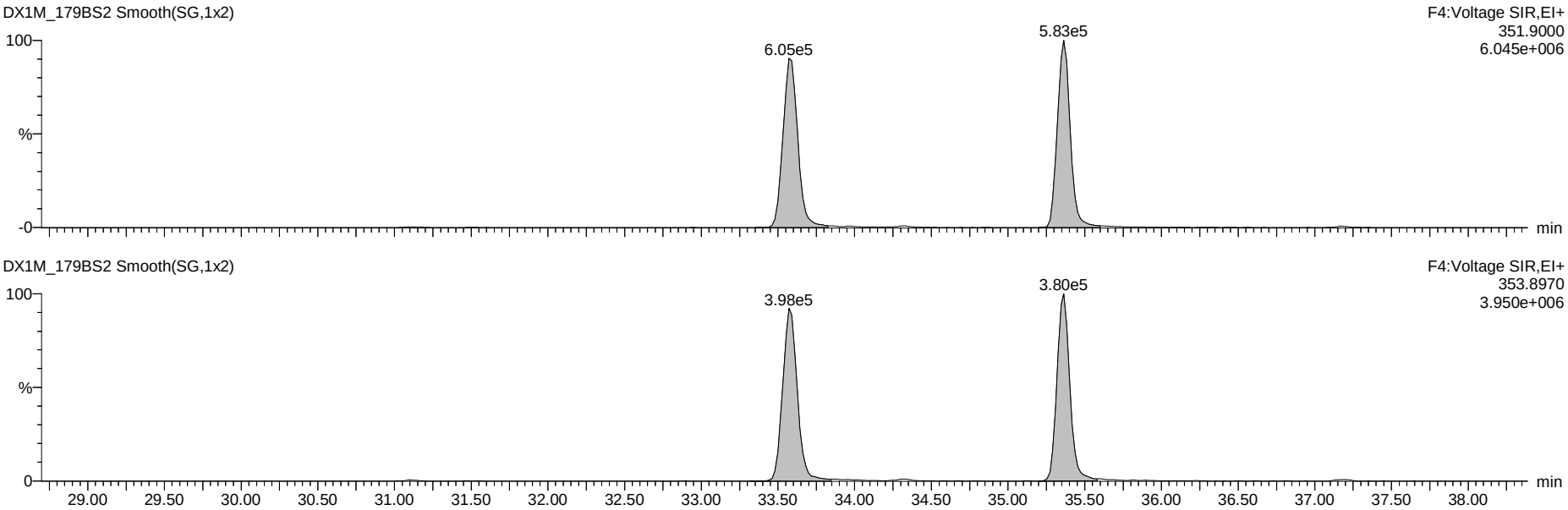
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Name: DX1M_179BS2, Date: 14-Dec-2011, Time: 10:01:07, ID: DX036C-CAL,,/01-04, Description: 1,,1.0uL CS-2

Total Penta-Furans



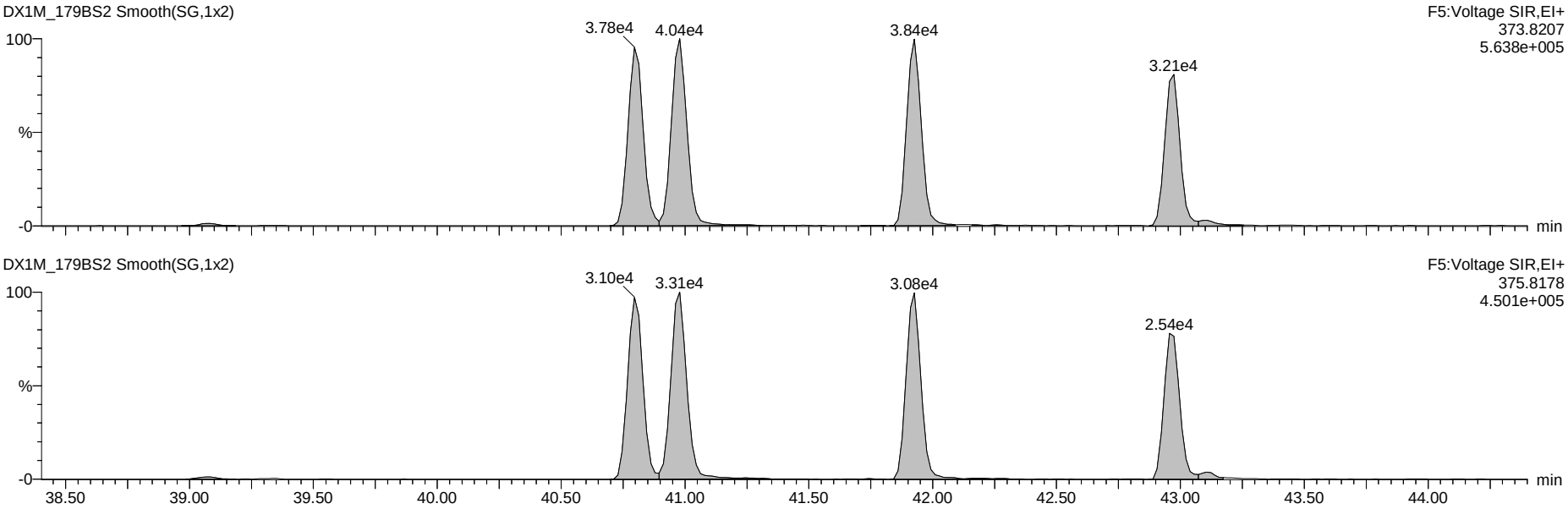
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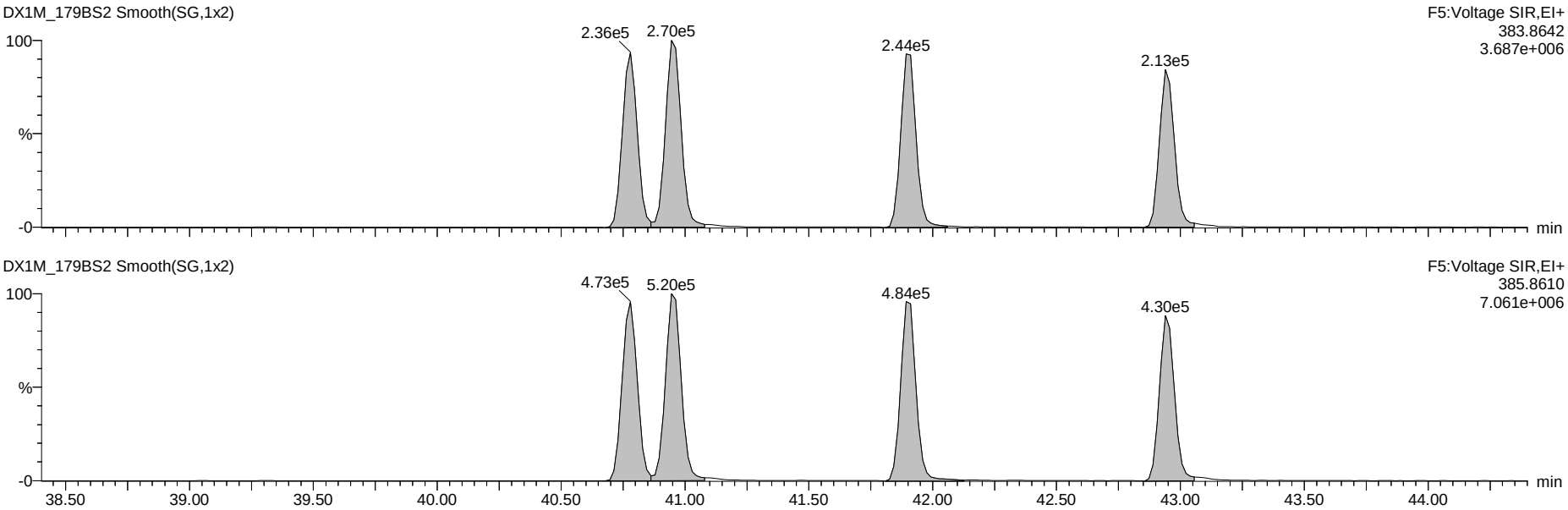
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Total Hexa-Furans



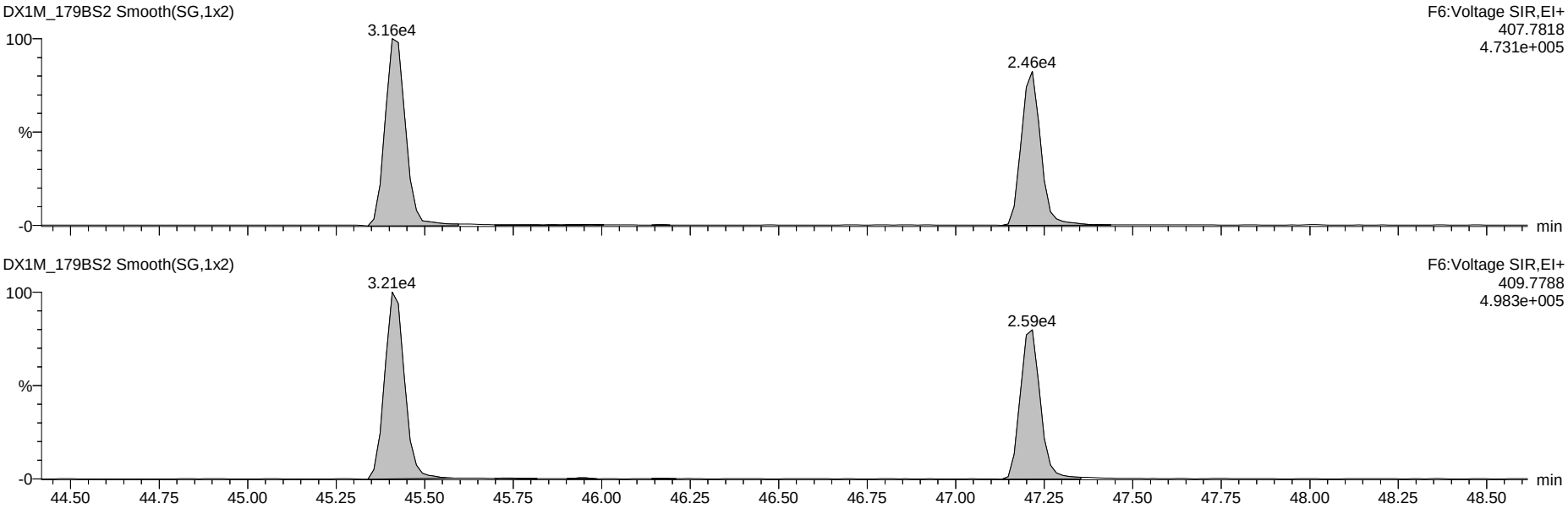
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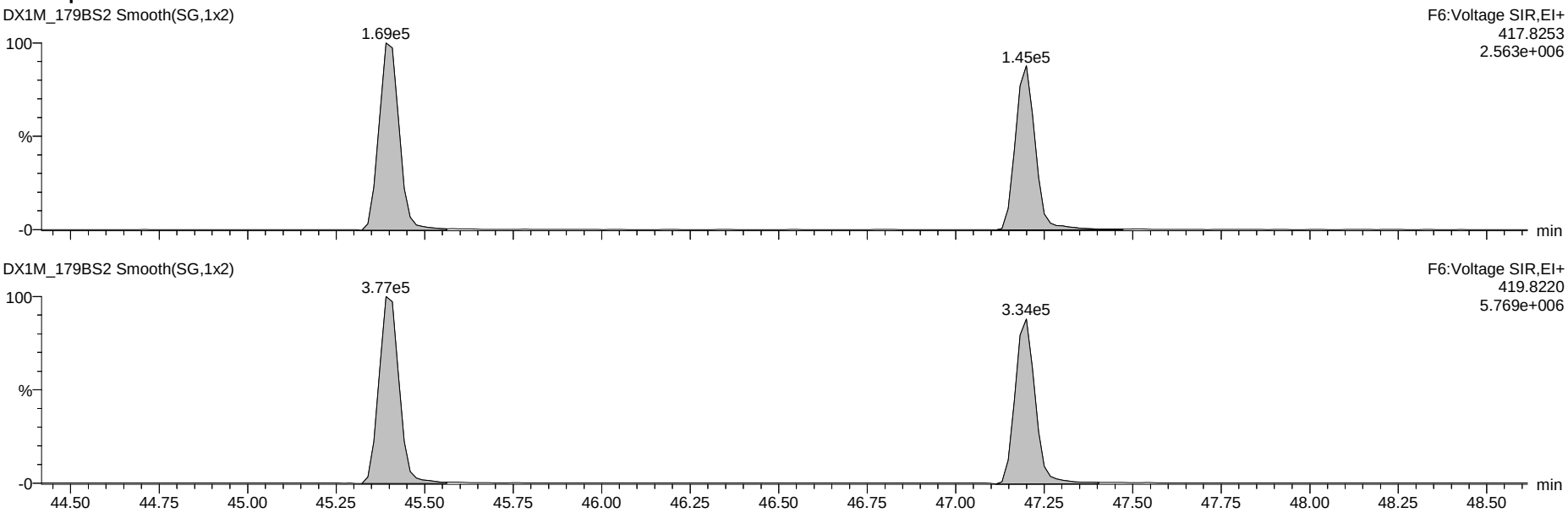
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Total Hepta-Furans



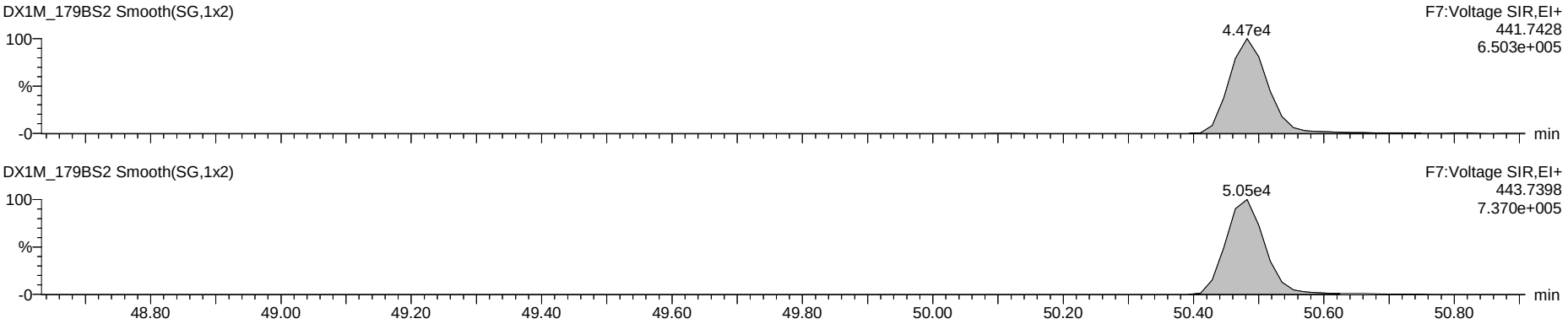
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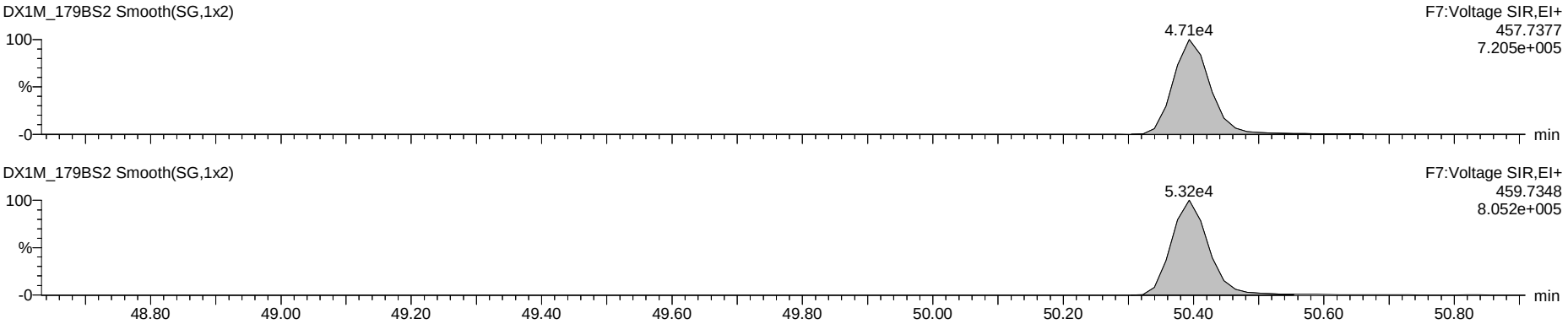
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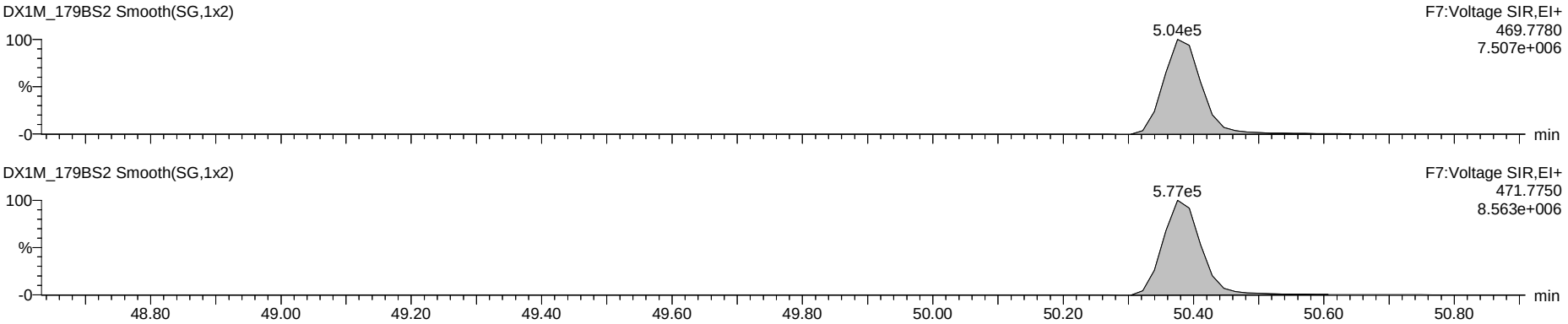
OCDF



OCDD



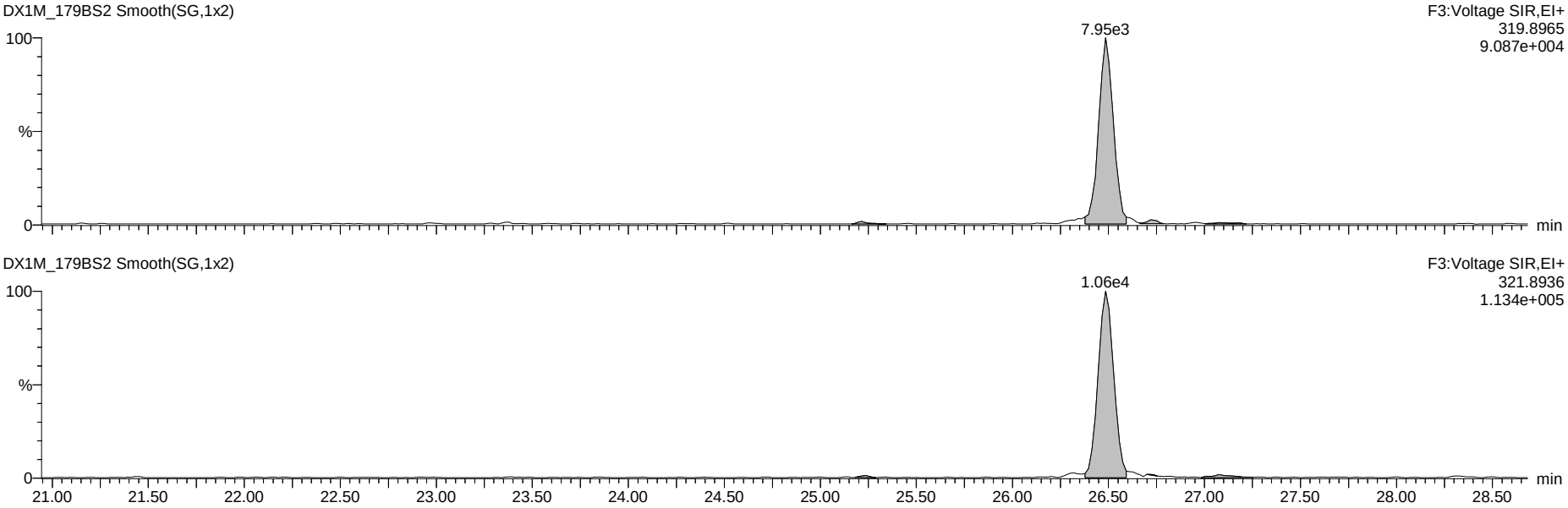
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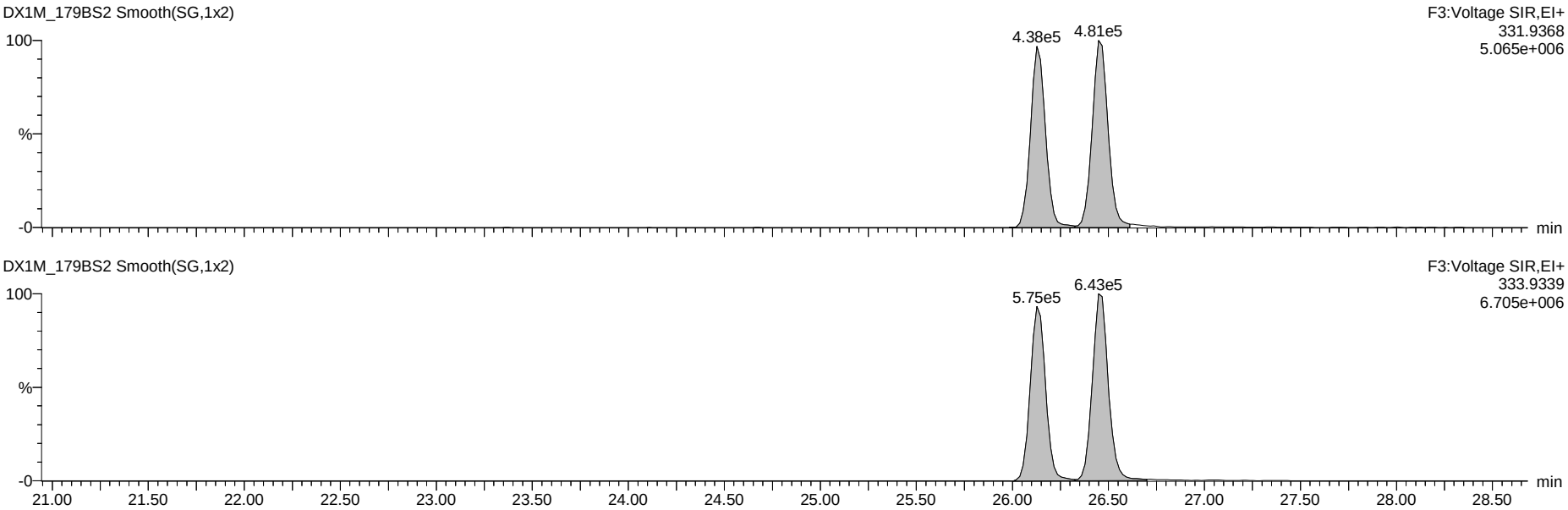
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Total Tetra-Dioxins



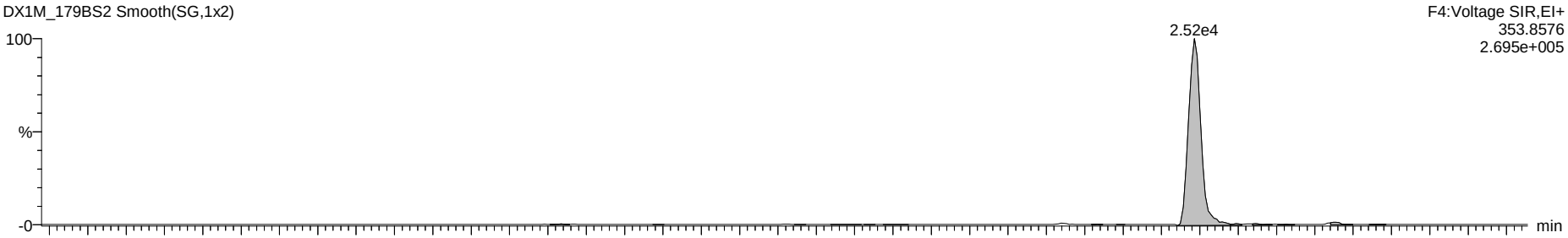
13C-Tetra-Dioxins

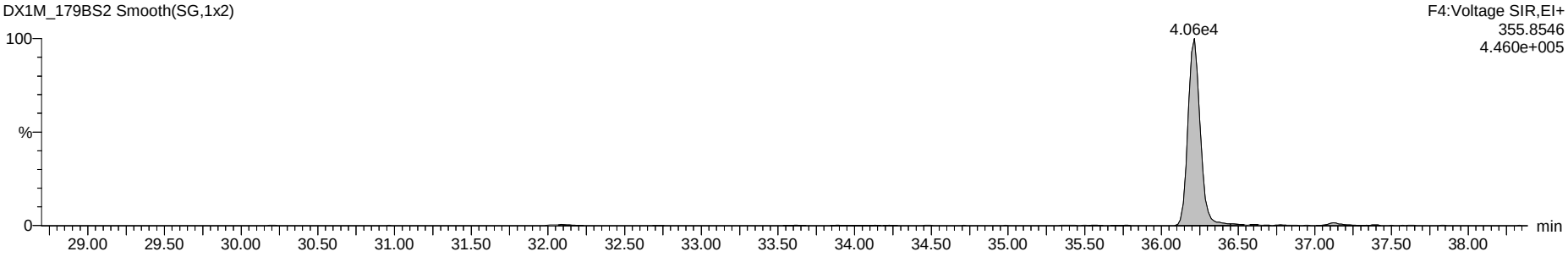


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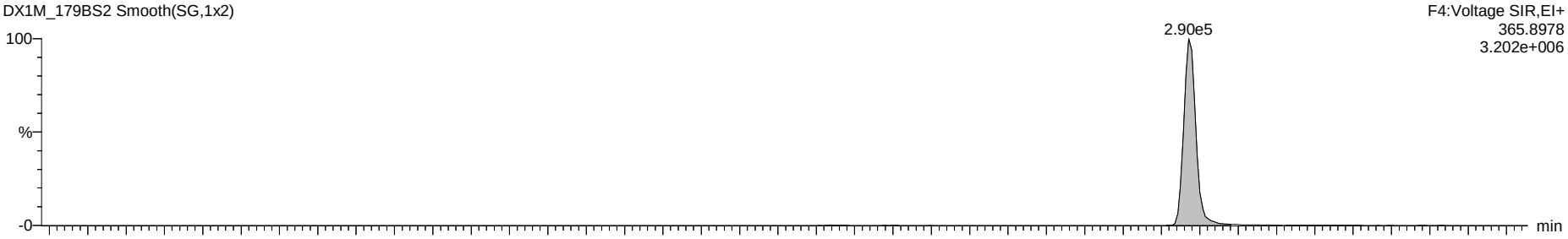
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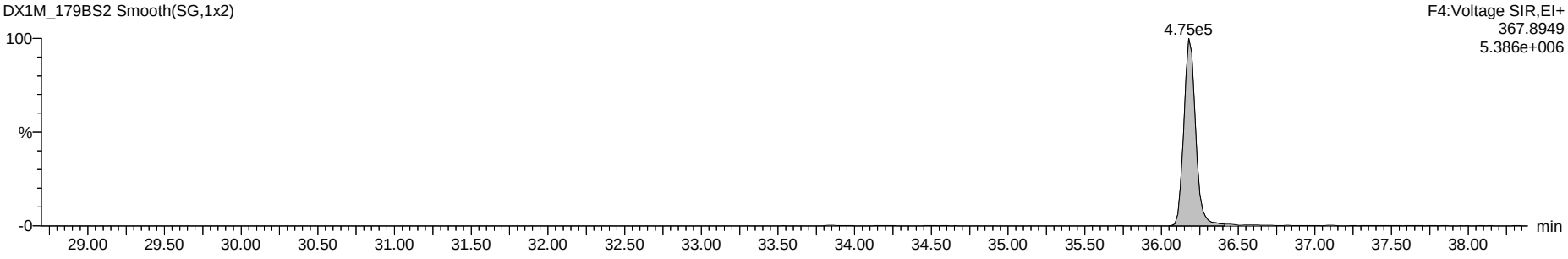
Total Penta-Dioxins





13C-Penta-Dioxins

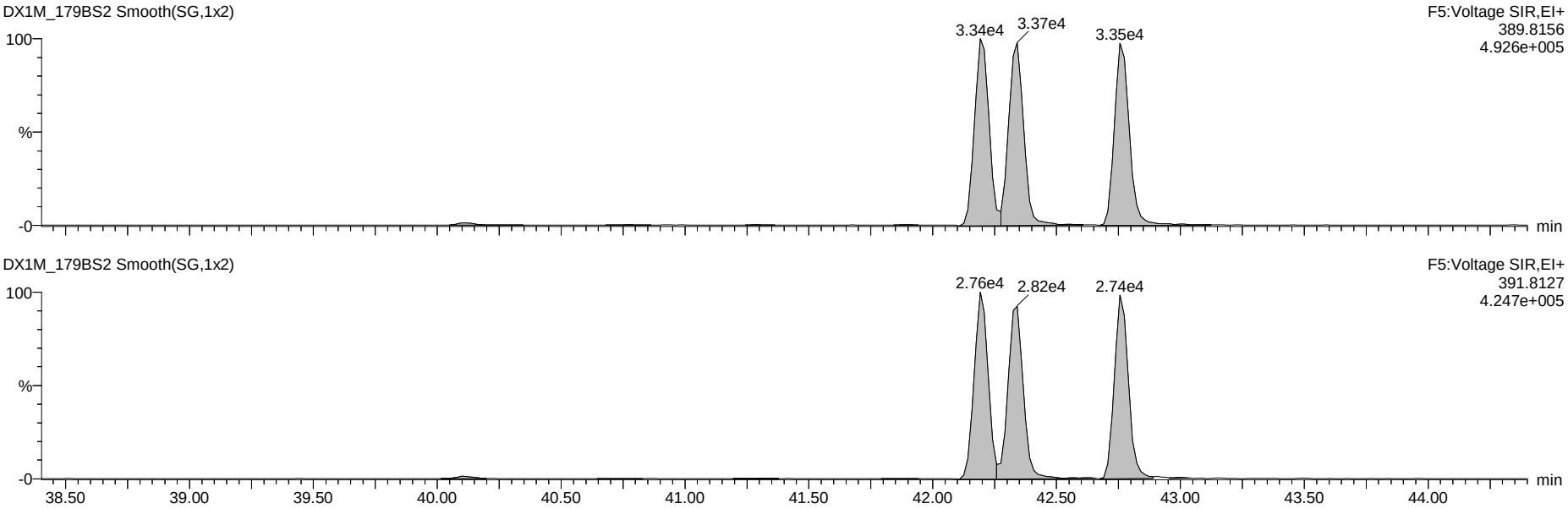




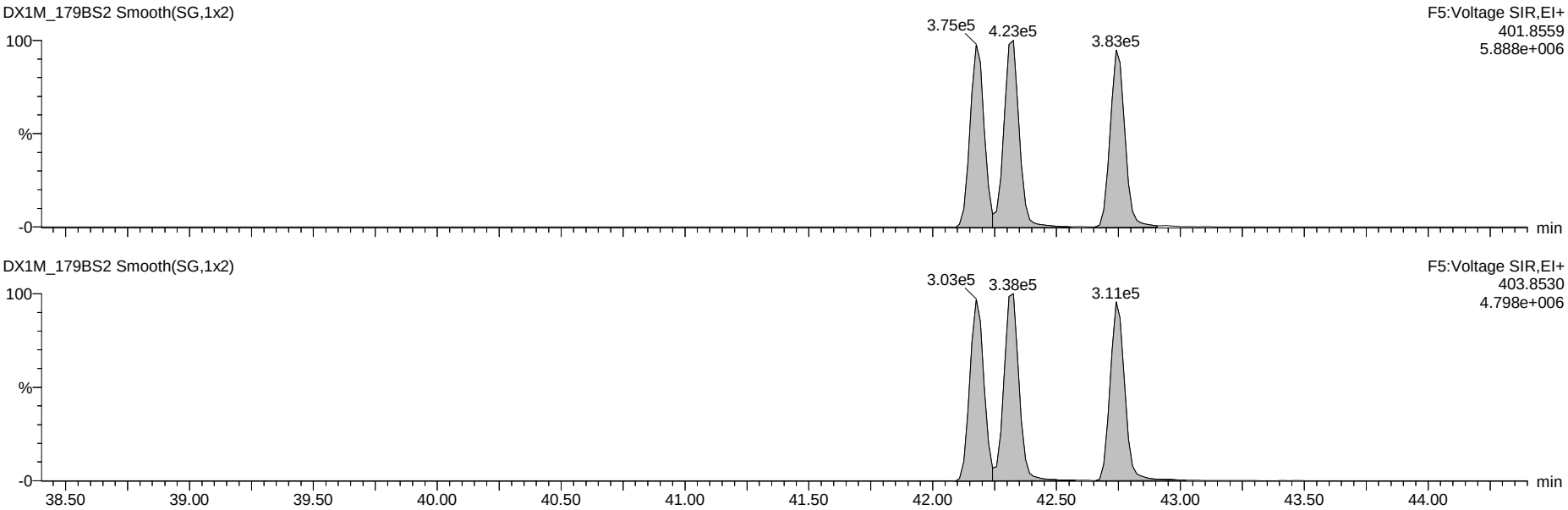
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Total Hexa-Dioxins



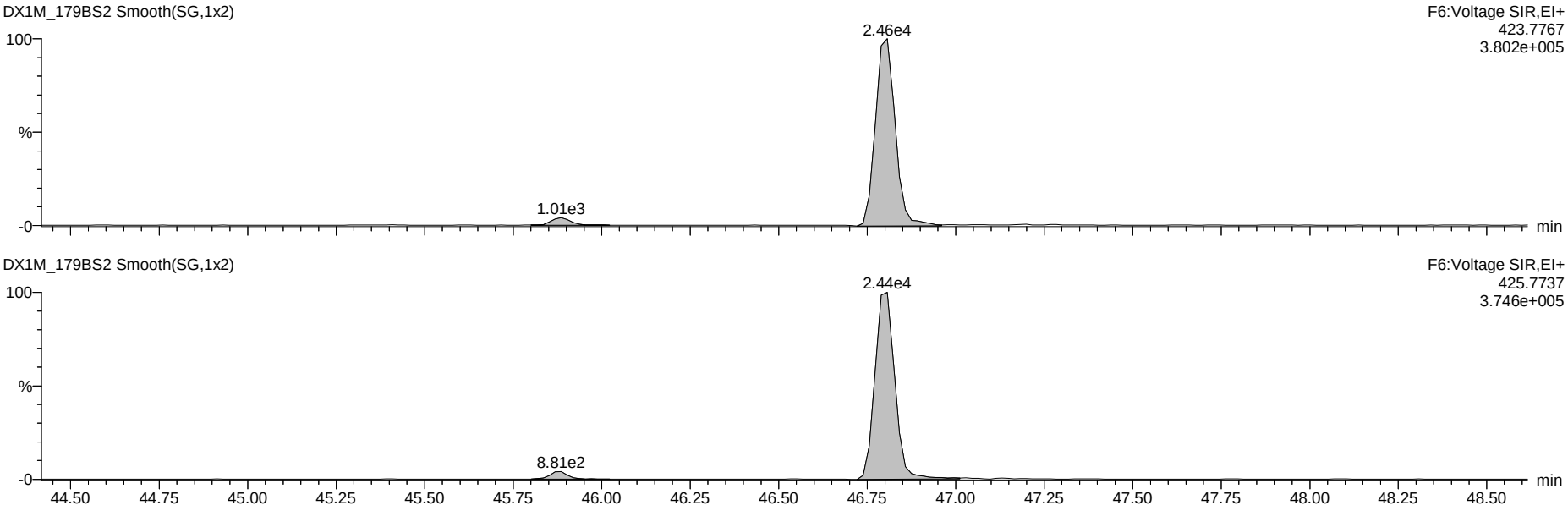
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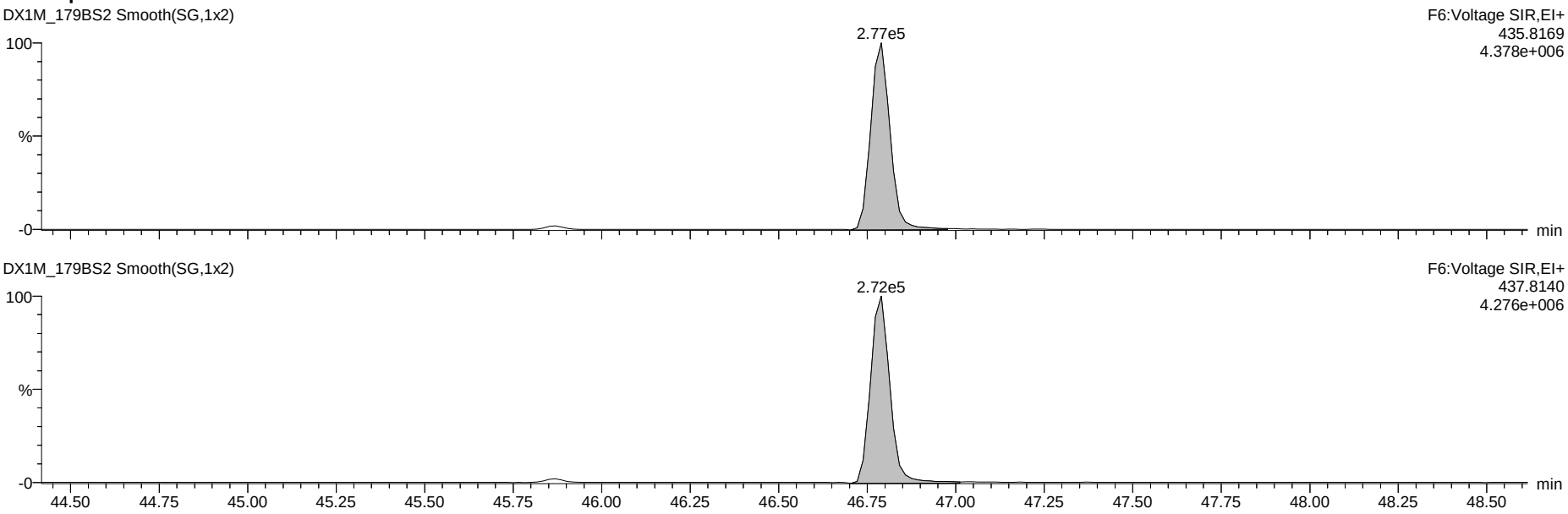
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Total Hepta-Dioxins



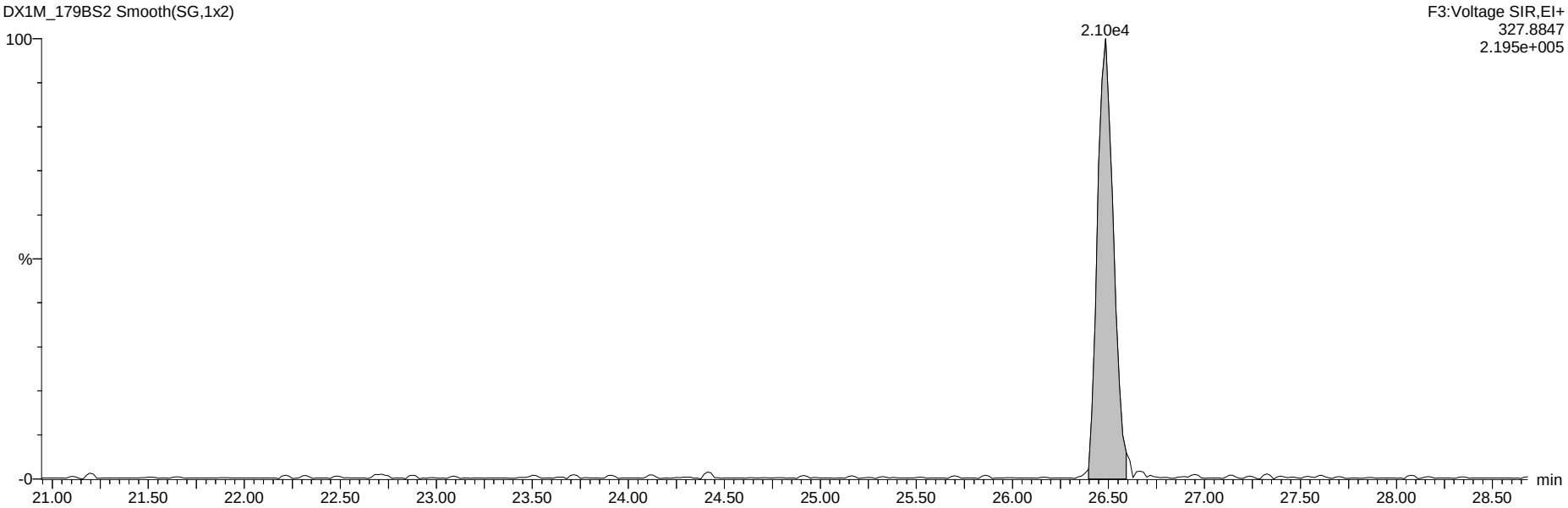
13C-Hepta-Dioxins



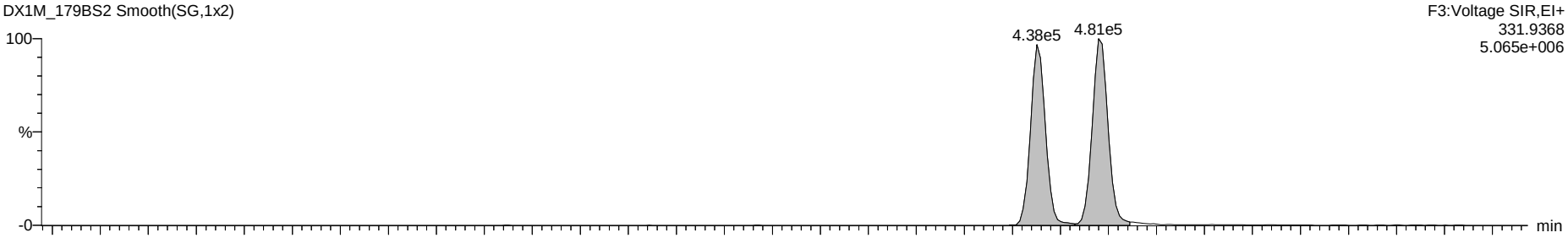
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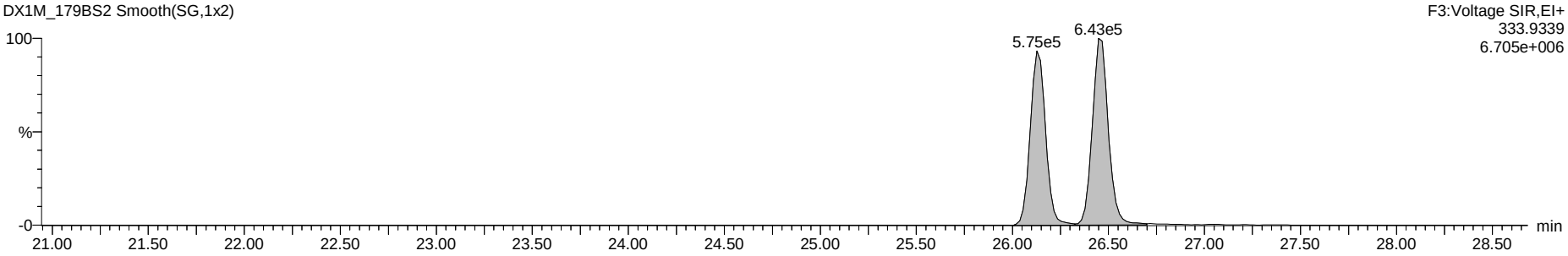
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37Cl-2,3,7,8-TCDD



13C-Tetra-Dioxins

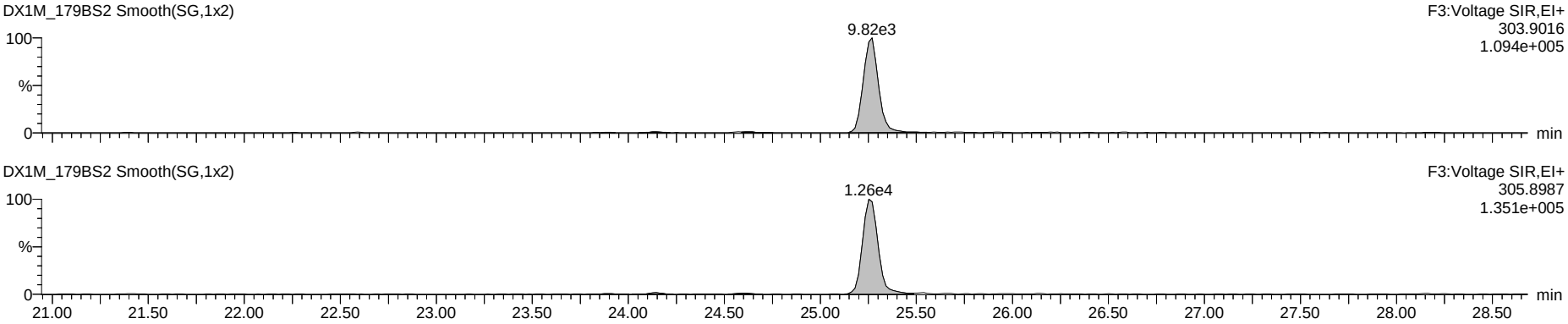




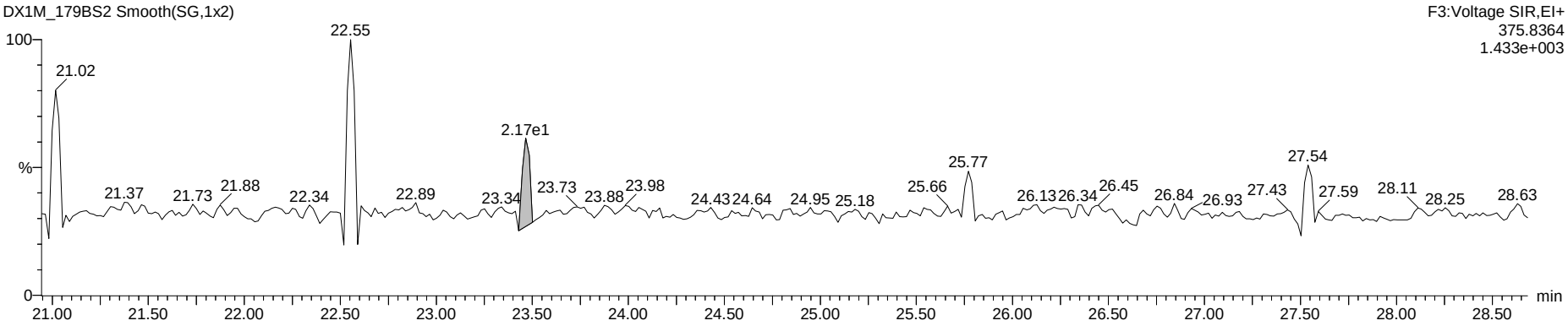
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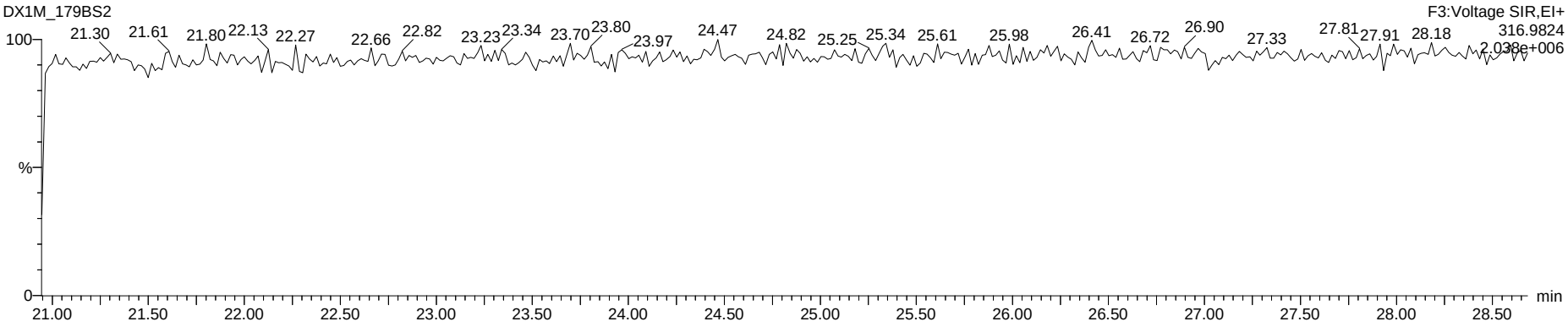
Total Tetra-Furans



Hexa DPE



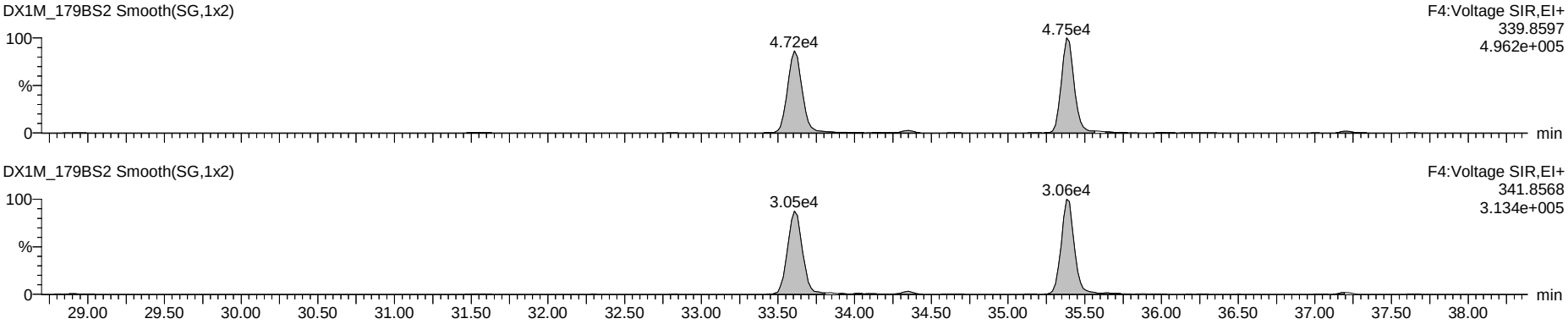
Tetra Lock



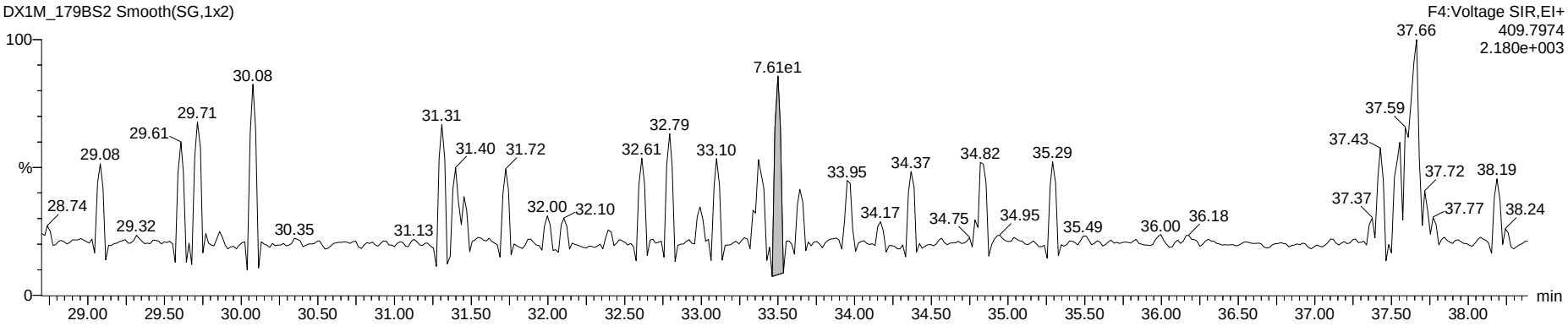
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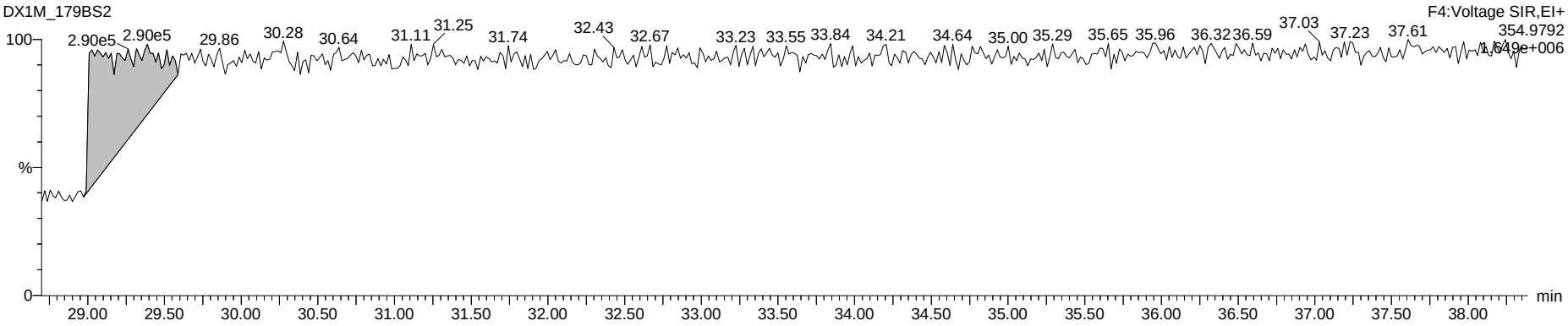
Total Penta-Furans



Hepta DPE



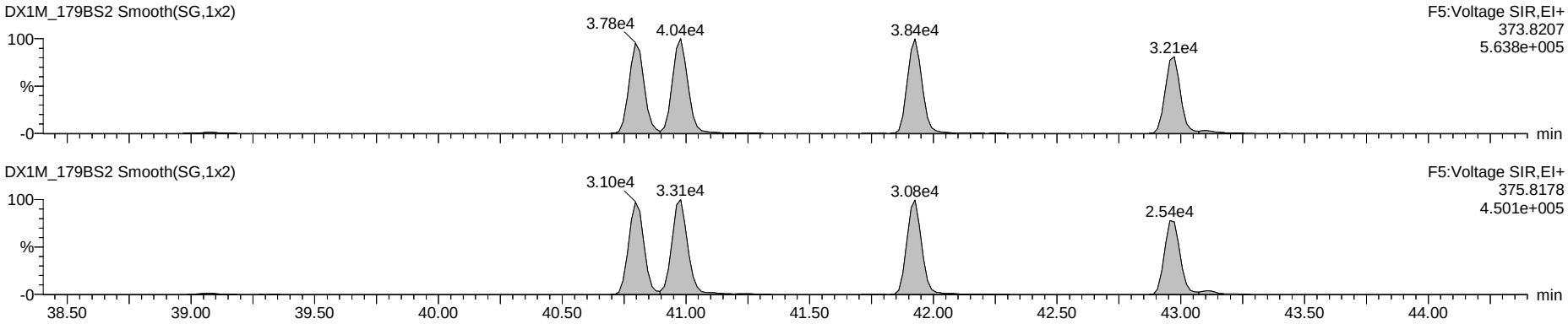
Penta Lock



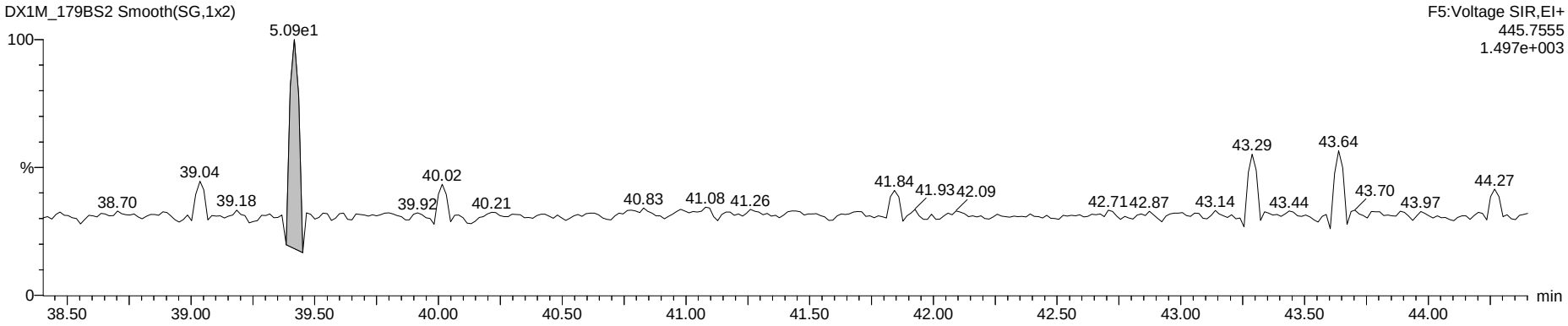
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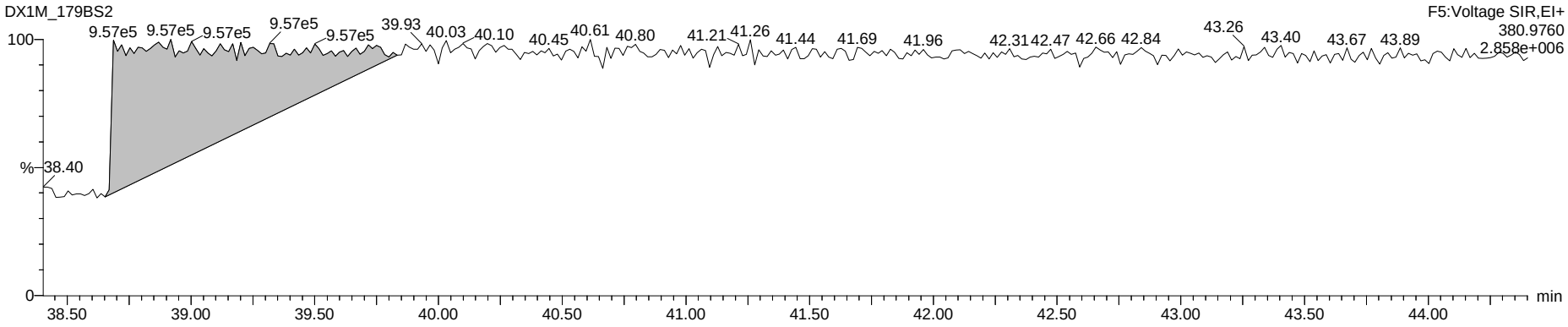
Total Hexa-Furans



Octa DPE



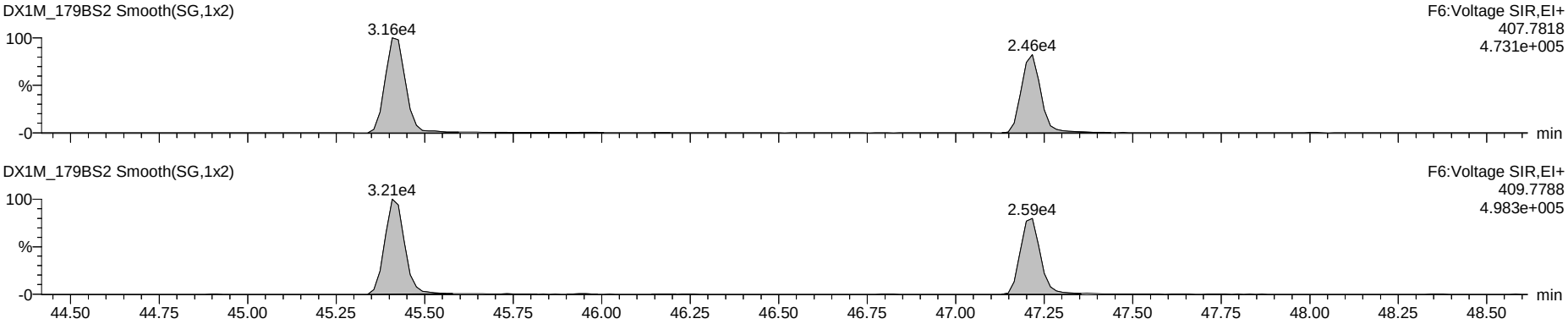
Hexa Lock



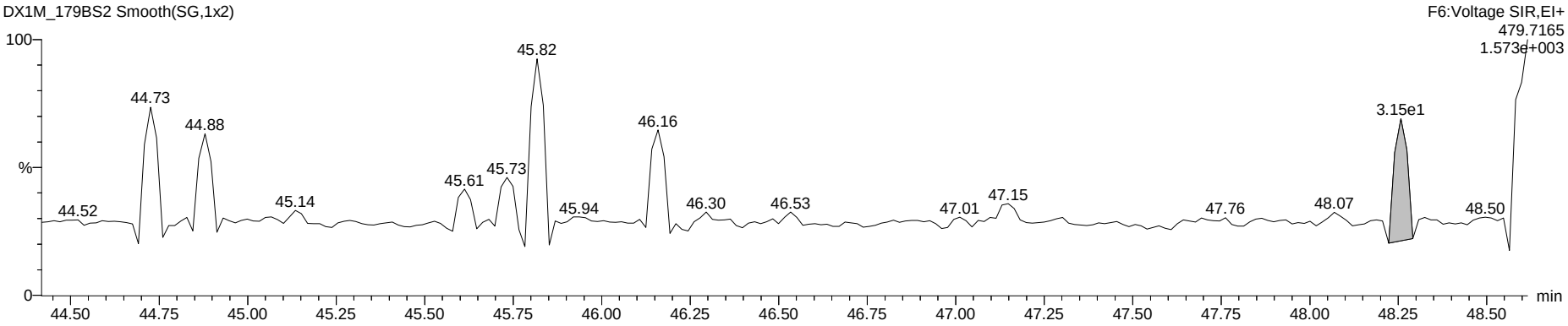
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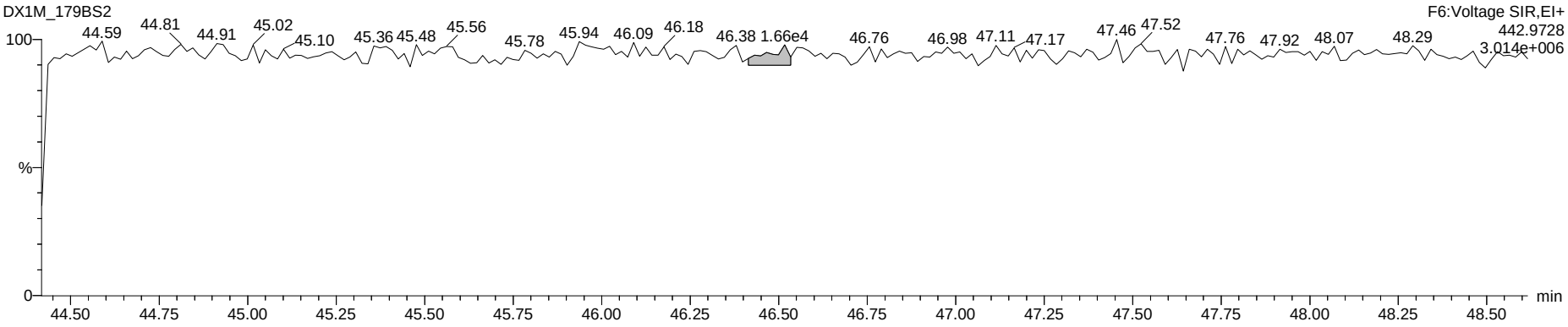
Total Hepta-Furans



Nona DPE



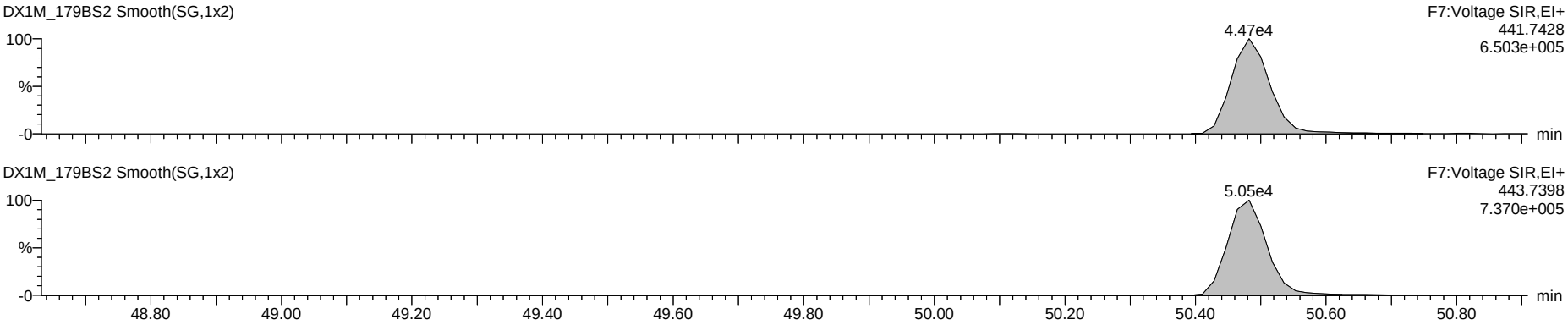
Hepta Lock



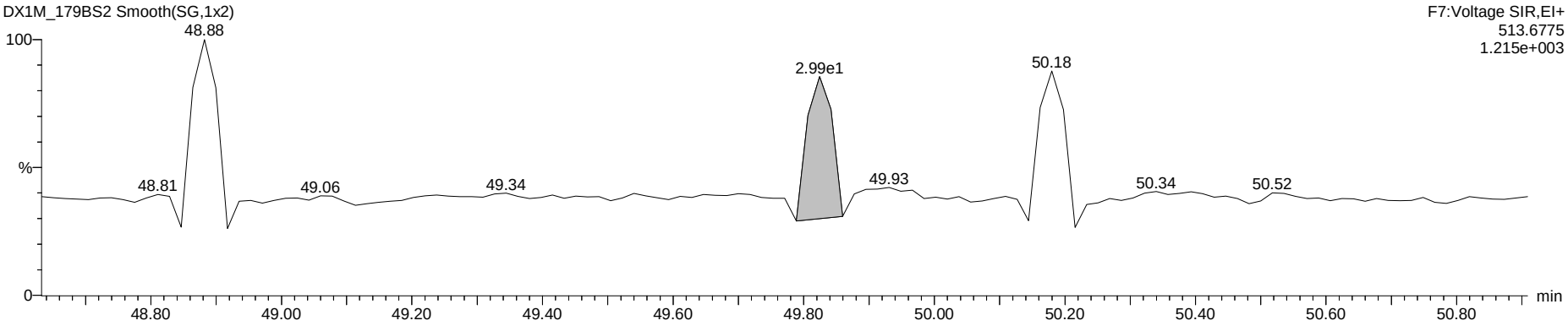
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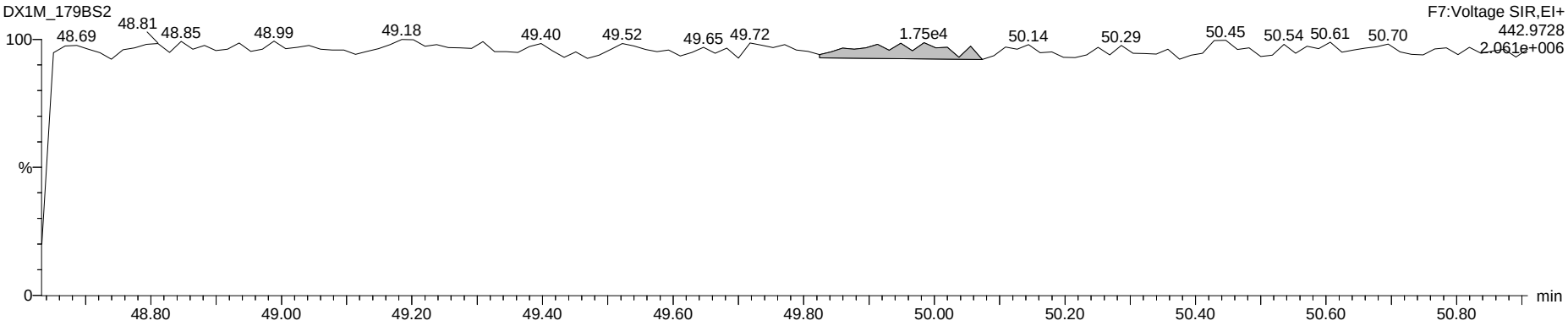
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX1M_179B-B.qld

Name: DX1M_179BS9, Date: 14-Dec-2011, Time: 17:08:21, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL CS-3 Win/Res

	Name	Amount	Resp.	Ratio	fails?	RT	RRF	RRF Mean	RRF SD	RRF %Rel SD	S/N	1% S/N
1	2,3,7,8-TCDF	10.700	1.08e5	0.75	NO	25.31	0.770	0.7697	0.011	1.48	1290	1150
2	1,2,3,7,8-PeCDF	46.000	4.07e5	1.49	NO	33.65	0.891	0.8662	0.039	4.45	2707	1384
3	2,3,4,7,8-PeCDF	47.000	3.97e5	1.52	NO	35.43	0.884	0.8802	0.034	3.88	3100	1529
4	1,2,3,4,7,8-HxCDF	50.000	3.60e5	1.19	NO	40.83	1.029	0.9969	0.026	2.61	5005	2209
5	1,2,3,6,7,8-HxCDF	47.500	3.71e5	1.20	NO	40.99	0.989	0.9824	0.012	1.24	4978	2226
6	2,3,4,6,7,8-HxCDF	53.000	3.43e5	1.21	NO	41.94	0.908	0.9038	0.022	2.42	4844	2169
7	1,2,3,7,8,9-HxCDF	52.500	2.84e5	1.22	NO	42.99	0.861	0.8660	0.011	1.24	4109	1770
8	1,2,3,4,6,7,8-HpCDF	50.000	3.11e5	0.99	NO	45.43	1.186	1.1582	0.042	3.62	2843	4382
9	1,2,3,4,7,8,9-HpCDF	50.000	2.34e5	1.00	NO	47.22	1.036	1.0440	0.035	3.34	2068	3262
10	OCDF	104.000	4.65e5	0.89	NO	50.50	0.878	0.8822	0.048	5.50	23187	5033
11	2,3,7,8-TCDD	11.000	9.52e4	0.76	NO	25.54	0.783	0.8219	0.027	3.27	575	1290
12	1,2,3,7,8-PeCDD	52.000	3.29e5	0.61	NO	35.25	0.848	0.8316	0.025	3.02	2481	2422
13	1,2,3,4,7,8-HxCDD	56.500	2.98e5	1.20	NO	42.22	0.782	0.7830	0.016	2.02	3736	3020
14	1,2,3,6,7,8-HxCDD	55.500	3.07e5	1.24	NO	42.36	0.752	0.7344	0.015	1.99	3833	3018
15	1,2,3,7,8,9-HxCDD	54.000	2.96e5	1.23	NO	42.79	0.777	0.7723	0.012	1.59	3587	2796
16	1,2,3,4,6,7,8-HpCDD	47.500	2.40e5	0.99	NO	46.81	0.953	0.9617	0.016	1.63	4174	4468
17	OCDD	100.000	4.72e5	0.87	NO	50.41	0.928	0.9112	0.027	2.98	32288	10603
18	13C-2,3,7,8-TCDF	100.000	1.32e6	0.77	NO	25.29	1.335	1.3572	0.036	2.62	2286	2591
19	13C-1,2,3,7,8-PeCDF	100.000	9.93e5	1.54	NO	33.63	1.006	1.0558	0.080	7.55	4003	2568
20	13C-2,3,4,7,8-PeCDF	100.000	9.55e5	1.53	NO	35.41	0.969	1.0140	0.076	7.52	4281	2867
21	13C-1,2,3,4,7,8-HxCDF	100.000	6.99e5	0.50	NO	40.79	1.027	1.0091	0.019	1.87	2516	3236
22	13C-1,2,3,6,7,8-HxCDF	100.000	7.89e5	0.51	NO	40.98	1.158	1.1381	0.023	2.00	2903	3691
23	13C-2,3,4,6,7,8-HxCDF	100.000	7.14e5	0.51	NO	41.92	1.048	1.0336	0.018	1.70	2721	3440
24	13C-1,2,3,7,8,9-HxCDF	100.000	6.28e5	0.51	NO	42.97	0.922	0.9303	0.016	1.71	2273	2854
25	13C-1,2,3,4,6,7,8-HpCDF	100.000	5.24e5	0.45	NO	45.41	0.770	0.7778	0.011	1.35	3104	6846
26	13C-1,2,3,4,7,8,9-HpCDF	100.000	4.52e5	0.44	NO	47.20	0.664	0.6807	0.010	1.45	2524	5705
27	13C-2,3,7,8-TCDD	100.000	1.11e6	0.74	NO	26.50	1.122	1.1507	0.050	4.32	1948	2408
28	13C-1,2,3,7,8-PeCDD	100.000	7.46e5	0.63	NO	36.23	0.757	0.7972	0.067	8.35	5539	5204
29	13C-1,2,3,4,7,8-HxCDD	100.000	6.75e5	1.23	NO	42.21	0.991	0.9839	0.013	1.33	3969	3922
30	13C-1,2,3,6,7,8-HxCDD	100.000	7.35e5	1.20	NO	42.34	1.080	1.0807	0.012	1.15	4296	4427
31	13C-1,2,3,4,6,7,8-HpCDD	100.000	5.29e5	1.00	NO	46.81	0.777	0.7846	0.011	1.38	3498	3108
32	13C-OCDD	200.000	1.02e6	0.87	NO	50.39	0.747	0.7795	0.022	2.78	29901	382679
33	13C-1,2,3,4-TCDD	100.000	9.86e5	0.77	NO	26.18	985...	10075.1967	137.442	1.36	1886	2323
34	13C-1,2,3,7,8,9-HxCDD	100.000	6.81e5	1.23	NO	42.77	680...	7508.7528	877.794	11.69	3975	3847
35	37Cl-2,3,7,8-TCDD	10.000	1.10e5			26.54	1.114	1.1539	0.084	7.32	688	
36	Total Tetra-Furans	10.940						0.7697	0.011	1.48		
37	Total Tetra-Dioxins	11.649						0.8219	0.027	3.27		
38	Total Penta-Furans	50.000						0.8662	0.039	4.45		
39	Total Penta-Dioxins	56.550						0.8316	0.025	3.02		
40	Total Hexa-Furans	50.000						0.9969	0.026	2.61		
41	Total Hexa-Dioxins	50.000						0.7830	0.016	2.02		
42	Total Hepta-Furans	50.000						1.1582	0.042	3.62		
43	Total Hepta-Dioxins	50.000						0.9617	0.016	1.63		
44	Hexa DPE	0.000	3.91e1			27.56	0.000				8	
45	Hepta DPE	0.000	5.89e2			37.65	0.000				88	
46	Octa DPE	0.000	3.58e1			38.49	0.000				24	
47	Nona DPE	0.000	1.39e1			47.51	0.000				4	
48	Deca DPE	0.000	2.00e1			50.78	0.000				21	
49	Tetra Lock	0.000	7.80e3			26.09	0.000				1	
50	Penta Lock	0.000	1.34e5			29.36	0.000				1	
51	Hexa Lock	0.000	5.43e5			39.30	0.000				1	
52	Hepta Lock	0.000	7.60e3			46.69	0.000				1	
53	Octa Lock	0.000										
54	13C-Tetra-Furans	100.000						1.3572	0.036	2.62		
55	13C-Tetra-Dioxins	100.000						1.1507	0.050	4.32		

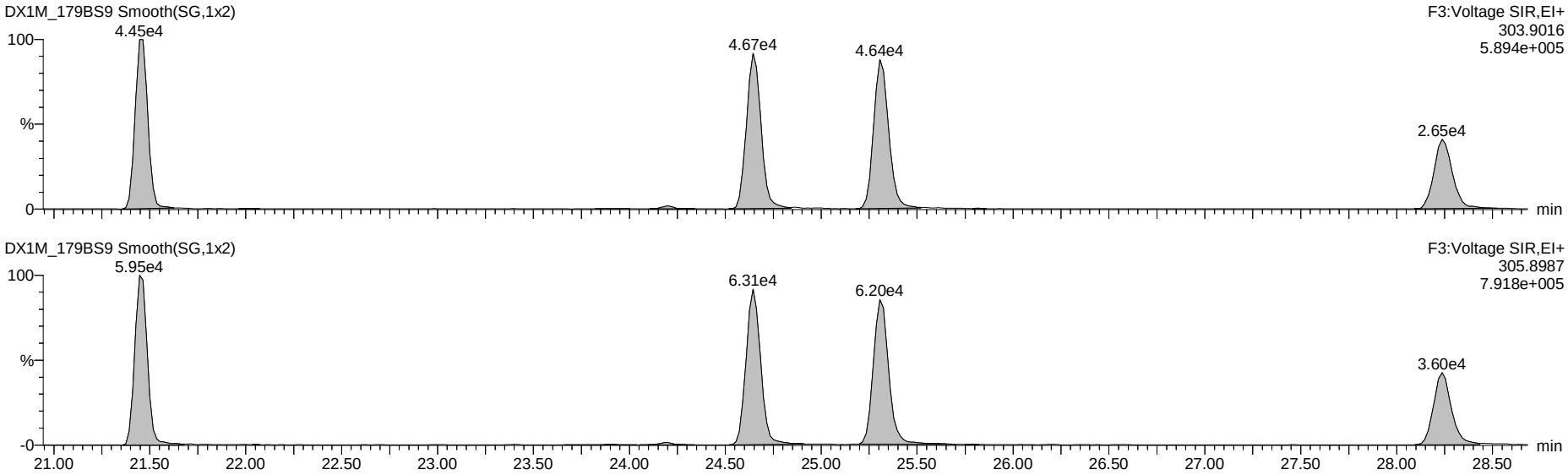
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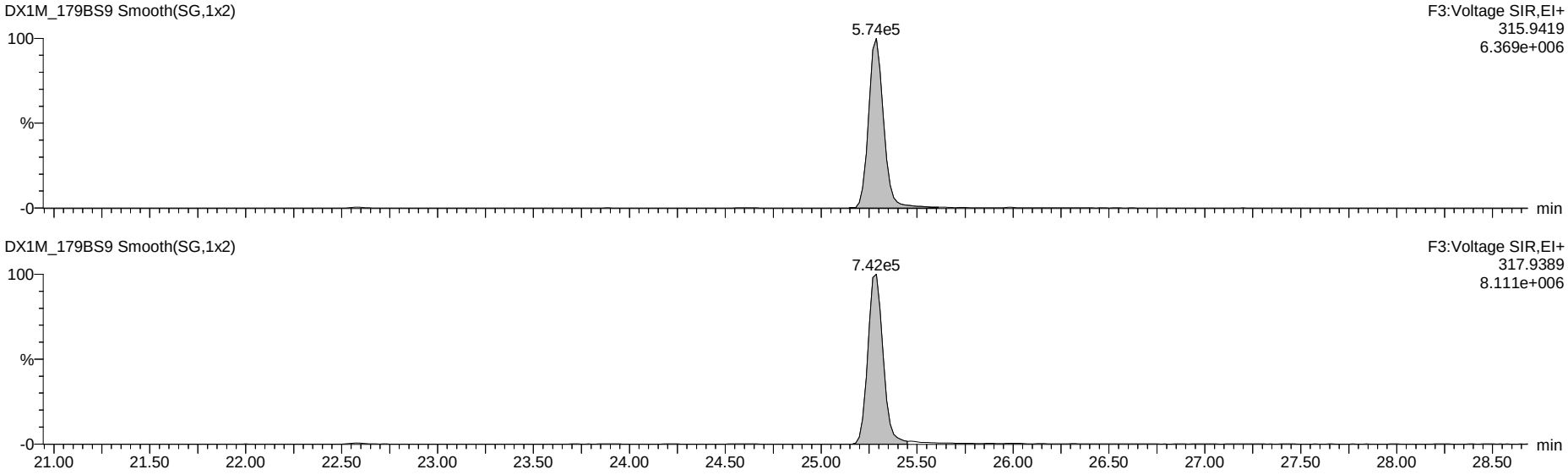
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Name: DX1M_179BS9, Date: 14-Dec-2011, Time: 17:08:21, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL CS-3 Win/Res

Total Tetra-Furans



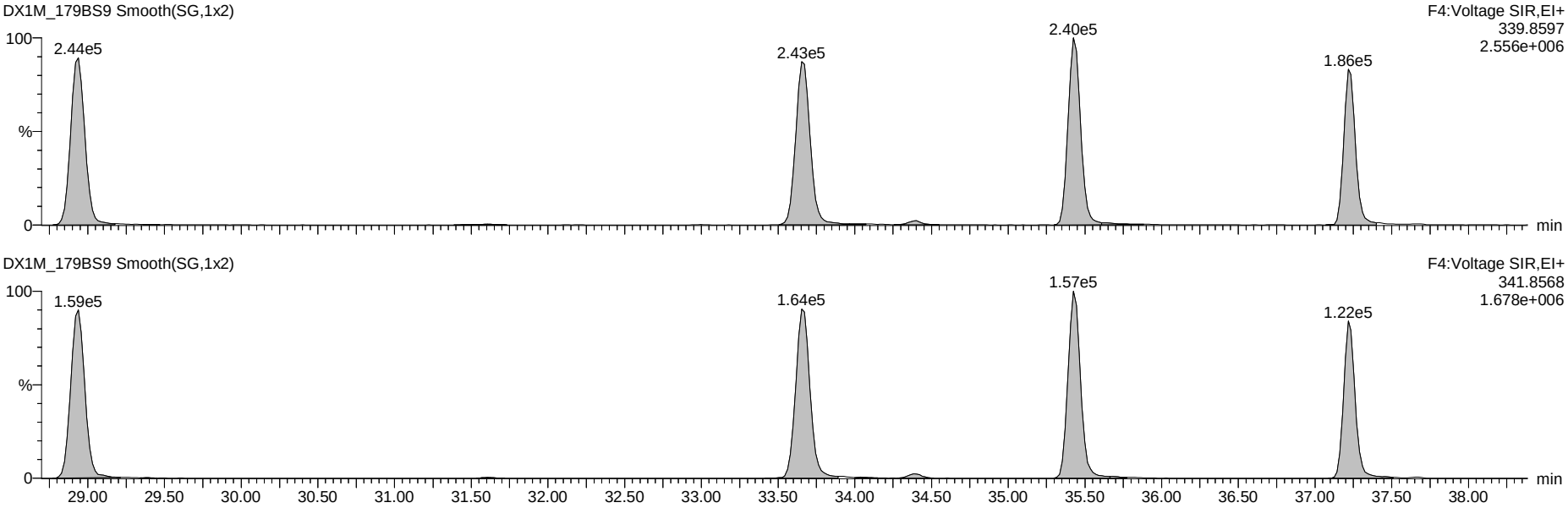
13C-Tetra-Furans



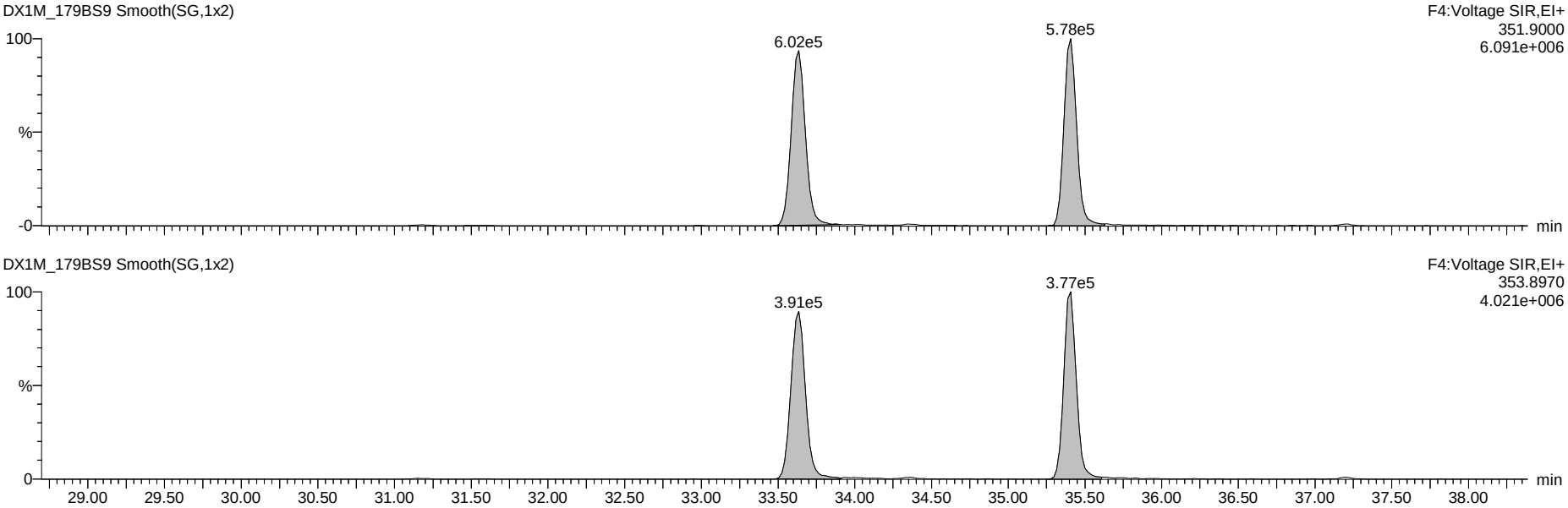
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Name: DX1M_179BS9, Date: 14-Dec-2011, Time: 17:08:21, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL CS-3 Win/Res

Total Penta-Furans



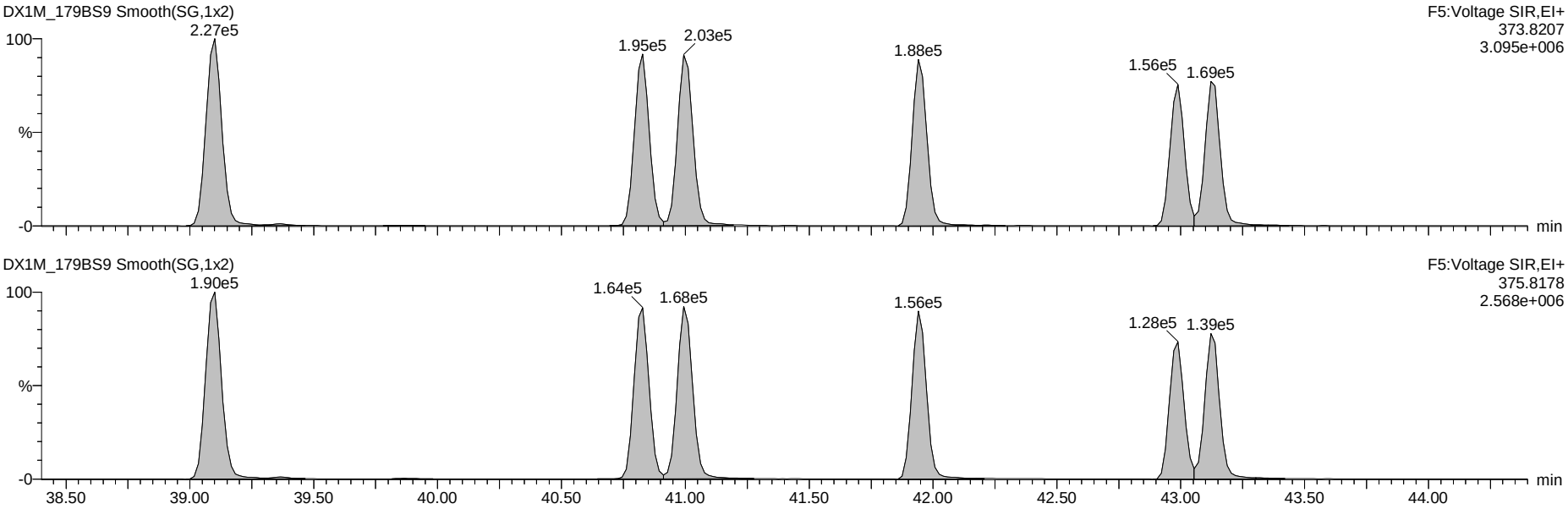
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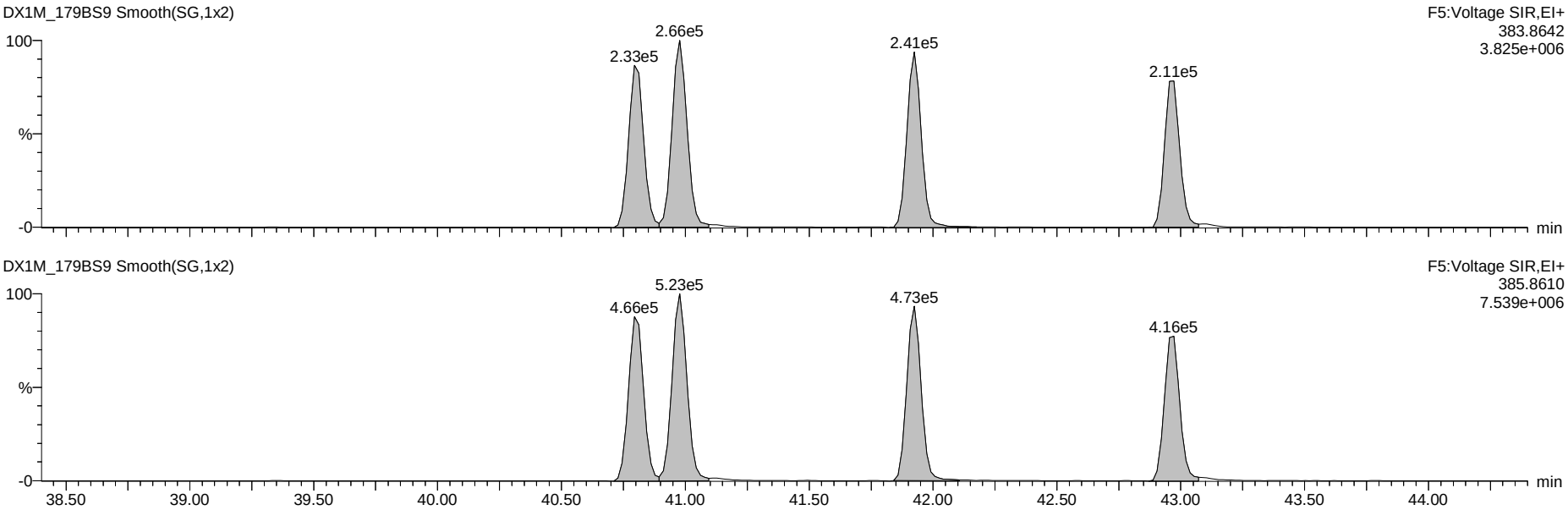
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Total Hexa-Furans



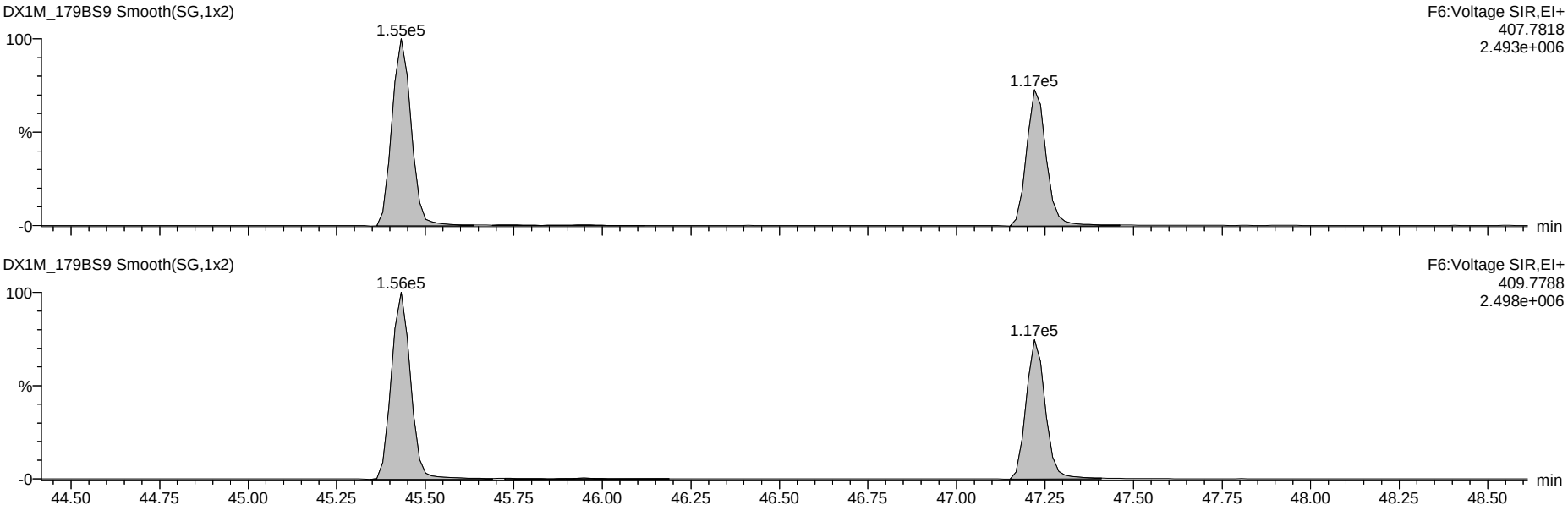
13C-Hexa-Furans



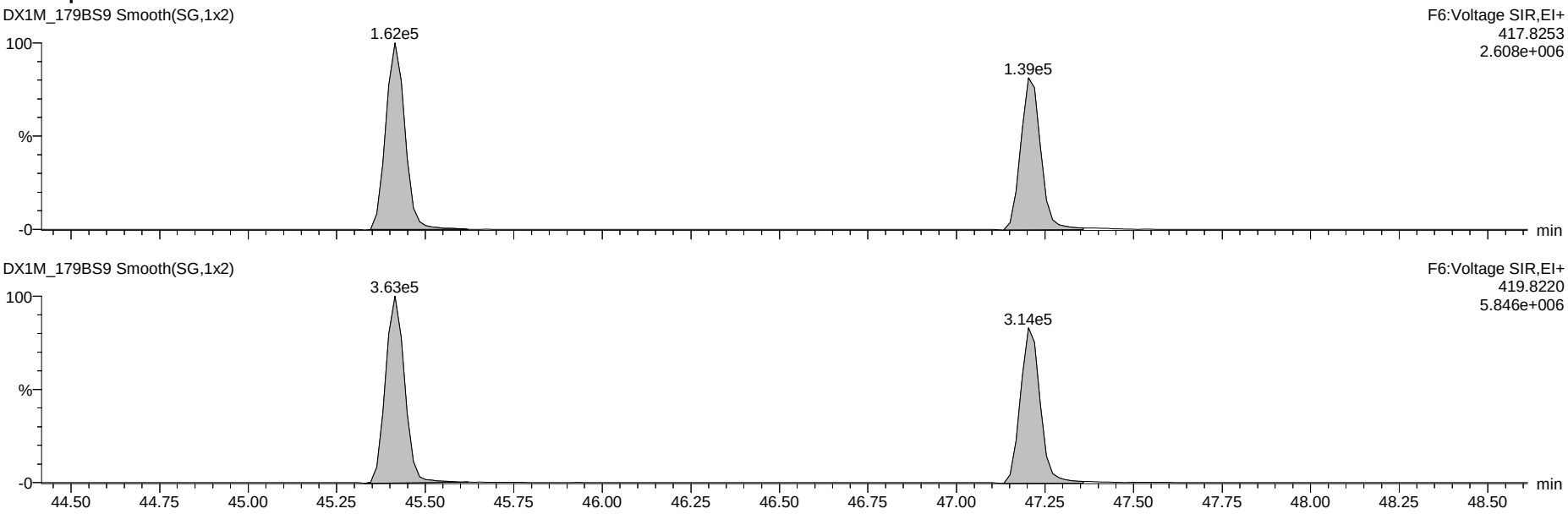
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Total Hepta-Furans



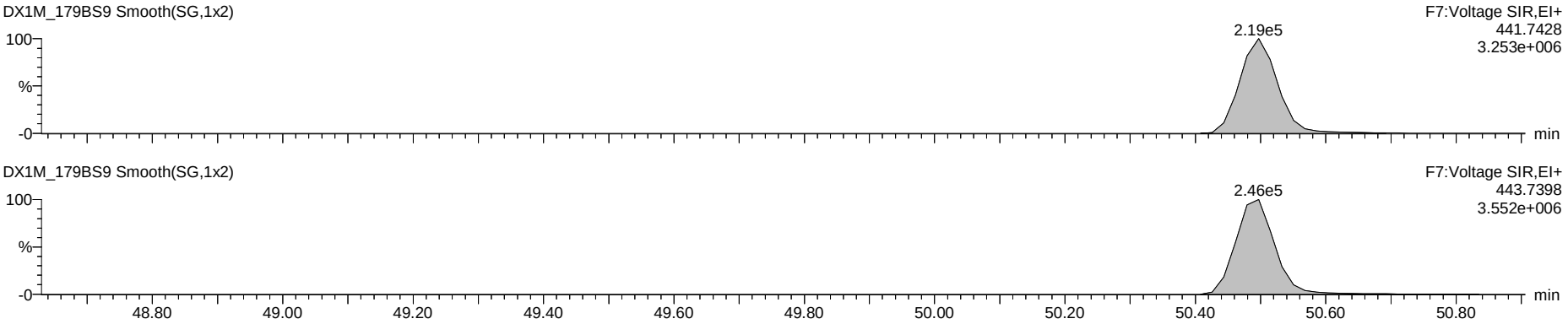
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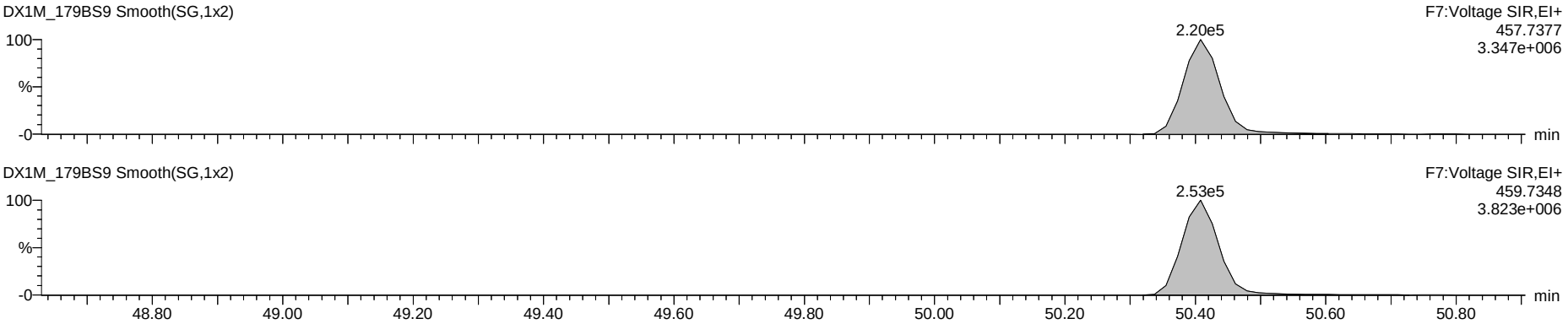
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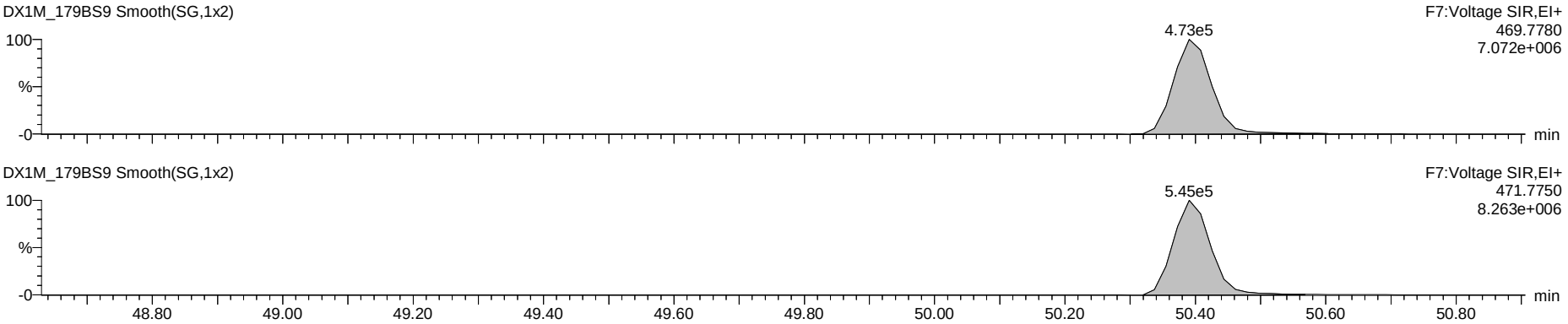
OCDF



OCDD



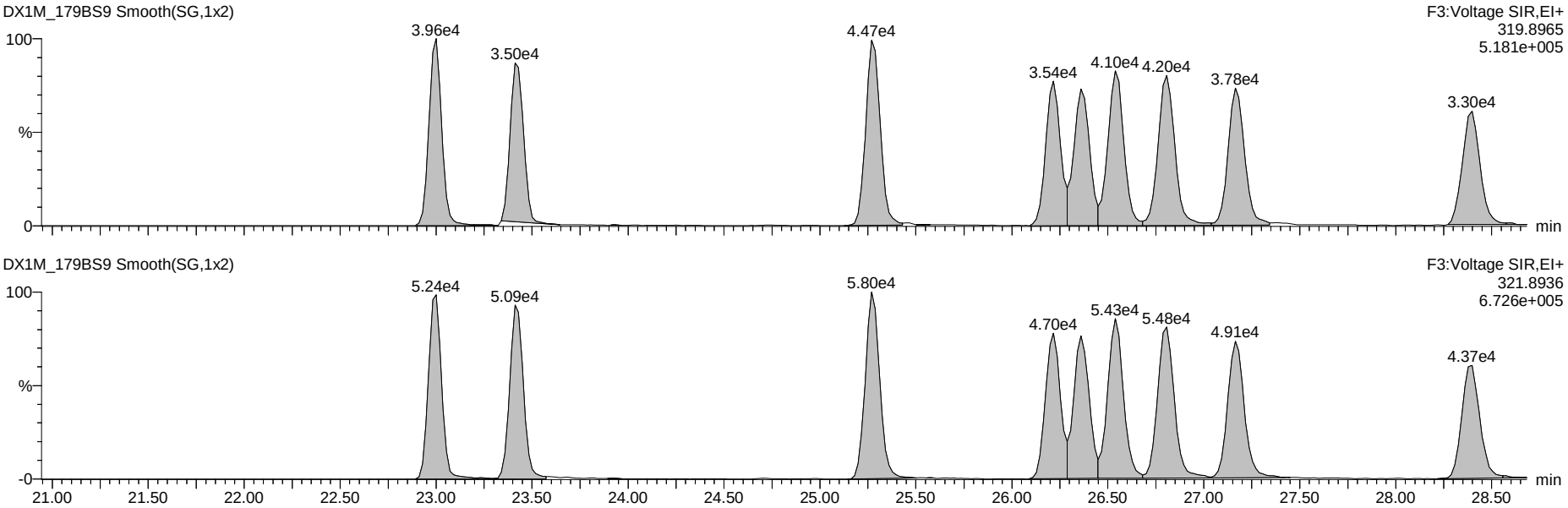
13C-OCDD



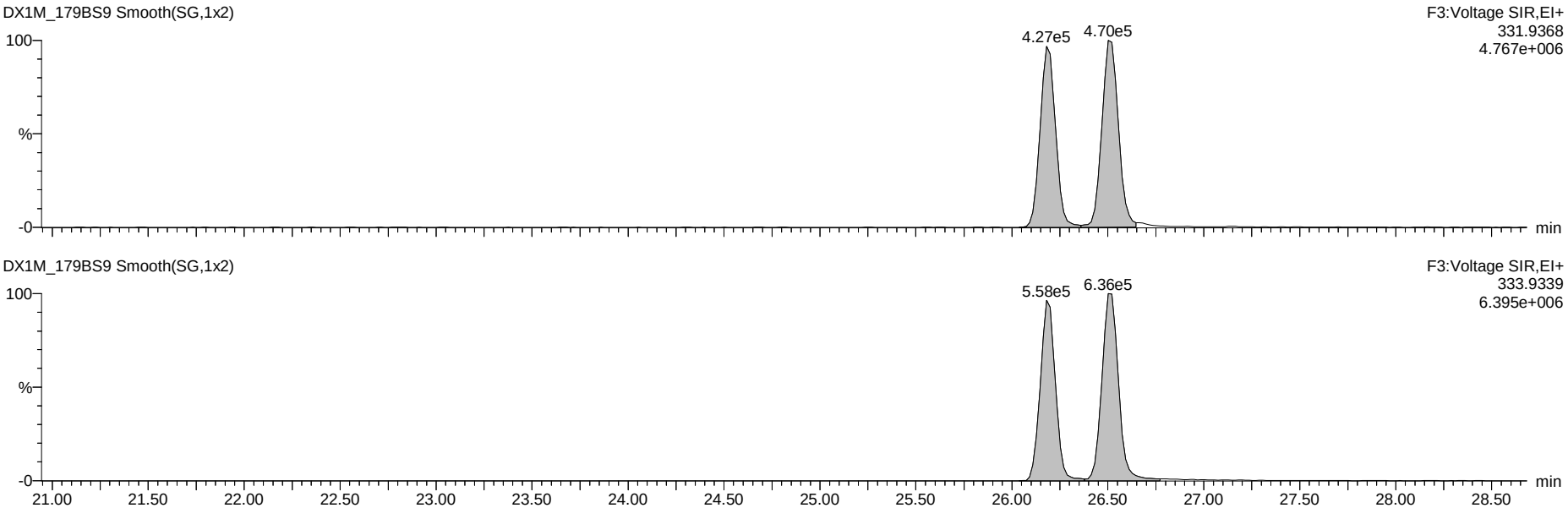
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Name: DX1M_179BS9, Date: 14-Dec-2011, Time: 17:08:21, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL CS-3 Win/Res

Total Tetra-Dioxins



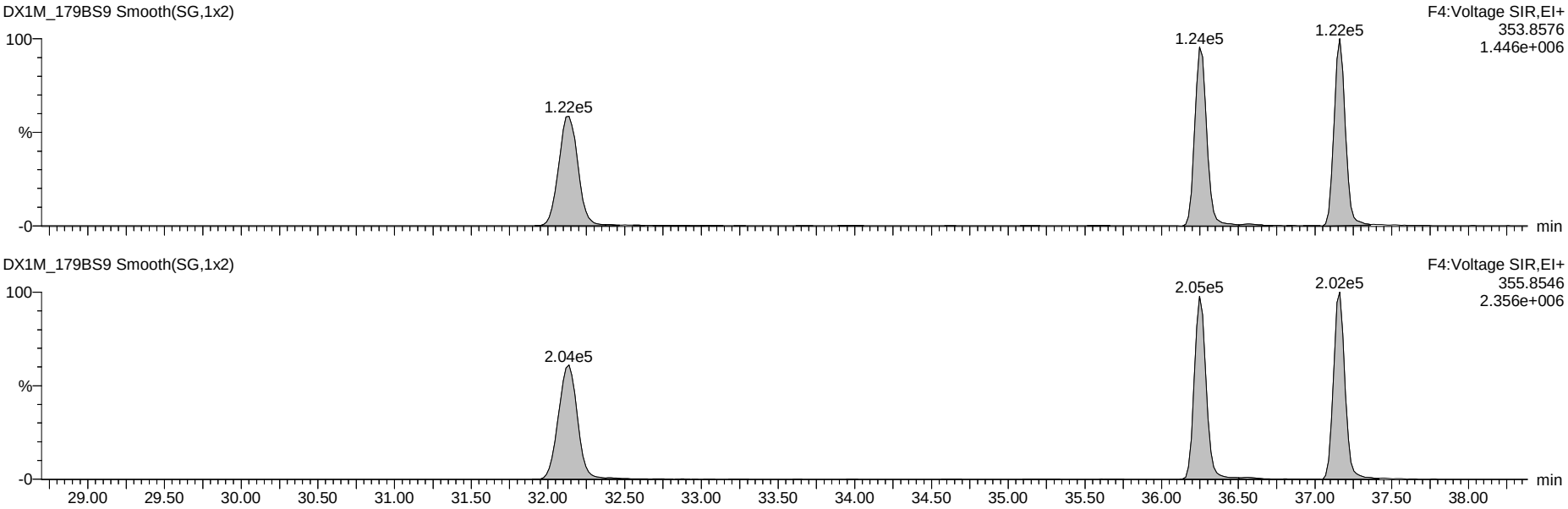
13C-Tetra-Dioxins



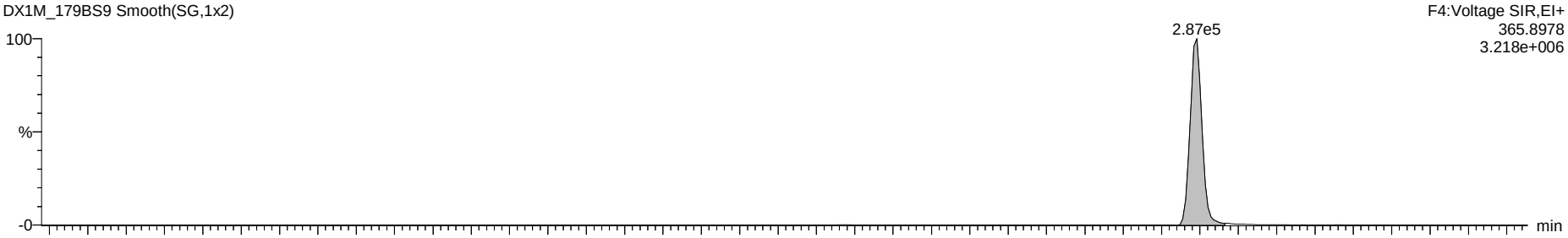
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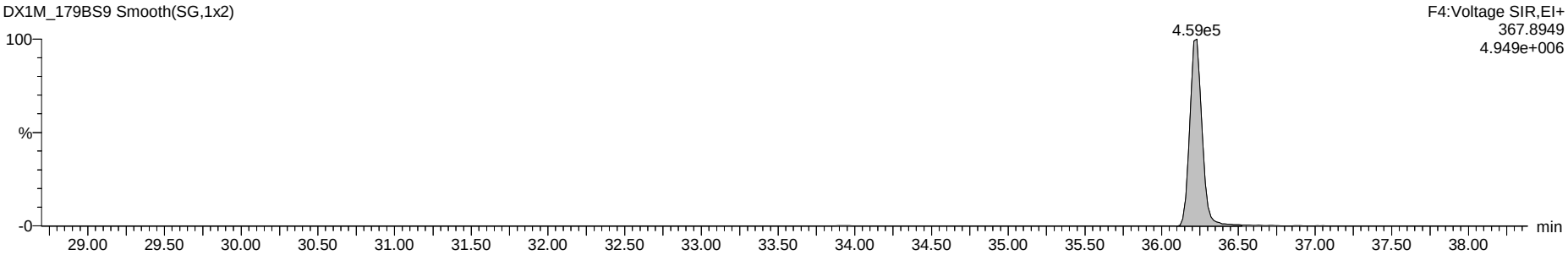
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Total Penta-Dioxins



13C-Penta-Dioxins

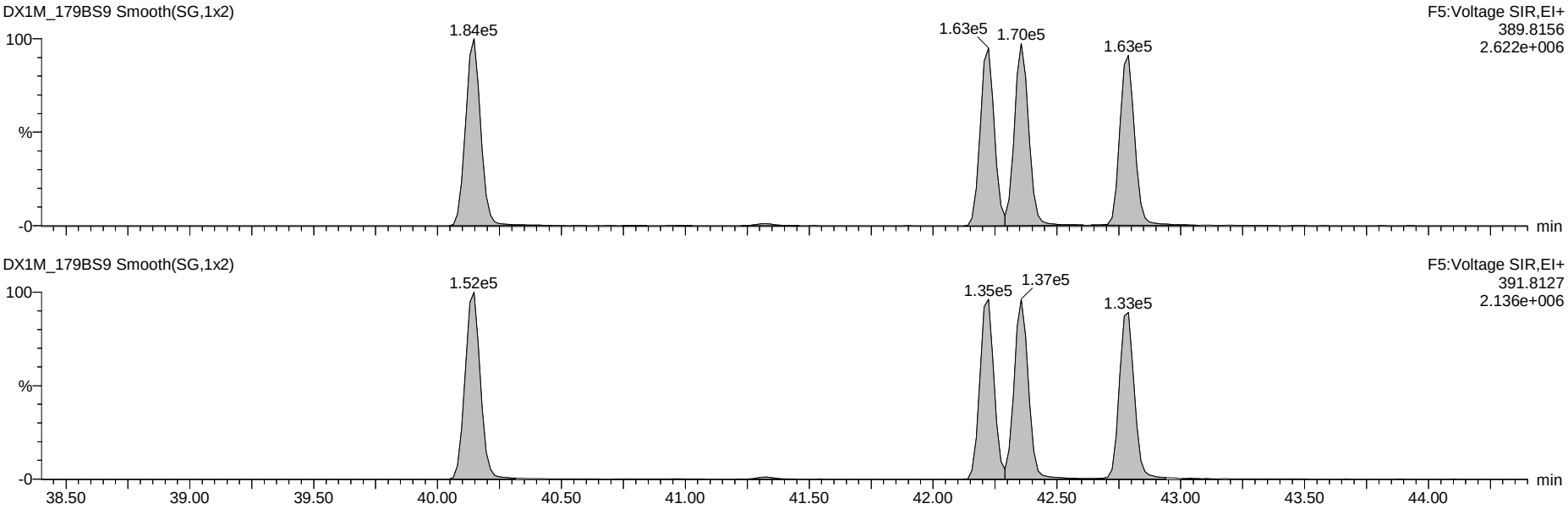




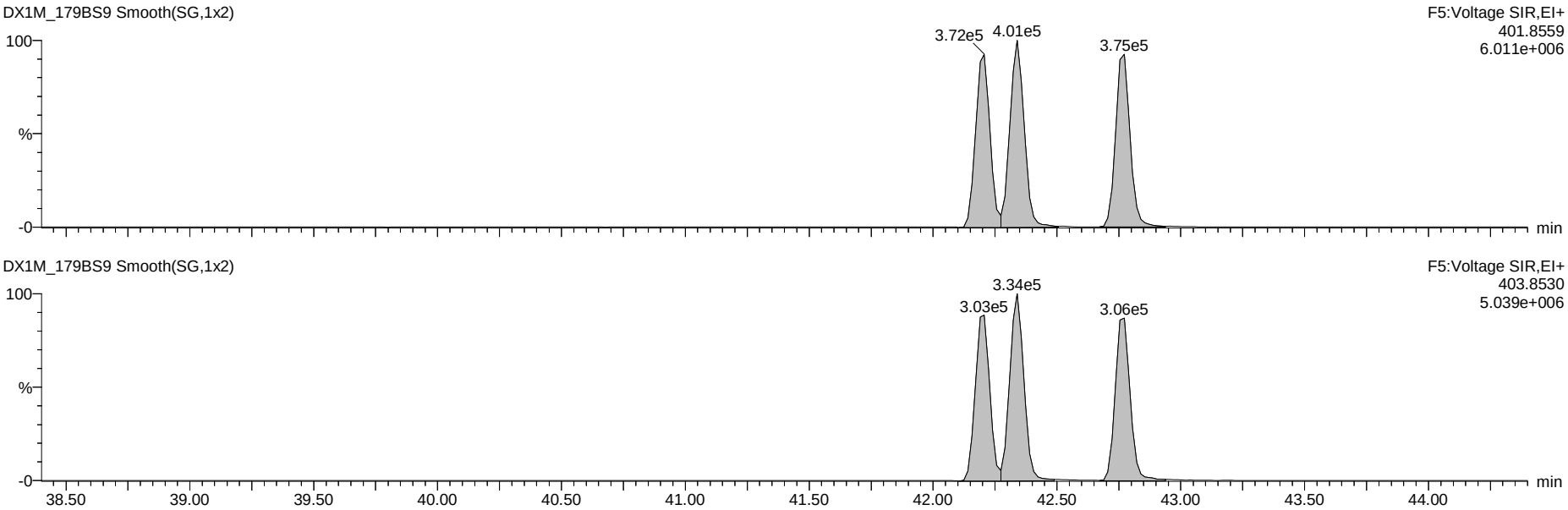
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Name: DX1M_179BS9, Date: 14-Dec-2011, Time: 17:08:21, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL CS-3 Win/Res

Total Hexa-Dioxins



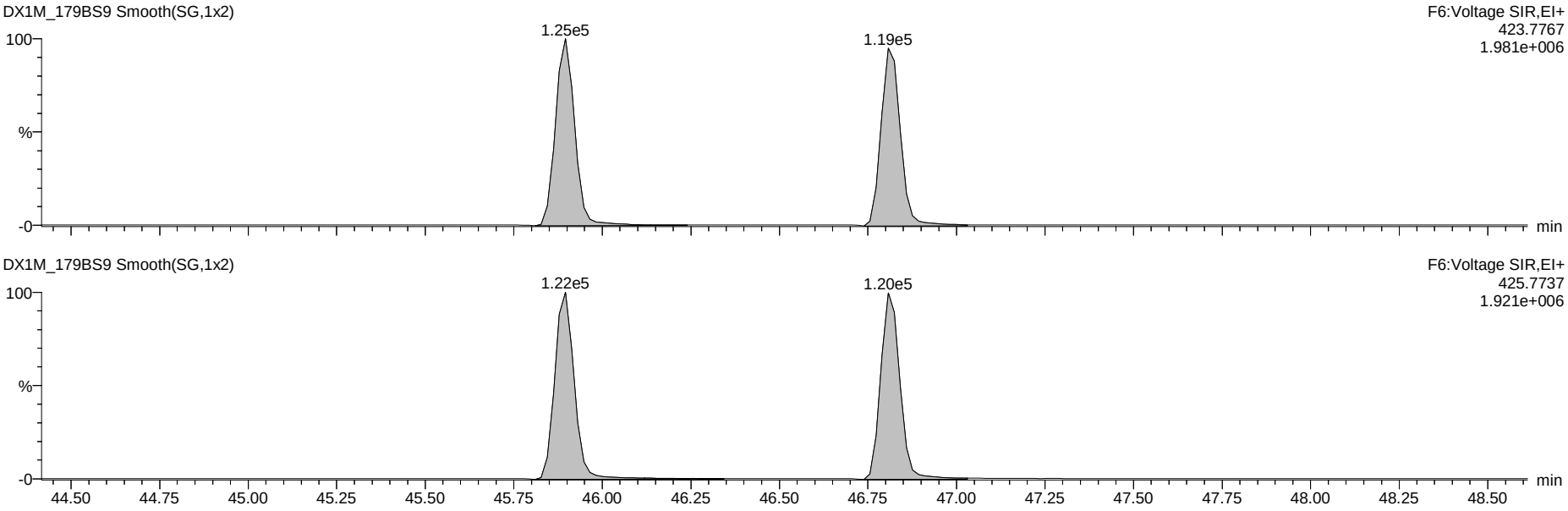
13C-Hexa-Dioxins



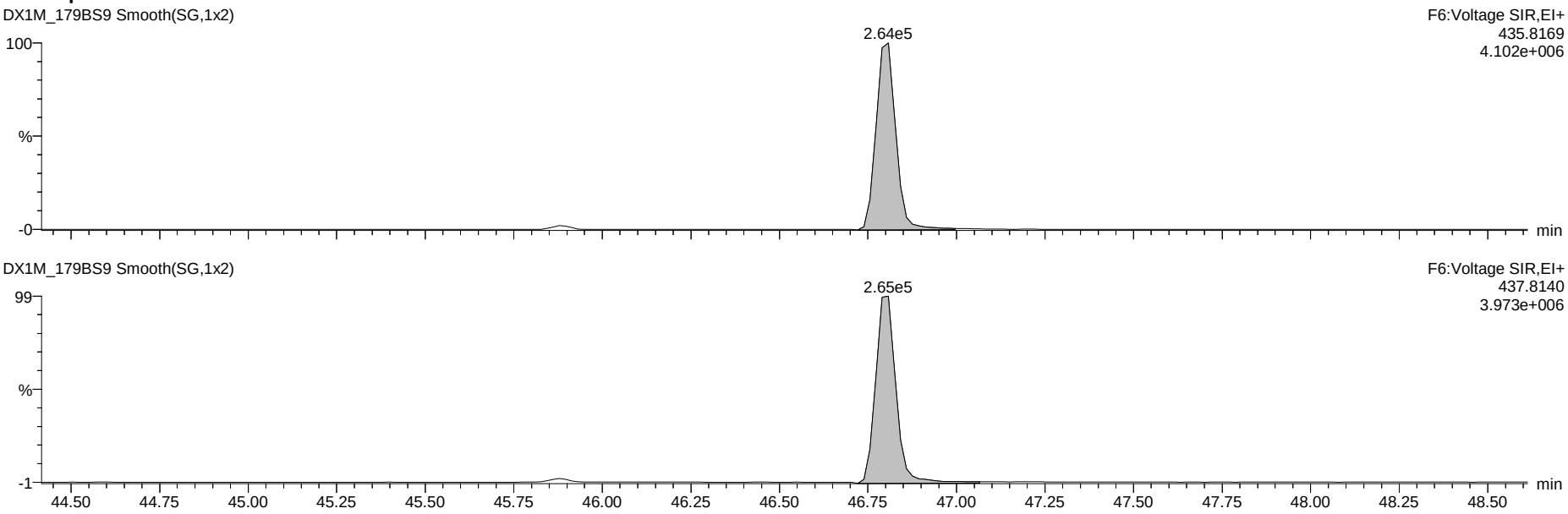
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Name: DX1M_179BS9, Date: 14-Dec-2011, Time: 17:08:21, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL CS-3 Win/Res

Total Hepta-Dioxins



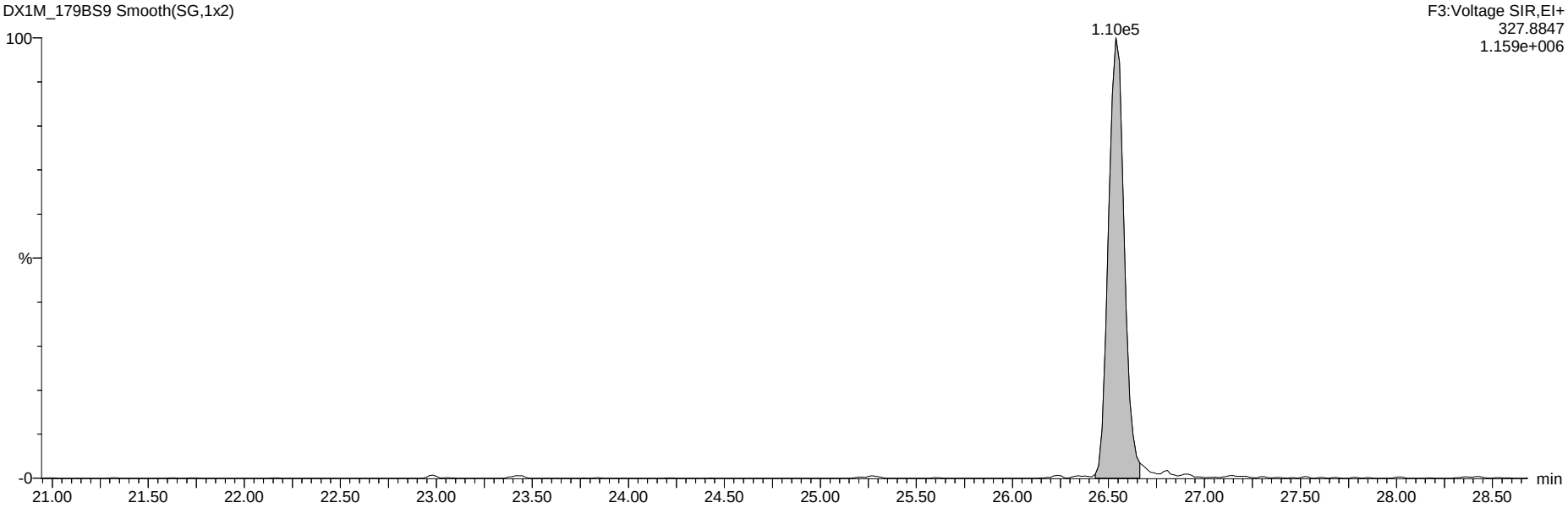
13C-Hepta-Dioxins



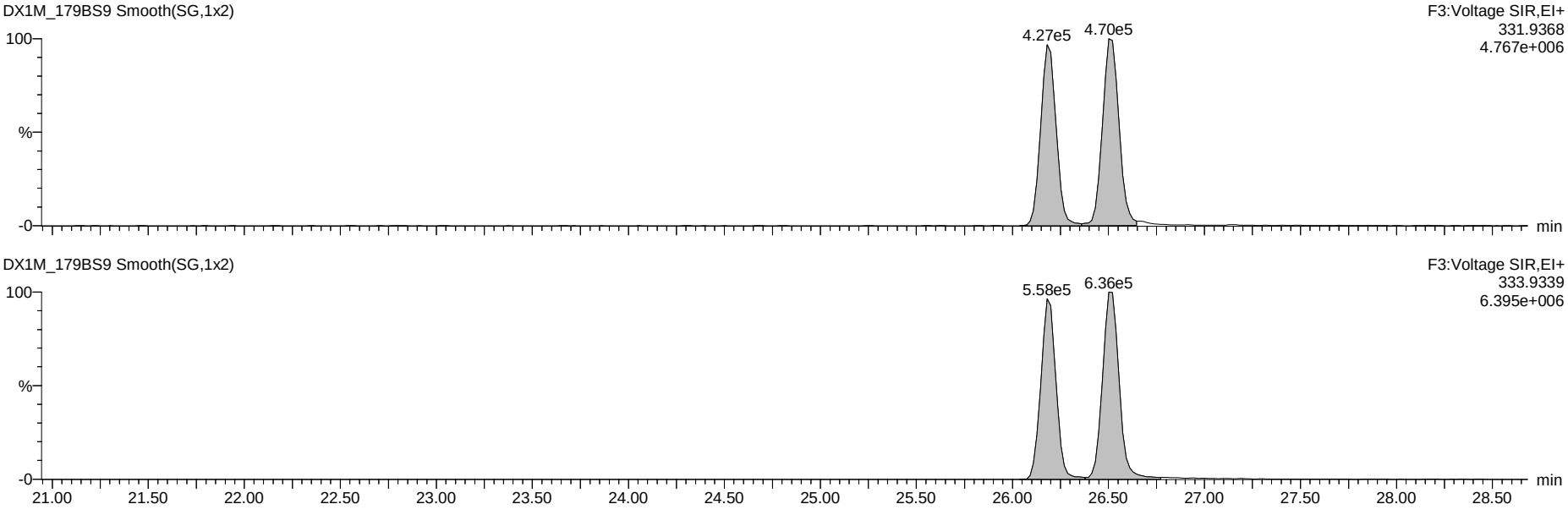
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37Cl-2,3,7,8-TCDD



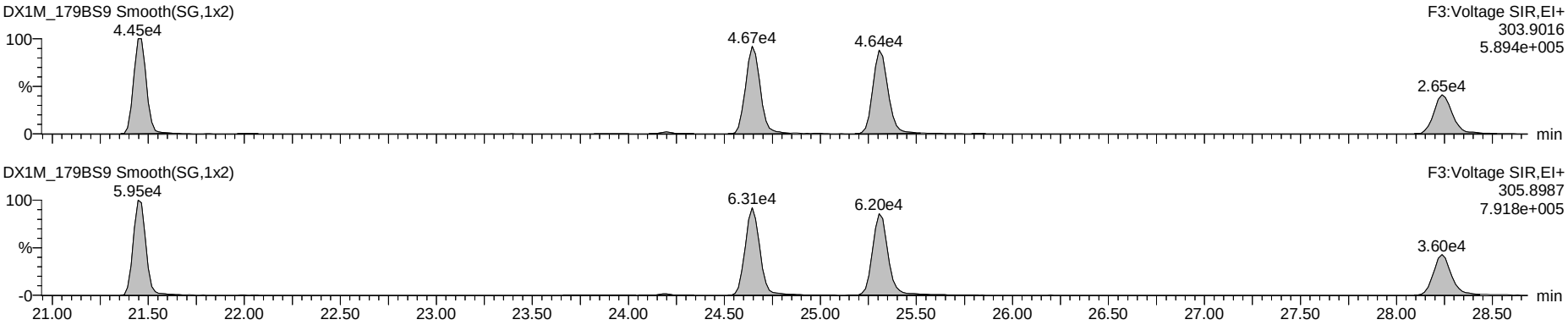
13C-Tetra-Dioxins



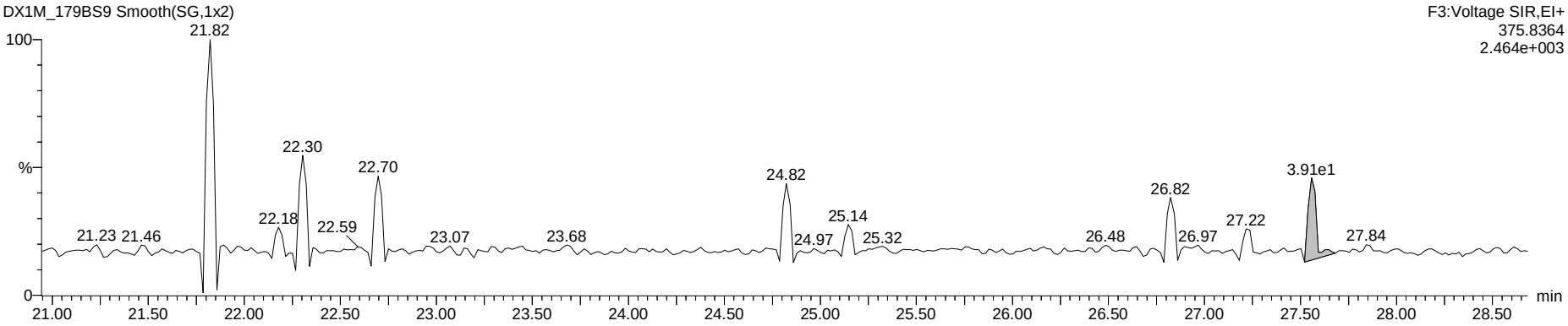
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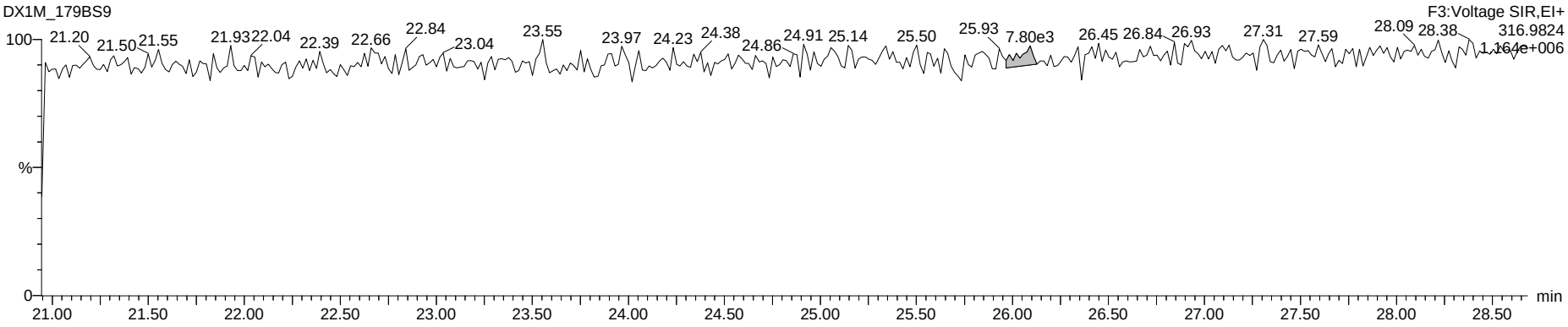
Total Tetra-Furans



Hexa DPE



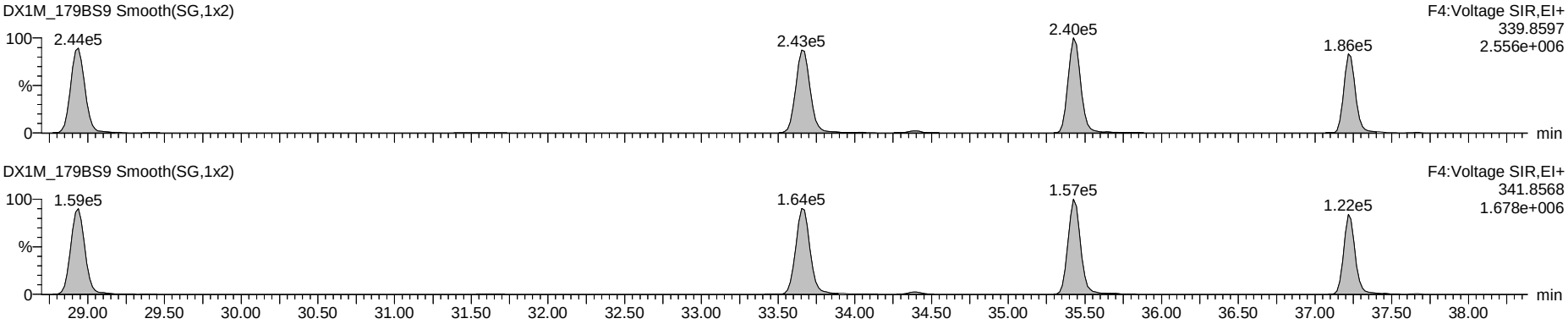
Tetra Lock



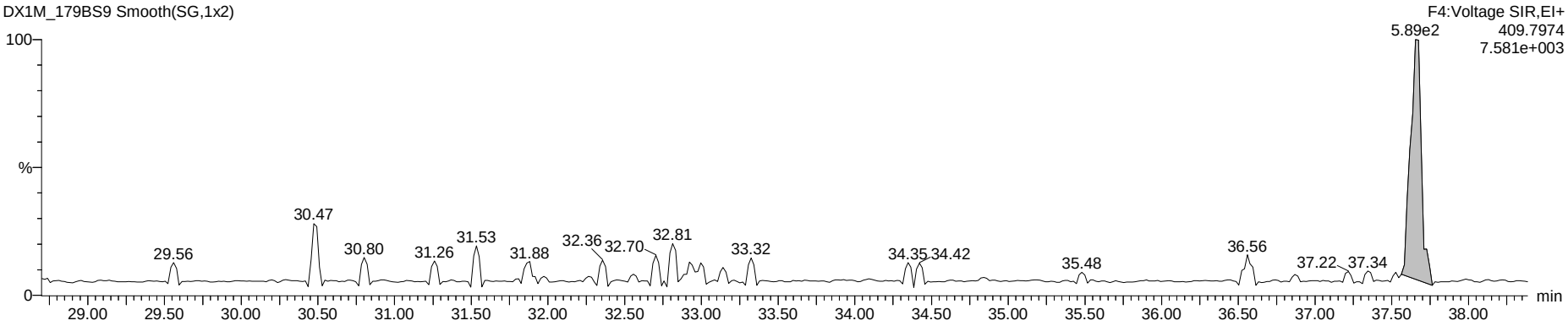
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX1M_179B-A.qld

Name: DX1M_179BS9, Date: 14-Dec-2011, Time: 17:08:21, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL CS-3 Win/Res

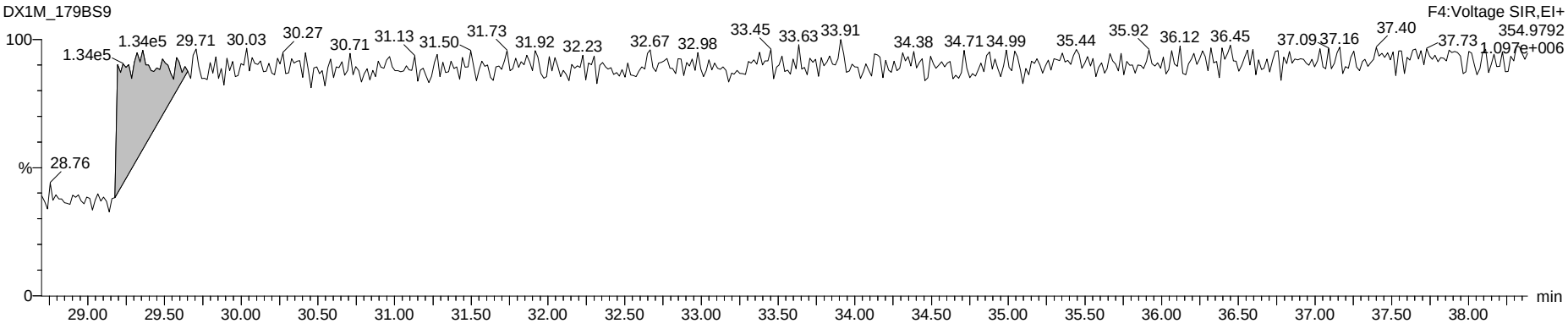
Total Penta-Furans



Hepta DPE



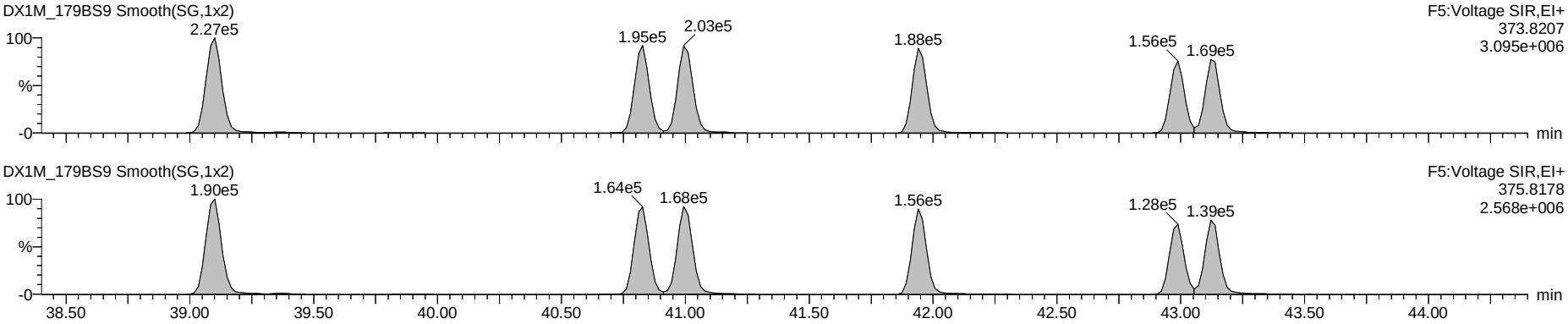
Penta Lock



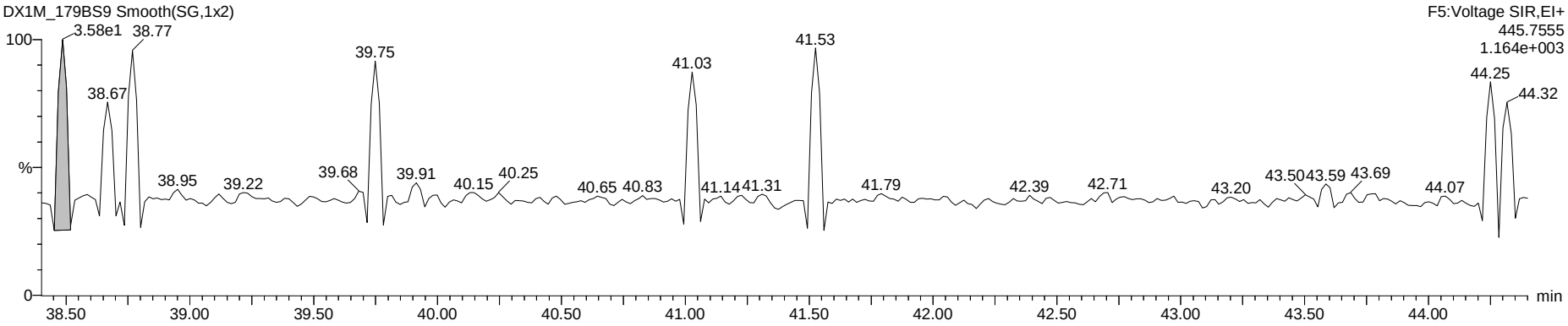
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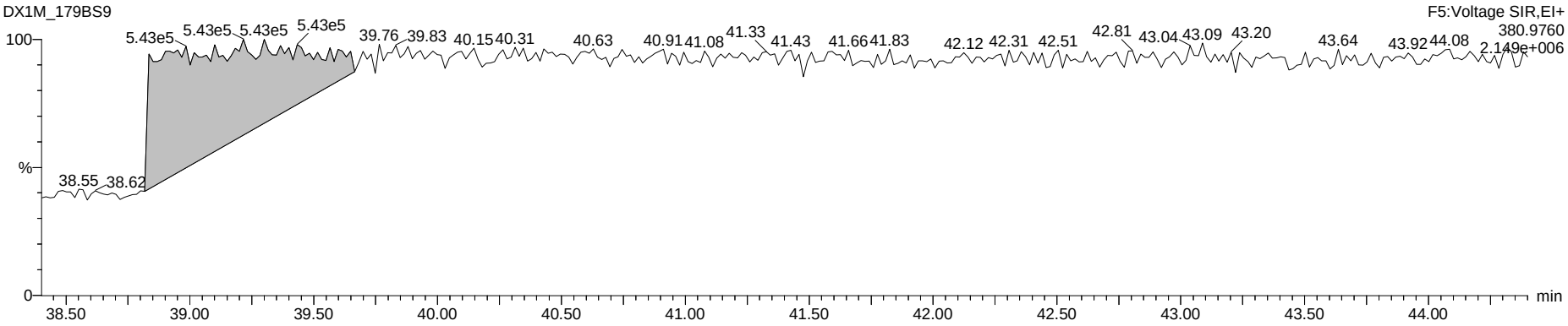
Total Hexa-Furans



Octa DPE



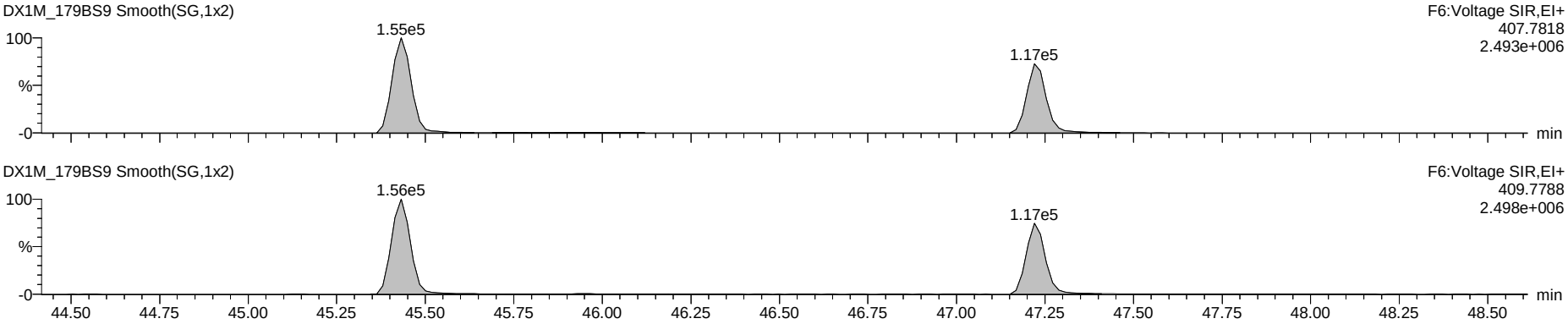
Hexa Lock



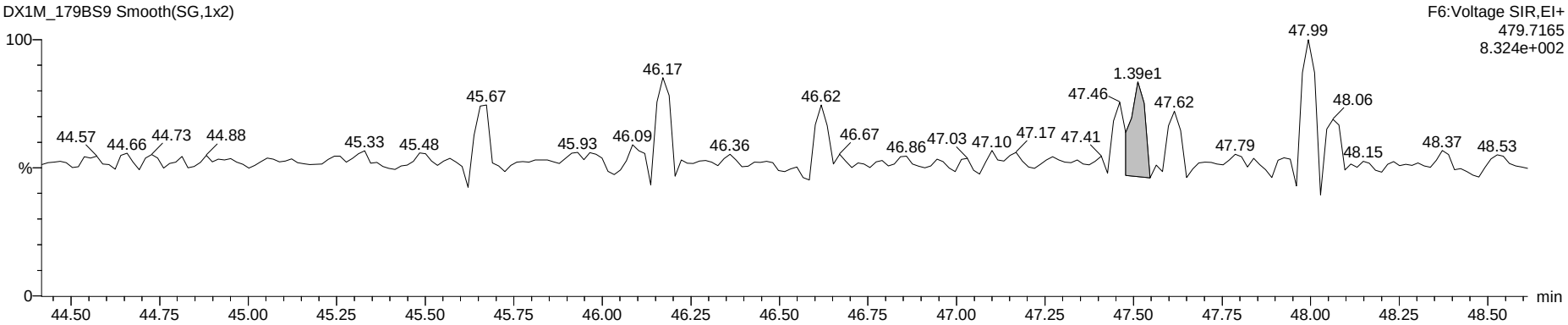
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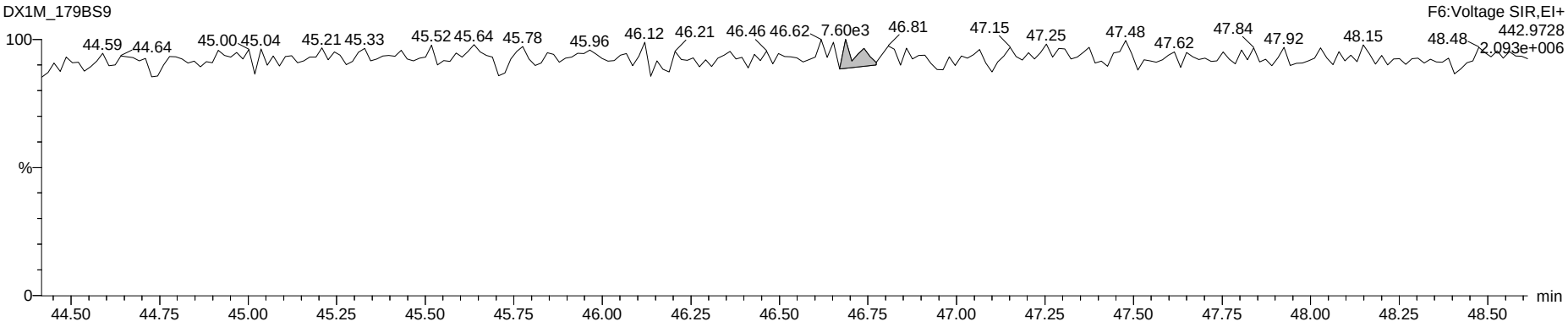
Total Hepta-Furans



Nona DPE



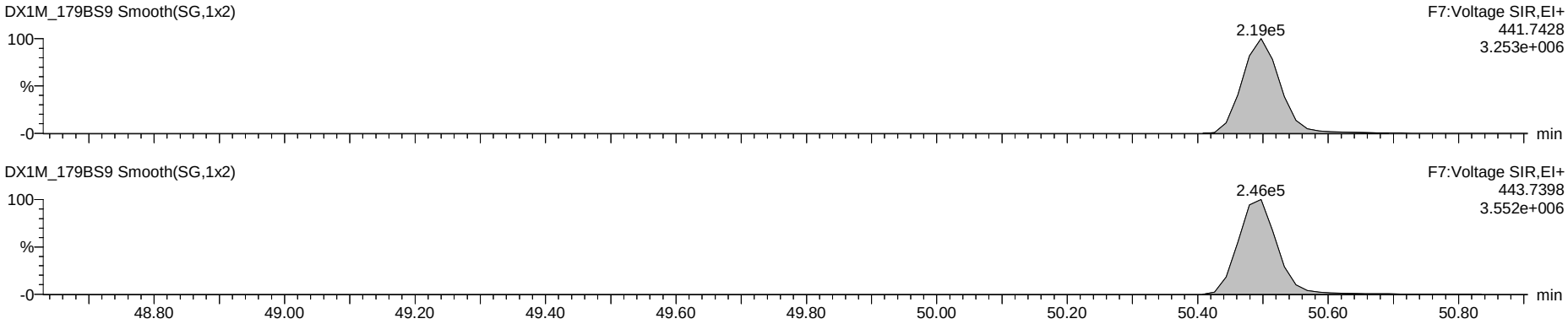
Hepta Lock



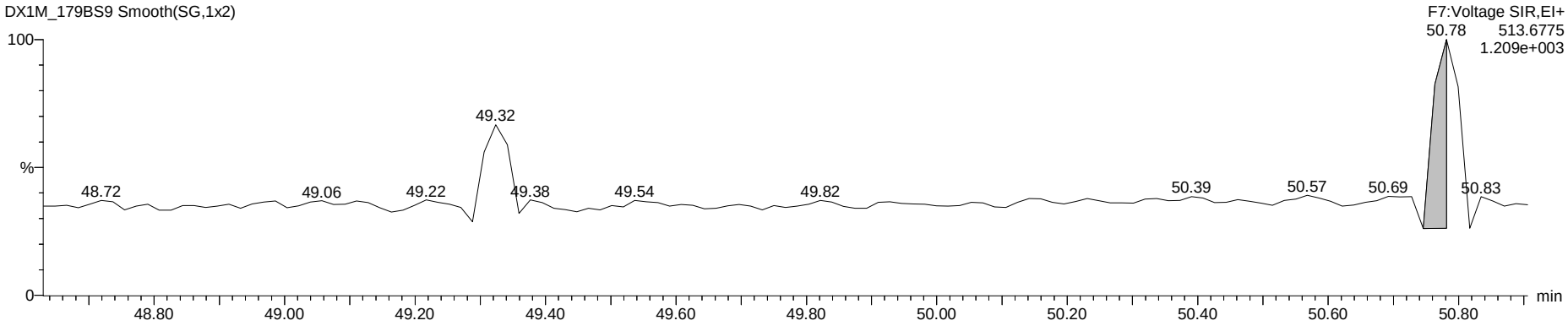
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Name: DX1M_179BS9, Date: 14-Dec-2011, Time: 17:08:21, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL CS-3 Win/Res

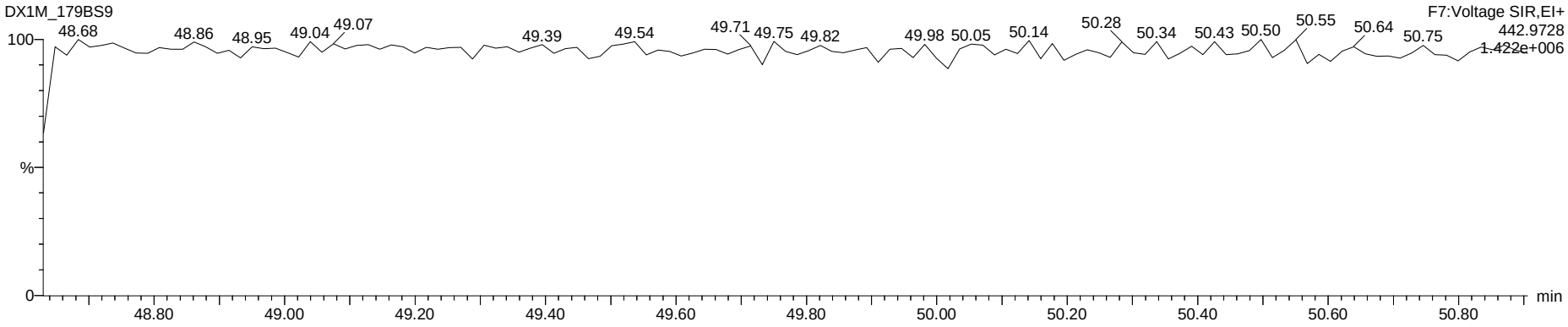
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX1M_179B-B.qld

Name: DX1M_179BS8, Date: 14-Dec-2011, Time: 15:31:57, ID: DX036E-CAL,,/01-04, Description: 1,,1.0uL CS-4

	Name	Amount	Resp	Ratio	fail?	RT	RRF	RRF Mean	RRF SD	RRF %Rel SD	S/N	1% S/N
1	2,3,7,8-TCDF	42.800	4.66e5	0.75	NO	25.25	0.776	0.7697	0.011	1.48	5342	3812
2	1,2,3,7,8-PeCDF	184.000	1.82e6	1.52	NO	33.60	0.887	0.8662	0.039	4.45	6350	4999
3	2,3,4,7,8-PeCDF	188.000	1.82e6	1.52	NO	35.37	0.895	0.8802	0.034	3.88	7275	5700
4	1,2,3,4,7,8-HxCDF	200.000	1.61e6	1.20	NO	40.79	1.006	0.9969	0.026	2.61	22195	12226
5	1,2,3,6,7,8-HxCDF	190.000	1.70e6	1.21	NO	40.96	0.980	0.9824	0.012	1.24	22549	12606
6	2,3,4,6,7,8-HxCDF	212.000	1.61e6	1.20	NO	41.91	0.928	0.9038	0.022	2.42	22282	12561
7	1,2,3,7,8,9-HxCDF	210.000	1.39e6	1.21	NO	42.95	0.879	0.8660	0.011	1.24	19530	10889
8	1,2,3,4,6,7,8-HpCDF	200.000	1.47e6	1.00	NO	45.41	1.183	1.1582	0.042	3.62	19420	16464
9	1,2,3,4,7,8,9-HpCDF	200.000	1.17e6	1.01	NO	47.20	1.087	1.0440	0.035	3.34	15498	13536
10	OCDF	416.000	2.42e6	0.88	NO	50.48	0.934	0.8822	0.048	5.50	105412	222463
11	2,3,7,8-TCDD	40.000	3.94e5	0.77	NO	26.47	0.813	0.8219	0.027	3.27	4405	4334
12	1,2,3,7,8-PeCDD	208.000	1.48e6	0.61	NO	36.21	0.842	0.8316	0.025	3.02	11056	23800
13	1,2,3,4,7,8-HxCDD	226.000	1.41e6	1.23	NO	42.19	0.791	0.7830	0.016	2.02	31780	14393
14	1,2,3,6,7,8-HxCDD	222.000	1.41e6	1.21	NO	42.32	0.739	0.7344	0.015	1.99	30394	14067
15	1,2,3,7,8,9-HxCDD	216.000	1.38e6	1.21	NO	42.76	0.777	0.7723	0.012	1.59	29916	13774
16	1,2,3,4,6,7,8-HpCDD	190.000	1.15e6	1.01	NO	46.79	0.966	0.9617	0.016	1.63	17051	15647
17	OCDD	400.000	2.32e6	0.87	NO	50.39	0.929	0.9112	0.027	2.98	214776	74264
18	13C-2,3,7,8-TCDF	100.000	1.40e6	0.77	NO	25.22	1.374	1.3572	0.036	2.62	3904	4974
19	13C-1,2,3,7,8-PeCDF	100.000	1.11e6	1.54	NO	33.56	1.089	1.0558	0.080	7.55	3365	1803
20	13C-2,3,4,7,8-PeCDF	100.000	1.08e6	1.53	NO	35.35	1.060	1.0140	0.076	7.52	3770	1946
21	13C-1,2,3,4,7,8-HxCDF	100.000	8.00e5	0.50	NO	40.76	1.014	1.0091	0.019	1.87	2594	5844
22	13C-1,2,3,6,7,8-HxCDF	100.000	9.12e5	0.52	NO	40.94	1.156	1.1381	0.023	2.00	3086	6690
23	13C-2,3,4,6,7,8-HxCDF	100.000	8.19e5	0.51	NO	41.89	1.038	1.0336	0.018	1.70	2858	6331
24	13C-1,2,3,7,8,9-HxCDF	100.000	7.53e5	0.51	NO	42.94	0.955	0.9303	0.016	1.71	2647	5789
25	13C-1,2,3,4,6,7,8-HpCDF	100.000	6.21e5	0.44	NO	45.40	0.788	0.7778	0.011	1.36	2709	5025
26	13C-1,2,3,4,7,8,9-HpCDF	100.000	5.37e5	0.47	NO	47.19	0.681	0.6807	0.010	1.45	2396	4378
27	13C-2,3,7,8-TCDD	100.000	1.21e6	0.75	NO	26.45	1.187	1.1507	0.050	4.32	2056	3709
28	13C-1,2,3,7,8-PeCDD	100.000	9.43e5	0.64	NO	36.17	0.824	0.7972	0.067	8.35	4750	7875
29	13C-1,2,3,4,7,8-HxCDD	100.000	7.88e5	1.23	NO	42.17	0.999	0.9839	0.013	1.33	5162	3056
30	13C-1,2,3,6,7,8-HxCDD	100.000	8.59e5	1.26	NO	42.31	1.090	1.0807	0.012	1.15	5552	3246
31	13C-1,2,3,4,6,7,8-HpCDD	100.000	6.26e5	1.02	NO	46.77	0.794	0.7846	0.011	1.38	5823	10395
32	13C-OCDD	200.000	1.25e6	0.89	NO	50.37	0.791	0.7795	0.022	2.78	118091	276815
33	13C-1,2,3,4-TCDD	100.000	1.02e6	0.78	NO	26.13	102...	10075.1967	137.442	1.36	1842	3144
34	13C-1,2,3,7,8,9-HxCDD	100.000	7.89e5	1.24	NO	42.74	788...	7508.7528	877.794	11.69	5135	3003
35	37Cl-2,3,7,8-TCDD	40.000	4.68e5			26.47	1.145	1.1539	0.084	7.32	2027	
36	Total Tetra-Furans	43.760						0.7697	0.011	1.48		
37	Total Tetra-Dioxins	42.360						0.8219	0.027	3.27		
38	Total Penta-Furans	200.000						0.8662	0.039	4.45		
39	Total Penta-Dioxins	226.200						0.8316	0.025	3.02		
40	Total Hexa-Furans	200.000						0.9969	0.026	2.61		
41	Total Hexa-Dioxins	200.000						0.7830	0.016	2.02		
42	Total Hepta-Furans	200.000						1.1582	0.042	3.62		
43	Total Hepta-Dioxins	200.000						0.9617	0.016	1.63		
44	Hexa DPE	0.000	5.55e1			24.73	0.000				47	
45	Hepta DPE	0.000	1.81e3			37.60	0.000				79	
46	Octa DPE	0.000	2.29e1			39.50	0.000				12	
47	Nona DPE	0.000	2.26e1			46.21	0.000				32	
48	Deca DPE	0.000	1.30e1			50.05	0.000				9	
49	Tetra Lock	0.000	2.84e3			25.29	0.000				1	
50	Penta Lock	0.000	2.76e5			29.80	0.000				1	
51	Hexa Lock	0.000	3.54e5			39.17	0.000				1	
52	Hepta Lock	0.000	1.47e3			46.72	0.000				1	
53	Octa Lock	0.000	1.02e4			49.91	0.000				1	
54	13C-Tetra-Furans	100.000						1.3572	0.036	2.62		
55	13C-Tetra-Dioxins	100.000						1.1507	0.050	4.32		

PV'd by RT 15-Dec-2011

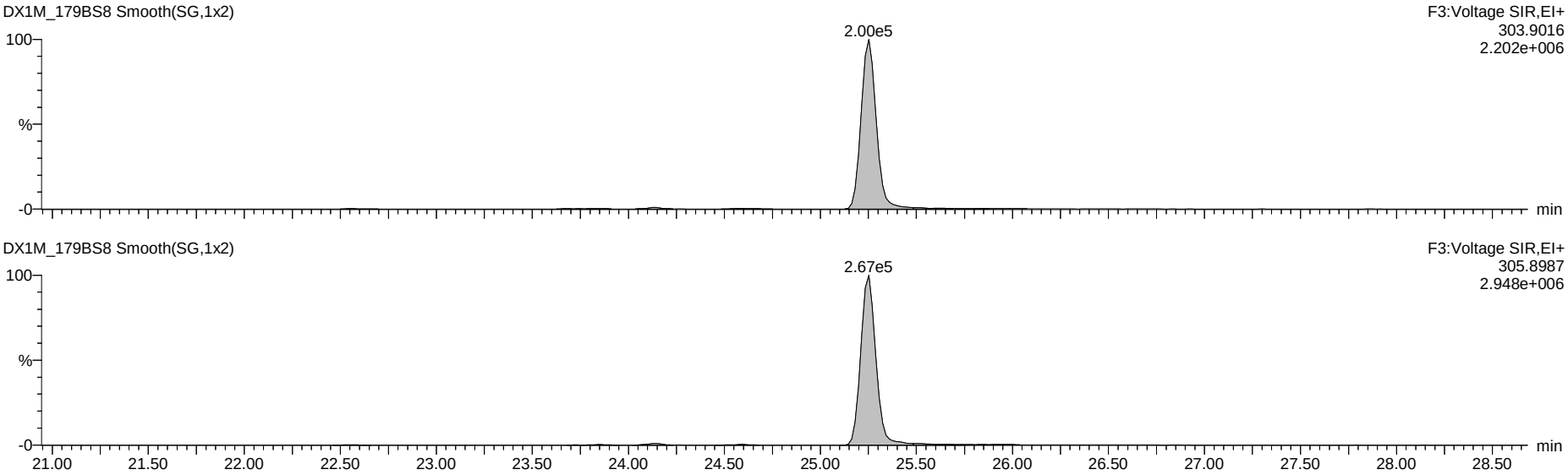
Study QA IS Rec'd!

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX1M_179B-A.qld

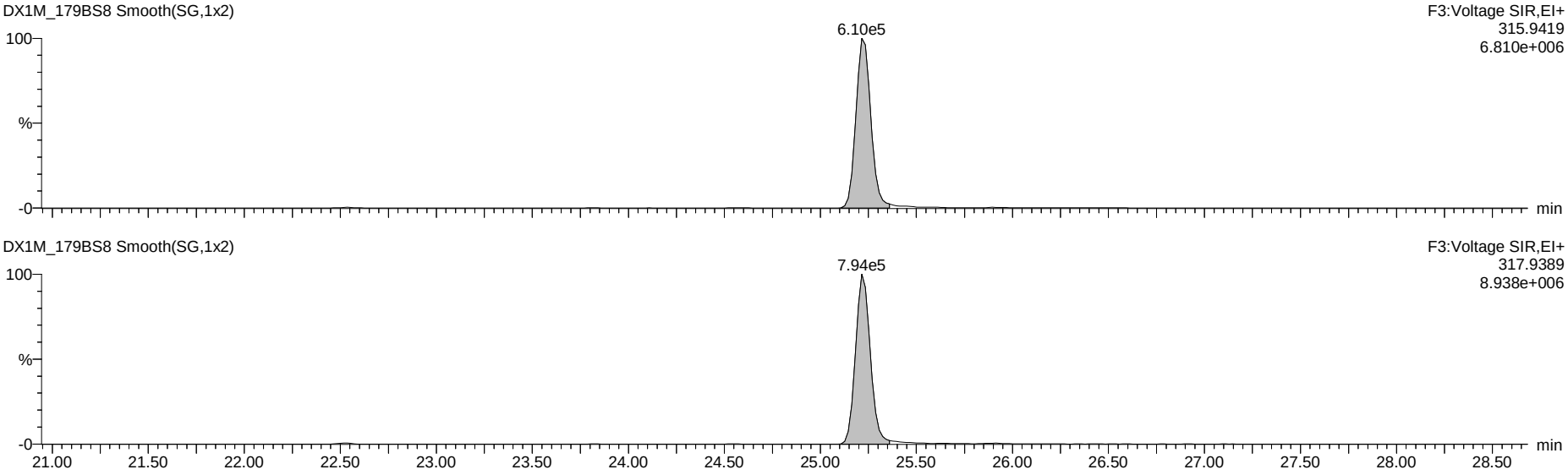
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Name: DX1M_179BS8, Date: 14-Dec-2011, Time: 15:31:57, ID: DX036E-CAL,,/01-04, Description: 1,,1.0uL CS-4

Total Tetra-Furans



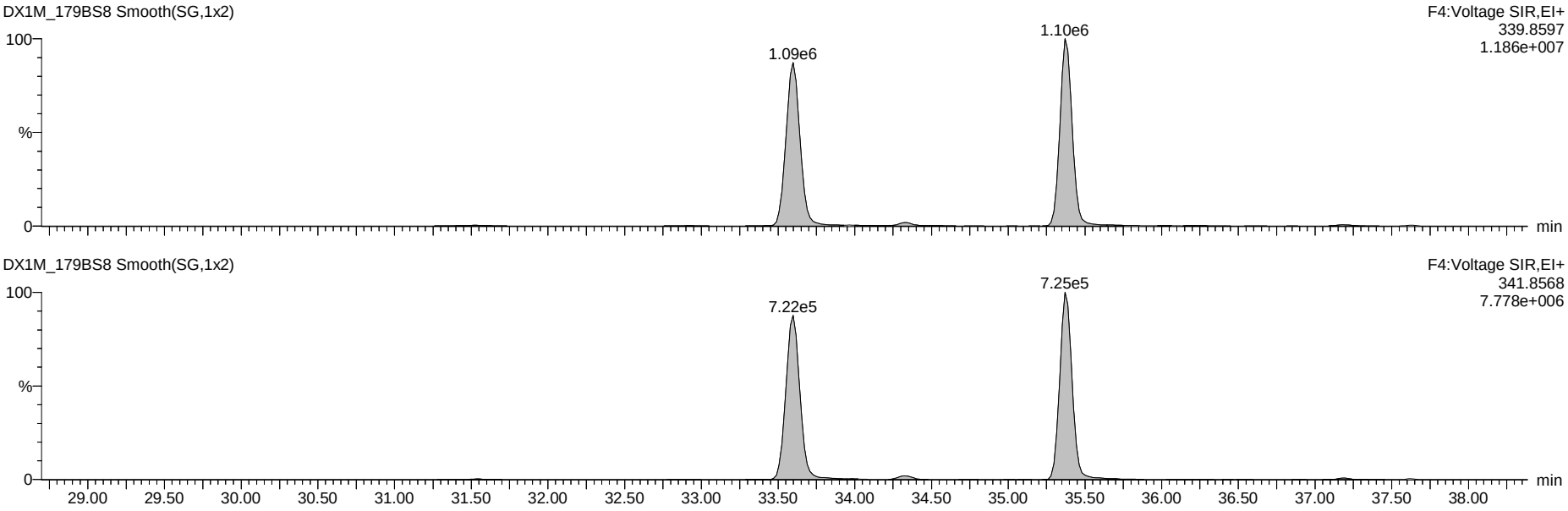
13C-Tetra-Furans



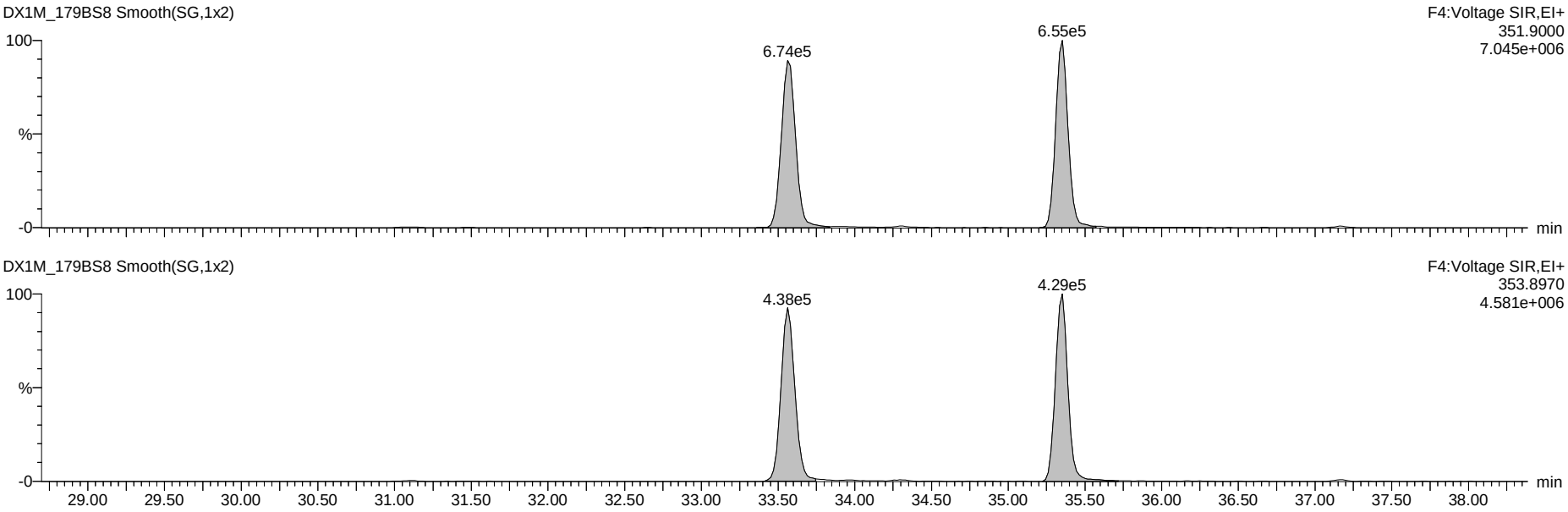
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Name: DX1M_179BS8, Date: 14-Dec-2011, Time: 15:31:57, ID: DX036E-CAL,,/01-04, Description: 1,,1.0uL CS-4

Total Penta-Furans



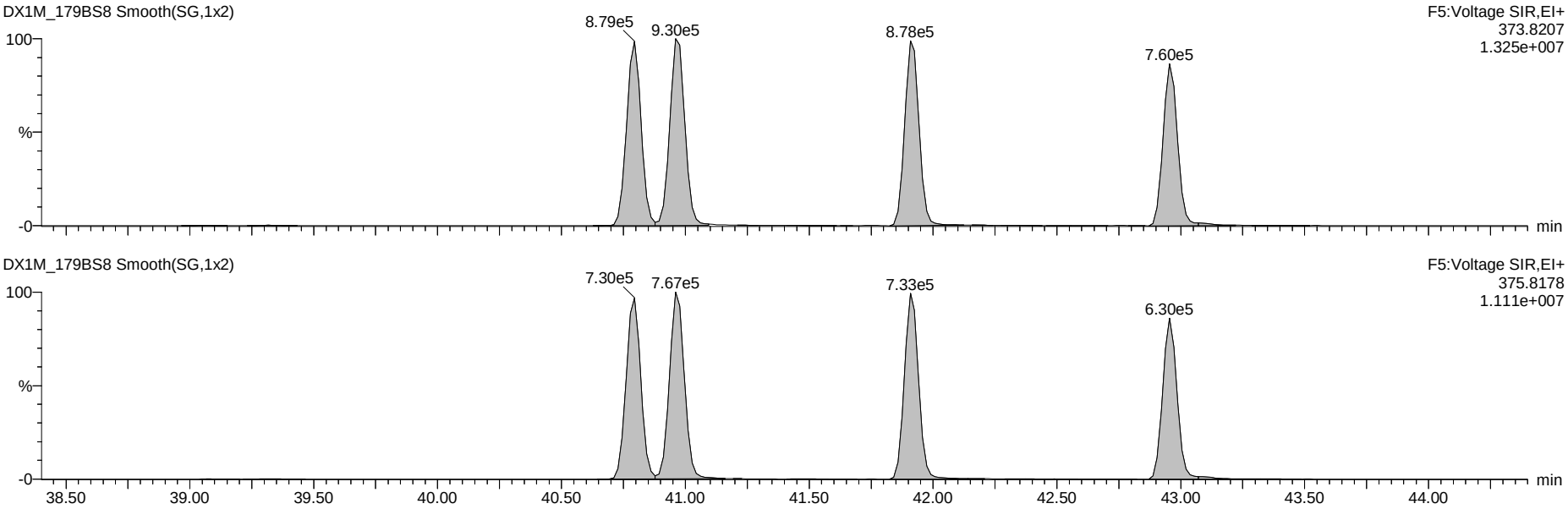
13C-Penta-Furans



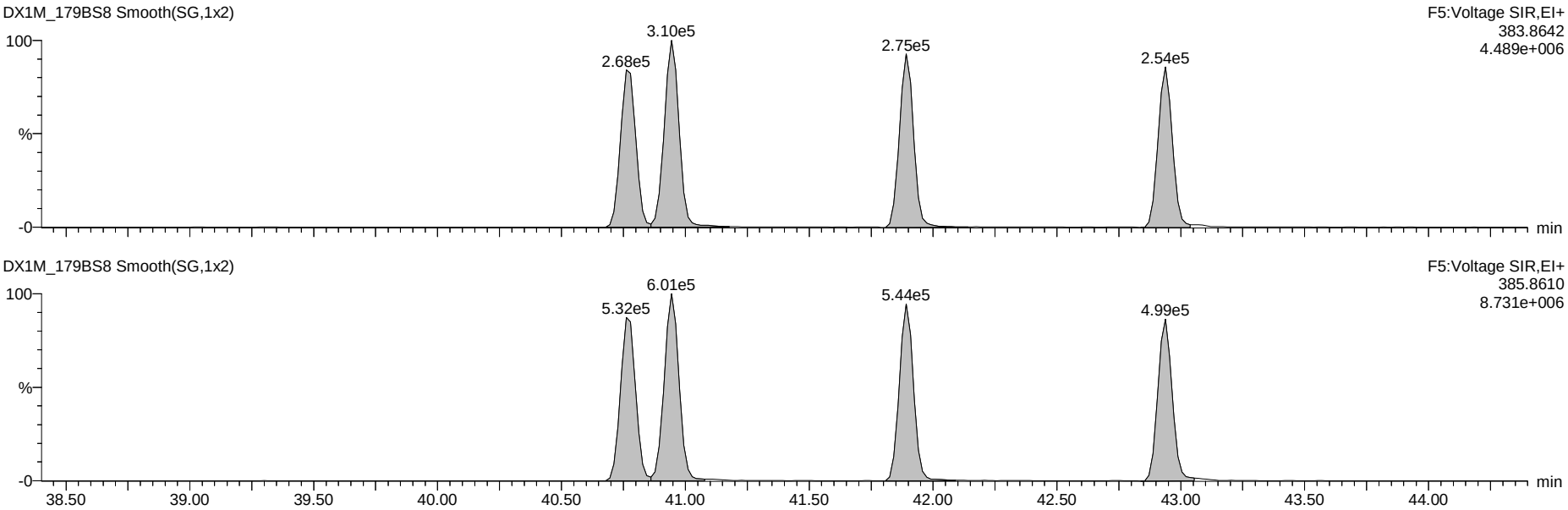
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Total Hexa-Furans



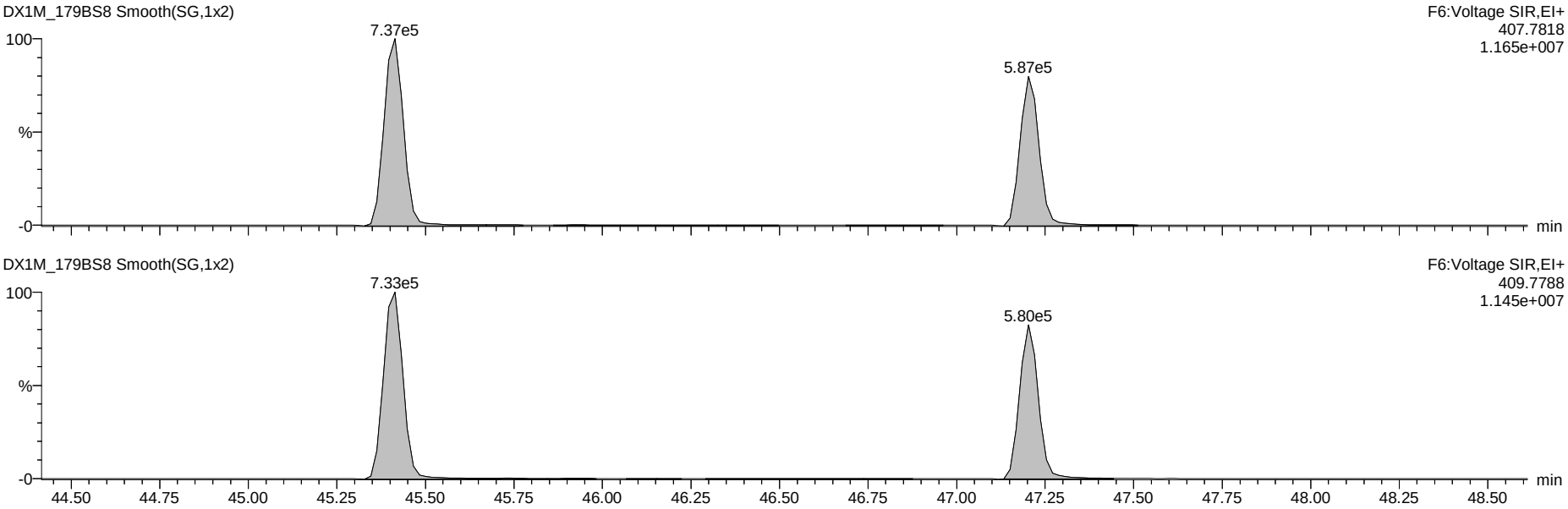
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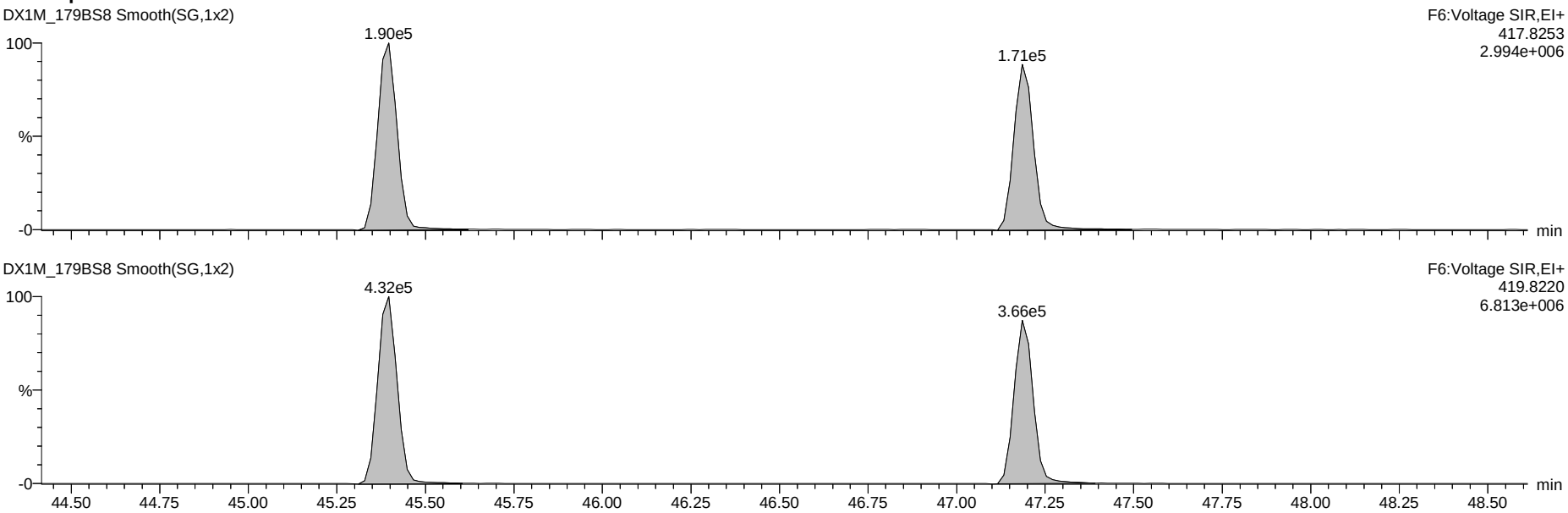
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Name: DX1M_179BS8, Date: 14-Dec-2011, Time: 15:31:57, ID: DX036E-CAL,,/01-04, Description: 1,,1.0uL CS-4

Total Hepta-Furans



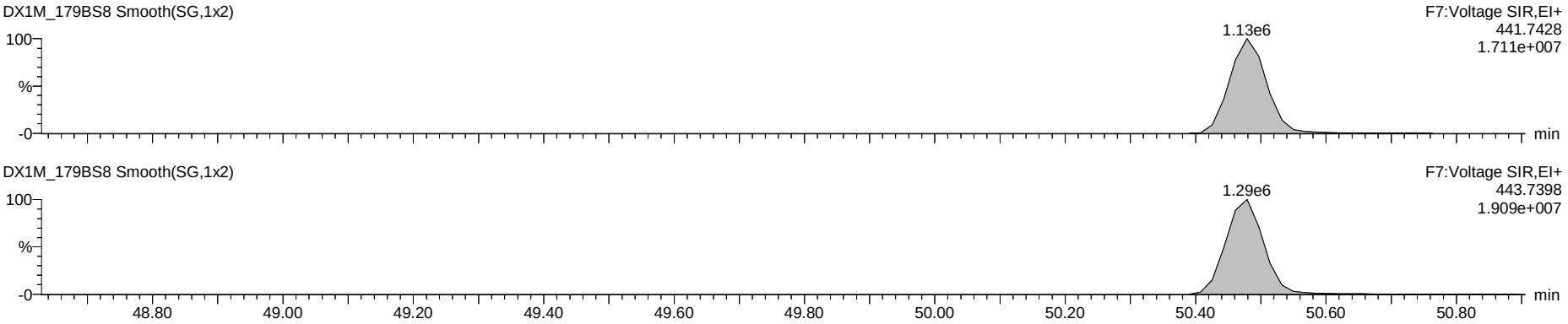
13C-Hepta-Furans



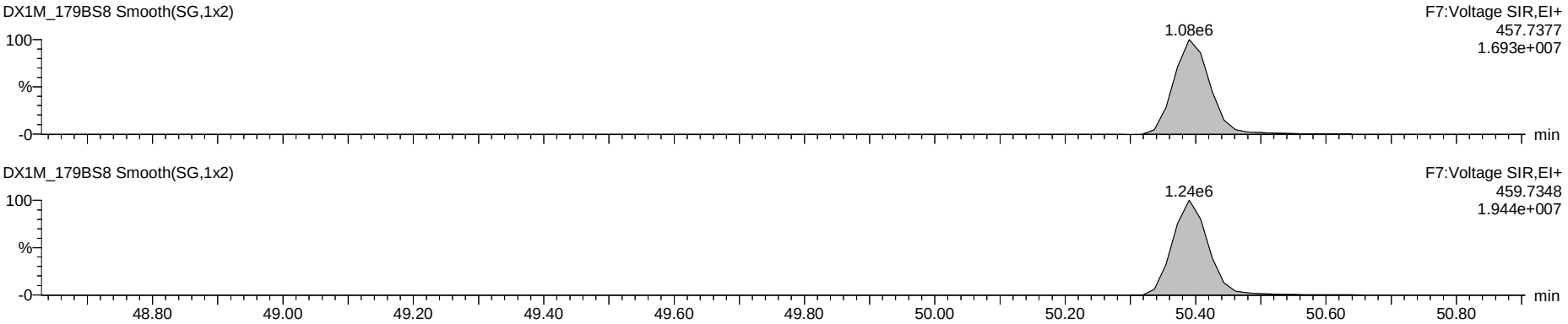
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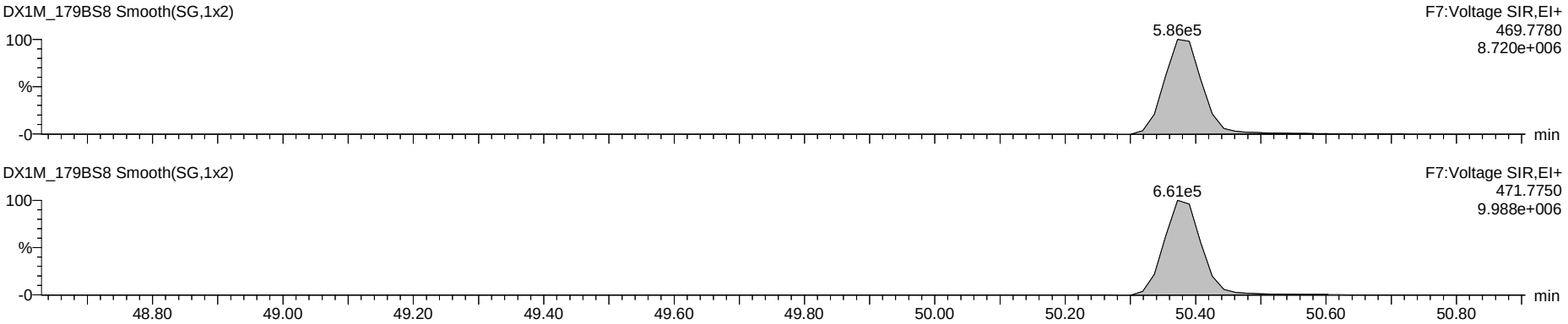
OCDF



OCDD



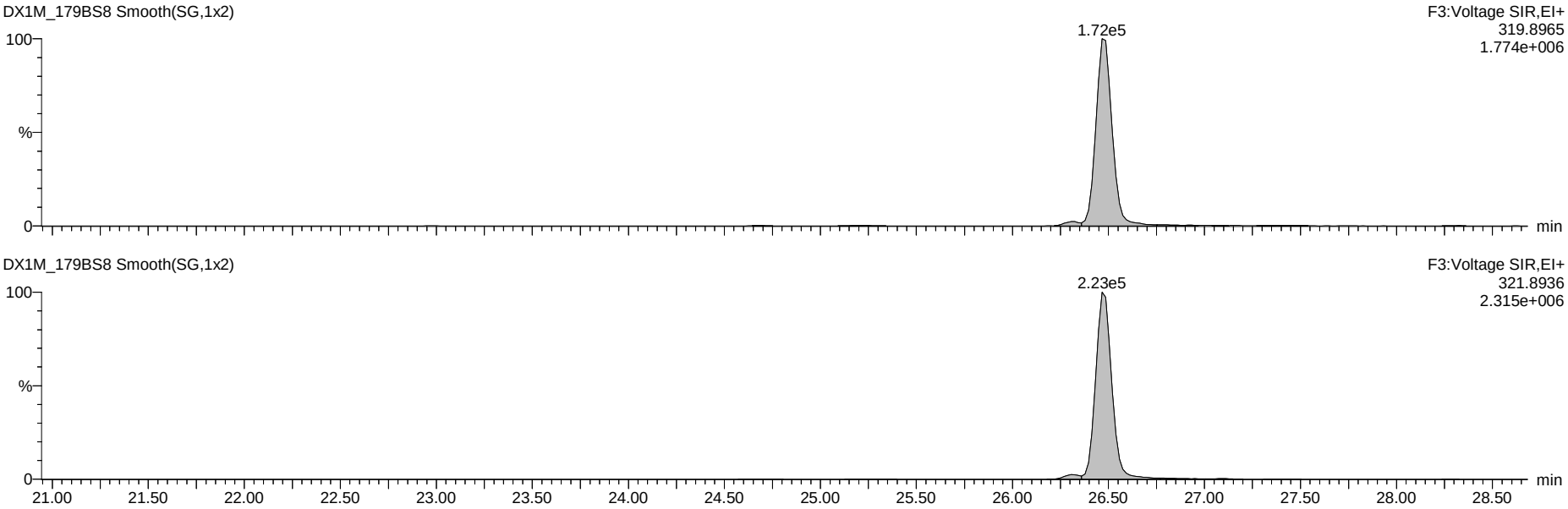
13C-OCDD



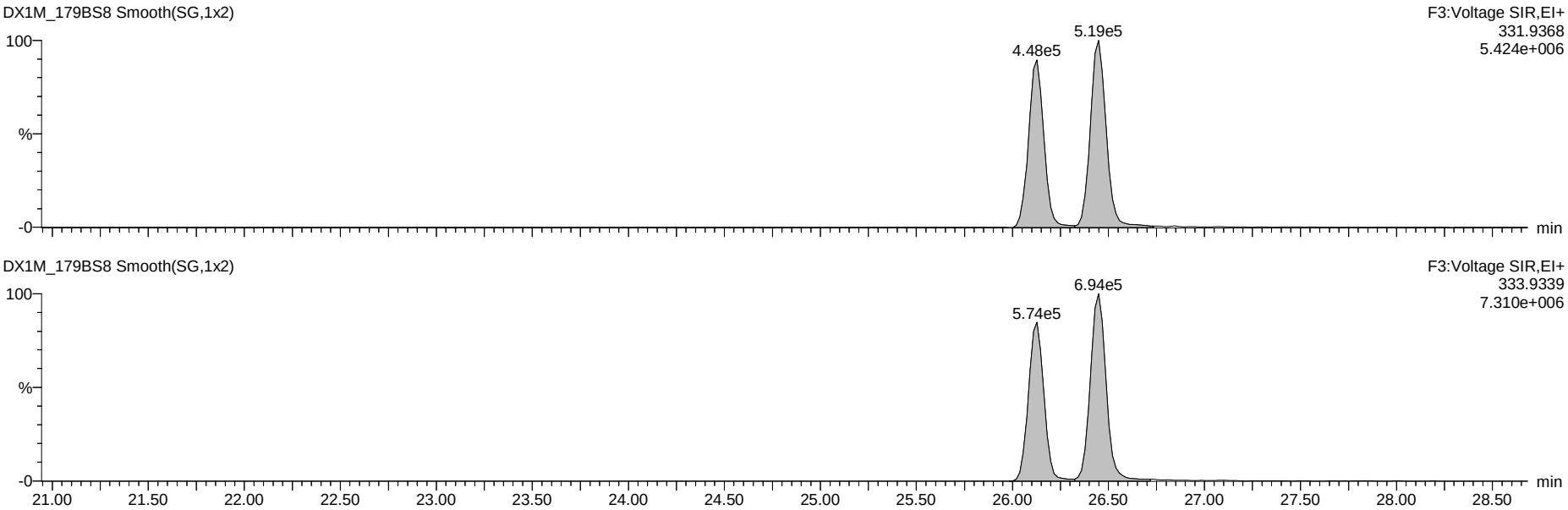
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Name: DX1M_179BS8, Date: 14-Dec-2011, Time: 15:31:57, ID: DX036E-CAL,,/01-04, Description: 1,,1.0uL CS-4

Total Tetra-Dioxins



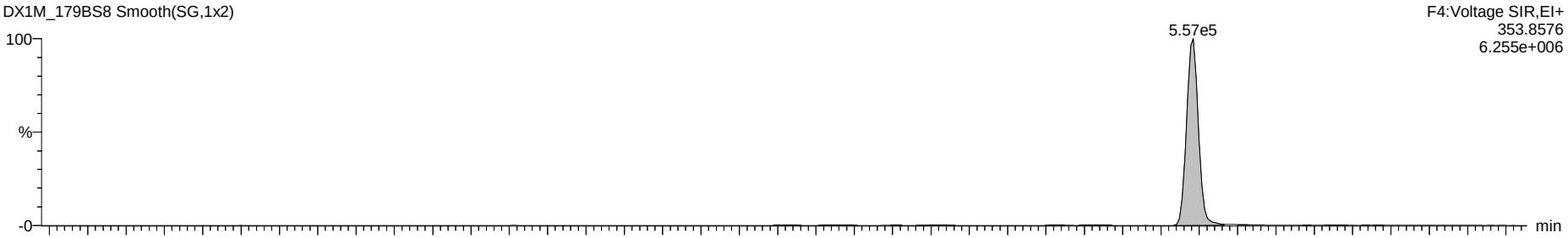
13C-Tetra-Dioxins

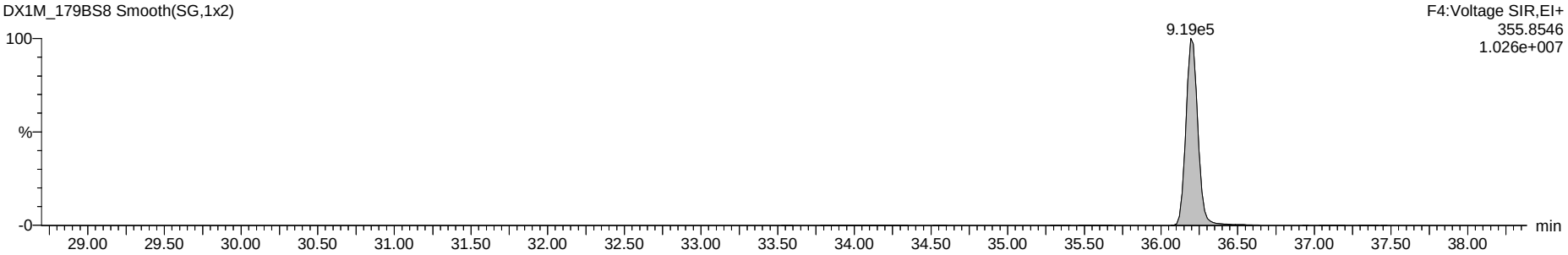


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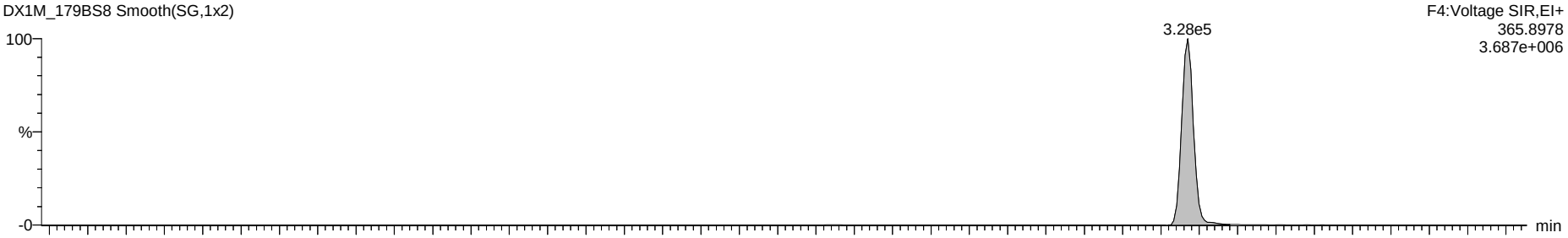
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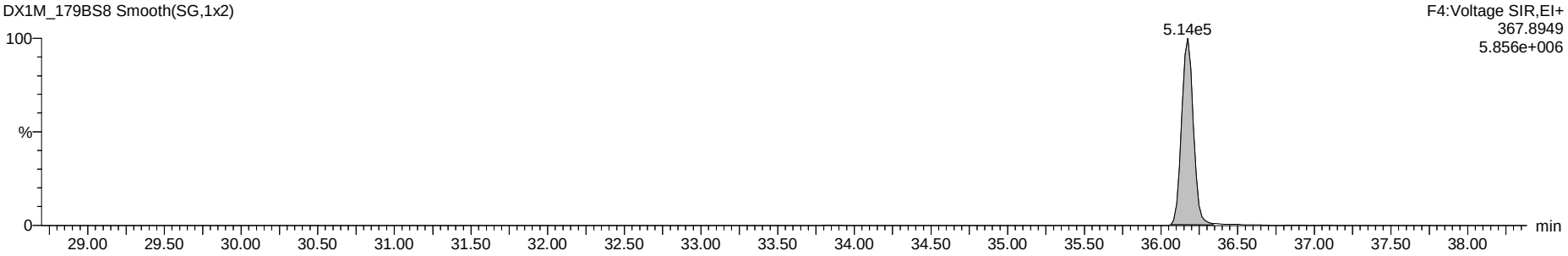
Total Penta-Dioxins





13C-Penta-Dioxins

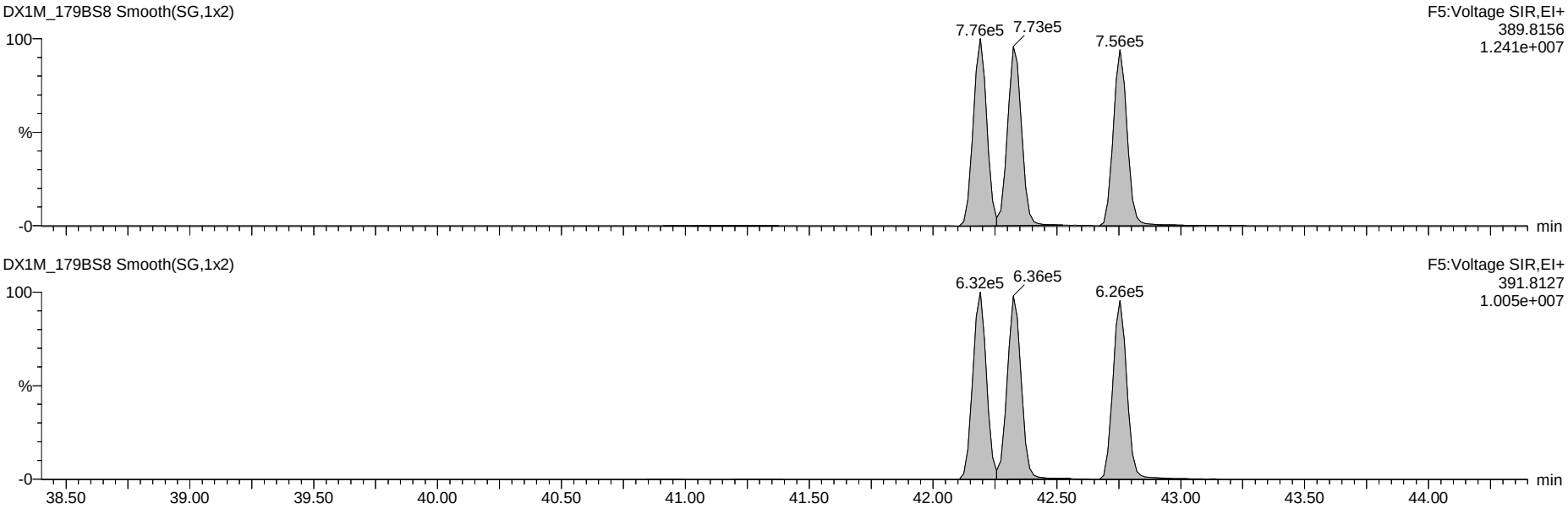




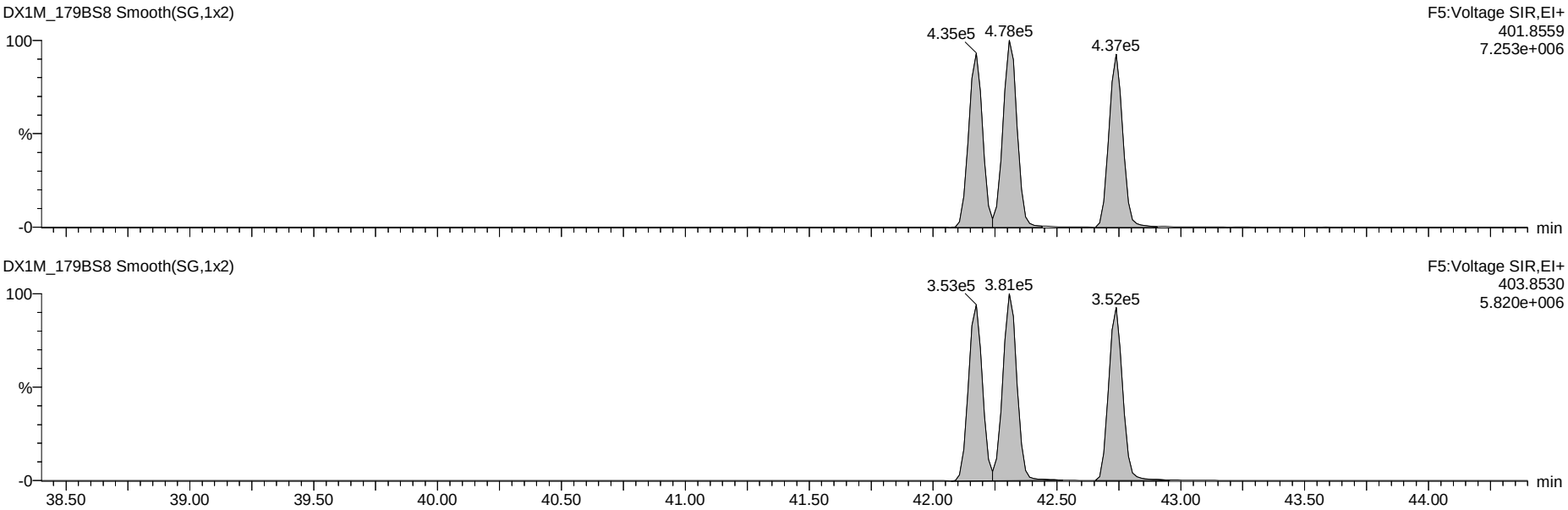
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Total Hexa-Dioxins



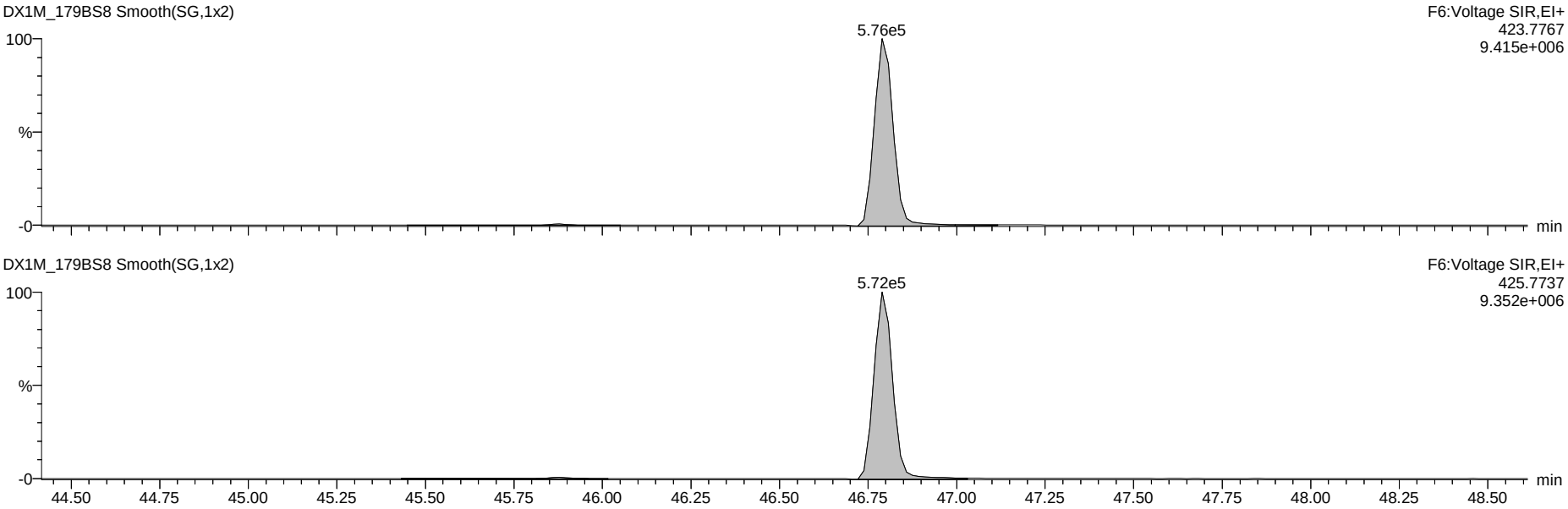
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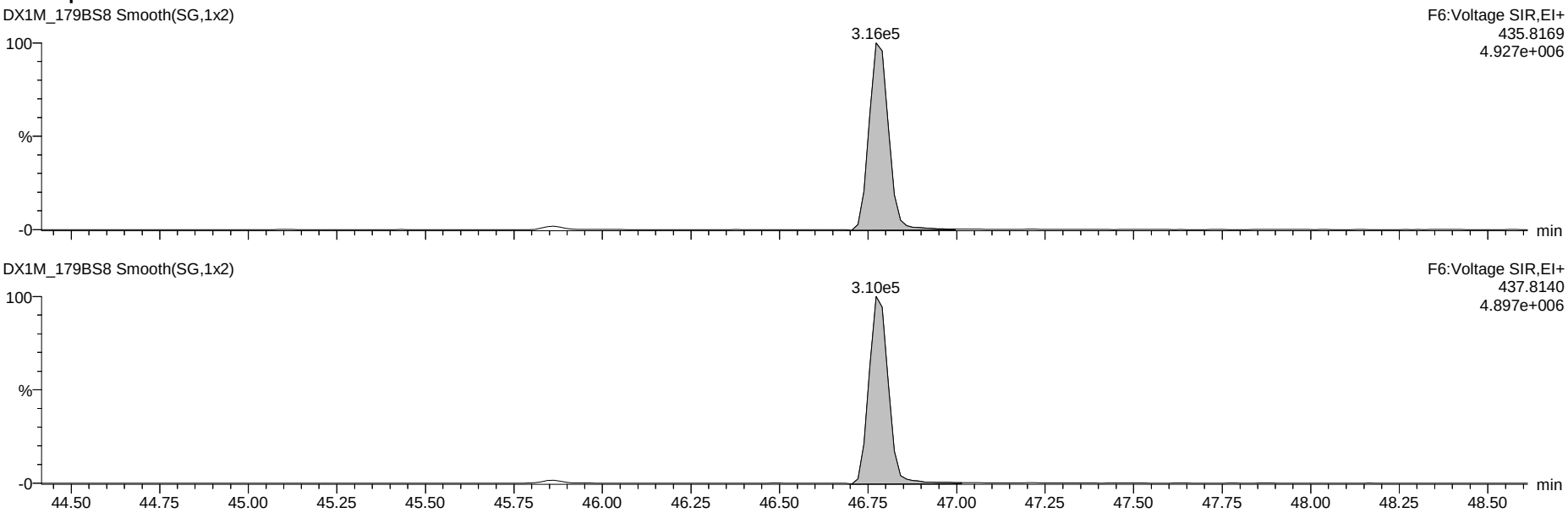
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Total Hepta-Dioxins



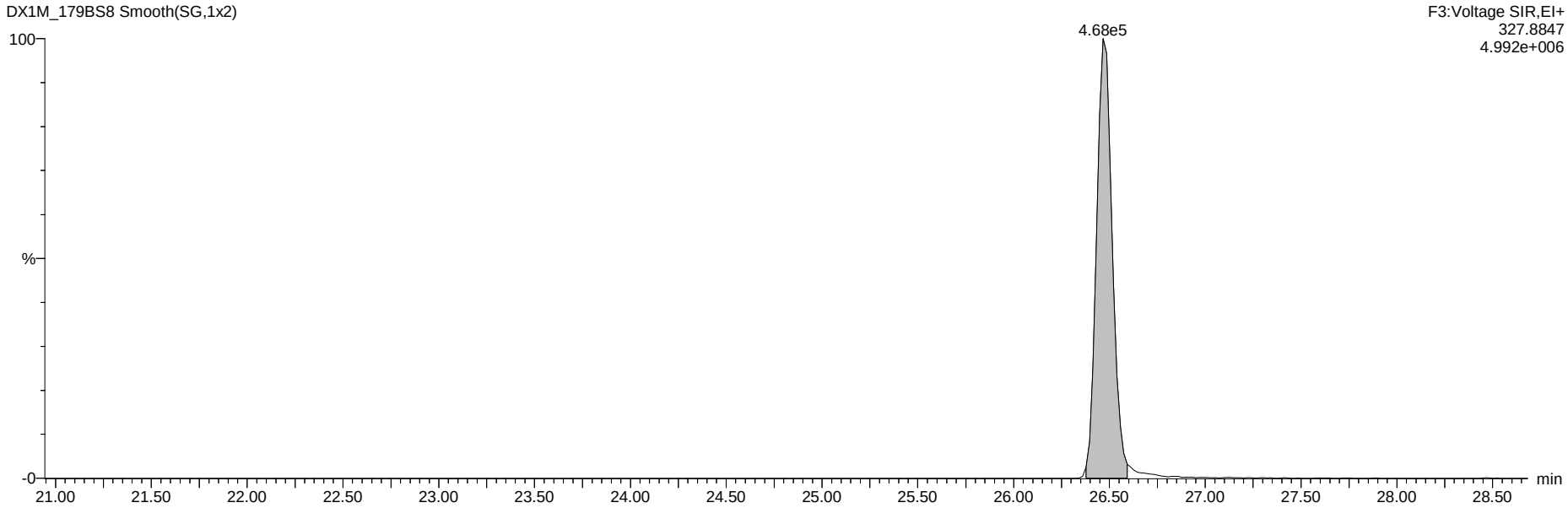
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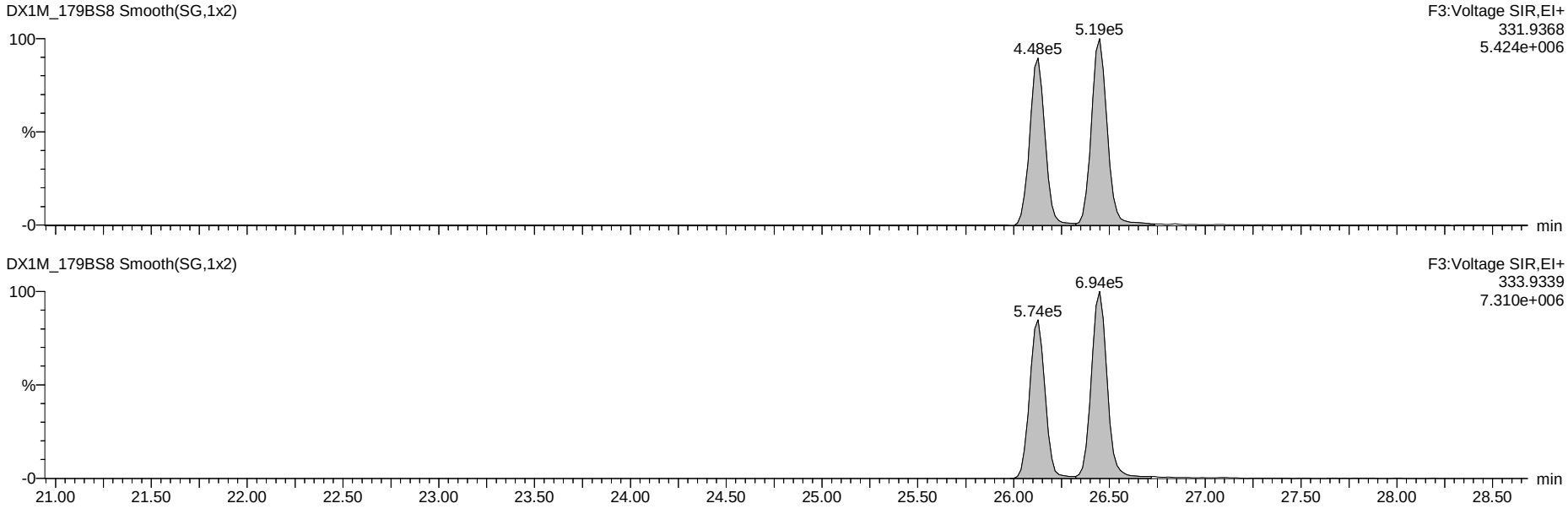
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Name: DX1M_179BS8, Date: 14-Dec-2011, Time: 15:31:57, ID: DX036E-CAL,,/01-04, Description: 1,,1.0uL CS-4

37Cl-2,3,7,8-TCDD



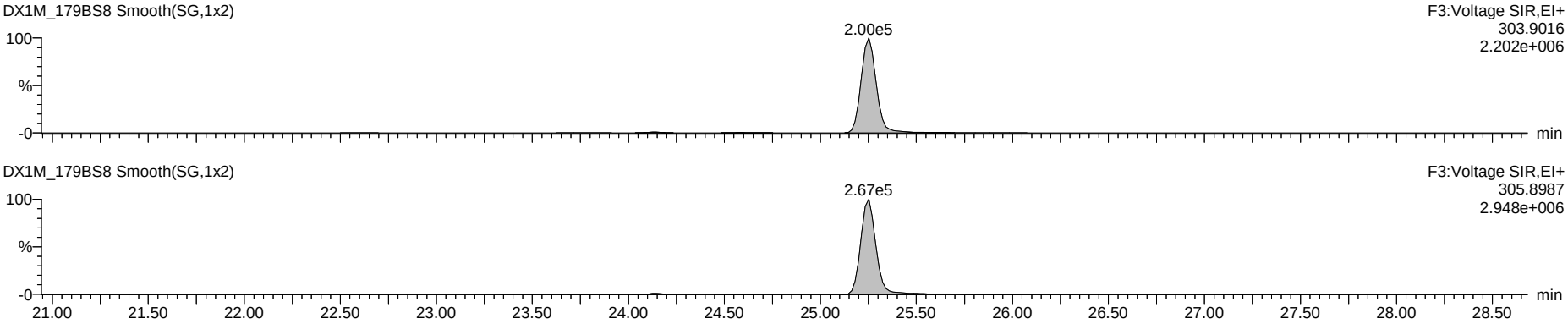
13C-Tetra-Dioxins



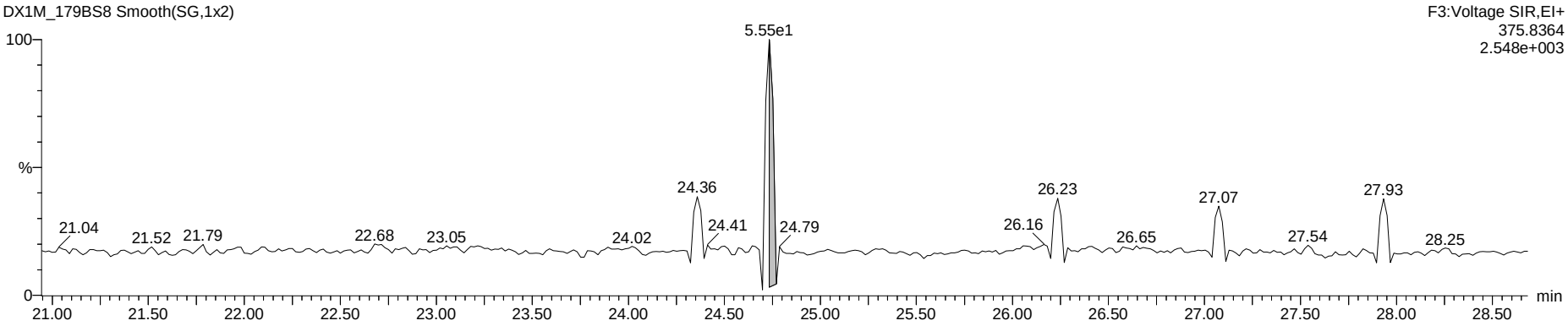
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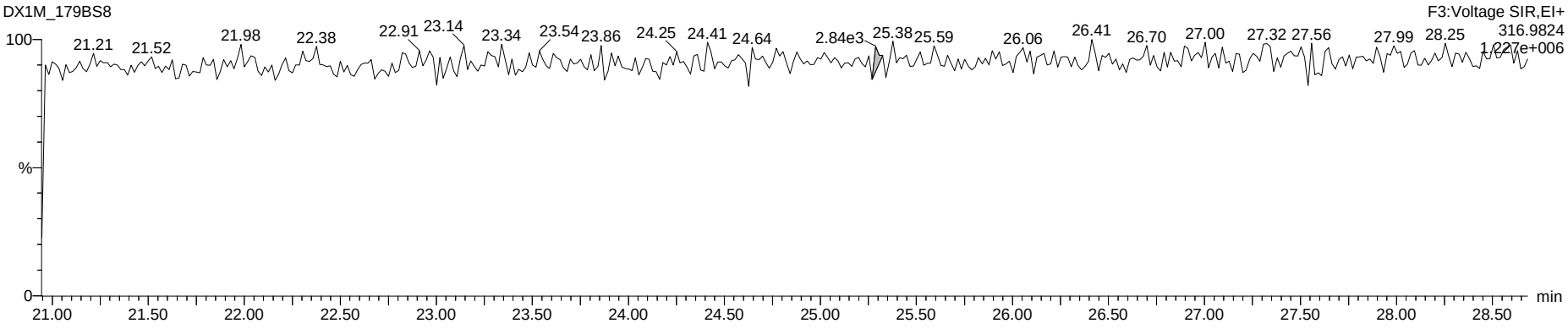
Total Tetra-Furans



Hexa DPE



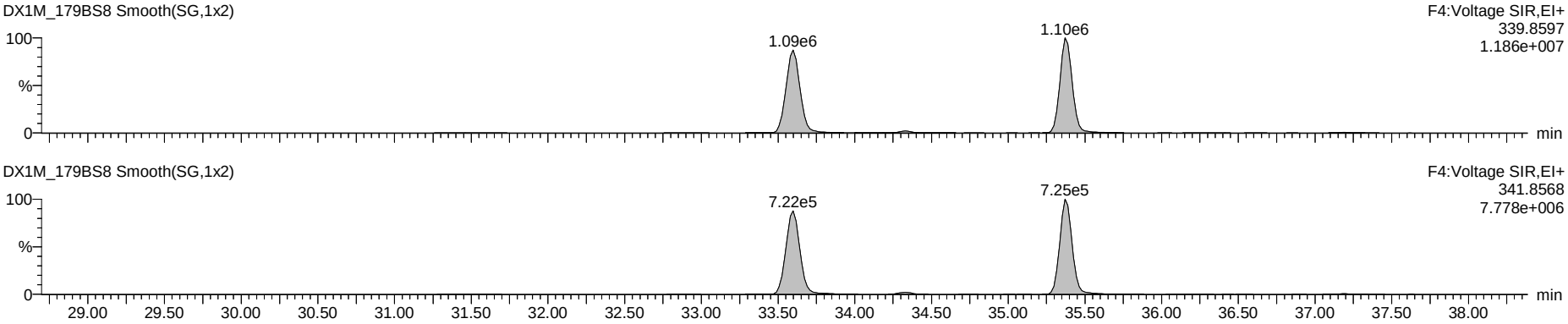
Tetra Lock



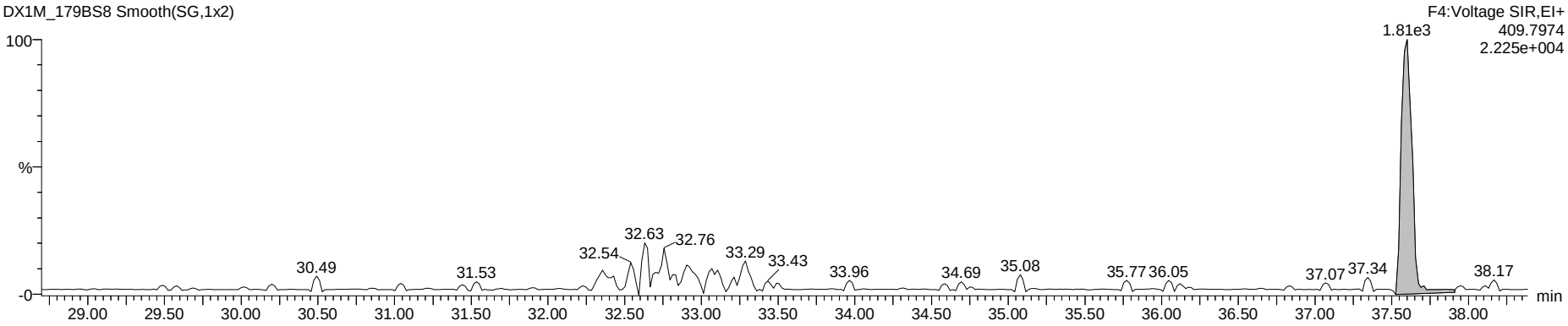
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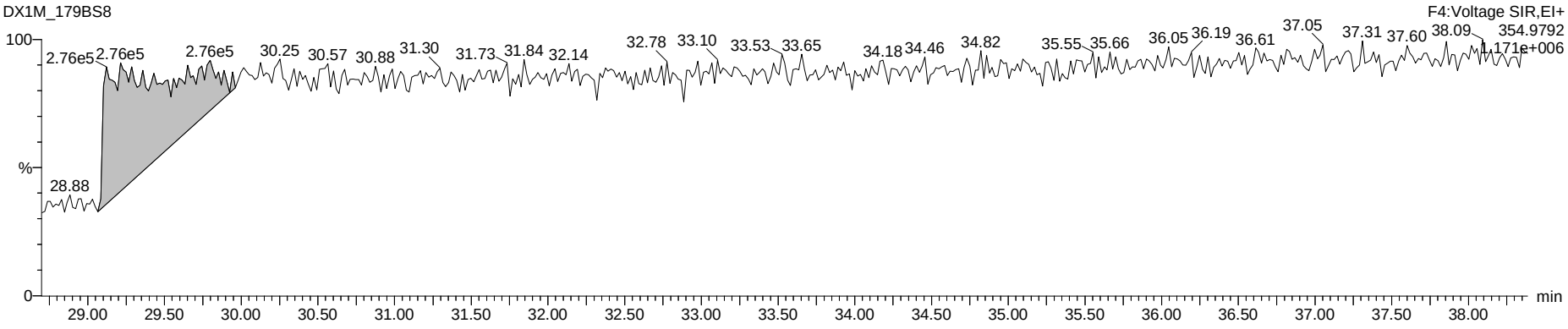
Total Penta-Furans



Hepta DPE



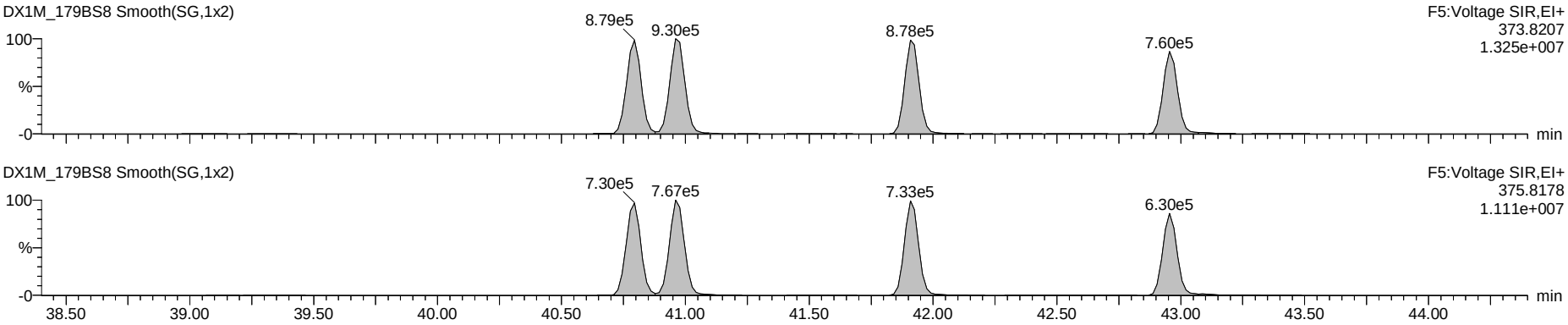
Penta Lock



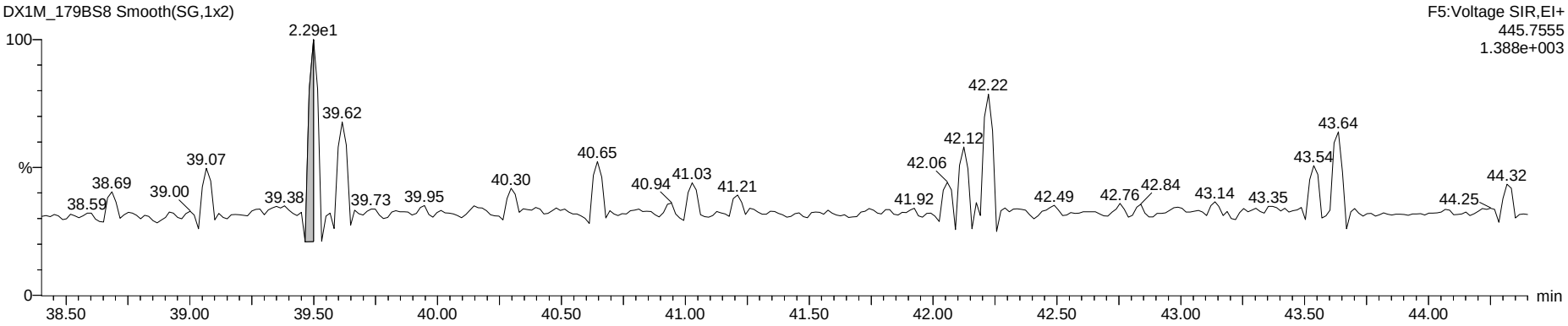
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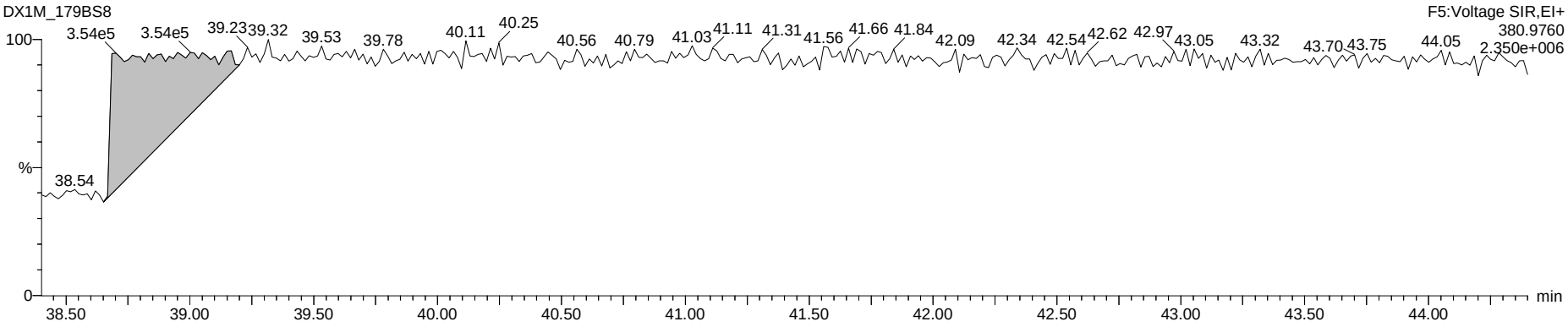
Total Hexa-Furans



Octa DPE



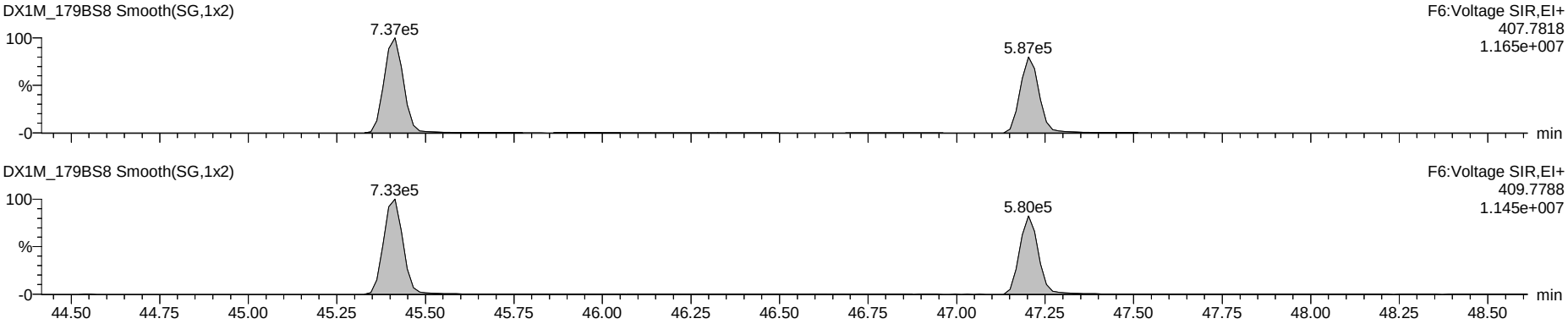
Hexa Lock



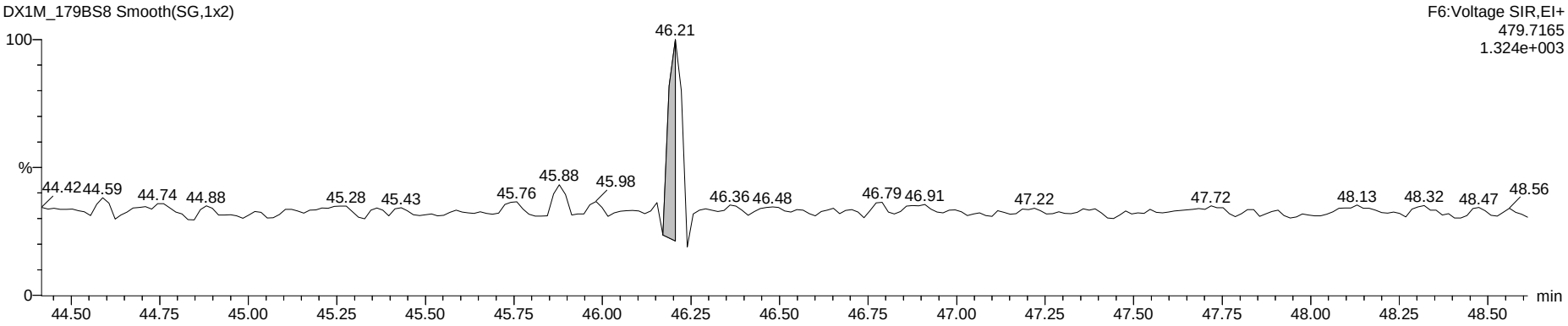
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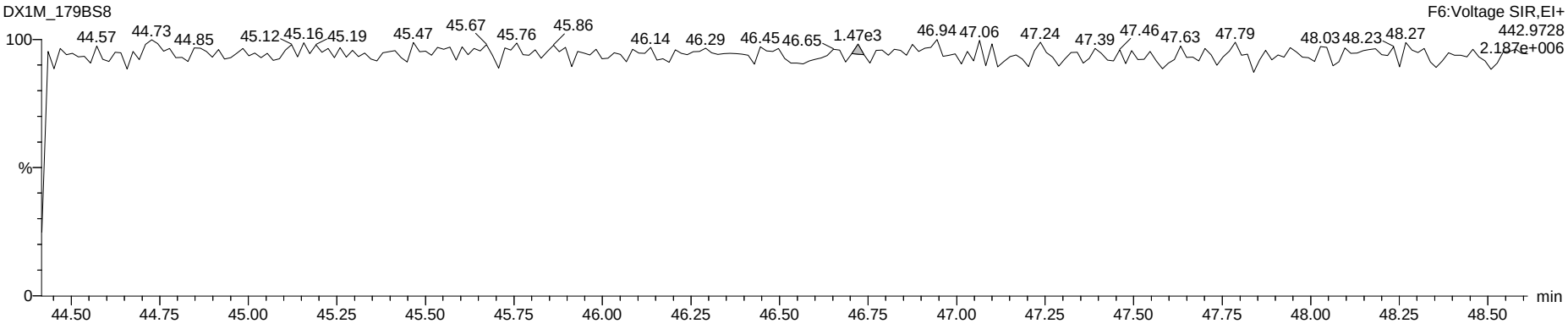
Total Hepta-Furans



Nona DPE



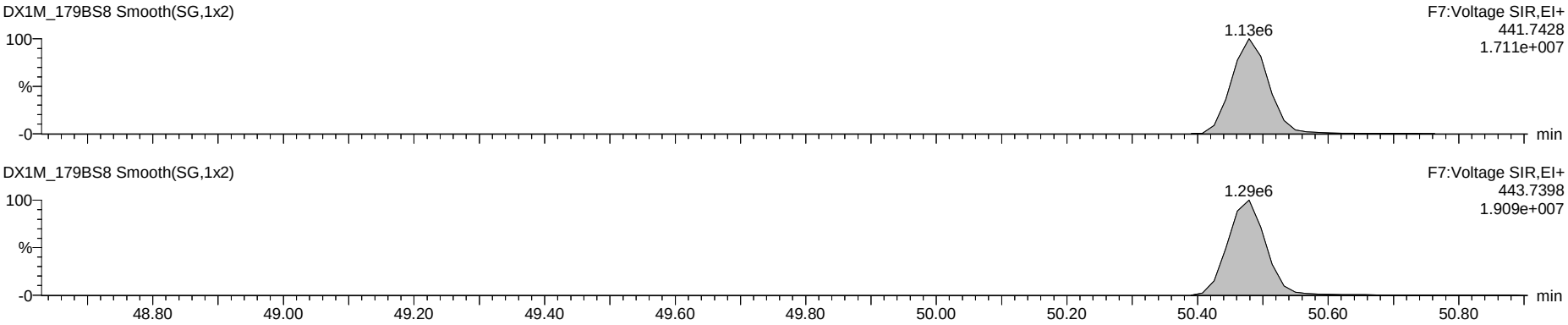
Hepta Lock



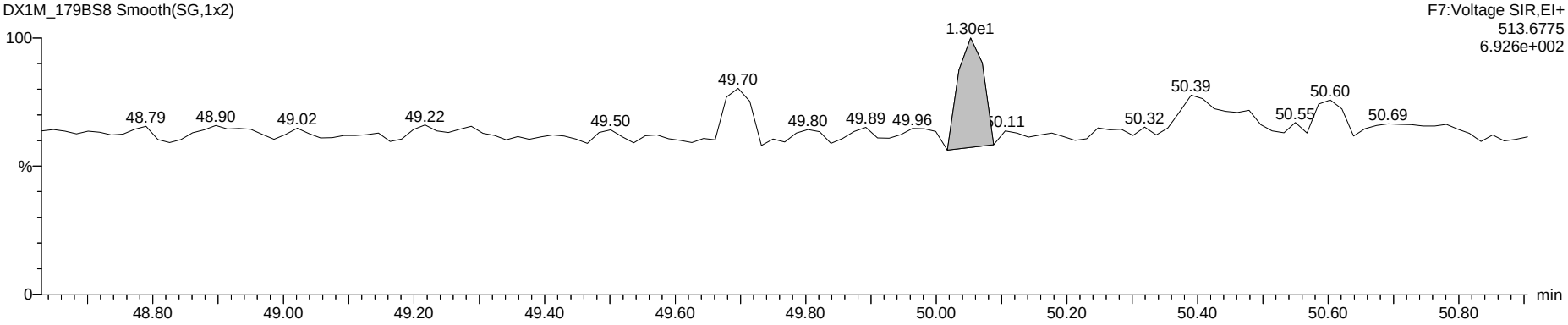
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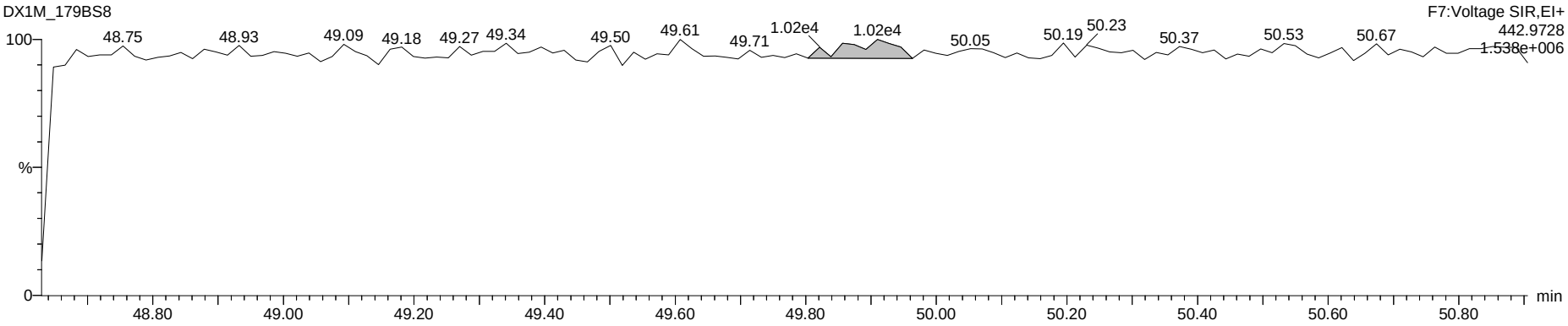
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX1M_179B-B.qld

Name: DX1M_179BS7, Date: 14-Dec-2011, Time: 14:38:28, ID: DX036F-CAL,,/02-02, Description: 1,,1.0uL CS-5

	Name	Amount	Resp	Ratio	fails?	RT	RRF	RRF Mean	RRF SD	RRF %Rel SD	S/N	1° S/N
1	2,3,7,8-TCDF	214.000	2.36e6	0.75	NO	25.23	0.777	0.7697	0.011	1.48	5093	25167
2	1,2,3,7,8-PeCDF	920.000	9.83e6	1.52	NO	33.60	0.900	0.8662	0.039	4.45	24552	46483
3	2,3,4,7,8-PeCDF	940.000	9.83e6	1.52	NO	35.37	0.925	0.8802	0.034	3.88	27804	53343
4	1,2,3,4,7,8-HxCDF	1000.000	8.78e6	1.20	NO	40.79	1.009	0.9969	0.026	2.61	52563	26321
5	1,2,3,6,7,8-HxCDF	950.000	9.28e6	1.21	NO	40.98	0.998	0.9824	0.012	1.24	55056	26720
6	2,3,4,6,7,8-HxCDF	1060.000	8.67e6	1.20	NO	41.91	0.915	0.9038	0.022	2.42	51962	26381
7	1,2,3,7,8,9-HxCDF	1050.000	7.62e6	1.20	NO	42.95	0.874	0.8660	0.011	1.24	47208	25716
8	1,2,3,4,6,7,8-HpCDF	1000.000	7.94e6	0.99	NO	45.41	1.170	1.1582	0.042	3.62	68112	35250
9	1,2,3,4,7,8,9-HpCDF	1000.000	6.37e6	1.00	NO	47.20	1.051	1.0440	0.035	3.34	55339	29060
10	OCDF	2080.000	1.38e7	0.89	NO	50.50	0.928	0.8822	0.048	5.50	1043812	372197
11	2,3,7,8-TCDD	200.000	2.04e6	0.75	NO	26.47	0.834	0.8219	0.027	3.27	20073	29797
12	1,2,3,7,8-PeCDD	1040.000	8.02e6	0.60	NO	36.21	0.851	0.8316	0.025	3.02	47471	64215
13	1,2,3,4,7,8-HxCDD	1130.000	7.80e6	1.22	NO	42.19	0.787	0.7830	0.016	2.02	63297	54993
14	1,2,3,6,7,8-HxCDD	1110.000	7.78e6	1.22	NO	42.32	0.737	0.7344	0.015	1.99	59397	52659
15	1,2,3,7,8,9-HxCDD	1080.000	7.63e6	1.22	NO	42.75	0.773	0.7723	0.012	1.59	60007	51944
16	1,2,3,4,6,7,8-HpCDD	950.000	6.28e6	1.03	NO	46.79	0.967	0.9617	0.016	1.63	28184	51147
17	OCDD	2000.000	1.29e7	0.87	NO	50.41	0.904	0.9112	0.027	2.98	906937	575521
18	13C-2,3,7,8-TCDF	100.000	1.42e6	0.76	NO	25.22	1.413	1.3572	0.036	2.62	2872	2902
19	13C-1,2,3,7,8-PeCDF	100.000	1.19e6	1.53	NO	33.56	1.181	1.0558	0.080	7.55	3319	4204
20	13C-2,3,4,7,8-PeCDF	100.000	1.13e6	1.56	NO	35.35	1.126	1.0140	0.076	7.52	3643	4406
21	13C-1,2,3,4,7,8-HxCDF	100.000	8.70e5	0.50	NO	40.78	0.979	1.0091	0.019	1.87	2169	2390
22	13C-1,2,3,6,7,8-HxCDF	100.000	9.79e5	0.51	NO	40.94	1.102	1.1381	0.023	2.00	2449	2697
23	13C-2,3,4,6,7,8-HxCDF	100.000	8.93e5	0.51	NO	41.89	1.005	1.0336	0.018	1.70	2368	2676
24	13C-1,2,3,7,8,9-HxCDF	100.000	8.31e5	0.51	NO	42.94	0.935	0.9303	0.016	1.71	2234	2512
25	13C-1,2,3,4,6,7,8-HpCDF	100.000	6.79e5	0.45	NO	45.40	0.764	0.7778	0.011	1.36	11529	6203
26	13C-1,2,3,4,7,8,9-HpCDF	100.000	6.05e5	0.44	NO	47.16	0.681	0.6907	0.010	1.45	10215	5593
27	13C-2,3,7,8-TCDD	100.000	1.23e6	0.77	NO	26.43	1.220	1.1507	0.050	4.32	2229	8160
28	13C-1,2,3,7,8-PeCDD	100.000	9.06e5	0.62	NO	36.17	0.902	0.7972	0.067	8.35	12914	7991
29	13C-1,2,3,4,7,8-HxCDD	100.000	8.78e5	1.25	NO	42.17	0.988	0.9839	0.013	1.33	4576	7811
30	13C-1,2,3,6,7,8-HxCDD	100.000	9.51e5	1.23	NO	42.31	1.070	1.0807	0.012	1.16	4780	8359
31	13C-1,2,3,4,6,7,8-HpCDD	100.000	6.84e5	1.02	NO	46.77	0.769	0.7846	0.011	1.38	19932	11408
32	13C-OCDD	200.000	1.43e6	0.89	NO	50.39	0.806	0.7795	0.022	2.76	102087	132100
33	13C-1,2,3,4-TCDD	100.000	1.00e6	0.77	NO	26.11	100...	10075.1967	137.442	1.36	1926	6908
34	13C-1,2,3,7,8,9-HxCDD	100.000	8.88e5	1.23	NO	42.74	886...	7508.7528	877.794	11.69	4522	7829
35	37Cl-2,3,7,8-TCDD	200.000	2.47e6			26.47	1.230	1.1539	0.084	7.32	8453	
36	Total Tetra-Furans	218.800						0.7697	0.011	1.48		
37	Total Tetra-Dioxins	211.800						0.8219	0.027	3.27		
38	Total Penta-Furans	1000.000						0.8662	0.039	4.45		
39	Total Penta-Dioxins	1131.000						0.8316	0.025	3.02		
40	Total Hexa-Furans	1000.000						0.9969	0.026	2.61		
41	Total Hexa-Dioxins	1000.000						0.7830	0.016	2.02		
42	Total Hepta-Furans	1000.000						1.1582	0.042	3.62		
43	Total Hepta-Dioxins	1000.000						0.9617	0.016	1.63		
44	Hexa DPE	0.000	6.80e1			26.31	0.000				33	
45	Hepta DPE	0.000	9.30e3			37.60	0.000				2103	
46	Octa DPE	0.000	3.85e1			40.11	0.000				16	
47	Nona DPE	0.000	3.98e1			47.89	0.000				21	
48	Deca DPE	0.000	1.48e1			50.41	0.000				10	
49	Tetra Lock	0.000	9.79e3			25.61	0.000				1	
50	Penta Lock	0.000	1.90e5			29.82	0.000				1	
51	Hexa Lock	0.000	6.12e5			39.45	0.000				1	
52	Hepta Lock	0.000	6.75e3			46.62	0.000				1	
53	Octa Lock	0.000	8.42e3			49.80	0.000				1	
54	13C-Tetra-Furans	100.000						1.3572	0.036	2.62		
55	13C-Tetra-Dioxins	100.000						1.1507	0.050	4.32		

PV'd by RT 15-Dec-2011

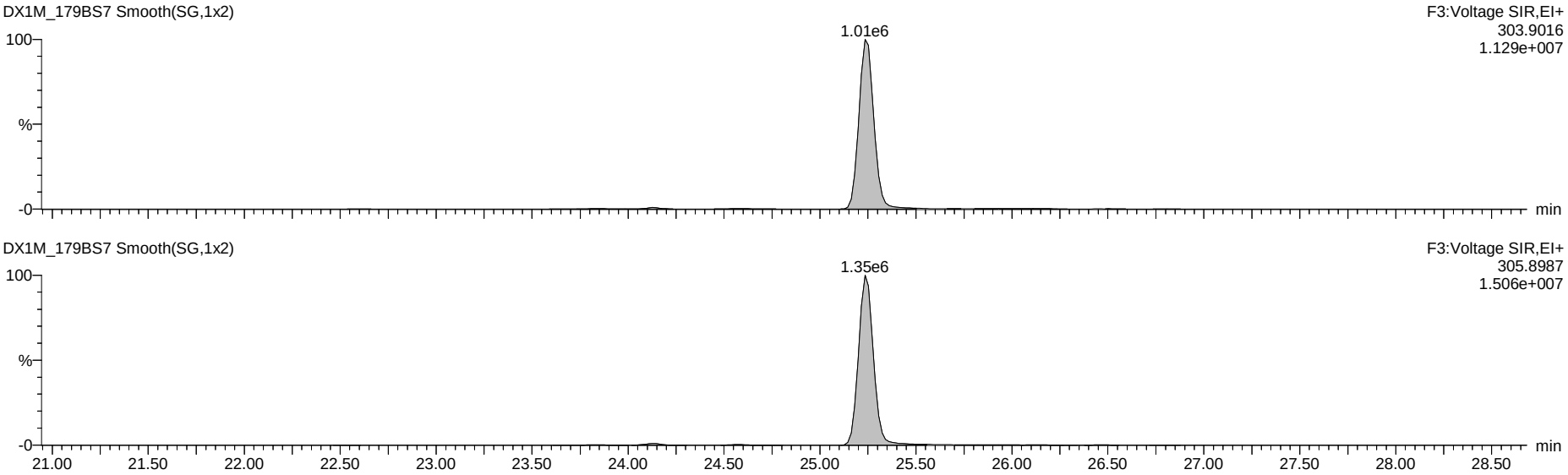
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Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX1M_179B-A.qld

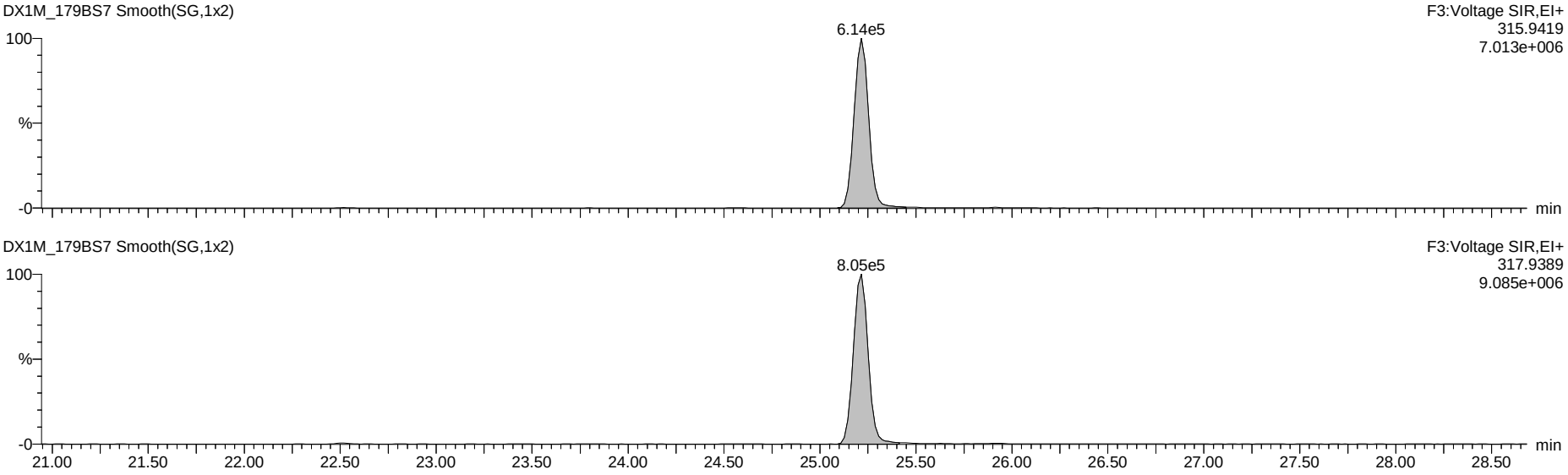
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Name: DX1M_179BS7, Date: 14-Dec-2011, Time: 14:38:28, ID: DX036F-CAL,,/02-02, Description: 1,,1.0uL CS-5

Total Tetra-Furans



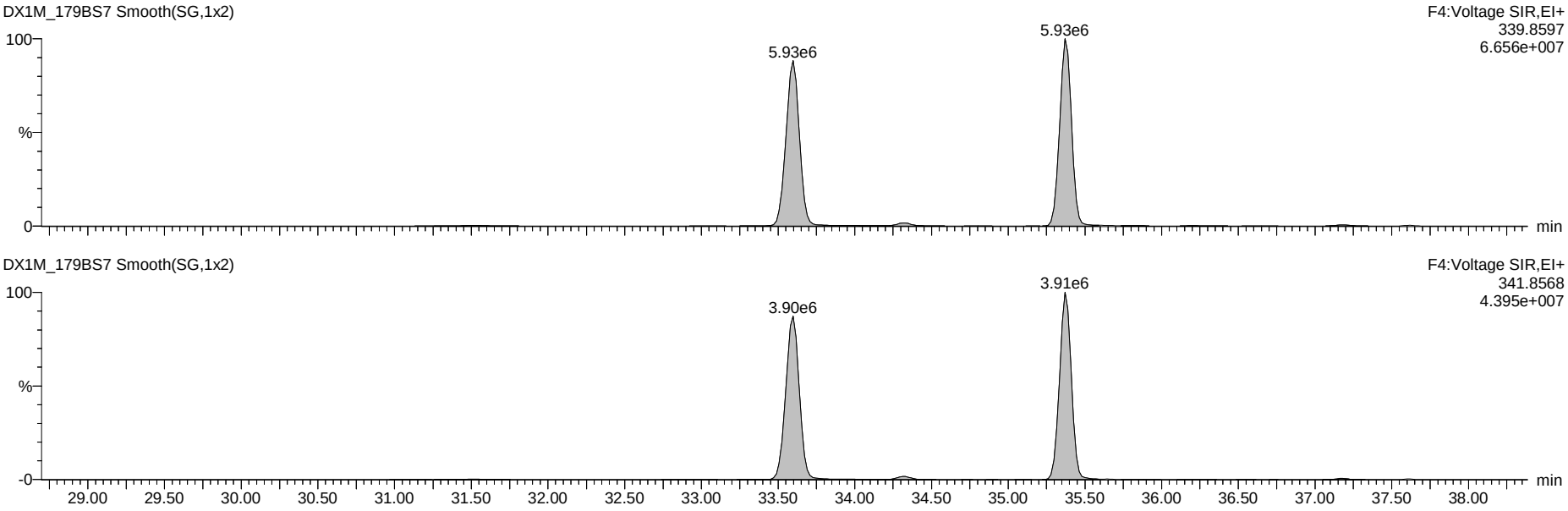
13C-Tetra-Furans



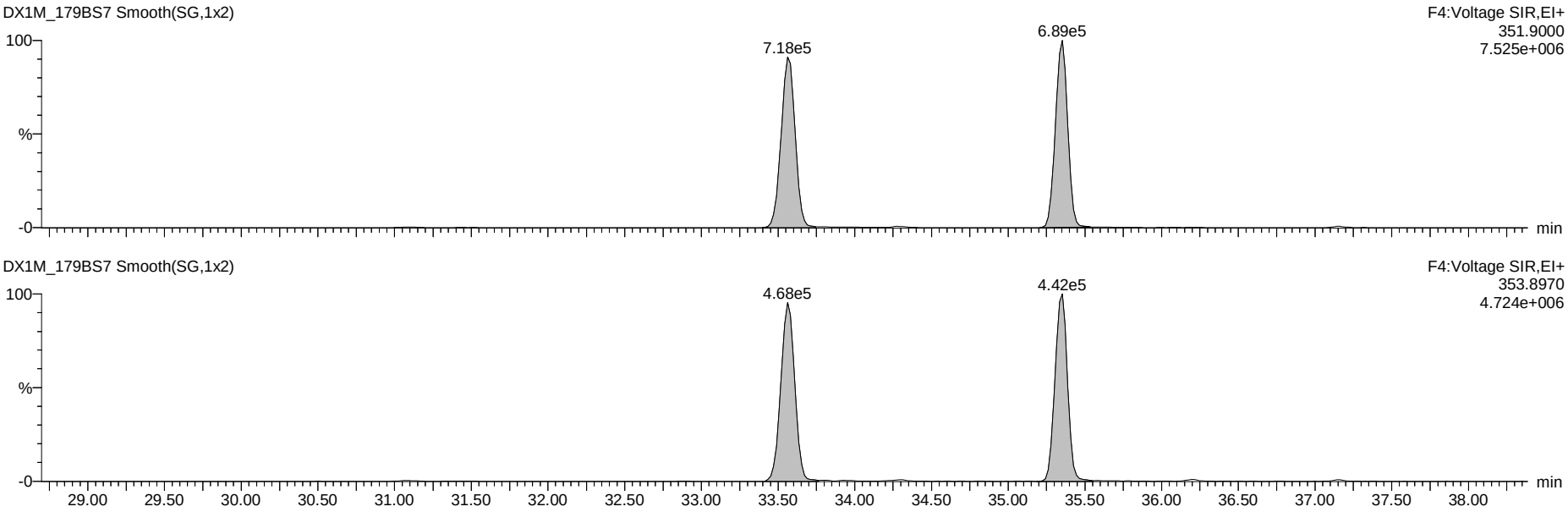
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Name: DX1M_179BS7, Date: 14-Dec-2011, Time: 14:38:28, ID: DX036F-CAL,,/02-02, Description: 1,,1.0uL CS-5

Total Penta-Furans



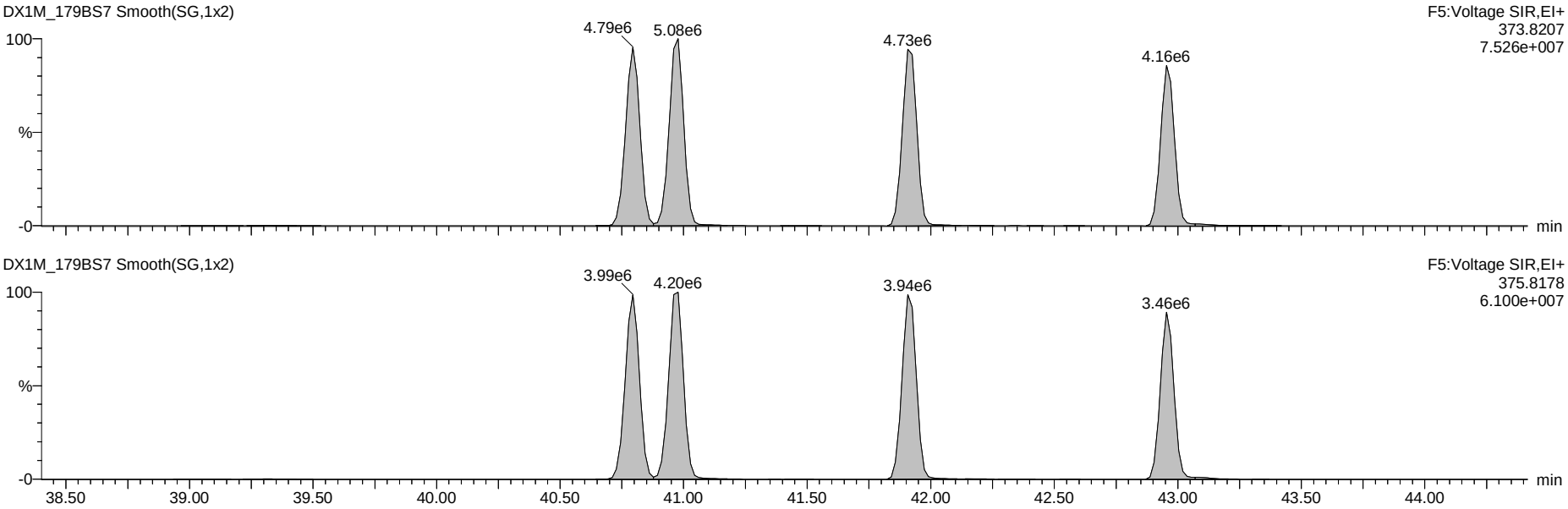
13C-Penta-Furans



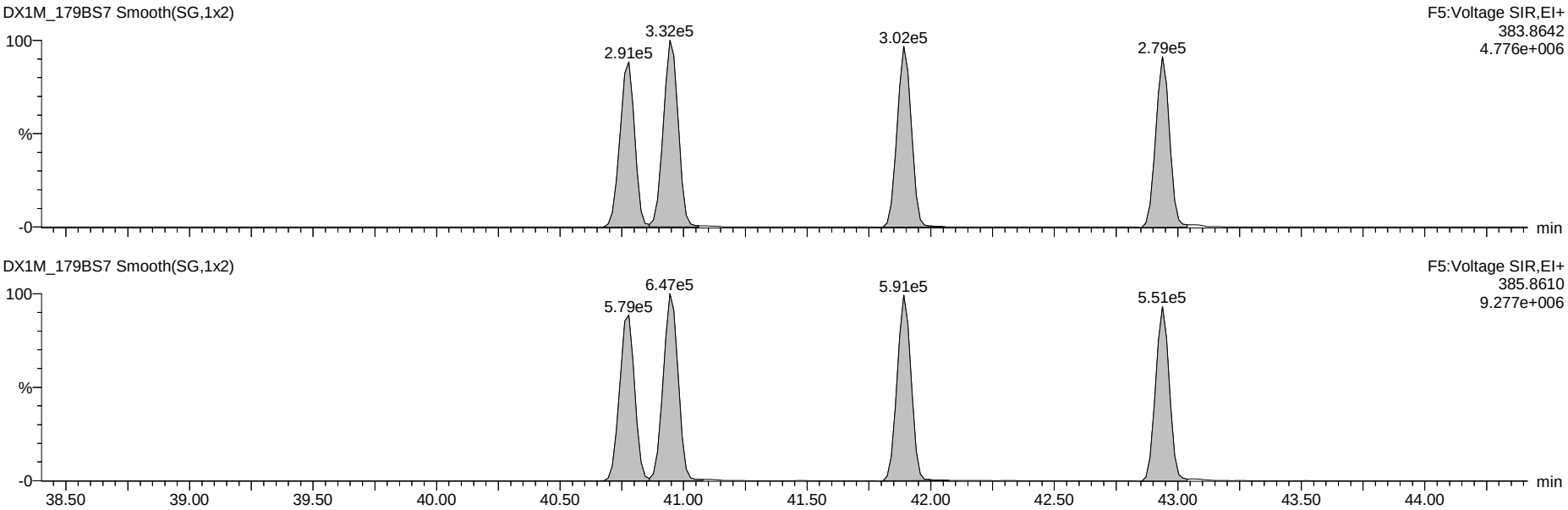
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Total Hexa-Furans



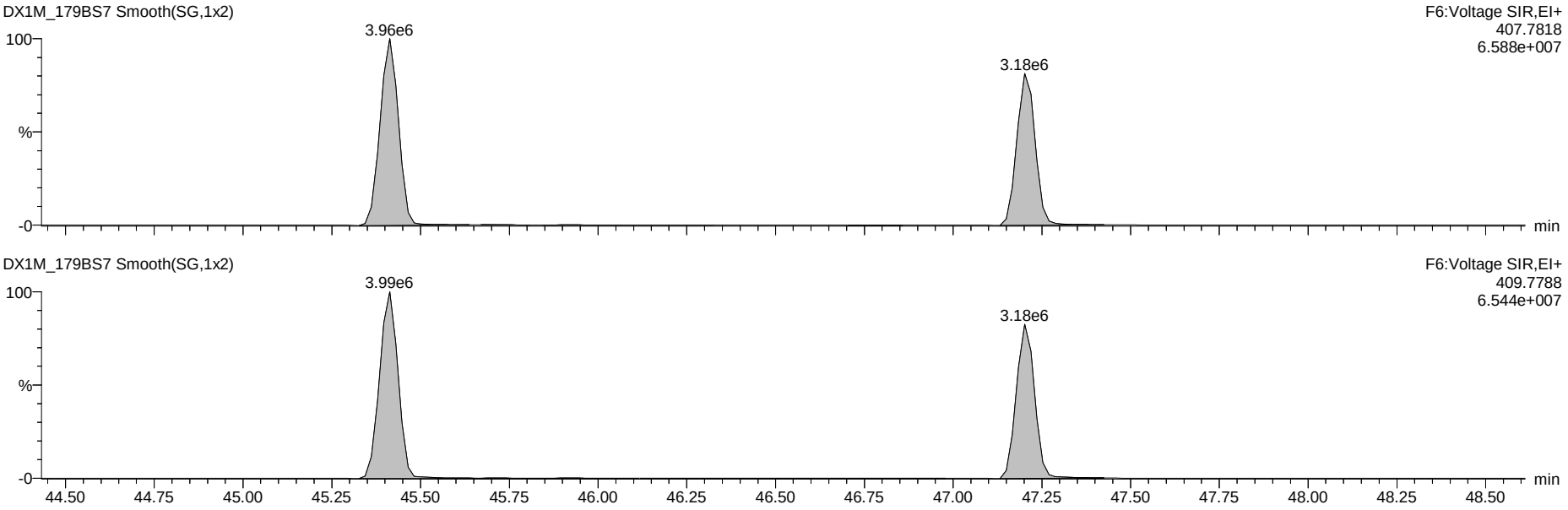
13C-Hexa-Furans



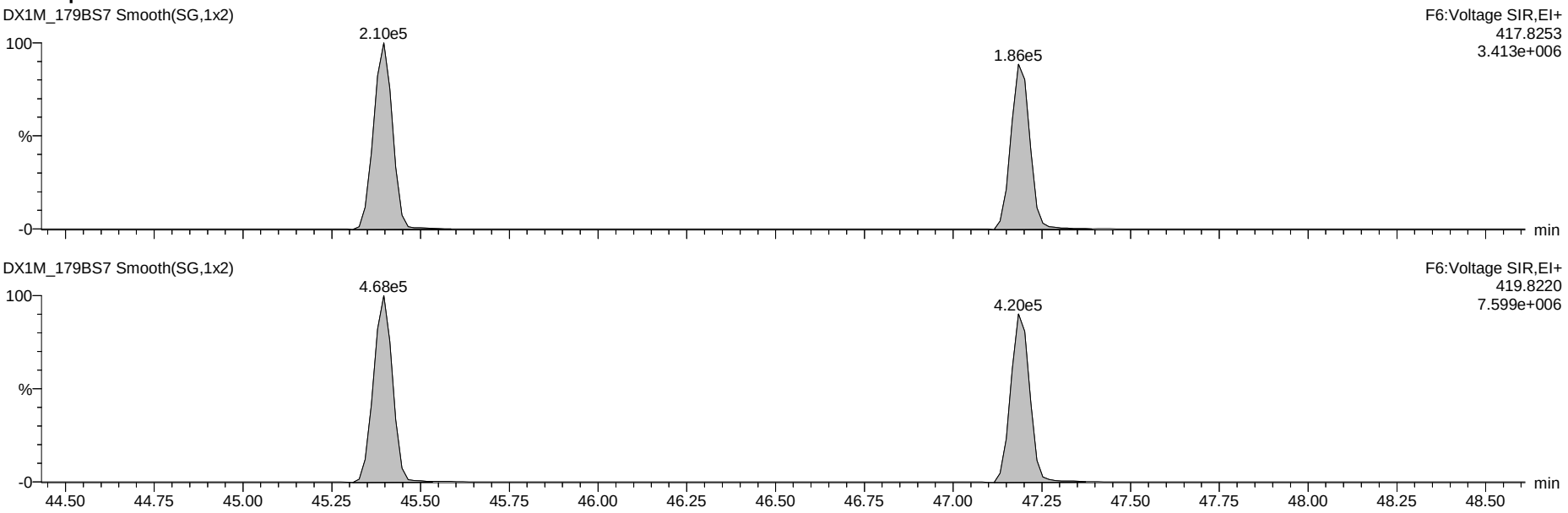
Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX1M_179B-A.qld

Name: DX1M_179BS7, Date: 14-Dec-2011, Time: 14:38:28, ID: DX036F-CAL,,/02-02, Description: 1,,1.0uL CS-5

Total Hepta-Furans



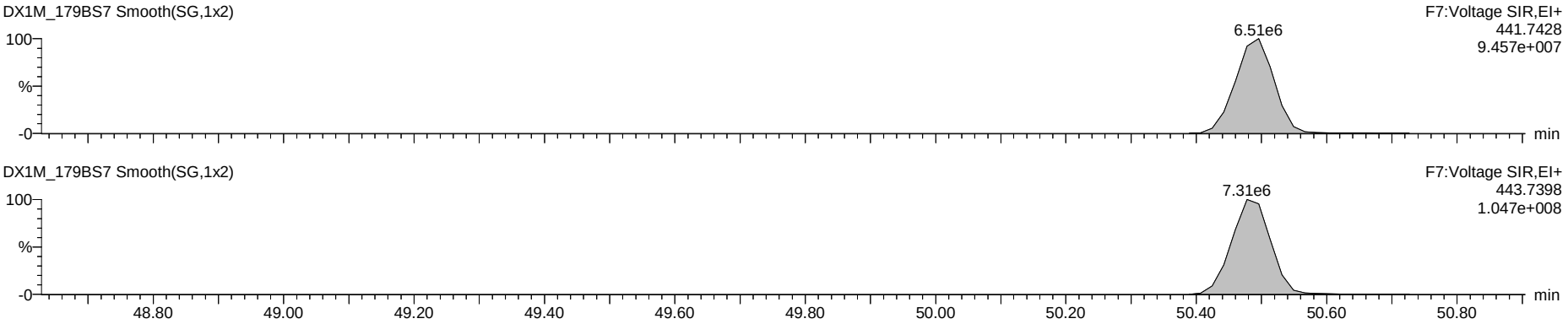
13C-Hepta-Furans



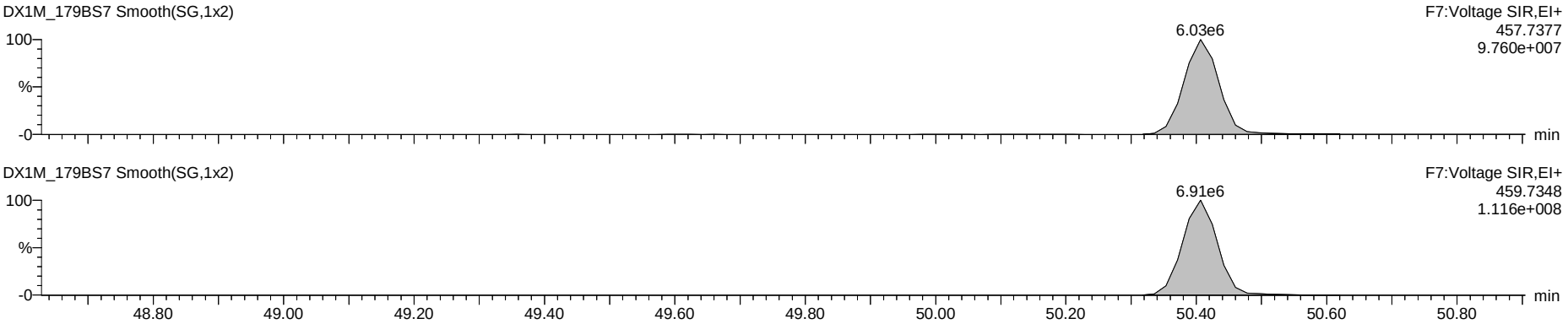
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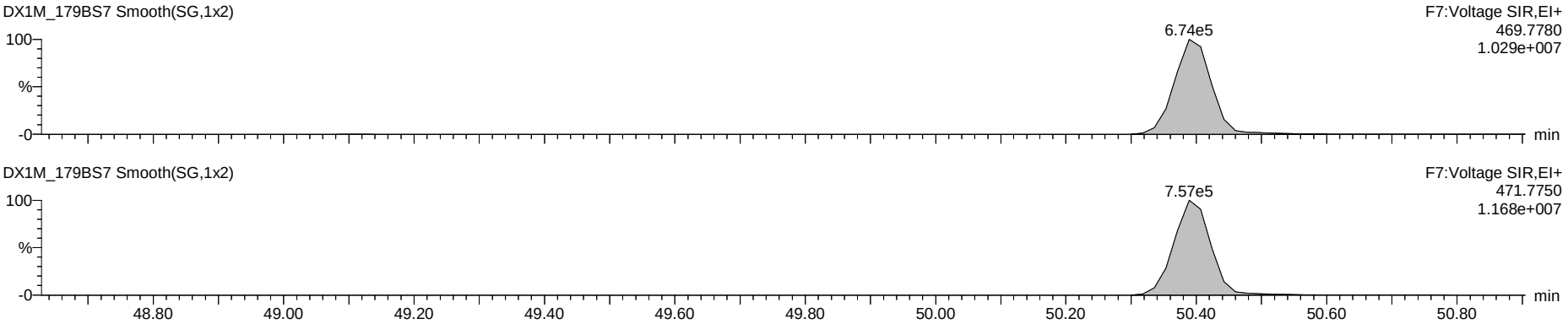
OCDF



OCDD



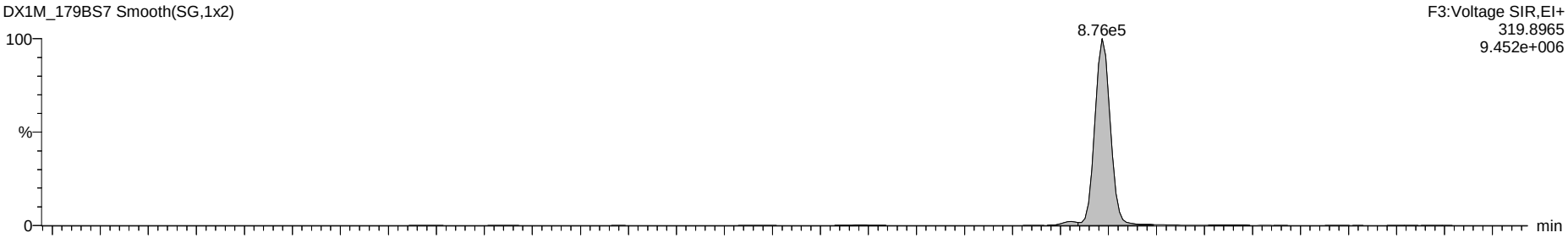
13C-OCDD

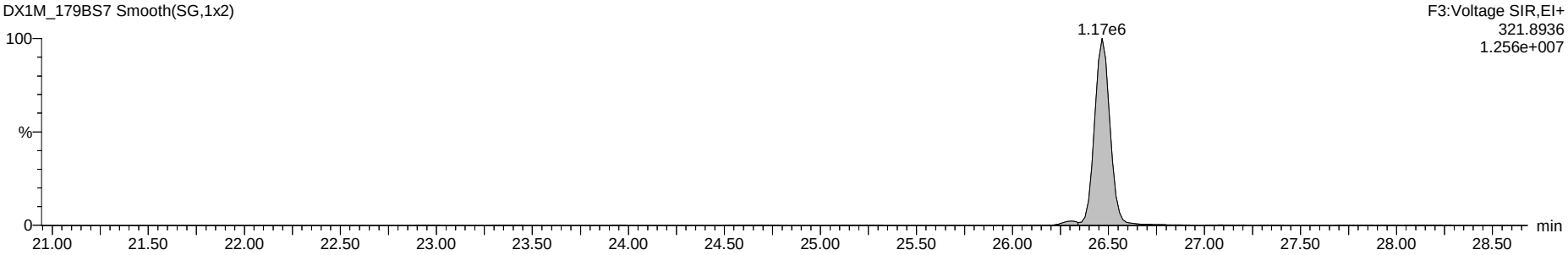


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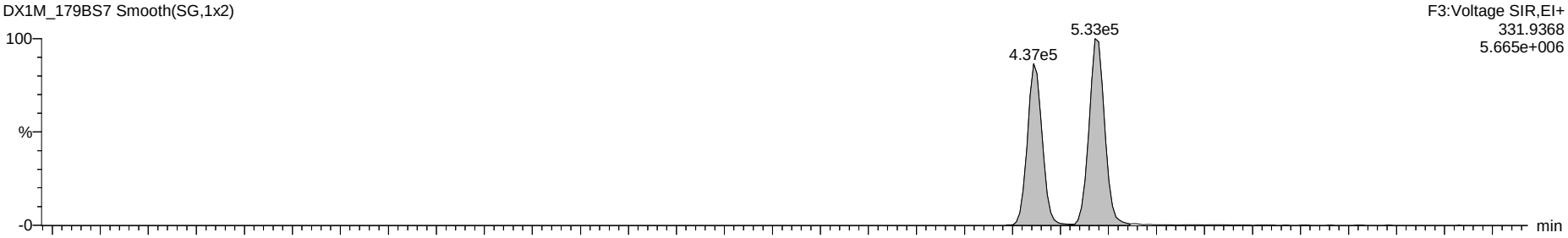
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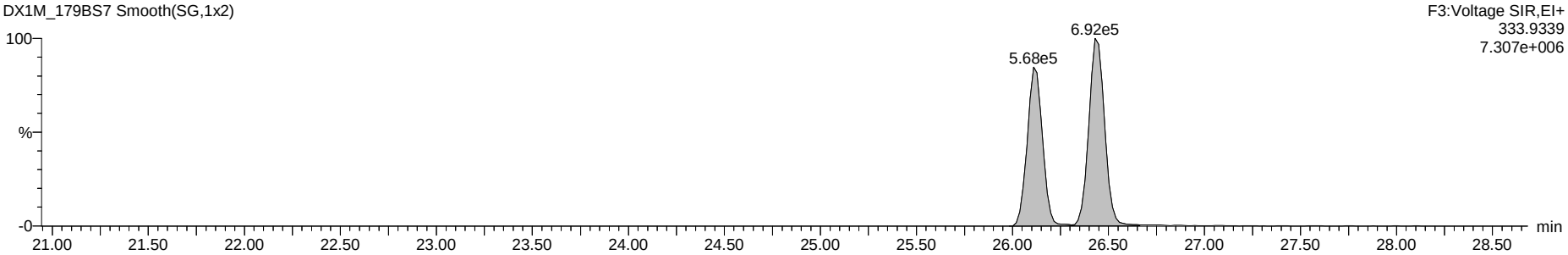
Total Tetra-Dioxins





13C-Tetra-Dioxins

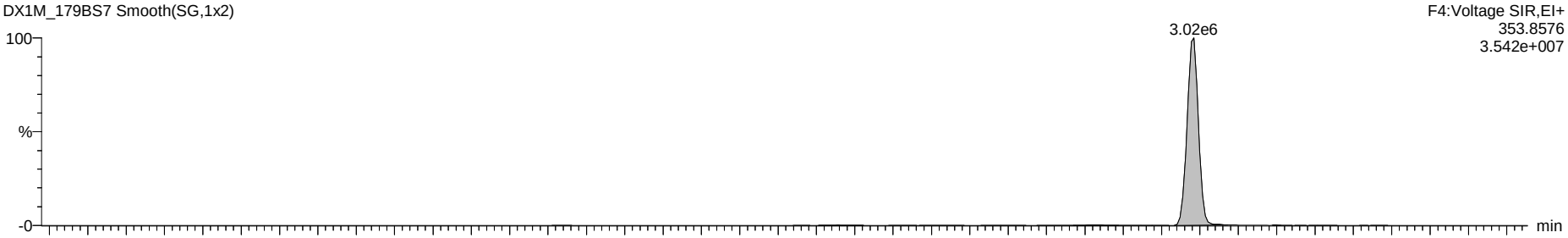


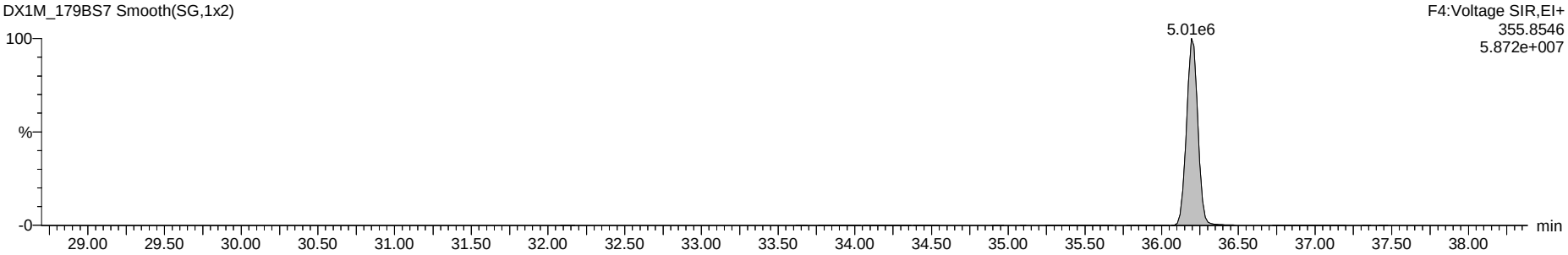


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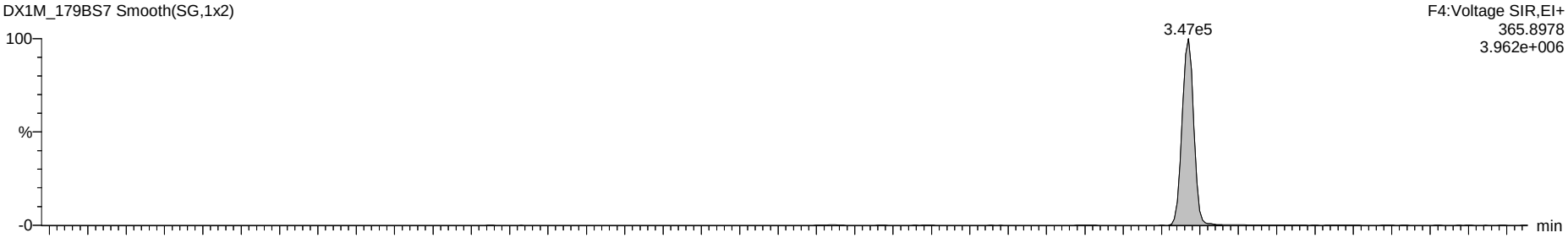
Name: DX1M_179BS7, Date: 14-Dec-2011, Time: 14:38:28, ID: DX036F-CAL,,/02-02, Description: 1,,1.0uL CS-5

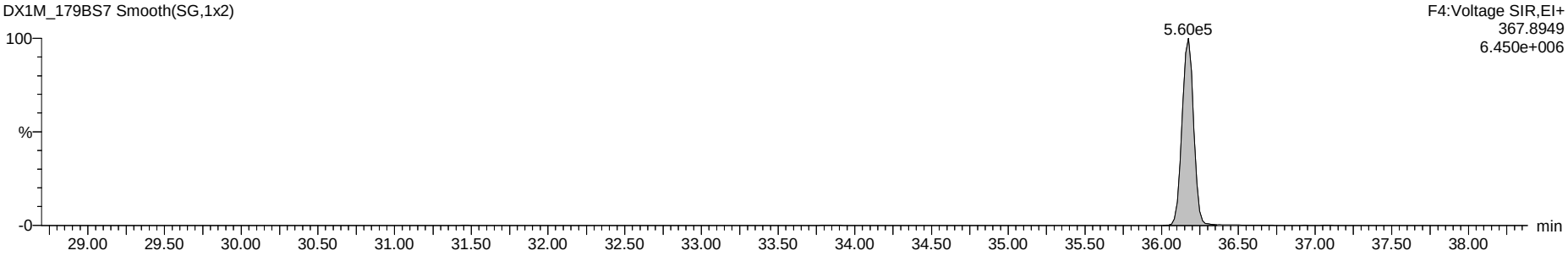
Total Penta-Dioxins





13C-Penta-Dioxins

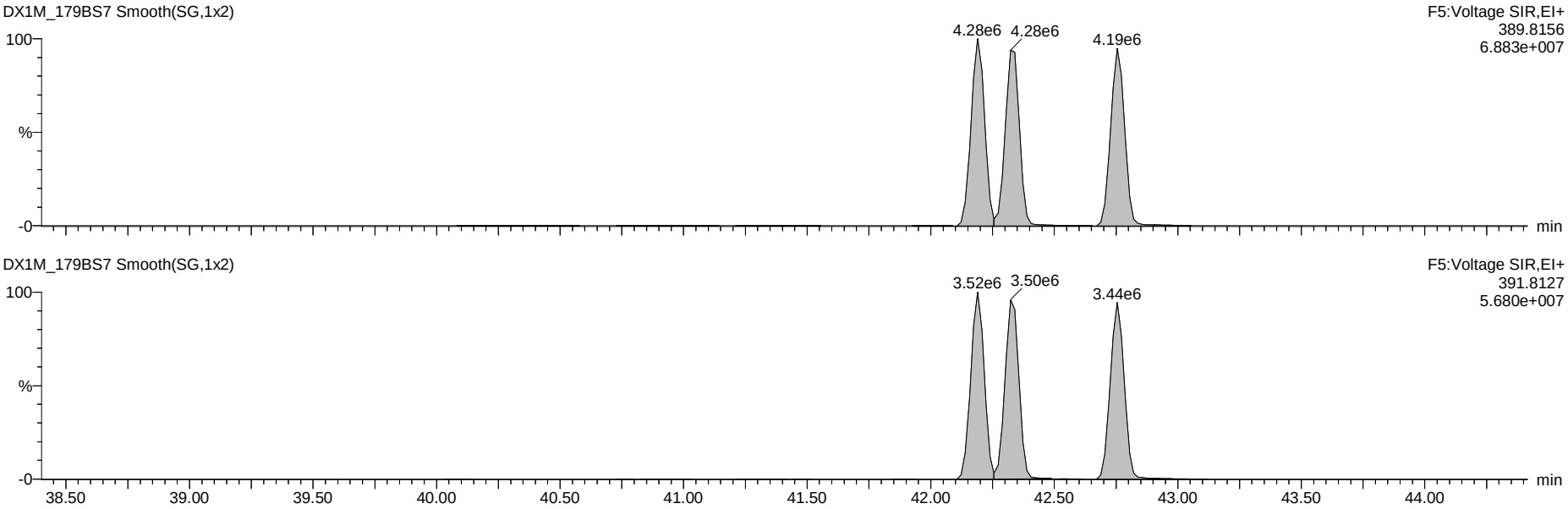




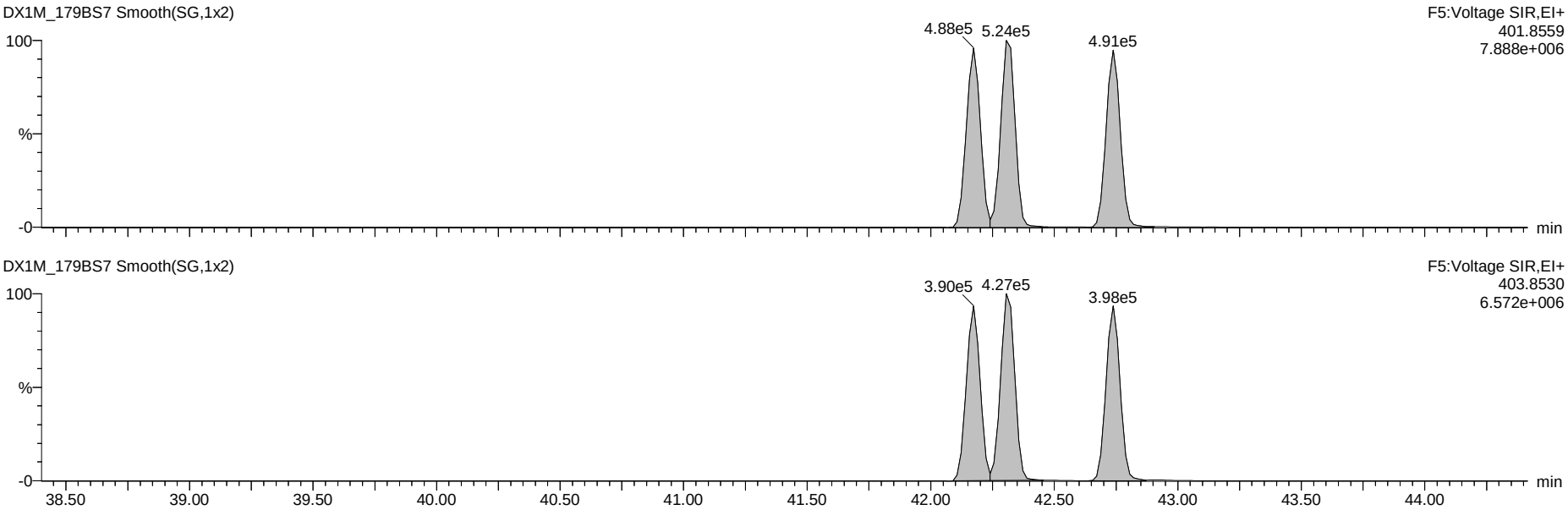
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Name: DX1M_179BS7, Date: 14-Dec-2011, Time: 14:38:28, ID: DX036F-CAL,,/02-02, Description: 1,,1.0uL CS-5

Total Hexa-Dioxins



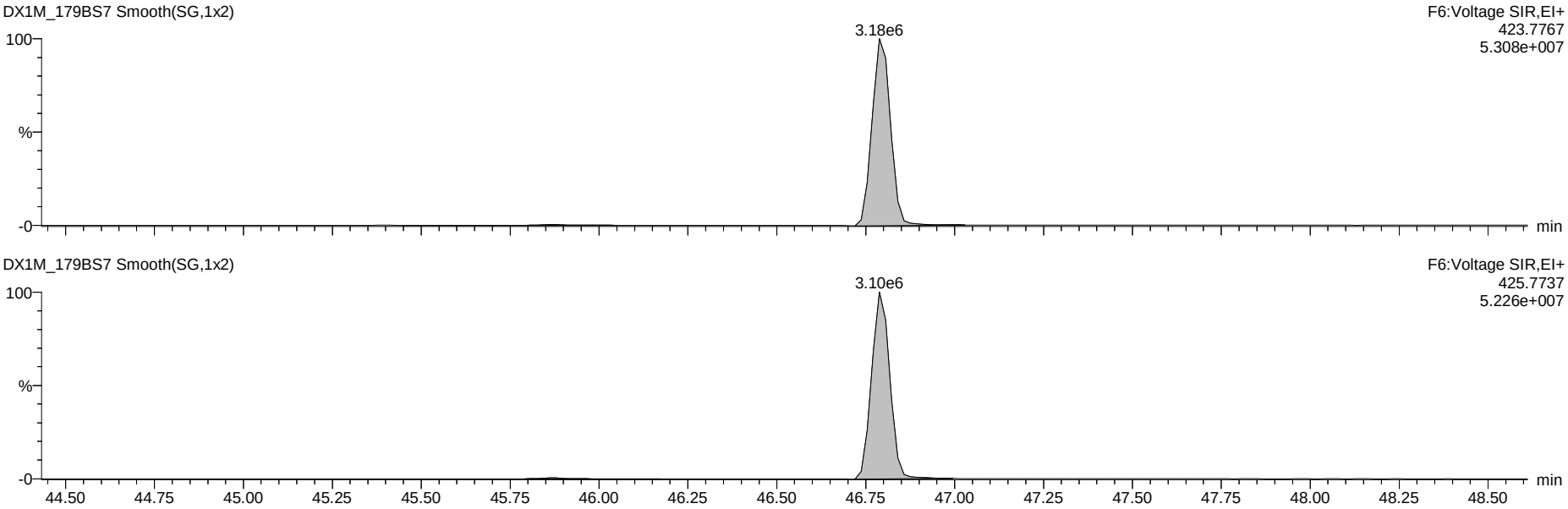
13C-Hexa-Dioxins



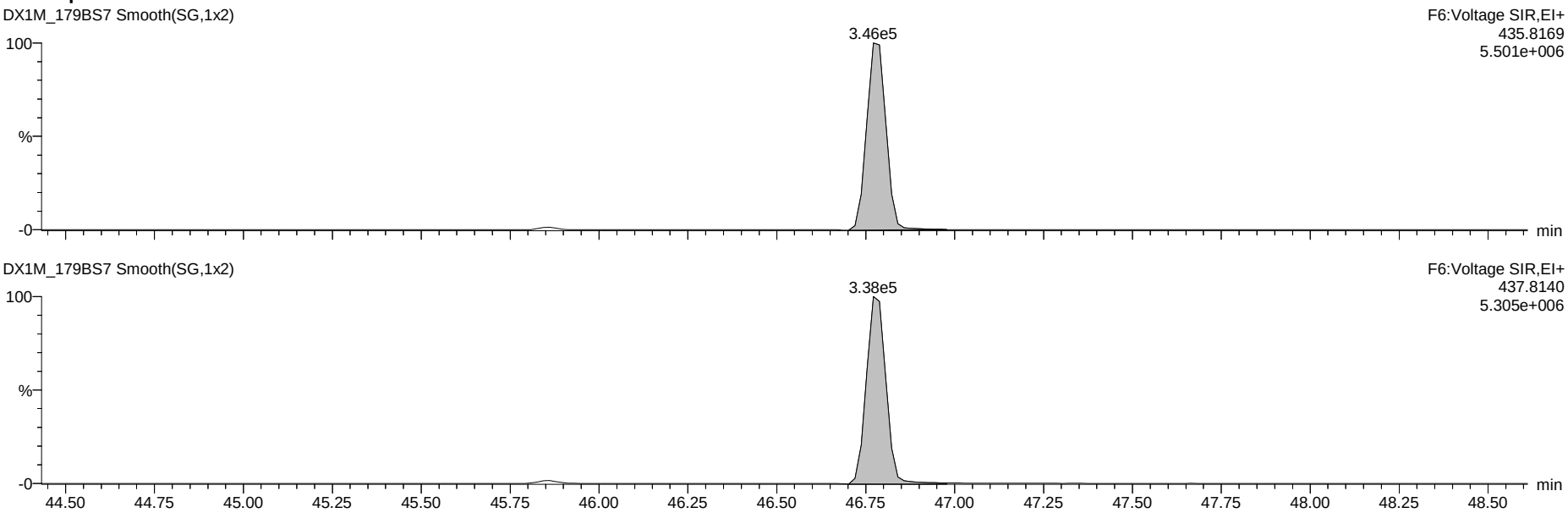
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Name: DX1M_179BS7, Date: 14-Dec-2011, Time: 14:38:28, ID: DX036F-CAL,,/02-02, Description: 1,,1.0uL CS-5

Total Hepta-Dioxins



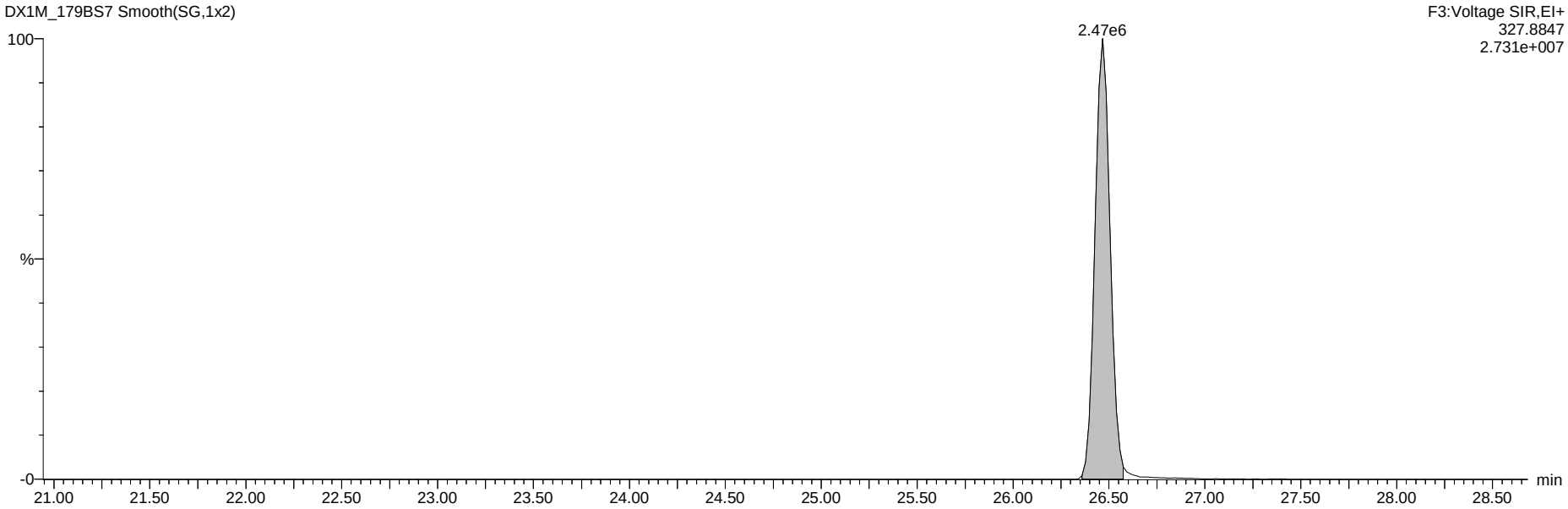
13C-Hepta-Dioxins



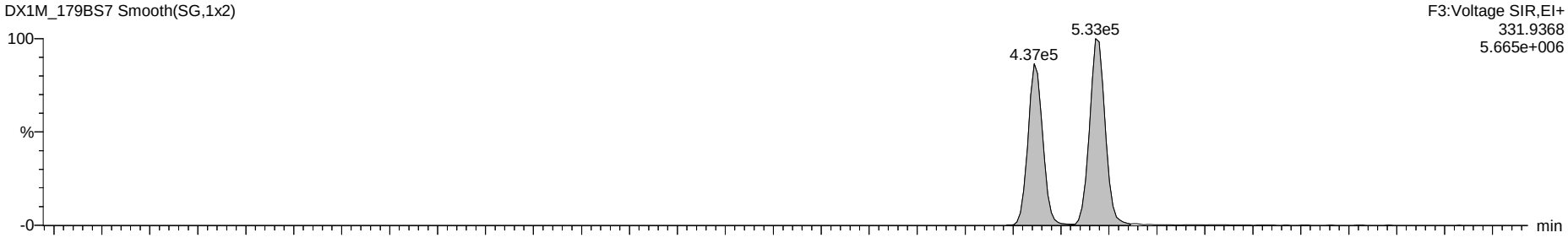
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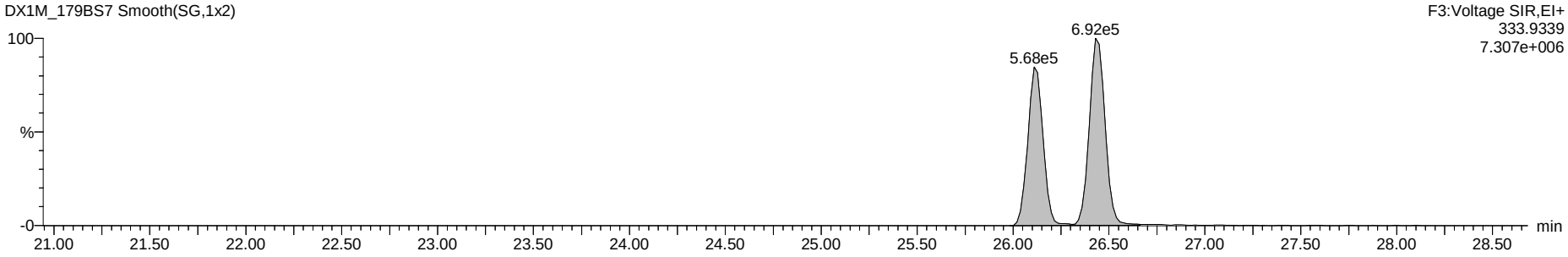
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37Cl-2,3,7,8-TCDD



13C-Tetra-Dioxins

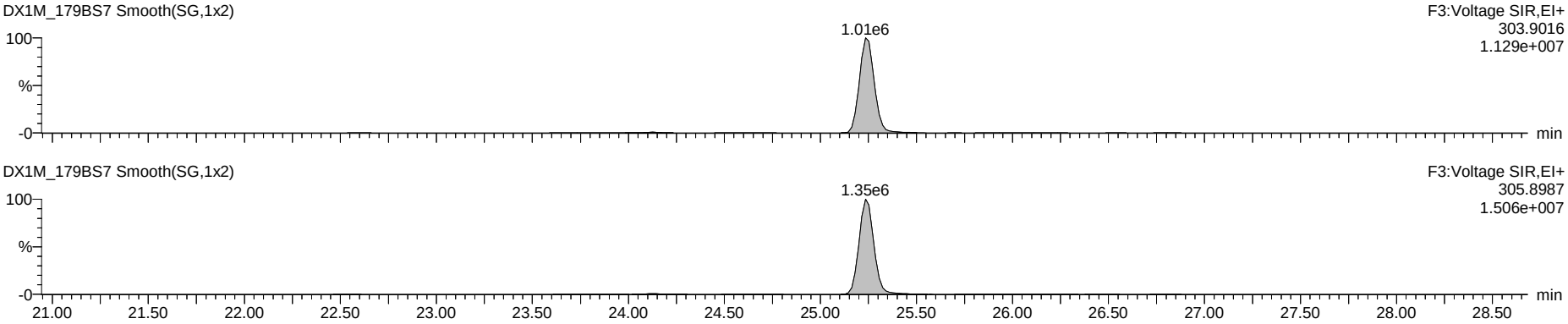




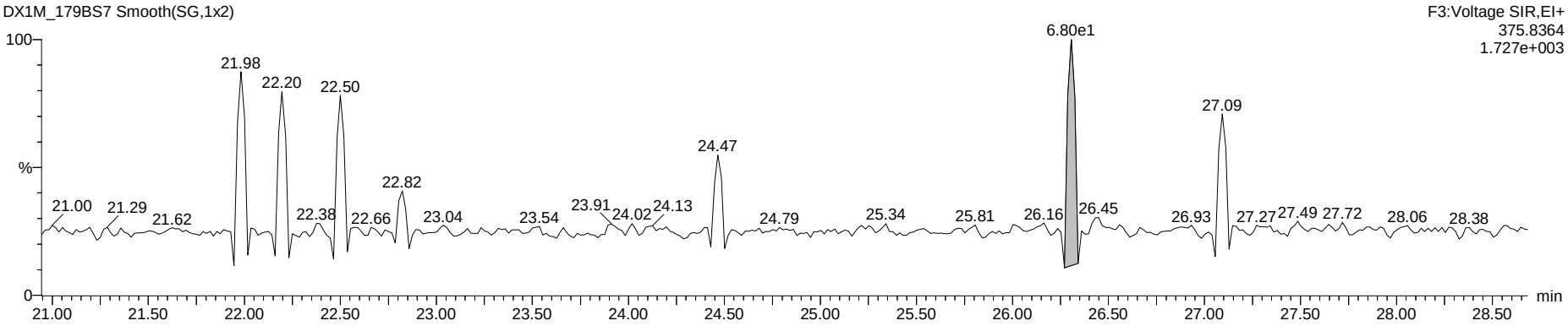
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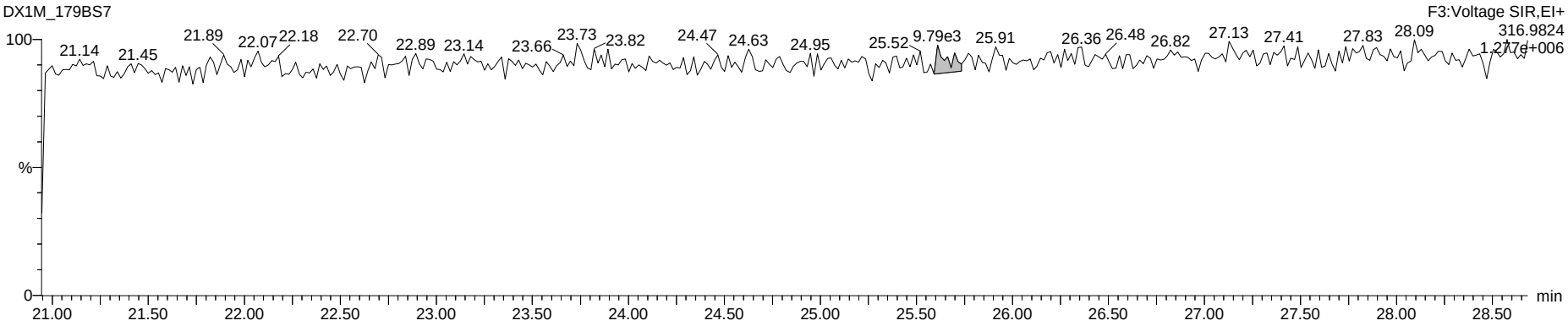
Total Tetra-Furans



Hexa DPE



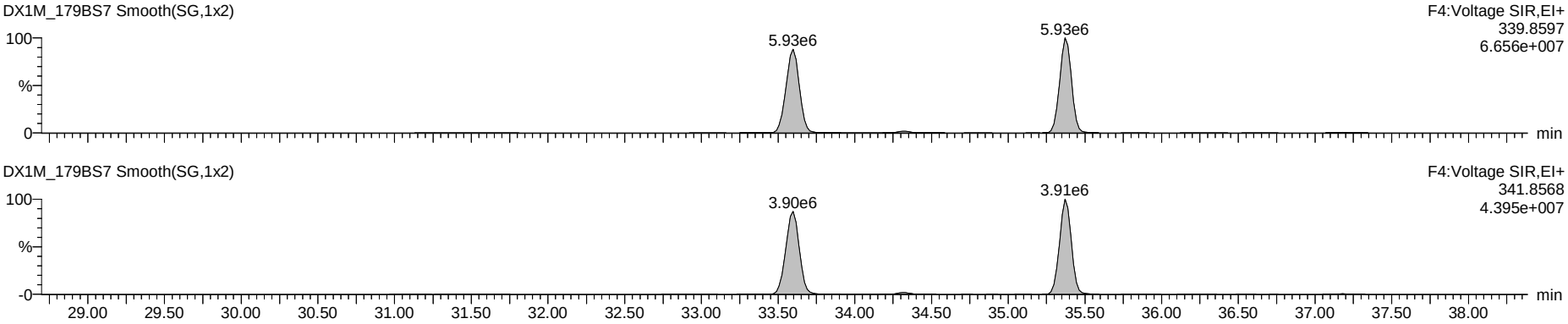
Tetra Lock



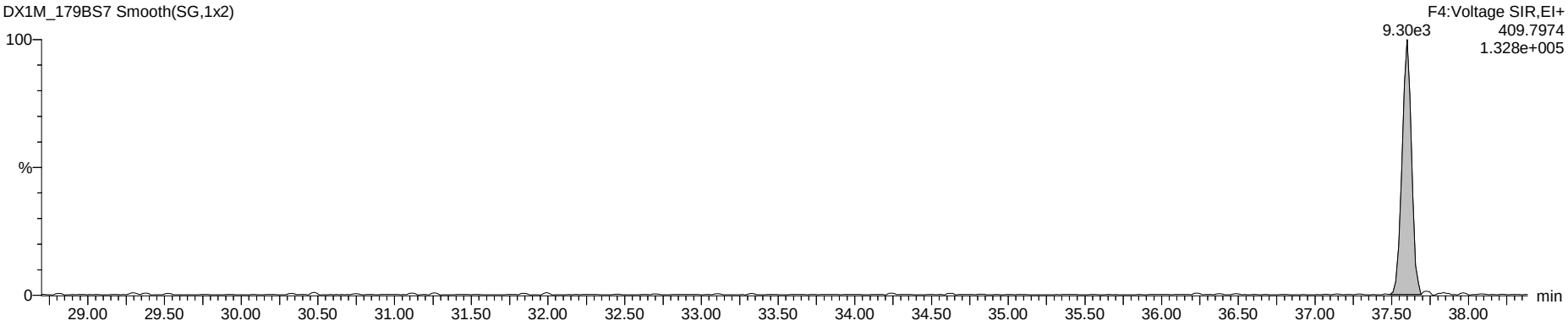
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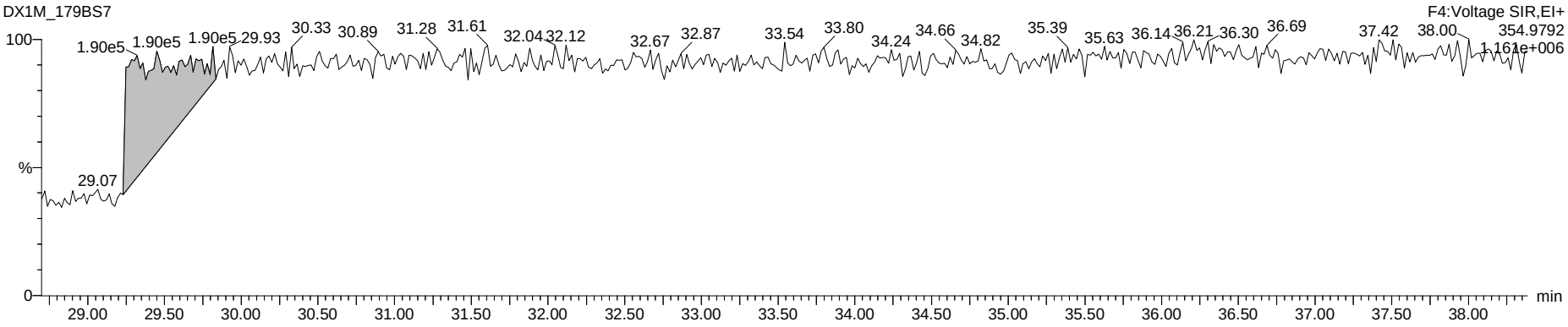
Total Penta-Furans



Hepta DPE



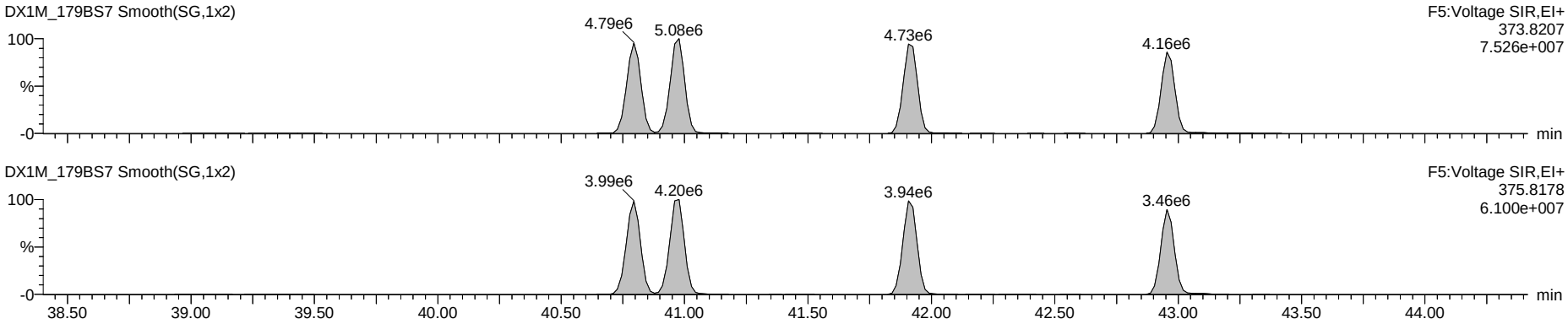
Penta Lock



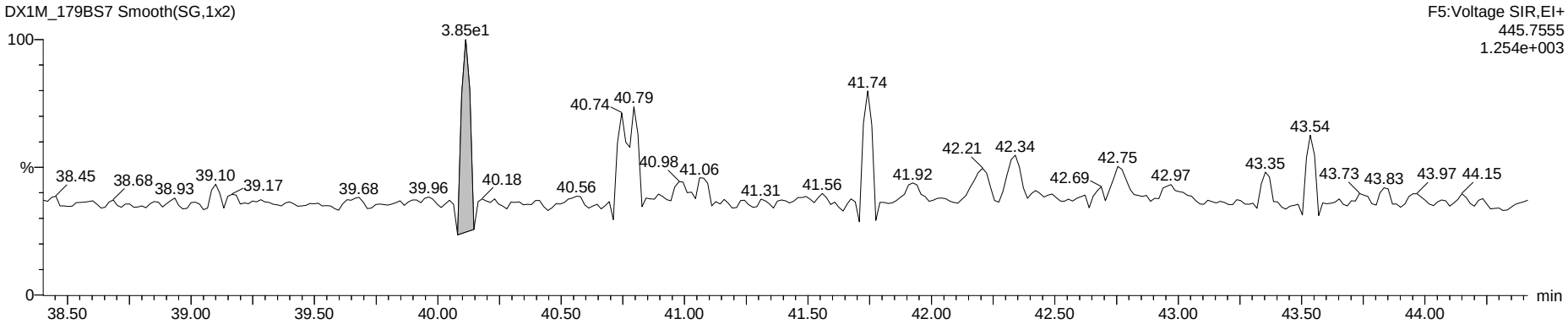
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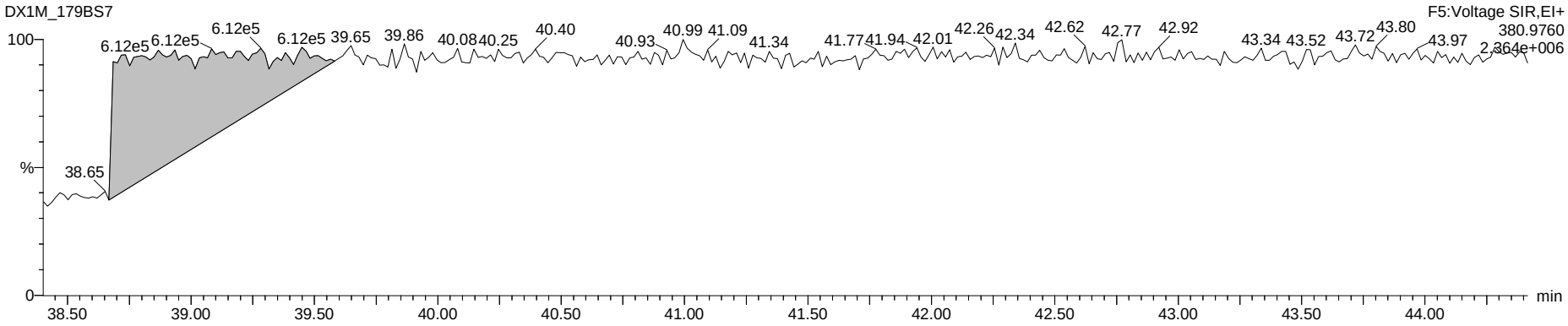
Total Hexa-Furans



Octa DPE



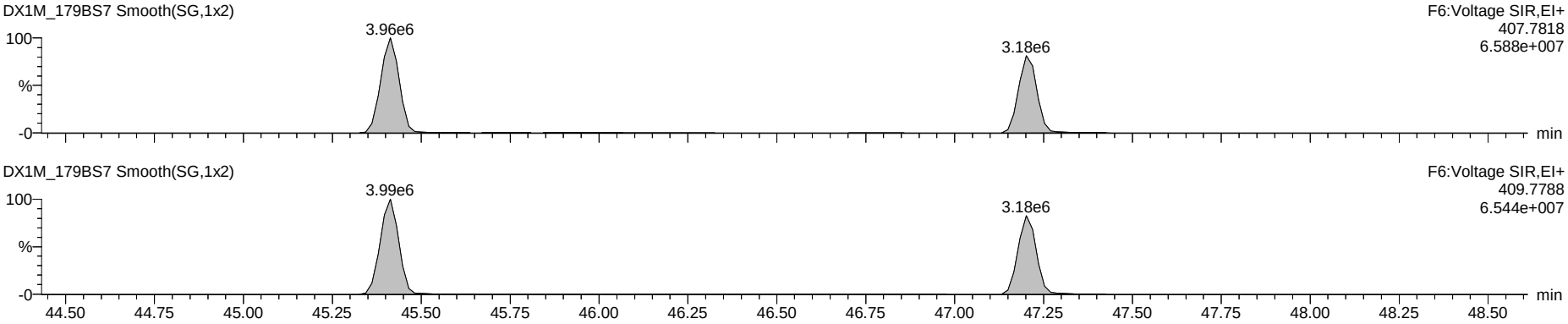
Hexa Lock



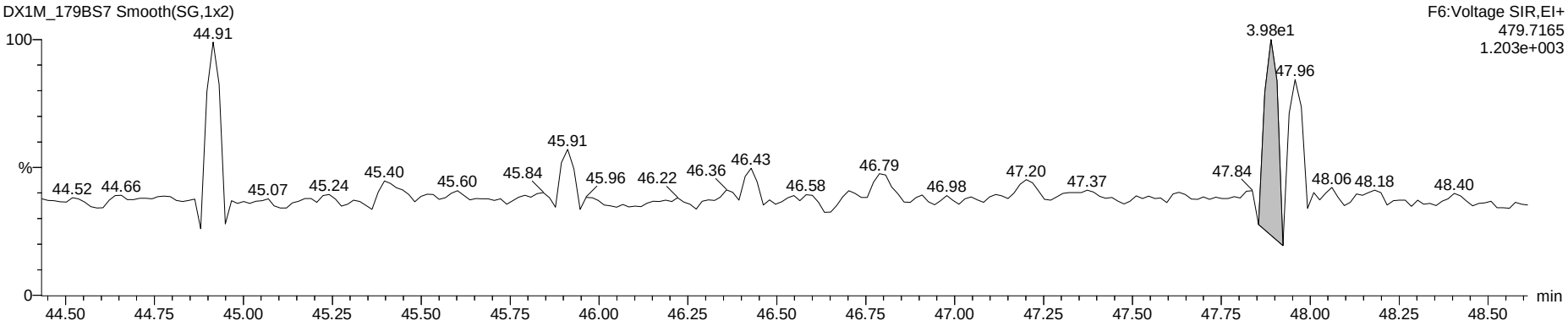
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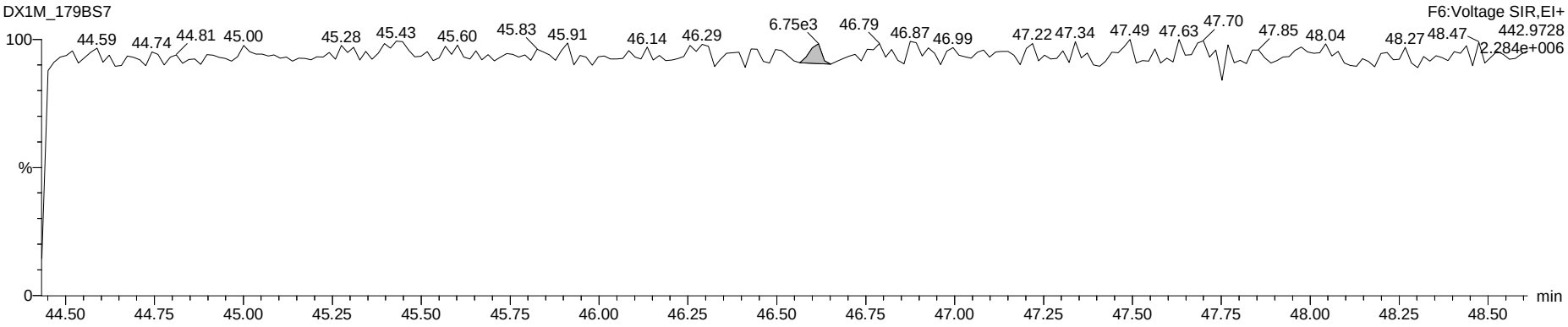
Total Hepta-Furans



Nona DPE



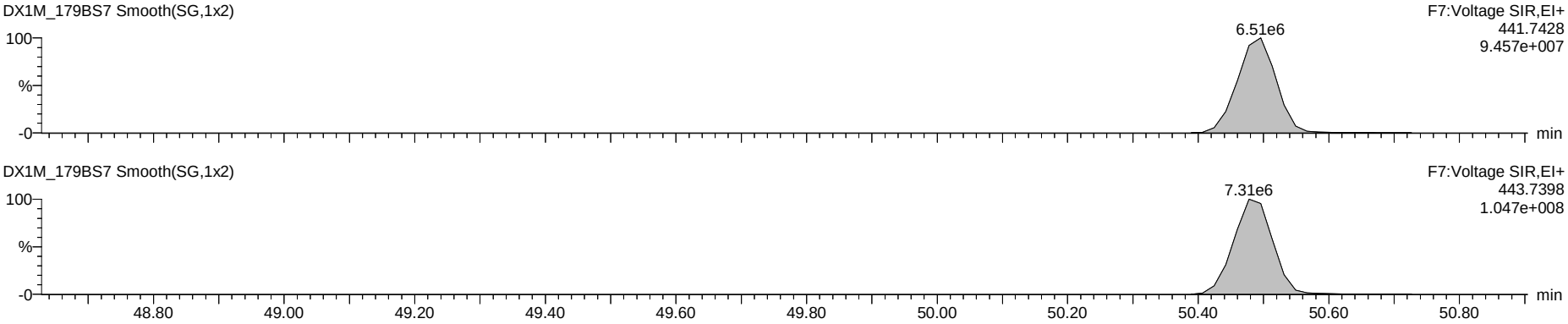
Hepta Lock



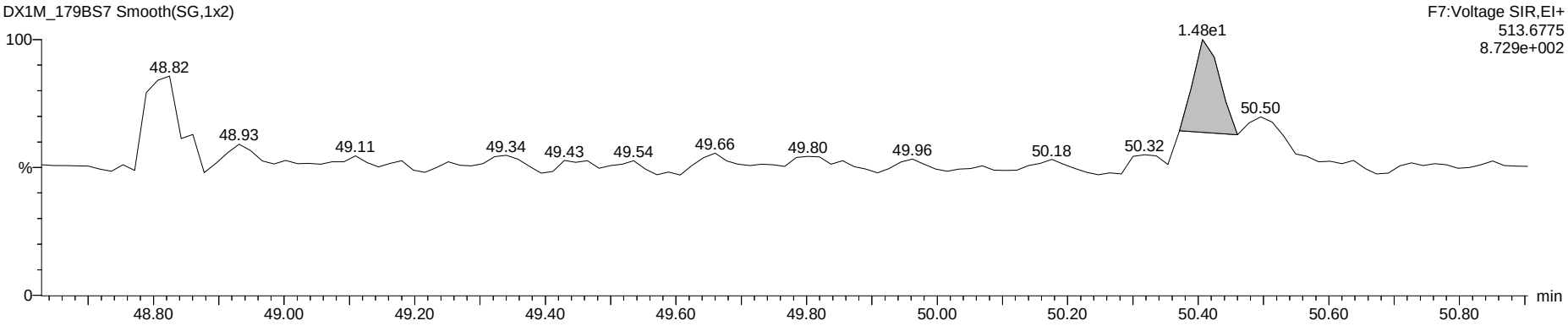
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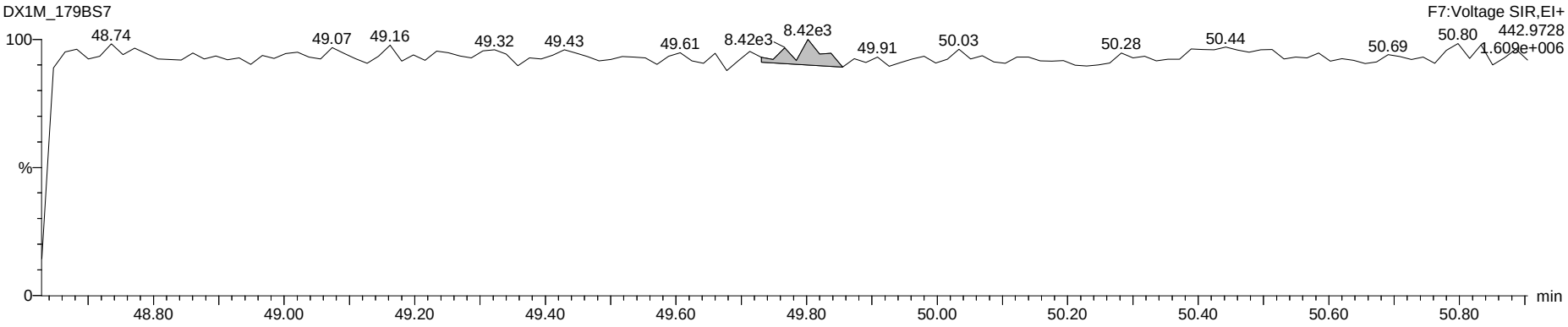
OCDF



Deca DPE



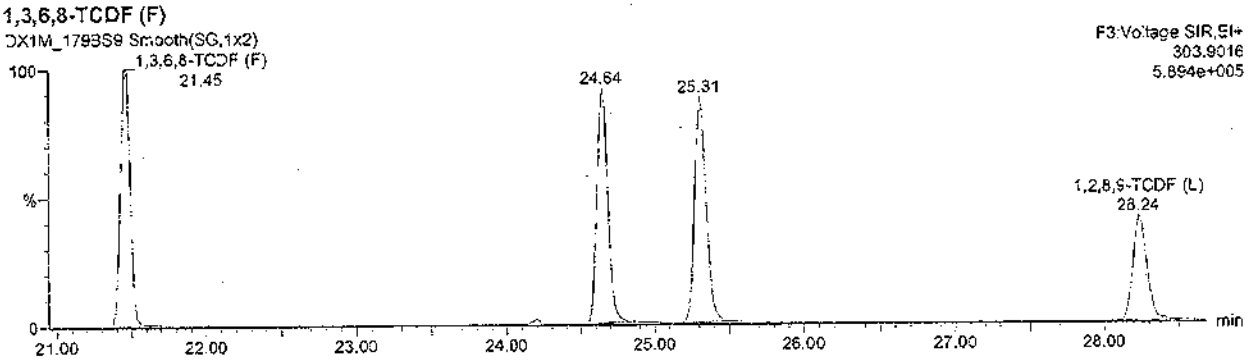
Octa Lock



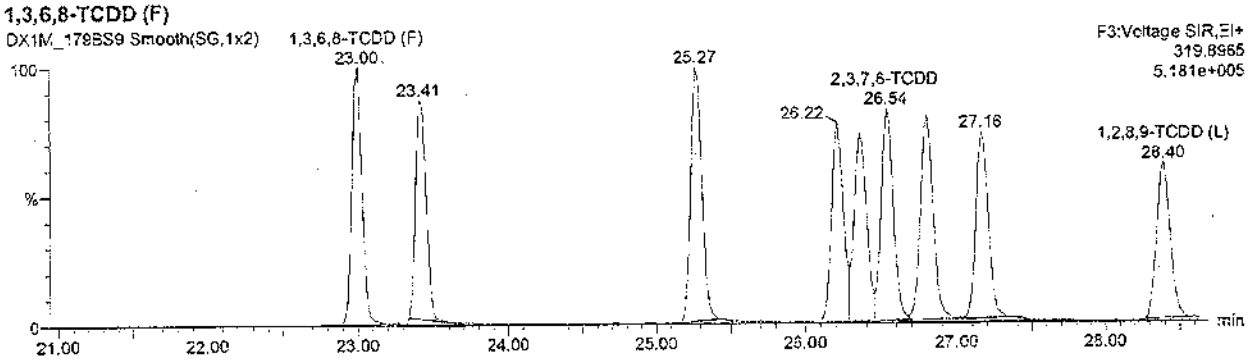
Axys Analytical Services, Ltd.
Quantify Sample Report **MassLynx 4.1 SCN627**

Name: DX1M_179BS9, Date: 14-Dec-2011, Time: 17:08:21, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL CS-3 Win/Res

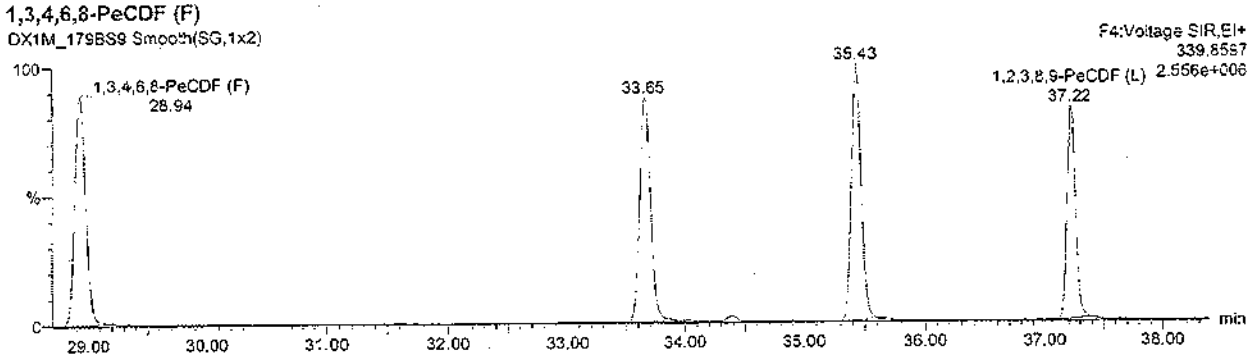
1,3,6,8-TCDF (F)



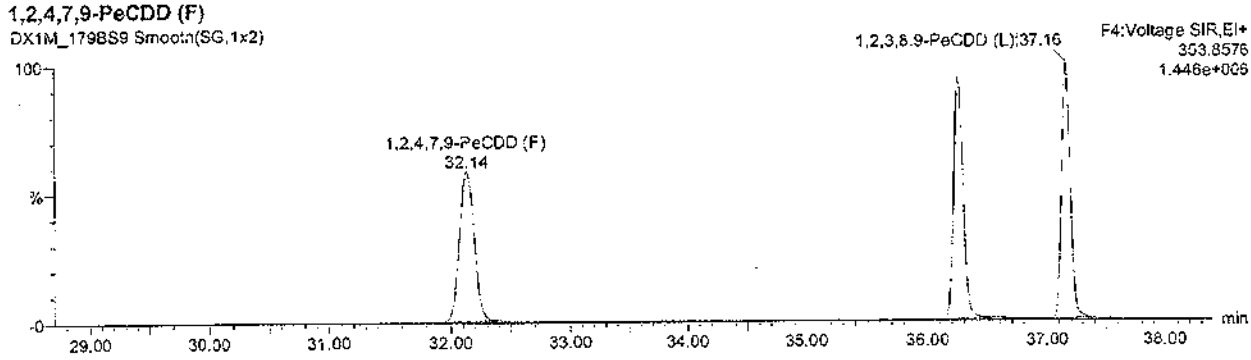
1,3,6,8-TCDD (F)



1,3,4,6,8-PeCDF (F)



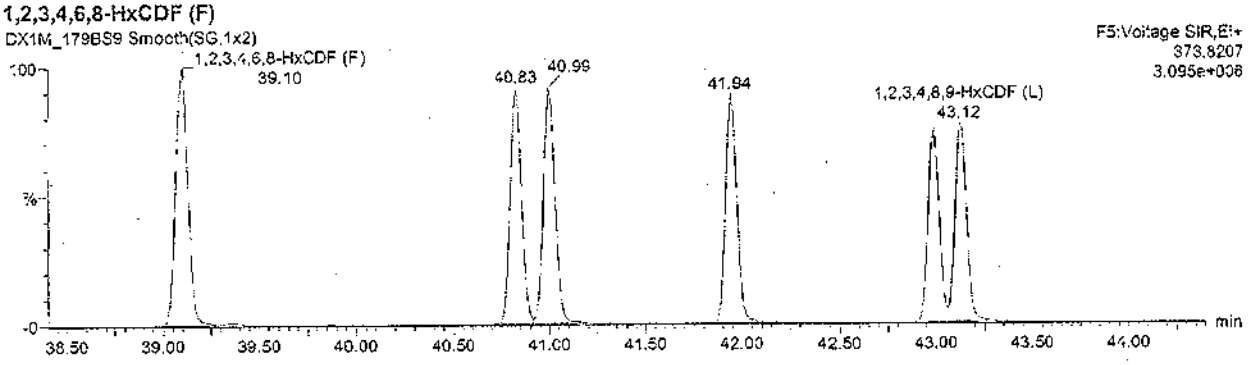
1,2,4,7,9-PeCDD (F)



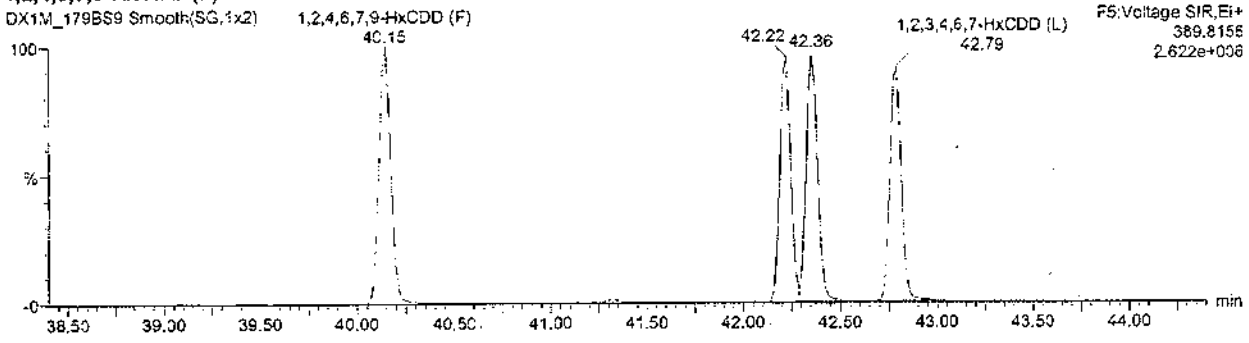
Axys Analytical Services, Ltd.
Quantify Sample Report **MassLynx 4.1 SCN627**

Name: DX1M_179BS9, Date: 14-Dec-2011, Time: 17:08:21, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL CS-3 Win/Res

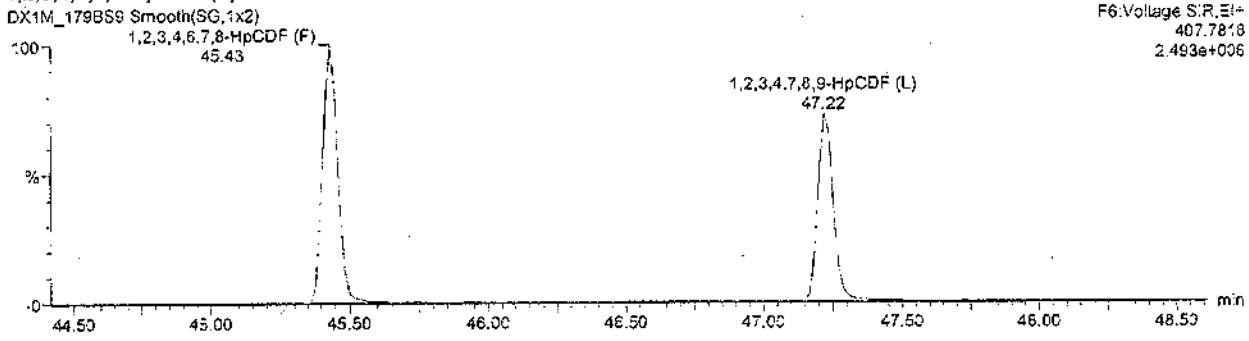
1,2,3,4,6,8-HxCDF (F)



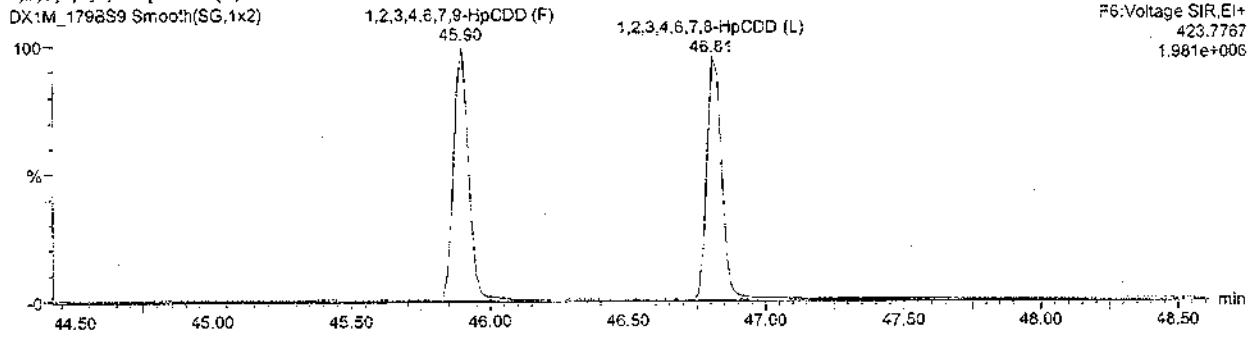
1,2,4,6,7,9-HxCDD (F)



1,2,3,4,6,7,8-HpCDF (F)



1,2,3,4,6,7,9-HpCDD (F)



Axys Analytical Services, Ltd.

Method: G:\Masslynx\Inst_M\Master methods and layouts\Current Methods\log.mdb 21 Nov 2008 10:39:44
Calibration: G:\Masslynx\Inst_M\Projects\111213DX.PRO\CurveDB\DX1M_179B-B.cdb 15 Dec 2011 09:33:42

Compound name: -

#	Name	ID	Sample Text	Acq.Date	Acq.Time
1	DX2M_008S1	DX036D-CAL,,/02-08	1,,1.0uL Cal Win/Res	10-Jan-12	08:16:41
2	DX2M_008S2	WG38741-102,,SPM	1,WG38741,1.0/20uL	10-Jan-12	09:11:17
3	DX2M_008S3	DX042A-SUR,,/02	1,,1.0uL Inst Blank	10-Jan-12	10:04:20
4	DX2M_008S4	DX042A-SUR,,/02	1,,1.0uL Inst Blank	10-Jan-12	10:59:31
5	DX2M_008S5	WG38741-101,,Blank	1,WG38741,1.0/20uL	10-Jan-12	11:54:49
6	DX2M_008S6	L17223-1,R,	1,WG38741,1.0/20uL	10-Jan-12	12:49:55
7	DX2M_008S7	L17223-2,R,	1,WG38741,1.0/20uL	10-Jan-12	13:45:07
8	DX2M_008S8	L17223-3,R,	1,WG38741,1.0/20uL	10-Jan-12	14:40:16
9	DX2M_008S9	L17223-4,R,	1,WG38741,1.0/20uL	10-Jan-12	15:35:30
10	DX2M_008S10	WG38741-103,,MS	1,WG38741,1.0/20uL	10-Jan-12	16:30:36
11	DX2M_008S11	WG38741-104,,MSD	1,WG38741,1.0/20uL	10-Jan-12	17:25:51
12	DX2M_008S12	DX036D-CAL,,/02-08	1,,1.0uL Cal Win/Res	10-Jan-12	18:21:01
13	DX2M_008S13	DX042A-SUR,,/02	1,,1.0uL Inst Blank	10-Jan-12	19:32:10
14	DX2M_008S14	DX042A-SUR,,/02	1,,1.0uL Inst Blank	10-Jan-12	20:24:38
15	DX2M_008S15	DX042A-SUR,,/02	1,,1.0uL Inst Blank	10-Jan-12	21:19:47
16	DX2M_008S16				
17	DX2M_008S17				
18	DX2M_008S18				
19	DX2M_008S19				

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Method: G:\Masslynx\Inst_M\Master methods and layouts\Current Methods\DX_1613B_014.mdb 02 Sep 2011 08:17:41
Calibration: G:\Masslynx\Inst_M\Projects\111213DX.PRO\CurveDB\DX1M_179B-B.cdb 15 Dec 2011 09:33:42

Name: DX2M_008S1, Date: 10-Jan-2012, Time: 08:16:41, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	1.000	1.13e5	0.73	NO	25.25	10.620	0.0176	98.3	4.44e2	3.94e2
2	1,2,3,7,8-PeCDF	1.000	4.14e5	1.53	NO	33.60	46.769	0.0484	101.7	8.05e2	7.70e2
3	2,3,4,7,8-PeCDF	1.000	3.86e5	1.53	NO	35.35	46.935	0.0450	99.9	8.05e2	7.70e2
4	1,2,3,4,7,8-HxCDF	1.000	3.19e5	1.23	NO	40.75	52.898	0.0527	105.8	6.36e2	1.11e3
5	1,2,3,6,7,8-HxCDF	1.000	3.33e5	1.21	NO	40.91	48.462	0.0461	102.0	6.36e2	1.11e3
6	2,3,4,6,7,8-HxCDF	1.000	3.02e5	1.22	NO	41.86	53.496	0.0526	100.8	6.36e2	1.11e3
7	1,2,3,7,8,9-HxCDF	1.000	2.33e5	1.25	NO	42.90	51.376	0.0687	97.9	6.36e2	1.11e3
8	1,2,3,4,6,7,8-HpCDF	1.000	2.65e5	1.01	NO	45.35	49.797	0.0239	99.6	4.29e2	3.58e2
9	1,2,3,4,7,8,9-HpCDF	1.000	1.88e5	1.05	NO	47.13	51.820	0.0363	103.6	4.29e2	3.58e2
10	OCDF	1.000	3.54e5	0.87	NO	50.39	103.175	0.0155	99.2	2.73e2	1.54e1
11	2,3,7,8-TCDD	1.000	9.83e4	0.74	NO	26.49	10.287	0.0334	93.5	7.18e2	5.67e2
12	1,2,3,7,8-PeCDD	1.000	3.10e5	0.61	NO	36.17	51.912	0.0397	99.8	6.37e2	4.00e2
13	1,2,3,4,7,8-HxCDD	1.000	2.64e5	1.20	NO	42.14	56.854	0.0574	100.6	9.23e2	6.32e2
14	1,2,3,6,7,8-HxCDD	1.000	2.72e5	1.24	NO	42.27	55.534	0.0550	100.1	9.23e2	6.32e2
15	1,2,3,7,8,9-HxCDD	1.000	2.53e5	1.21	NO	42.71	52.009	0.0551	96.3	9.23e2	6.32e2
16	1,2,3,4,6,7,8-HpCDD	1.000	1.85e5	1.00	NO	46.72	45.377	0.0686	95.5	8.50e2	8.06e2
17	OCDD	1.000	3.51e5	0.86	NO	50.30	98.991	0.0422	99.0	4.68e2	3.43e2
18	13C-2,3,7,8-TCDF	1.000	1.39e6	0.77	NO	25.23	102.397	0.0633	102.4	2.55e3	1.10e3
19	13C-1,2,3,7,8-PeCDF	1.000	1.02e6	1.56	NO	33.56	96.933	0.0612	96.9	1.11e3	1.63e3
20	13C-2,3,4,7,8-PeCDF	1.000	9.35e5	1.53	NO	35.33	92.297	0.0637	92.3	1.11e3	1.63e3
21	13C-1,2,3,4,7,8-HxCDF	1.000	6.04e5	0.52	NO	40.73	103.375	0.1122	103.4	2.18e3	1.52e3
22	13C-1,2,3,6,7,8-HxCDF	1.000	7.00e5	0.52	NO	40.89	106.167	0.0995	106.2	2.18e3	1.52e3
23	13C-2,3,4,6,7,8-HxCDF	1.000	6.24e5	0.51	NO	41.84	104.138	0.1095	104.1	2.18e3	1.52e3
24	13C-1,2,3,7,8,9-HxCDF	1.000	5.24e5	0.50	NO	42.69	97.126	0.1217	97.1	2.18e3	1.52e3
25	13C-1,2,3,4,6,7,8-HpCDF	1.000	4.60e5	0.43	NO	45.33	101.972	0.1250	102.0	1.83e3	1.35e3
26	13C-1,2,3,4,7,8,9-HpCDF	1.000	3.48e5	0.45	NO	47.12	88.196	0.1429	88.2	1.83e3	1.35e3
27	13C-2,3,7,8-TCDD	1.000	1.16e6	0.78	NO	26.45	101.154	0.1122	101.2	1.70e3	3.79e3
28	13C-1,2,3,7,8-PeCDD	1.000	7.18e5	0.60	NO	36.14	90.177	0.0363	90.2	7.67e2	4.65e2
29	13C-1,2,3,4,7,8-HxCDD	1.000	5.92e5	1.25	NO	42.12	103.874	0.0423	103.9	6.76e2	6.85e2
30	13C-1,2,3,6,7,8-HxCDD	1.000	6.67e5	1.20	NO	42.26	106.572	0.0385	106.6	6.76e2	6.85e2
31	13C-1,2,3,4,6,7,8-HpCDD	1.000	4.24e5	1.02	NO	46.70	93.302	0.0429	93.3	4.09e2	6.93e2
32	13C-OCDD	1.000	7.78e5	0.87	NO	50.28	172.193	0.0848	86.1	2.38e1	2.14e3
33	13C-1,2,3,4-TCDD	1.000	9.99e5	0.76	NO	26.13	99.148	0.1280	99.1	1.70e3	3.79e3
34	13C-1,2,3,7,8,9-HxCDD	1.000	5.79e5	1.21	NO	42.69	77.166	0.0321	77.2	6.76e2	6.85e2
35	37Cl-2,3,7,8-TCDD	1.000	1.15e5			26.49	9.940	0.0221	99.4		1.08e3
36	Total Tetra-Furans	1.000					37.070	0.0176			3.94e2
37	Total Tetra-Dioxins	1.000					84.851	0.0334			5.67e2
38	Total Penta-Furans	1.000					177.045	0.0471			7.70e2
39	Total Penta-Dioxins	1.000					157.073	0.0397			4.00e2
40	Total Hexa-Furans	1.000					313.146	0.0508			1.11e3
41	Total Hexa-Dioxins	1.000					225.058	0.0543			6.32e2
42	Total Hepta-Furans	1.000					102.955	0.0277			3.58e2
43	Total Hepta-Dioxins	1.000					86.076	0.0686			8.06e2
44	Hexa DPE	1.000	3.77e1			25.07					4.22e1
45	Hepta DPE	1.000	3.17e2			37.55					5.29e2
46	Octa DPE	1.000	8.15e1			42.81					2.37e1
47	Nona DPE	1.000	6.71e1			47.22					3.08e1
48	Deca DPE	1.000	4.32e0			50.28					2.92e1
49	Tetra Lock	1.000	1.24e4			24.59					1.48e5
50	Penta Lock	1.000	8.11e3			32.63					1.21e5
51	Hexa Lock	1.000									1.18e5

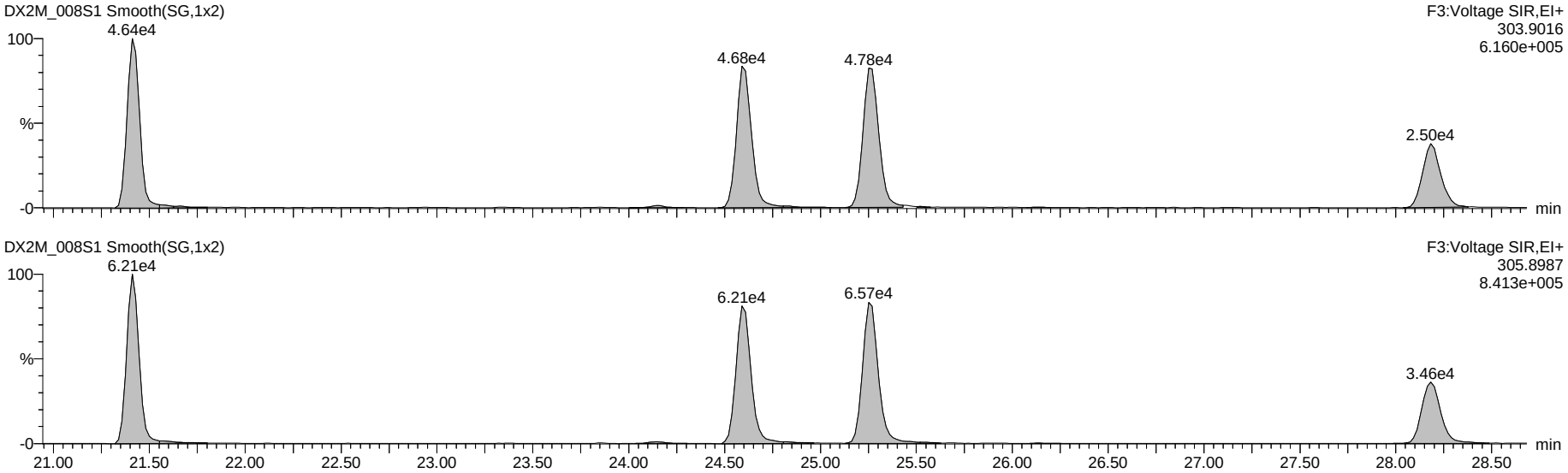
pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

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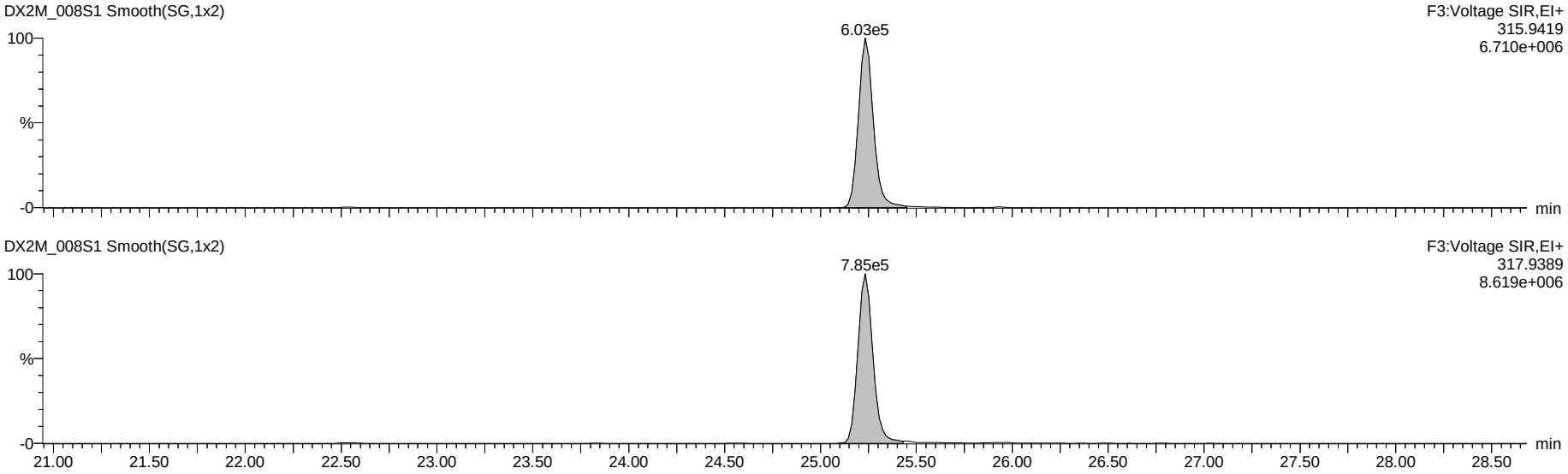
Method: G:\Masslynx\Inst_M\Master methods and layouts\Current Methods\DX_1613B_014.mdb 02 Sep 2011 08:17:41
Calibration: G:\Masslynx\Inst_M\Projects\111213DX.PRO\CurveDB\DX1M_179B-B.cdb 15 Dec 2011 09:33:42

Name: DX2M_008S1, Date: 10-Jan-2012, Time: 08:16:41, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Furans



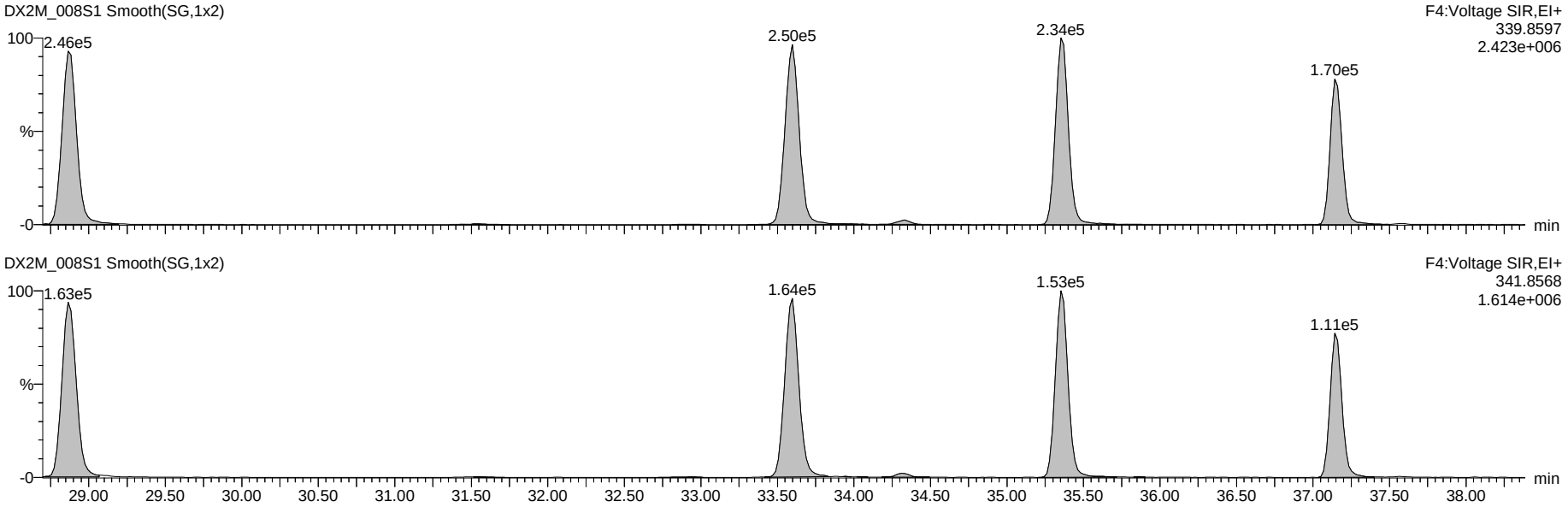
13C-Tetra-Furans



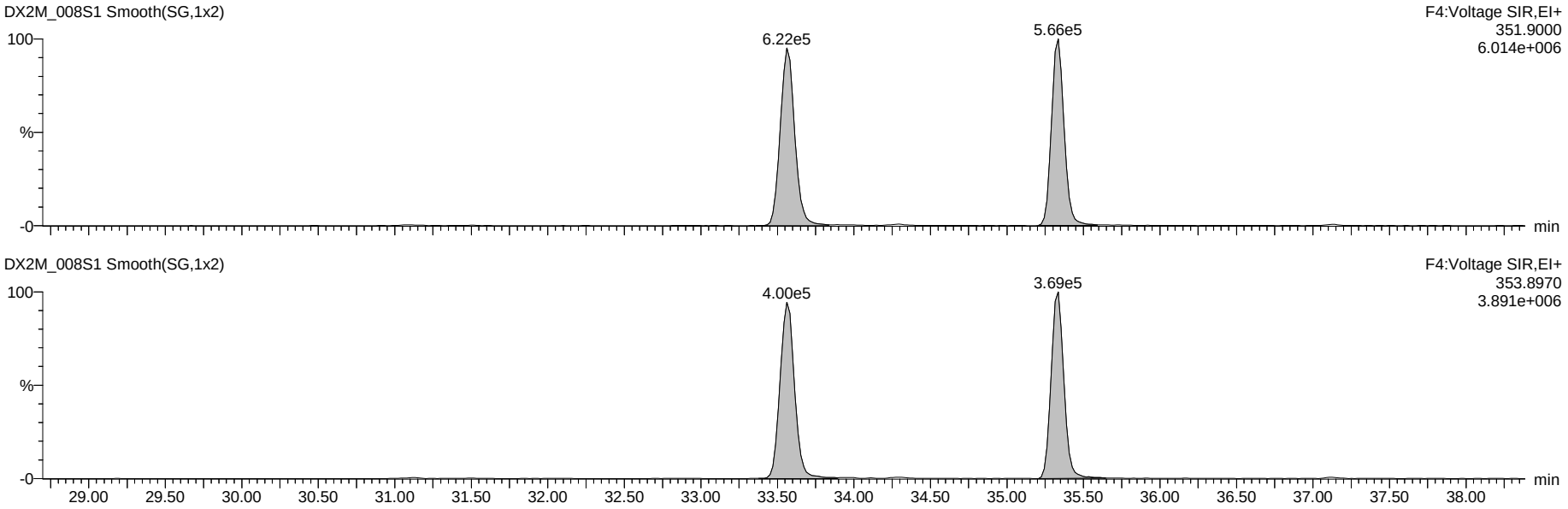
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Name: DX2M_008S1, Date: 10-Jan-2012, Time: 08:16:41, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

Total Penta-Furans



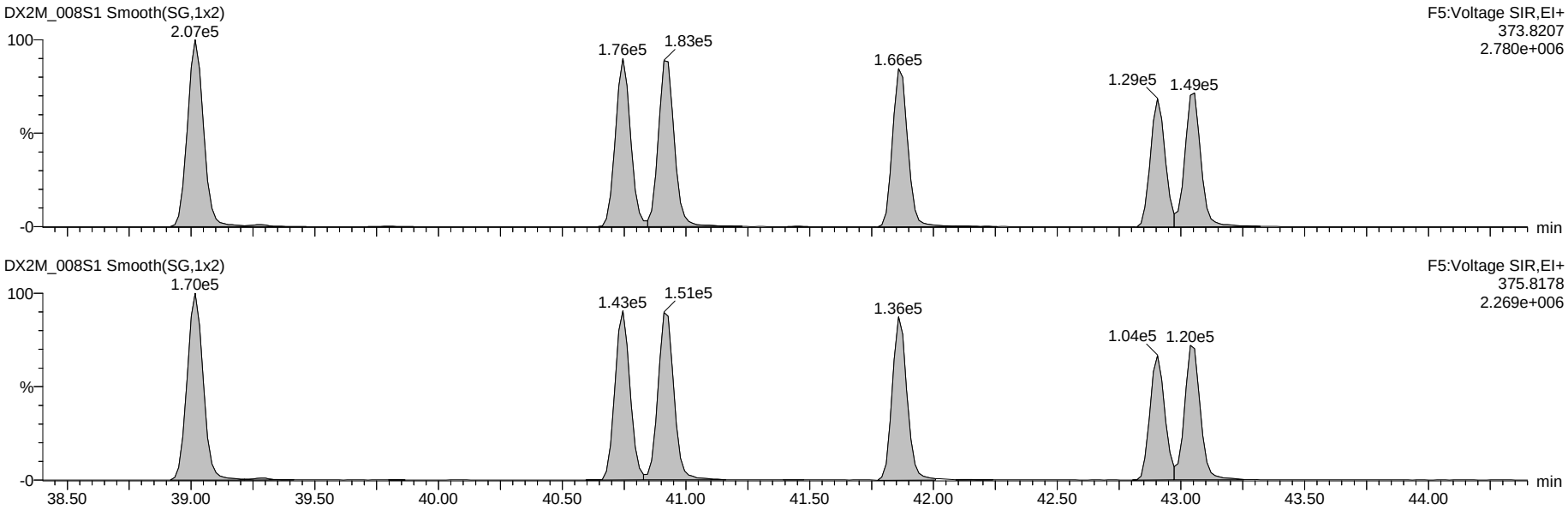
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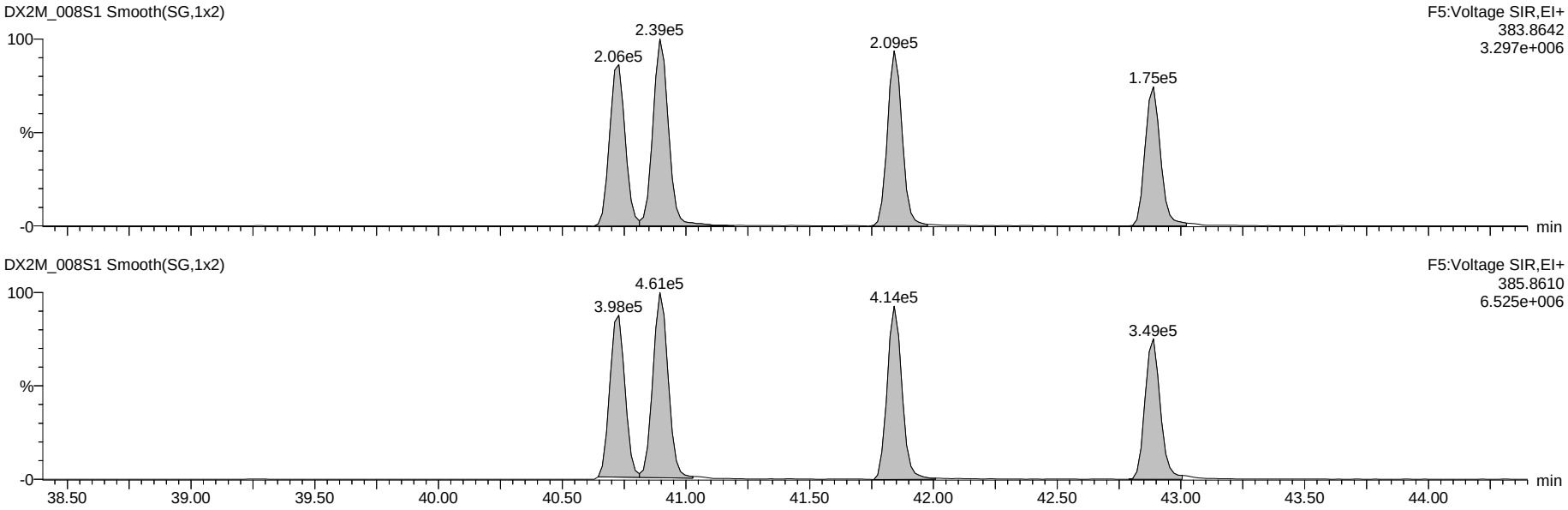
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Total Hexa-Furans



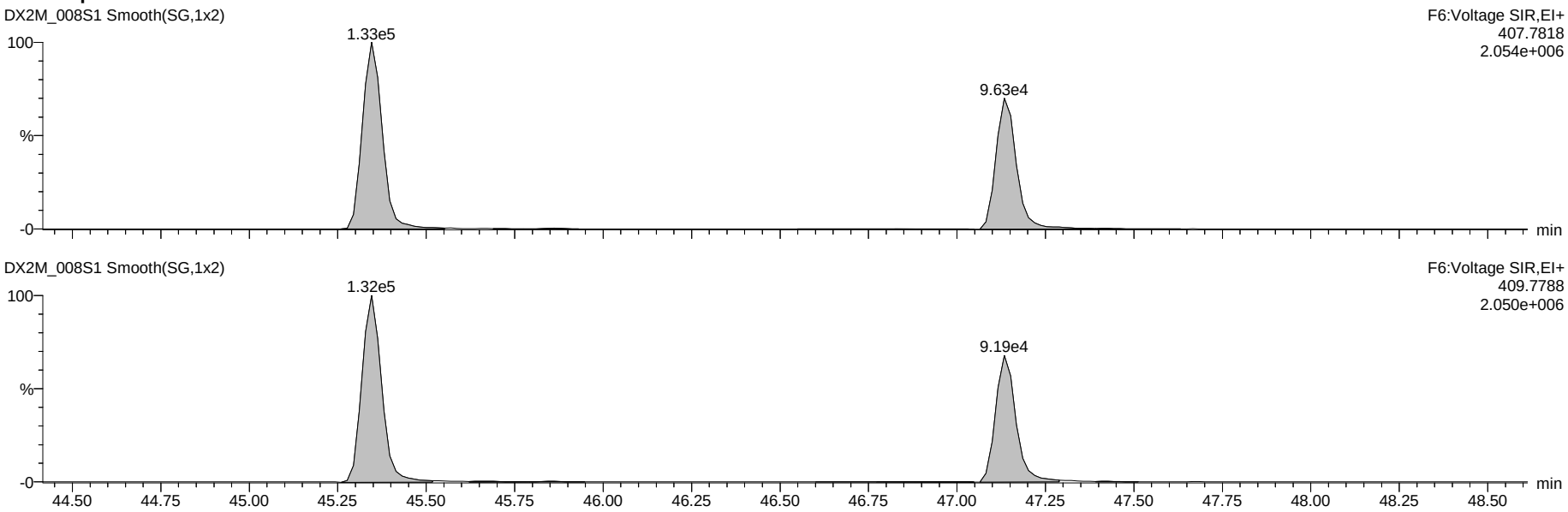
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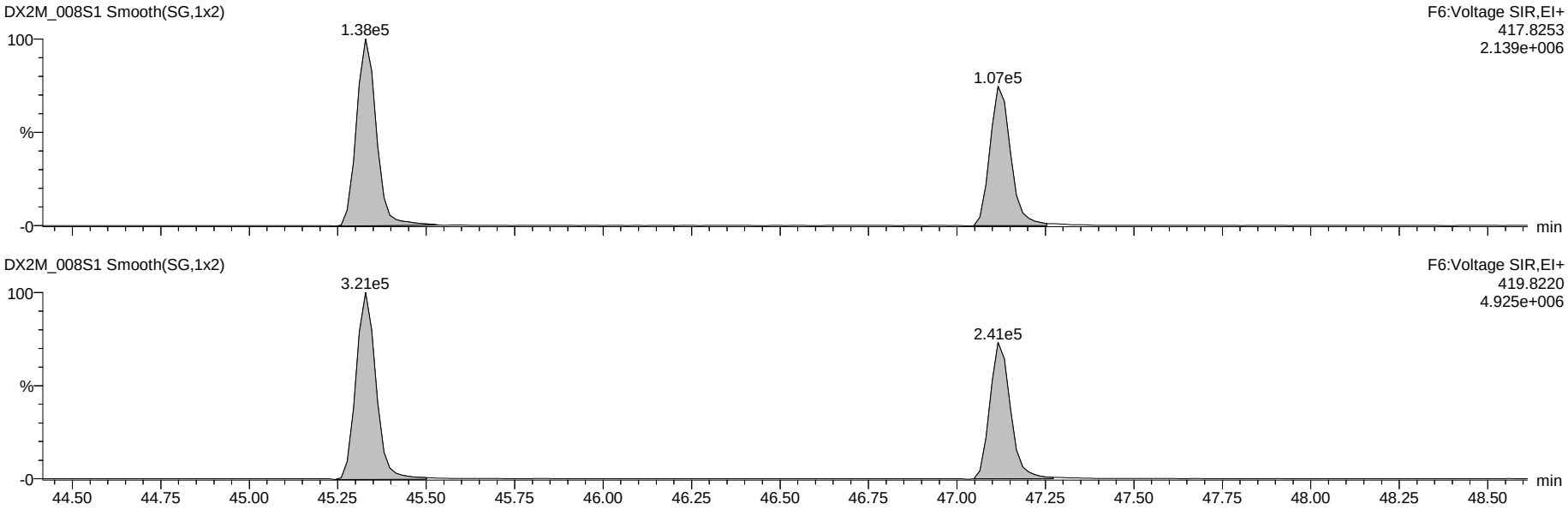
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Total Hepta-Furans



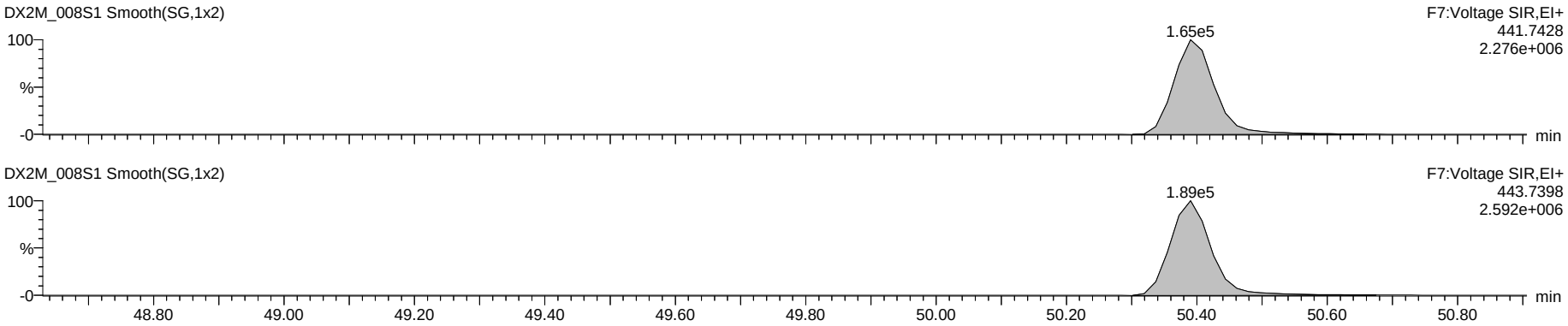
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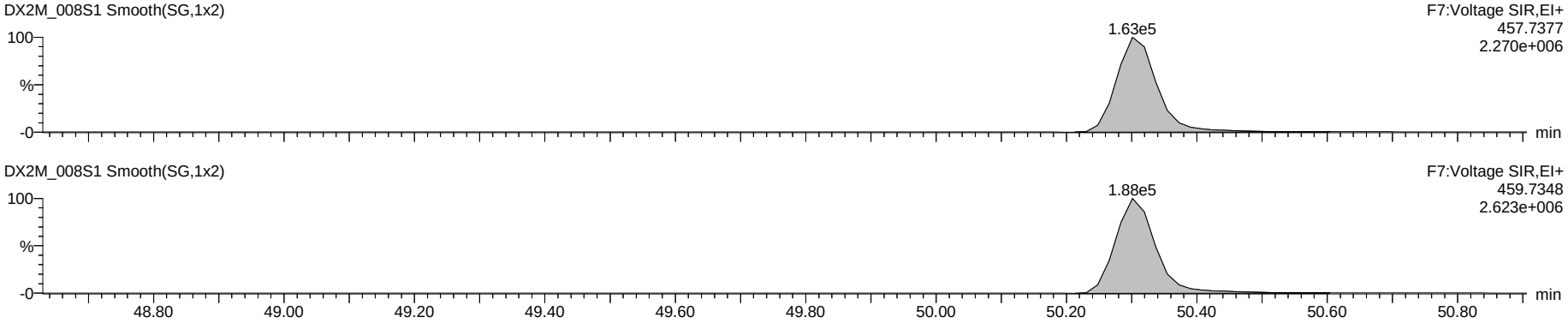
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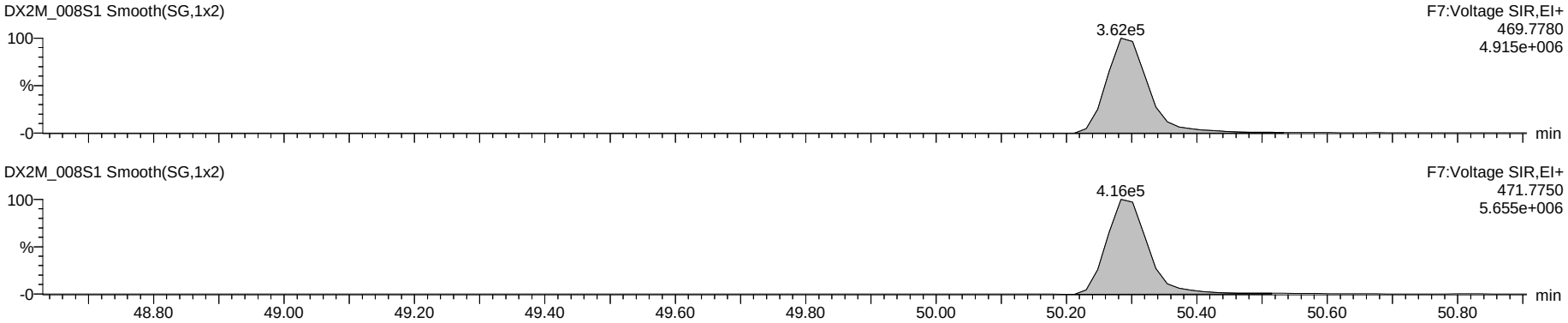
OCDF



OCDD



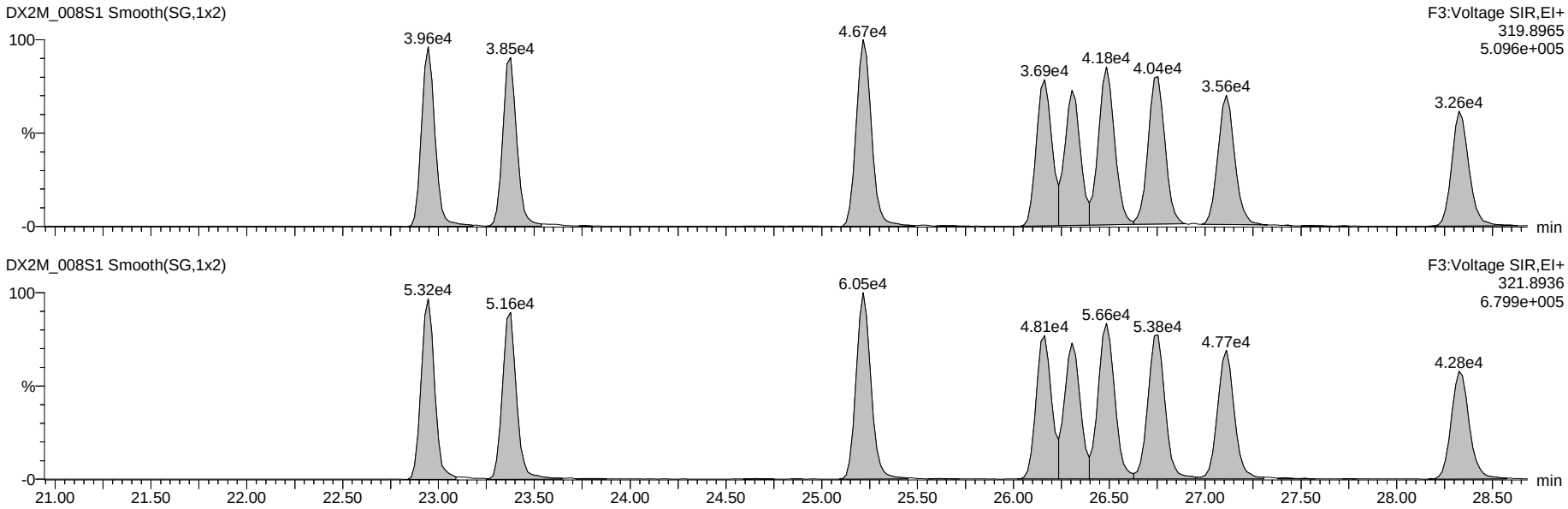
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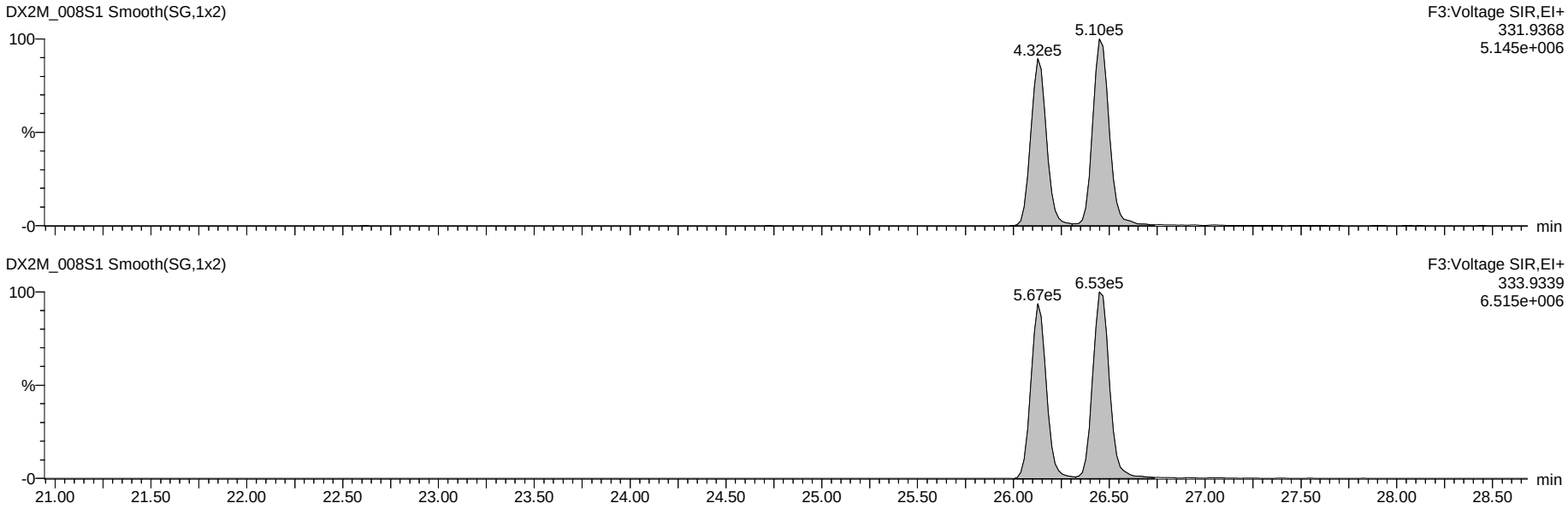
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Name: DX2M_008S1, Date: 10-Jan-2012, Time: 08:16:41, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Dioxins



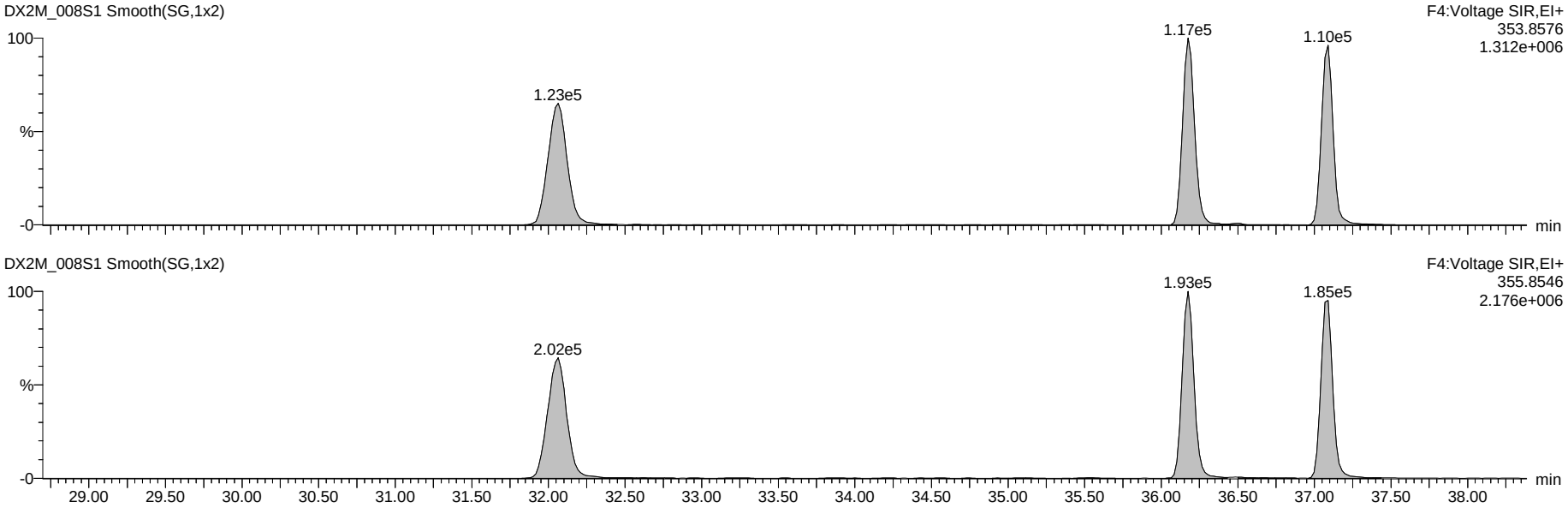
13C-Tetra-Dioxins



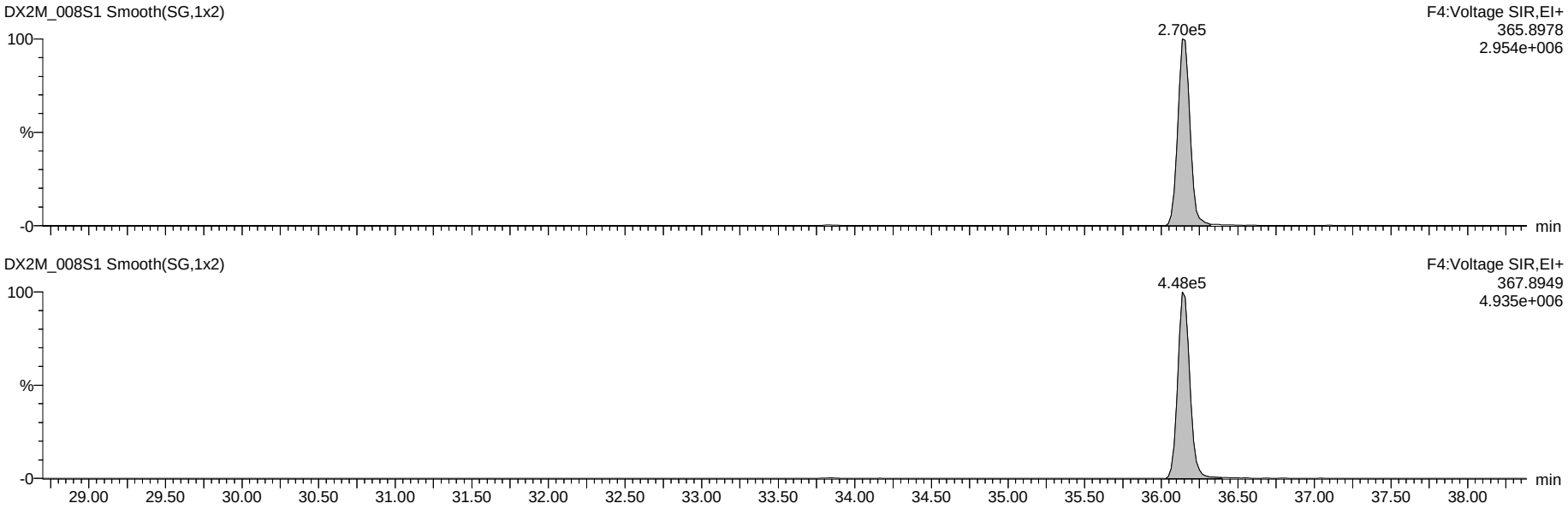
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Total Penta-Dioxins



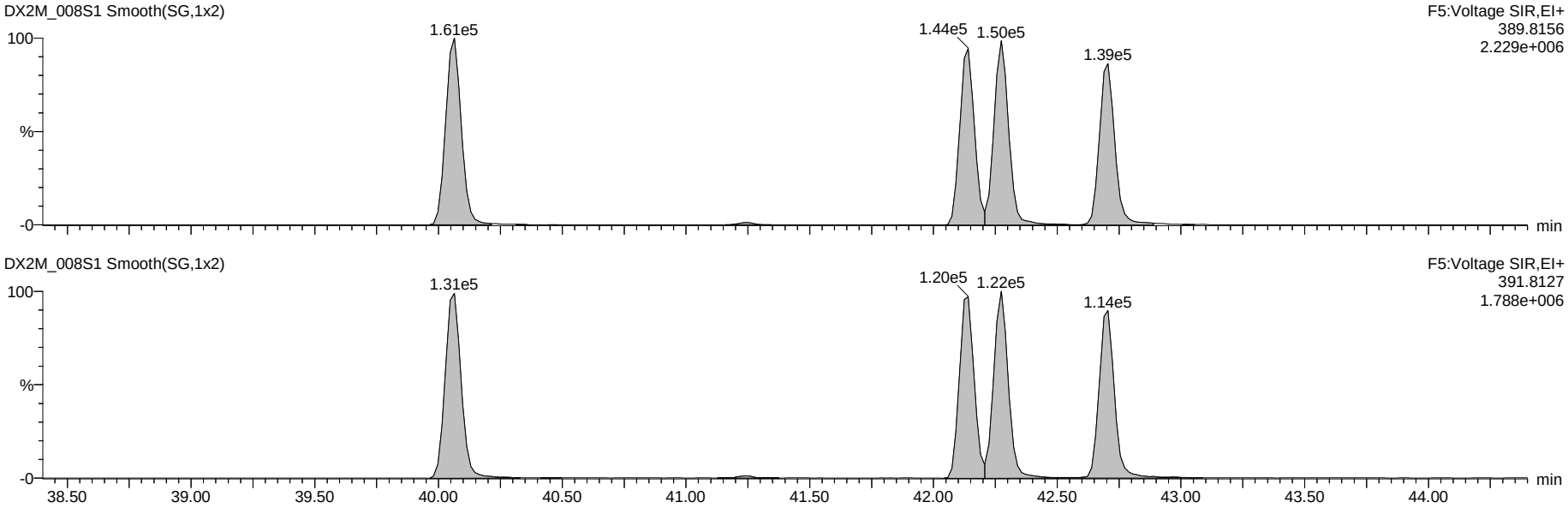
13C-Penta-Dioxins



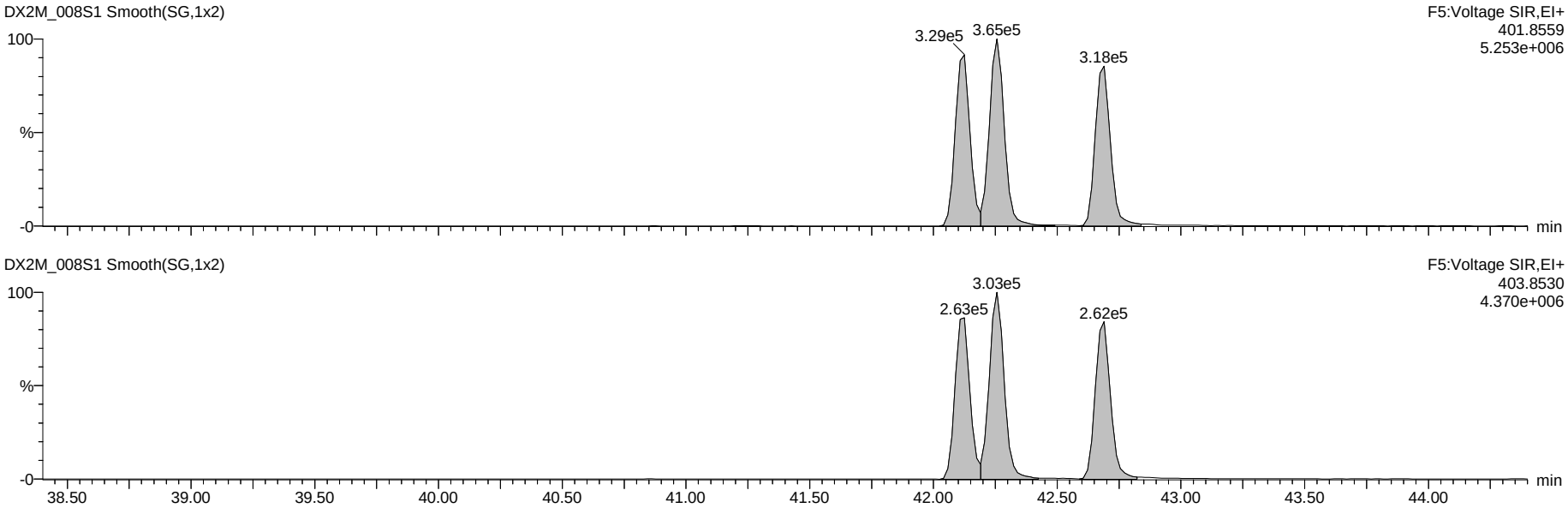
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Total Hexa-Dioxins



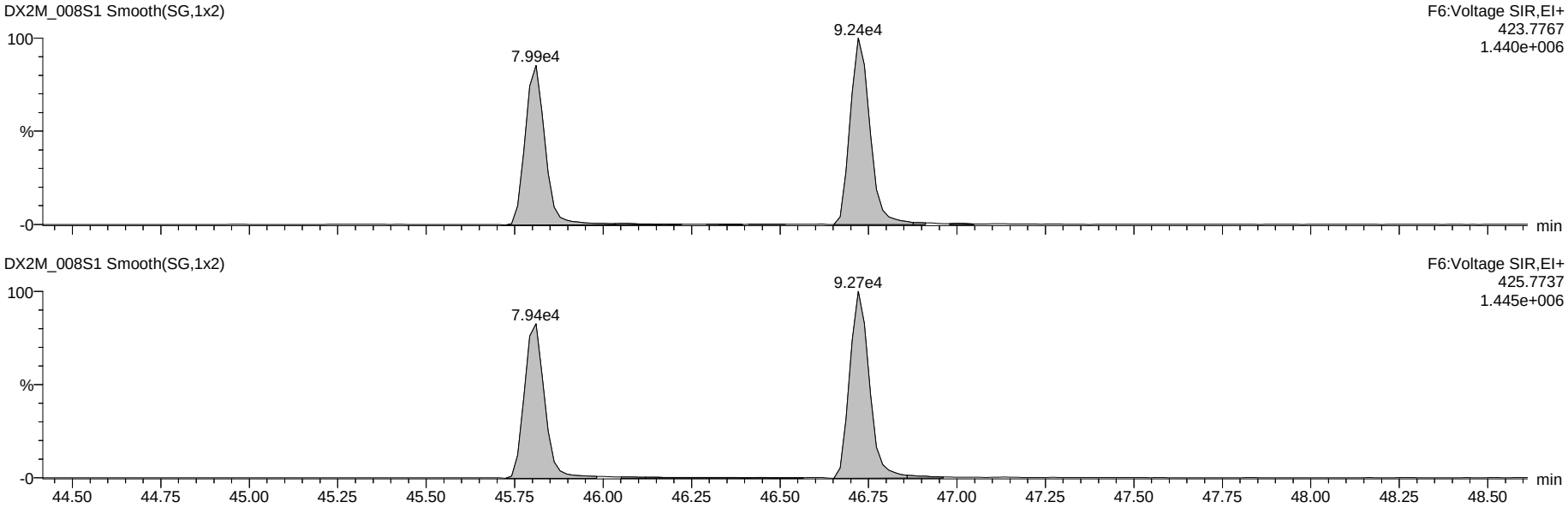
13C-Hexa-Dioxins



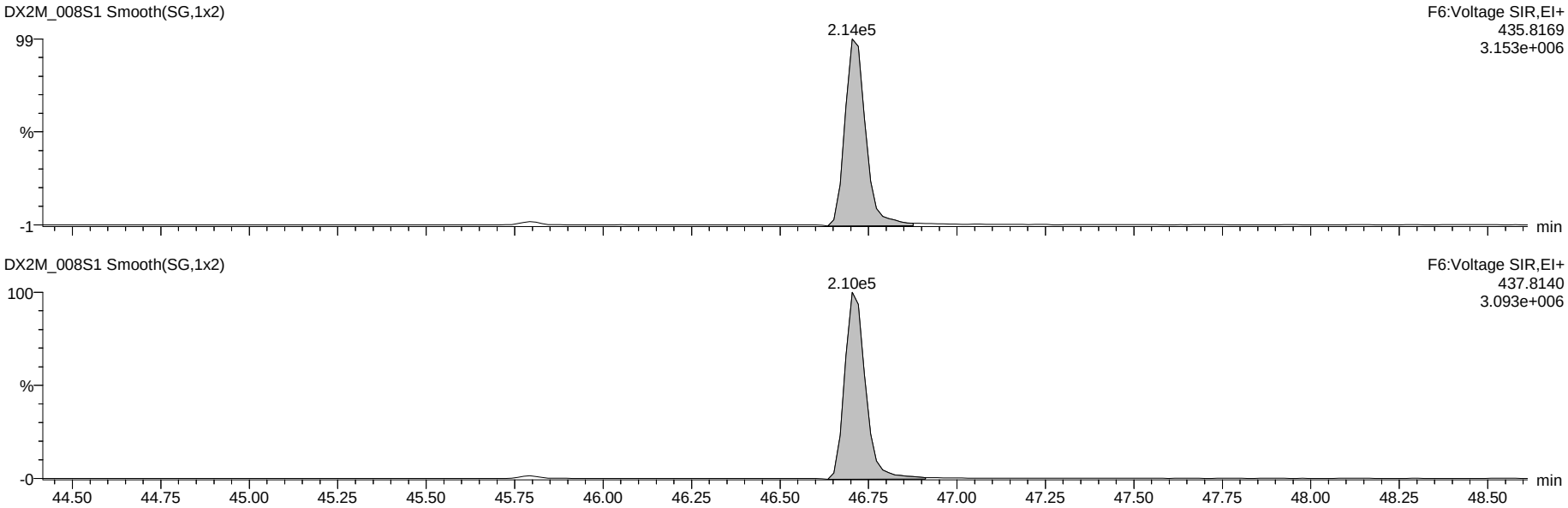
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Total Hepta-Dioxins



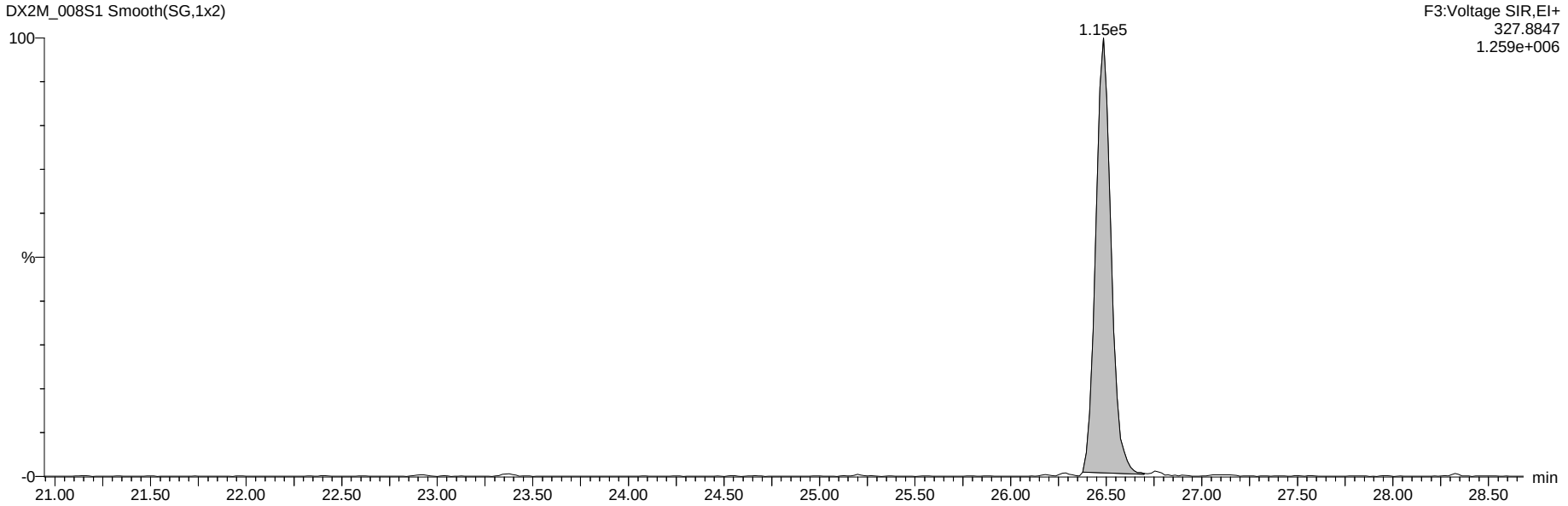
13C-Hepta-Dioxins



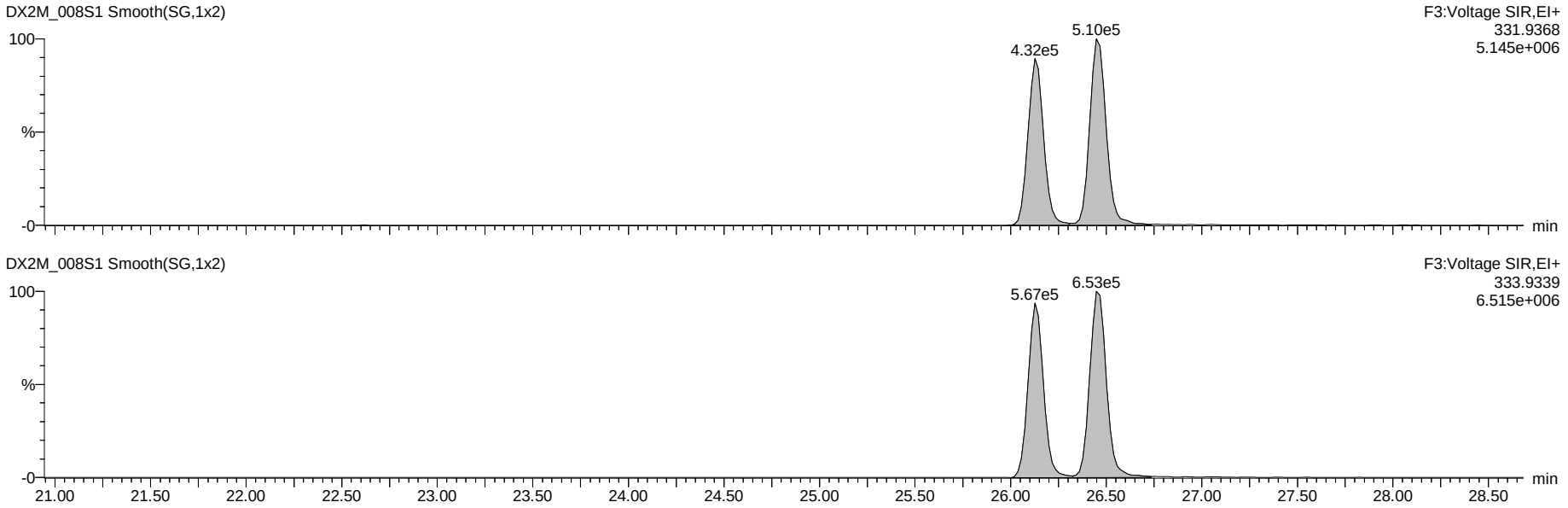
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37Cl-2,3,7,8-TCDD



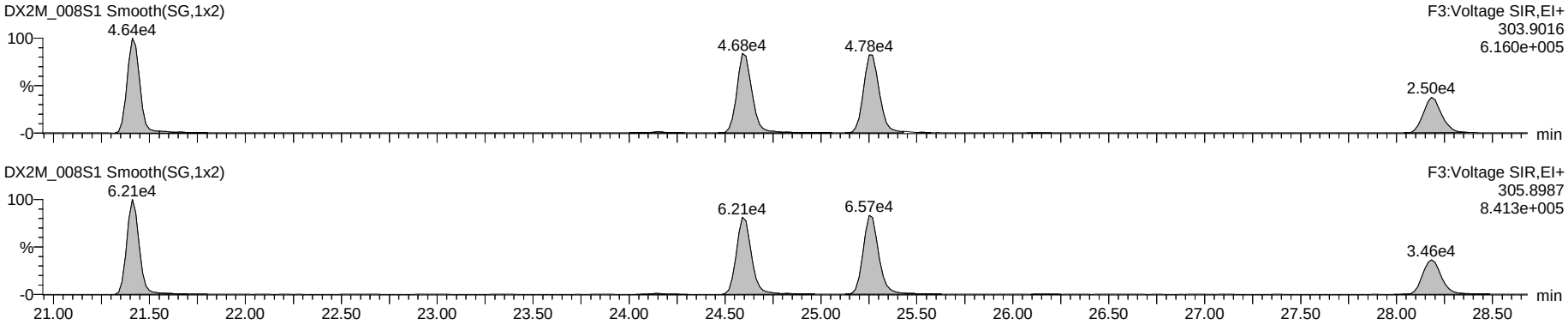
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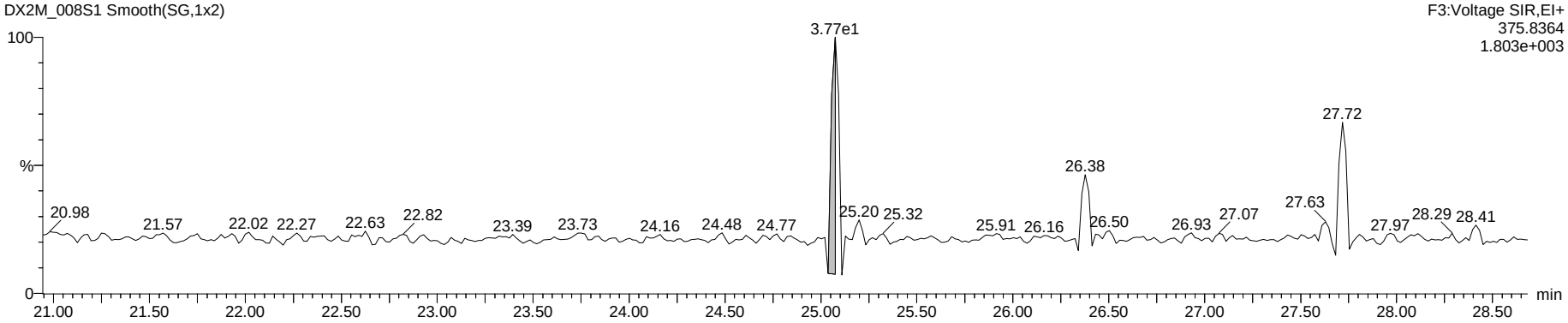
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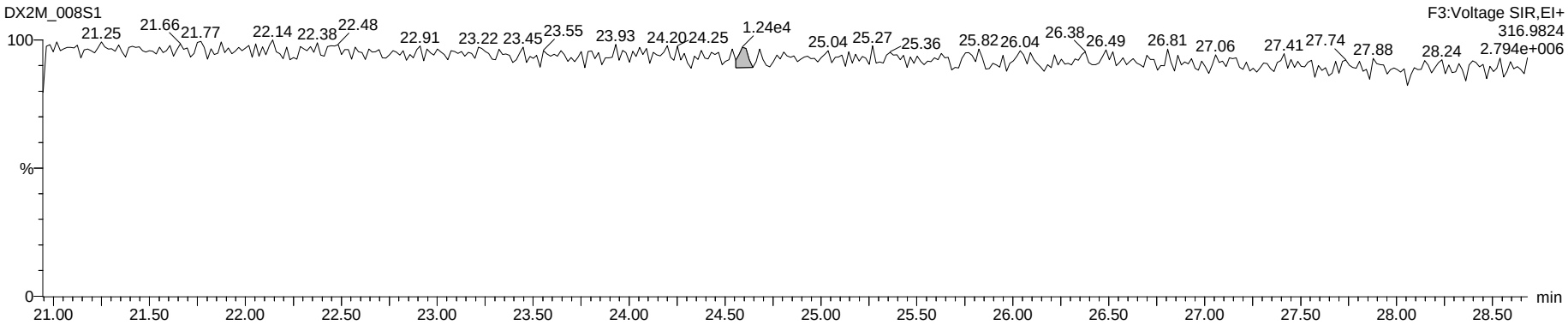
Total Tetra-Furans



Hexa DPE



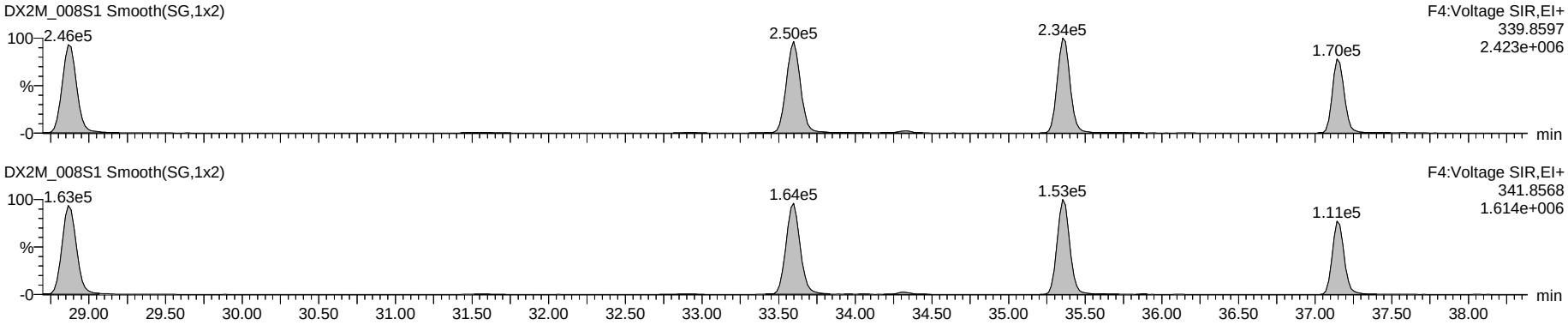
Tetra Lock



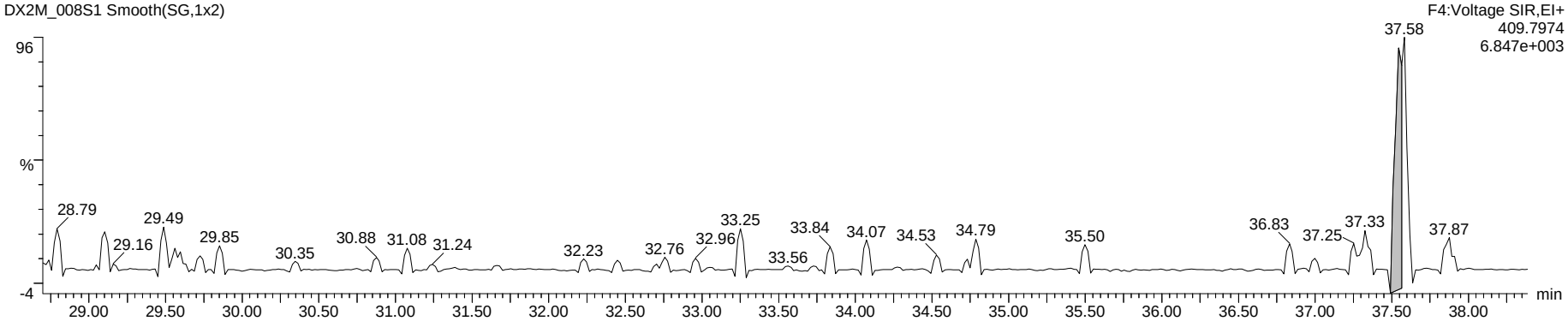
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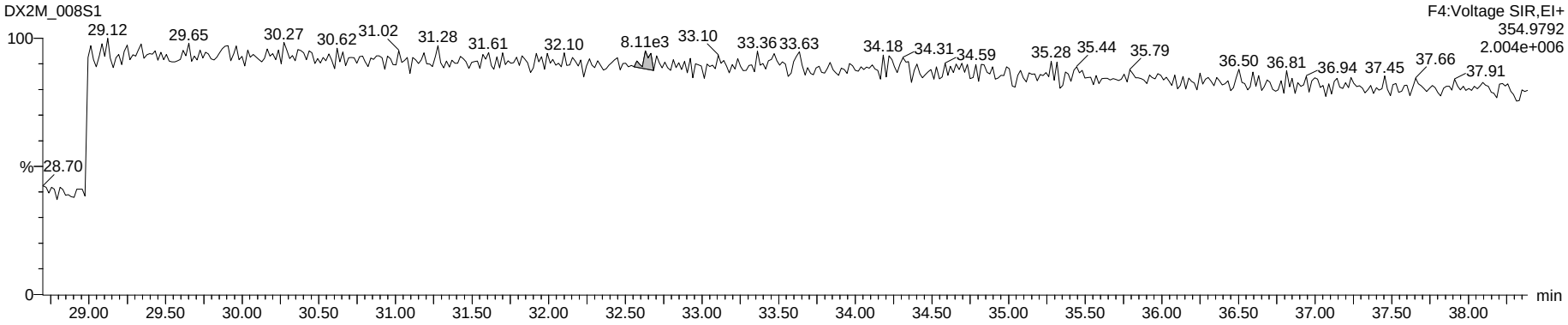
Total Penta-Furans



Hepta DPE



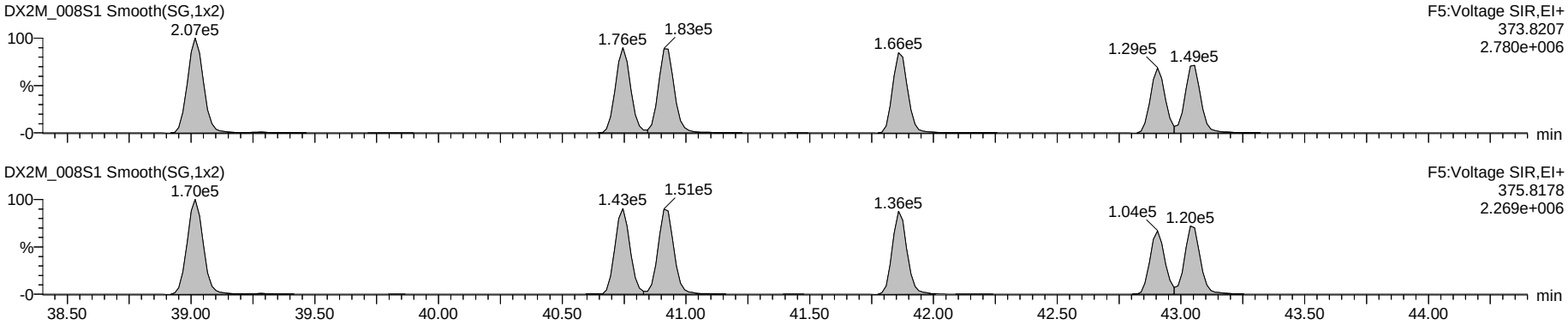
Penta Lock



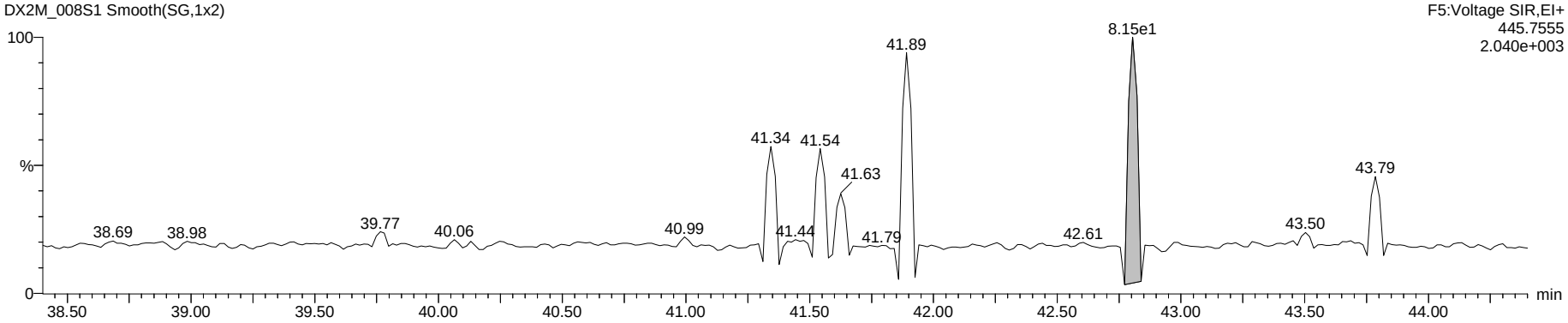
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Name: DX2M_008S1, Date: 10-Jan-2012, Time: 08:16:41, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

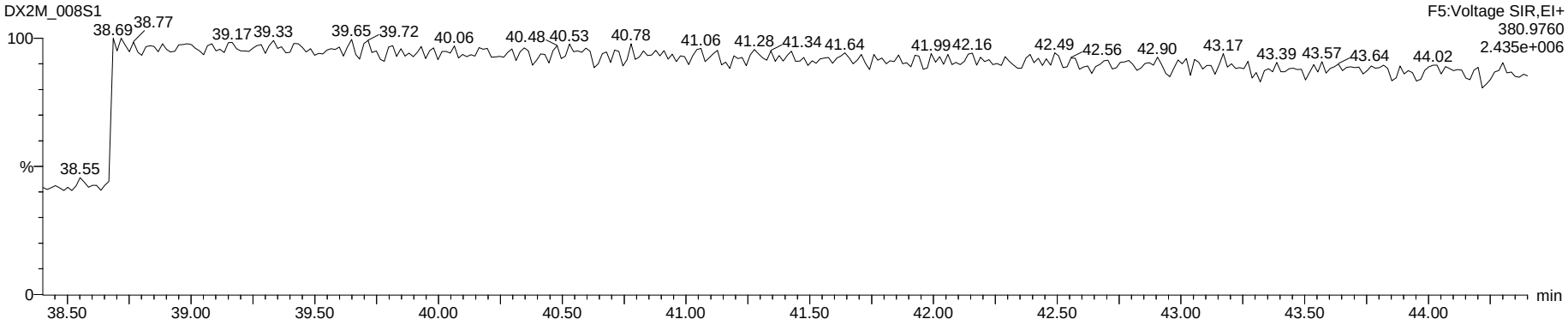
Total Hexa-Furans



Octa DPE



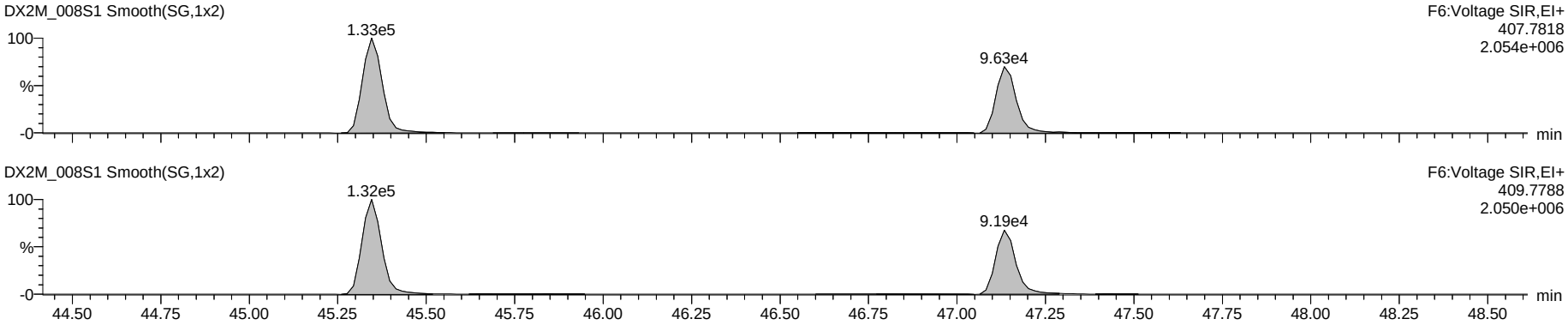
Hexa Lock



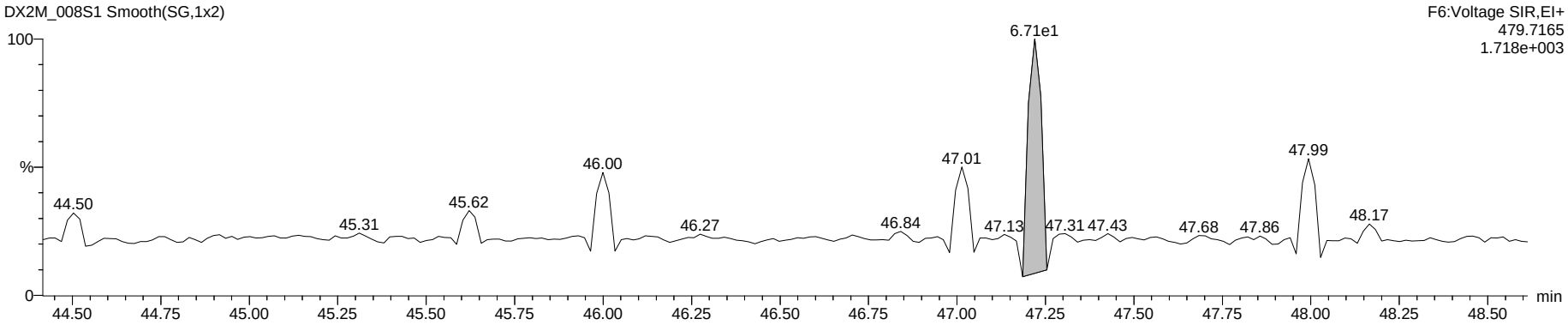
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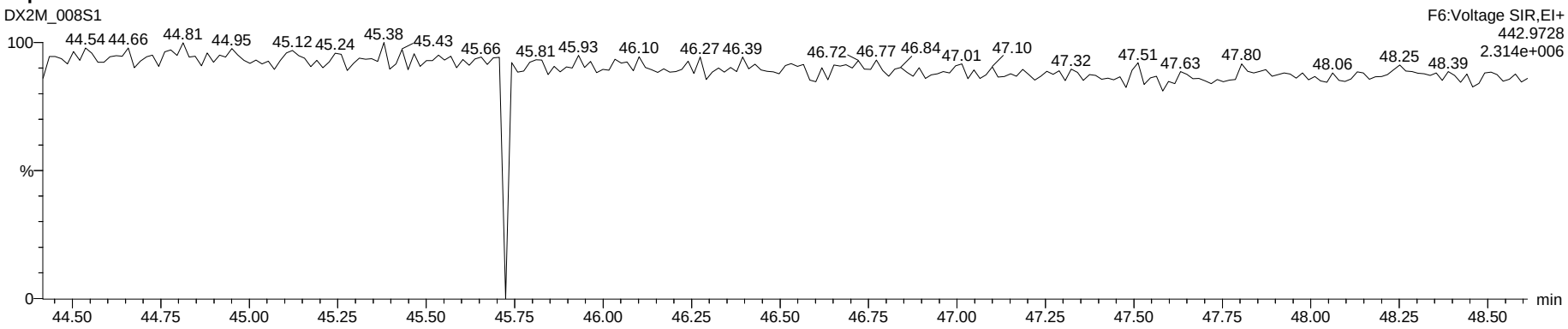
Total Hepta-Furans



Nona DPE



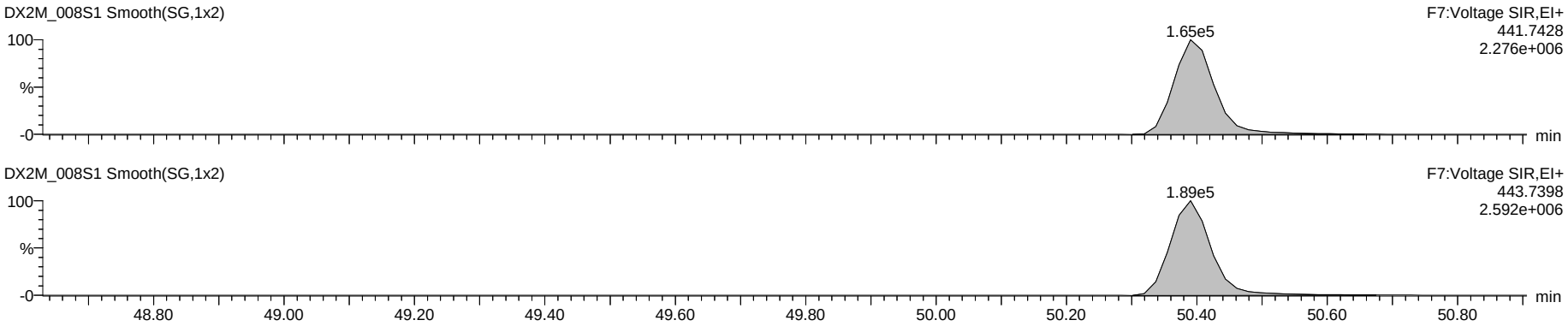
Hepta Lock



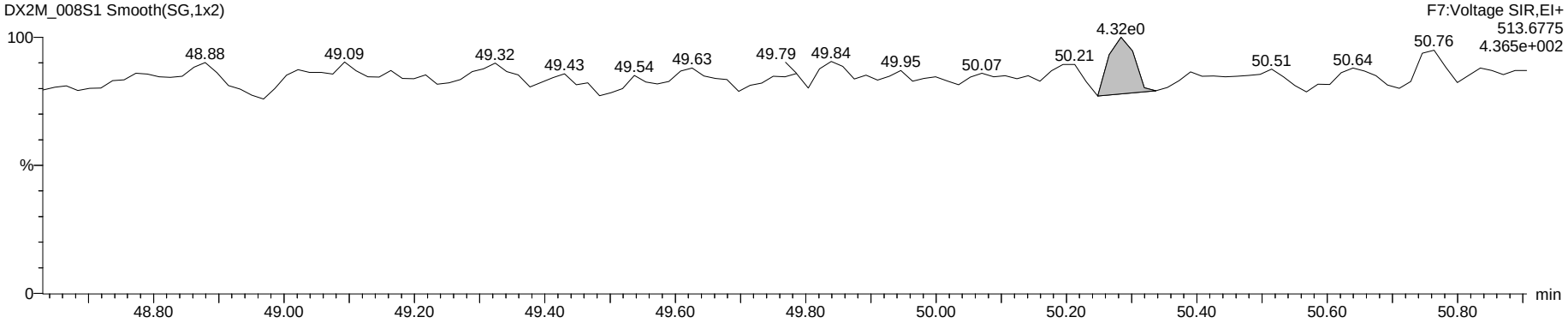
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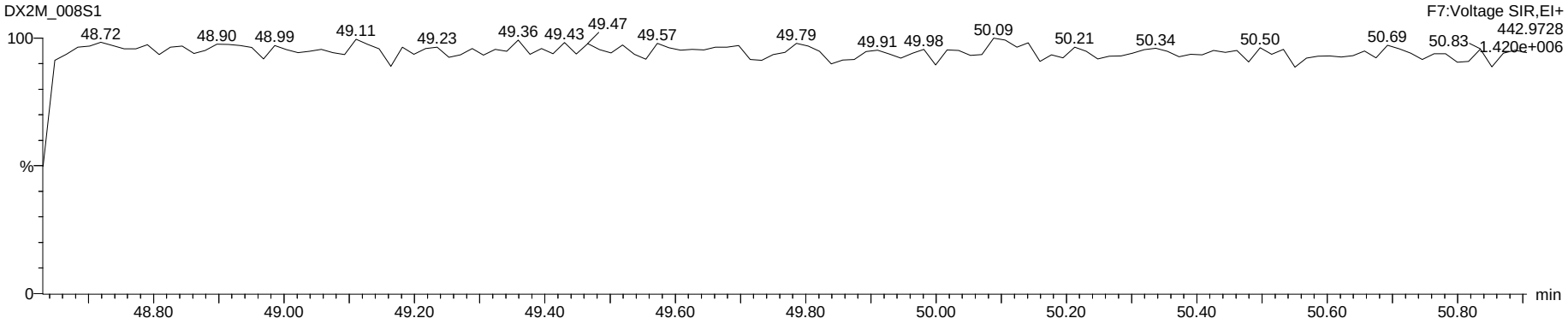
OCDF



Deca DPE



Octa Lock



Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

Name: DX2M_008S12, Date: 10-Jan-2012, Time: 18:21:01, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

	Name	Sample Size	Resp	Ratio	fails?	RT	pg	DL	%Rec	Noise 1	Noise 2
1	2,3,7,8-TCDF	1.000	1.36e5	0.75	NO	25.23	10.762	0.0204	100.6	4.93e2	5.65e2
2	1,2,3,7,8-PeCDF	1.000	5.06e5	1.49	NO	33.56	47.860	0.0490	104.0	8.86e2	9.39e2
3	2,3,4,7,8-PeCDF	1.000	4.79e5	1.55	NO	35.33	47.621	0.0441	101.3	8.86e2	9.39e2
4	1,2,3,4,7,8-HxCDF	1.000	4.20e5	1.21	NO	40.73	51.526	0.0259	103.1	4.29e2	7.34e2
5	1,2,3,6,7,8-HxCDF	1.000	4.36e5	1.21	NO	40.89	47.852	0.0226	100.7	4.29e2	7.34e2
6	2,3,4,6,7,8-HxCDF	1.000	4.10e5	1.20	NO	41.84	52.638	0.0260	99.3	4.29e2	7.34e2
7	1,2,3,7,8,9-HxCDF	1.000	3.39e5	1.20	NO	42.89	50.363	0.0305	95.9	4.29e2	7.34e2
8	1,2,3,4,6,7,8-HpCDF	1.000	3.57e5	1.01	NO	45.33	49.994	0.0243	100.0	5.01e2	5.85e2
9	1,2,3,4,7,8,9-HpCDF	1.000	2.78e5	1.02	NO	47.12	49.828	0.0324	99.7	5.01e2	5.85e2
10	OCDF	1.000	5.10e5	0.88	NO	50.37	99.643	0.0092	95.8	1.72e1	2.48e2
11	2,3,7,8-TCDD	1.000	1.17e5	0.77	NO	26.45	10.112	0.0388	91.9	9.30e2	8.53e2
12	1,2,3,7,8-PeCDD	1.000	3.90e5	0.60	NO	36.16	52.432	0.0304	100.8	5.70e2	4.48e2
13	1,2,3,4,7,8-HxCDD	1.000	3.56e5	1.21	NO	42.12	56.301	0.0434	99.6	7.58e2	8.41e2
14	1,2,3,6,7,8-HxCDD	1.000	3.58e5	1.24	NO	42.26	55.228	0.0408	99.5	7.58e2	8.41e2
15	1,2,3,7,8,9-HxCDD	1.000	3.57e5	1.18	NO	42.69	54.762	0.0413	101.4	7.58e2	8.41e2
16	1,2,3,4,6,7,8-HpCDD	1.000	2.91e5	1.01	NO	46.70	46.817	0.0344	98.6	4.23e2	8.91e2
17	OCDD	1.000	5.17e5	0.88	NO	50.28	97.860	0.0129	97.9	3.22e2	6.20e1
18	13C-2,3,7,8-TCDF	1.000	1.64e6	0.76	NO	25.22	100.930	0.0733	100.9	3.08e3	1.77e3
19	13C-1,2,3,7,8-PeCDF	1.000	1.22e6	1.52	NO	33.54	96.706	0.0832	96.7	1.59e3	2.69e3
20	13C-2,3,4,7,8-PeCDF	1.000	1.14e6	1.54	NO	35.30	94.375	0.0866	94.4	1.59e3	2.69e3
21	13C-1,2,3,4,7,8-HxCDF	1.000	8.18e5	0.50	NO	40.70	98.178	0.0623	98.2	1.89e3	1.13e3
22	13C-1,2,3,6,7,8-HxCDF	1.000	9.28e5	0.50	NO	40.88	98.748	0.0552	98.7	1.89e3	1.13e3
23	13C-2,3,4,6,7,8-HxCDF	1.000	8.61e5	0.50	NO	41.82	100.887	0.0608	100.9	1.89e3	1.13e3
24	13C-1,2,3,7,8,9-HxCDF	1.000	7.76e5	0.50	NO	42.87	101.032	0.0676	101.0	1.89e3	1.13e3
25	13C-1,2,3,4,6,7,8-HpCDF	1.000	6.17e5	0.44	NO	45.31	96.063	0.0640	96.1	1.34e3	1.06e3
26	13C-1,2,3,4,7,8,9-HpCDF	1.000	5.35e5	0.44	NO	47.10	95.176	0.0731	95.2	1.34e3	1.06e3
27	13C-2,3,7,8-TCDD	1.000	1.40e6	0.76	NO	26.43	101.952	0.0881	102.0	2.37e3	2.57e3
28	13C-1,2,3,7,8-PeCDD	1.000	8.95e5	0.61	NO	36.12	93.909	0.0440	93.9	9.19e2	7.90e2
29	13C-1,2,3,4,7,8-HxCDD	1.000	8.08e5	1.22	NO	42.11	99.482	0.0496	99.5	1.09e3	1.25e3
30	13C-1,2,3,6,7,8-HxCDD	1.000	8.82e5	1.22	NO	42.24	98.769	0.0451	98.8	1.09e3	1.25e3
31	13C-1,2,3,4,6,7,8-HpCDD	1.000	6.46e5	1.04	NO	46.70	99.664	0.0455	99.7	8.29e2	8.88e2
32	13C-OCDD	1.000	1.16e6	0.87	NO	50.28	180.167	0.0357	90.1	8.37e2	5.03e2
33	13C-1,2,3,4-TCDD	1.000	1.19e6	0.77	NO	26.11	118.603	0.1203	118.6	2.37e3	2.57e3
34	13C-1,2,3,7,8,9-HxCDD	1.000	8.26e5	1.24	NO	42.67	109.987	0.0537	110.0	1.09e3	1.25e3
35	37Cl-2,3,7,8-TCDD	1.000	1.38e5			26.45	10.035	0.0225	100.3		1.26e3
36	Total Tetra-Furans	1.000					38.831	0.0204			5.65e2
37	Total Tetra-Dioxins	1.000					88.451	0.0388			8.53e2
38	Total Penta-Furans	1.000					181.612	0.0469			9.39e2
39	Total Penta-Dioxins	1.000					162.100	0.0304			4.48e2
40	Total Hexa-Furans	1.000					307.824	0.0244			7.34e2
41	Total Hexa-Dioxins	1.000					227.978	0.0407			8.41e2
42	Total Hepta-Furans	1.000					100.326	0.0266			5.85e2
43	Total Hepta-Dioxins	1.000					97.004	0.0344			8.91e2
44	Hexa DPE	1.000	4.64e1			22.61					4.31e1
45	Hepta DPE	1.000	3.01e2			37.53					2.85e2
46	Octa DPE	1.000	2.13e1			41.79					2.35e1
47	Nona DPE	1.000	4.48e1			46.46					4.08e1
48	Deca DPE	1.000	6.95e1			49.91					1.00e2
49	Tetra Lock	1.000	2.31e3			24.18					4.77e4
50	Penta Lock	1.000	2.82e3			32.39					5.08e4
51	Hexa Lock	1.000									5.46e4
52	Hepta Lock	1.000	7.03e3			46.55					5.46e4
53	Octa Lock	1.000	1.66e3			50.11					3.48e4
54	13C-Tetra-Furans	1.000					100.930	0.0733			1.77e3
55	13C-Tetra-Dioxins	1.000					220.555	0.2084			2.57e3

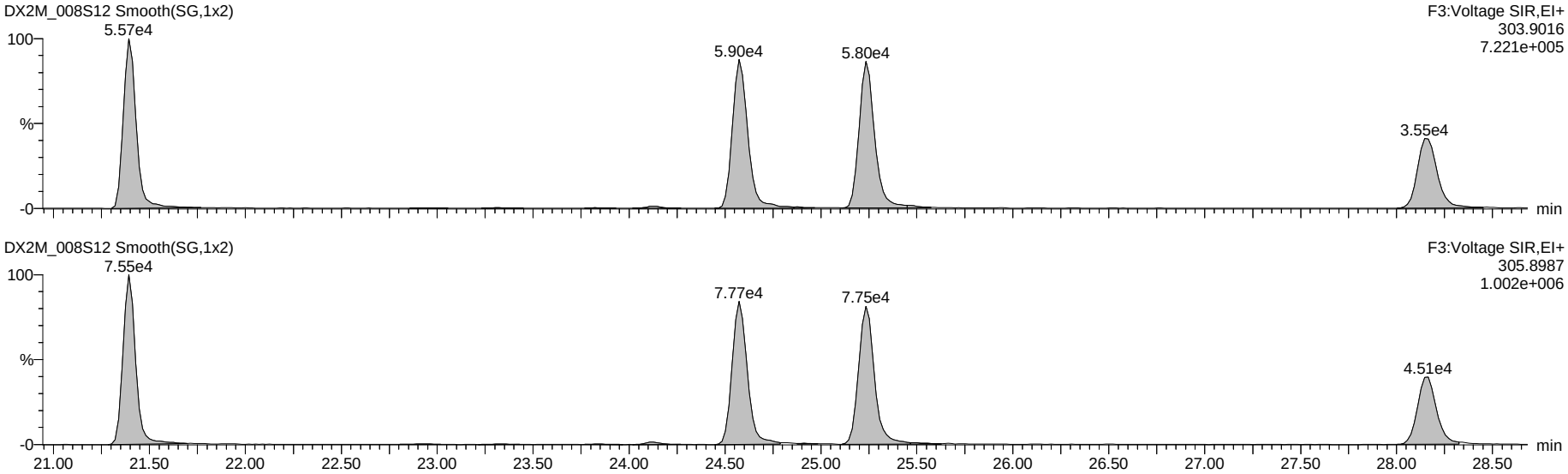
pv'd by LHE 11-JAN-2012 Cal/Ver and SPM units = ng/mL Samples and Lab Blank units = pg/L

Dataset: G:\Masslynx\Inst_M\Projects\111213DX.PRO\DX2M_008-A.qld

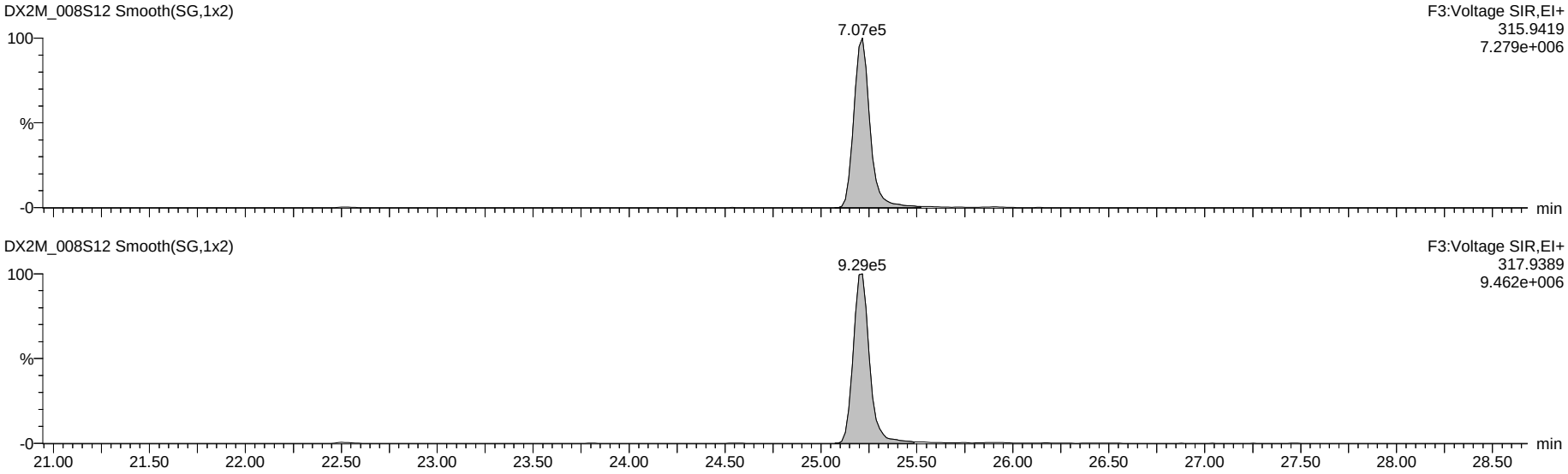
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Calibration: G:\Masslynx\Inst_M\Projects\111213DX.PRO\CurveDB\DX1M_179B-B.cdb 15 Dec 2011 09:33:42

Name: DX2M_008S12, Date: 10-Jan-2012, Time: 18:21:01, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Furans



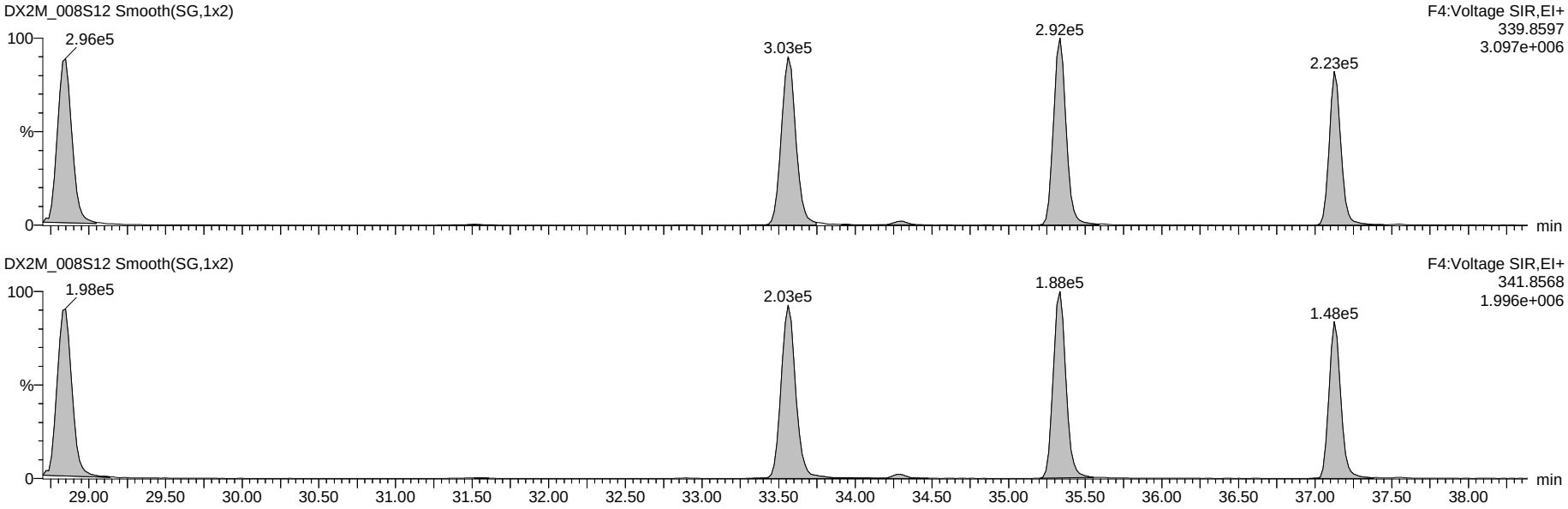
13C-Tetra-Furans



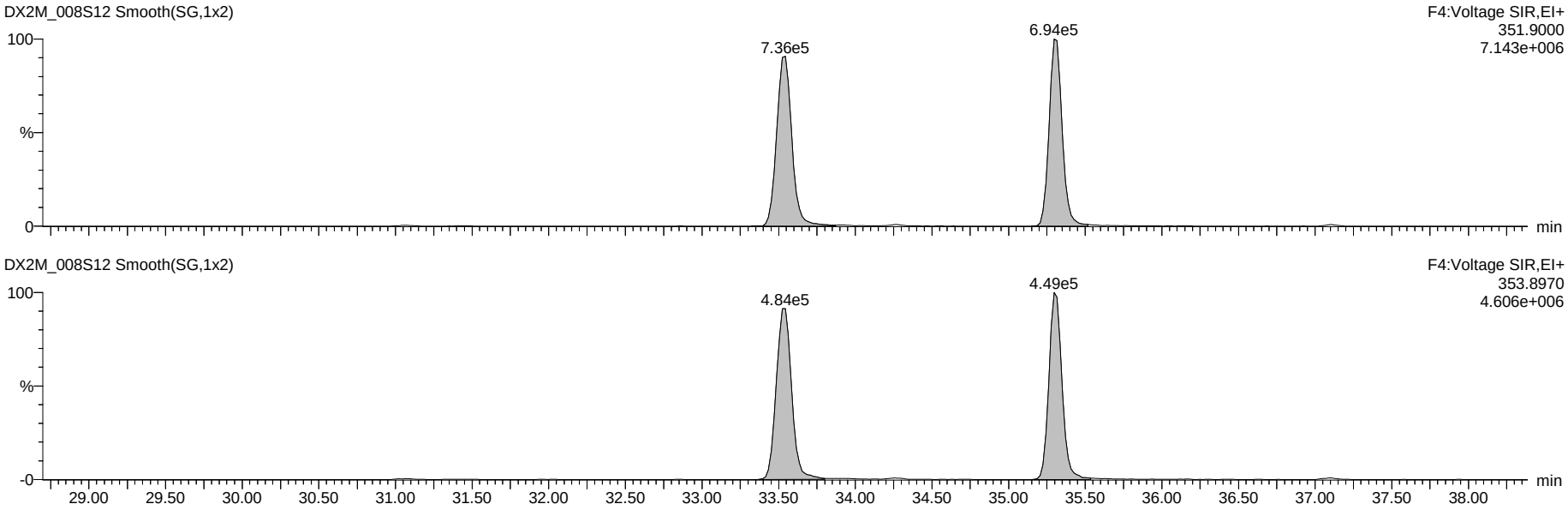
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Name: DX2M_008S12, Date: 10-Jan-2012, Time: 18:21:01, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

Total Penta-Furans



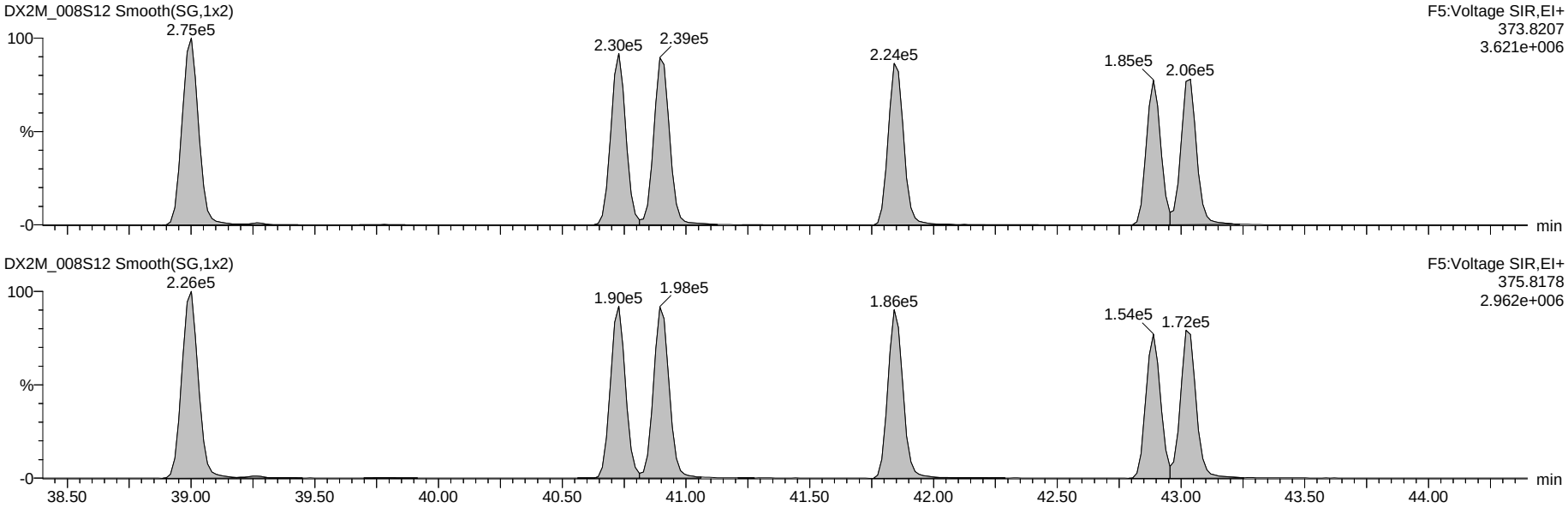
13C-Penta-Furans



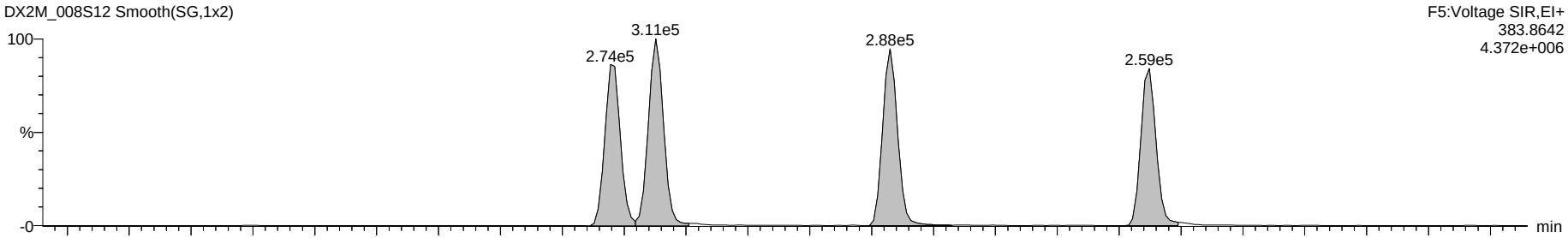
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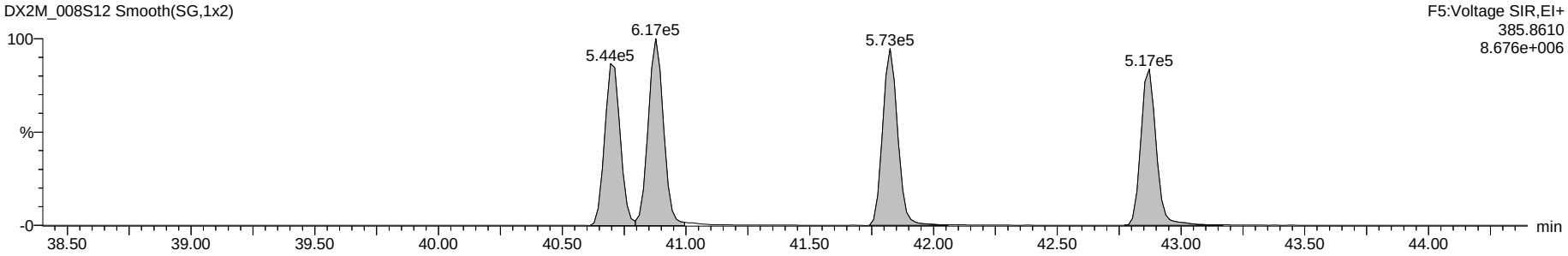
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Total Hexa-Furans



13C-Hexa-Furans

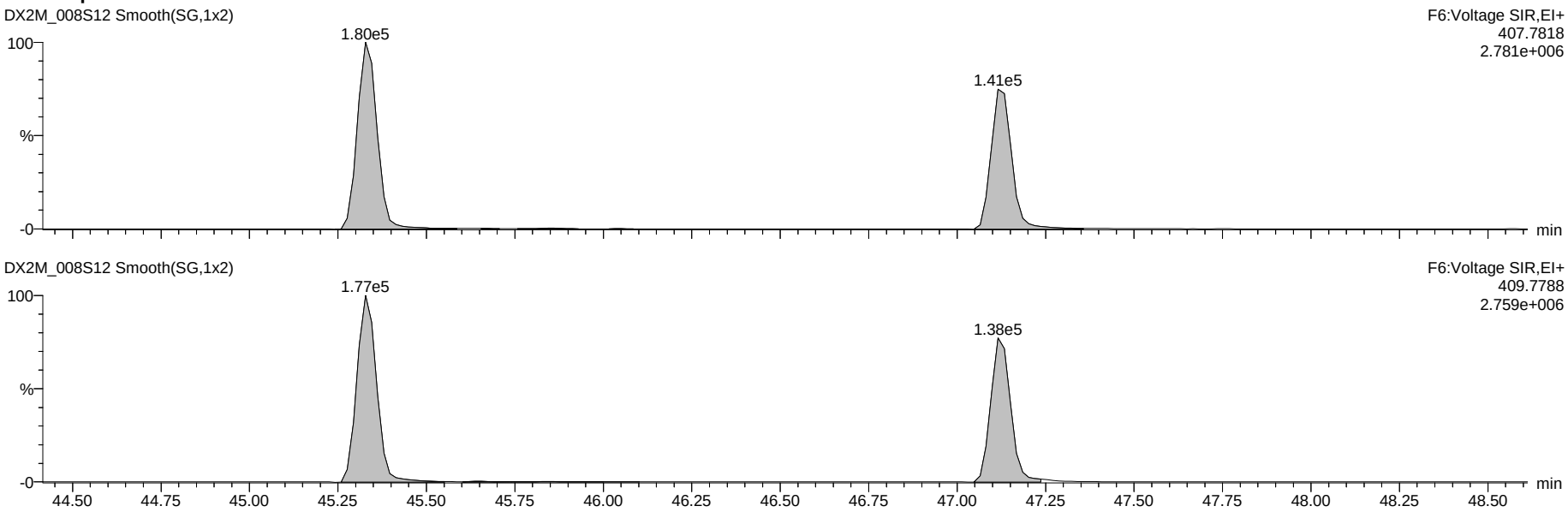




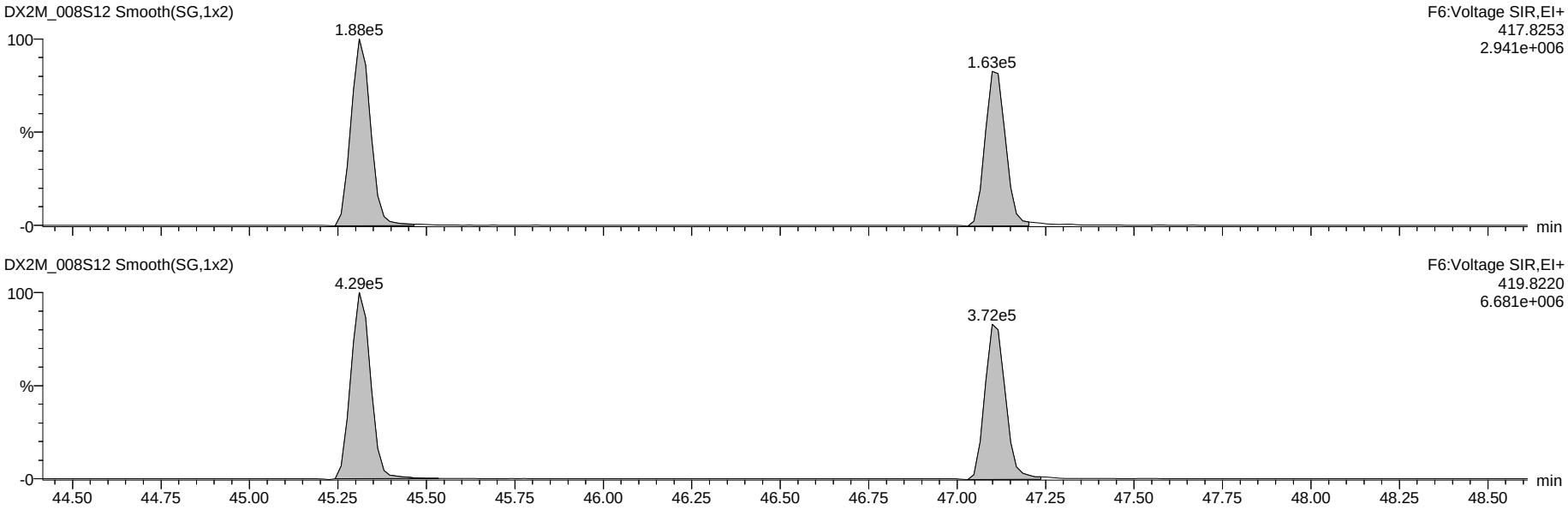
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Total Hepta-Furans



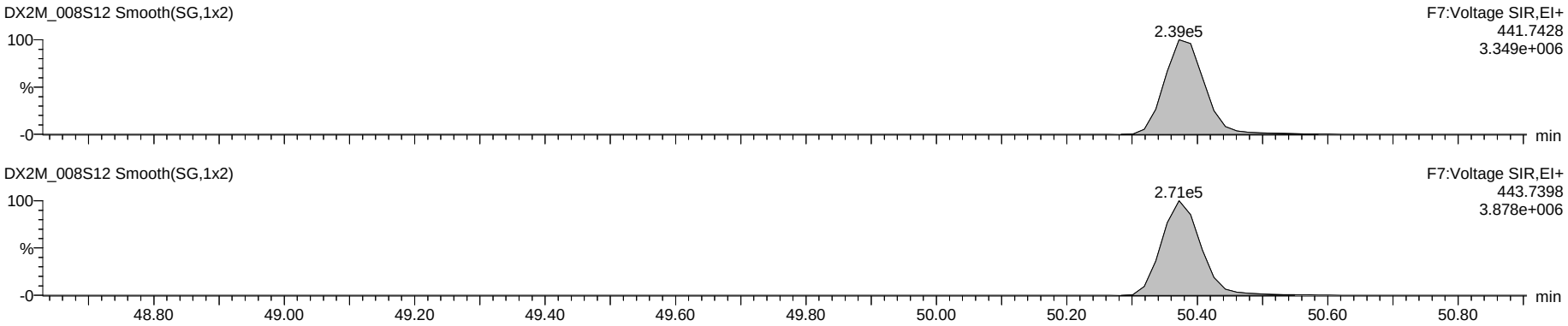
13C-Hepta-Furans



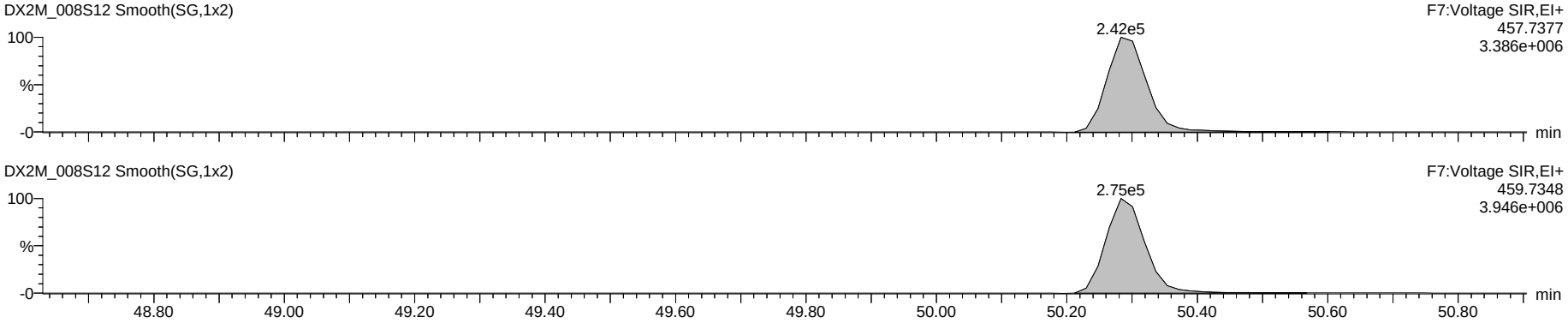
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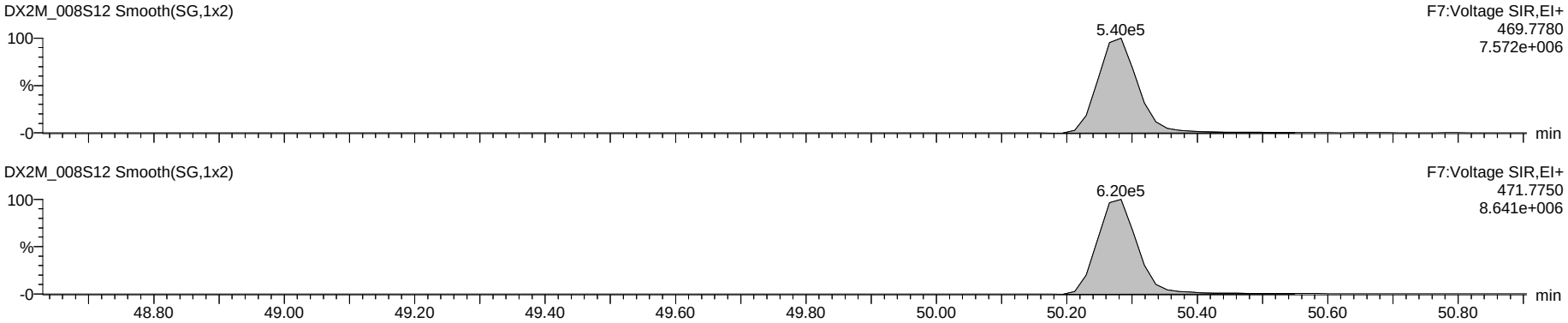
OCDF



OCDD



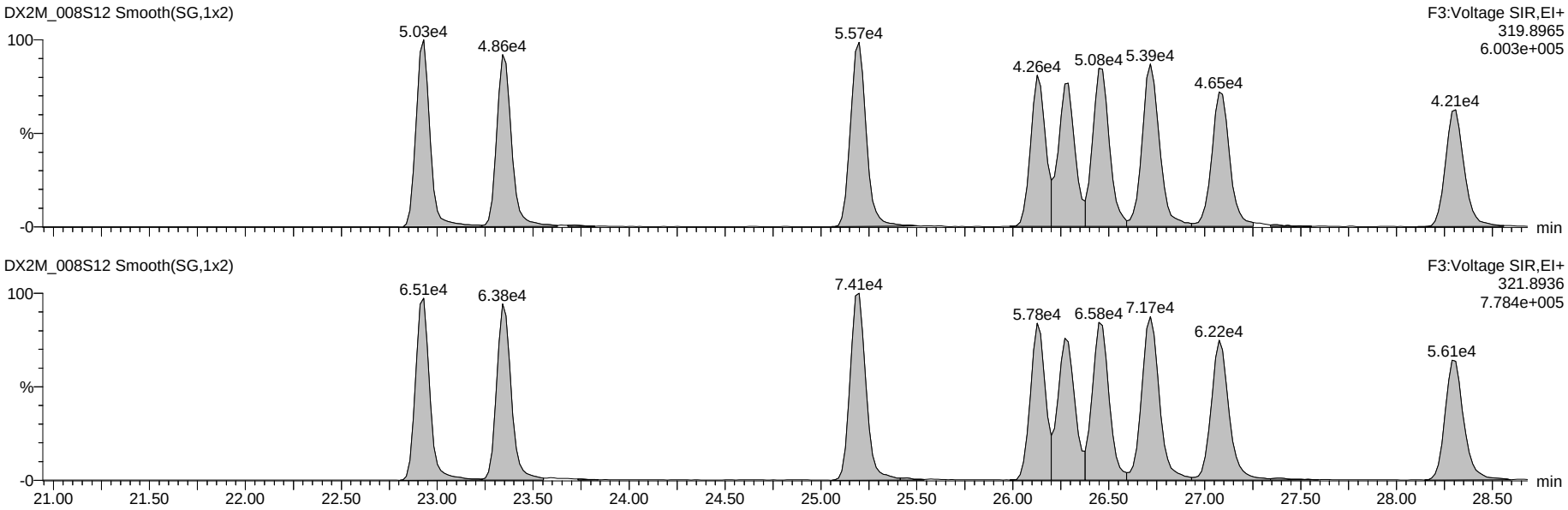
13C-OCDD



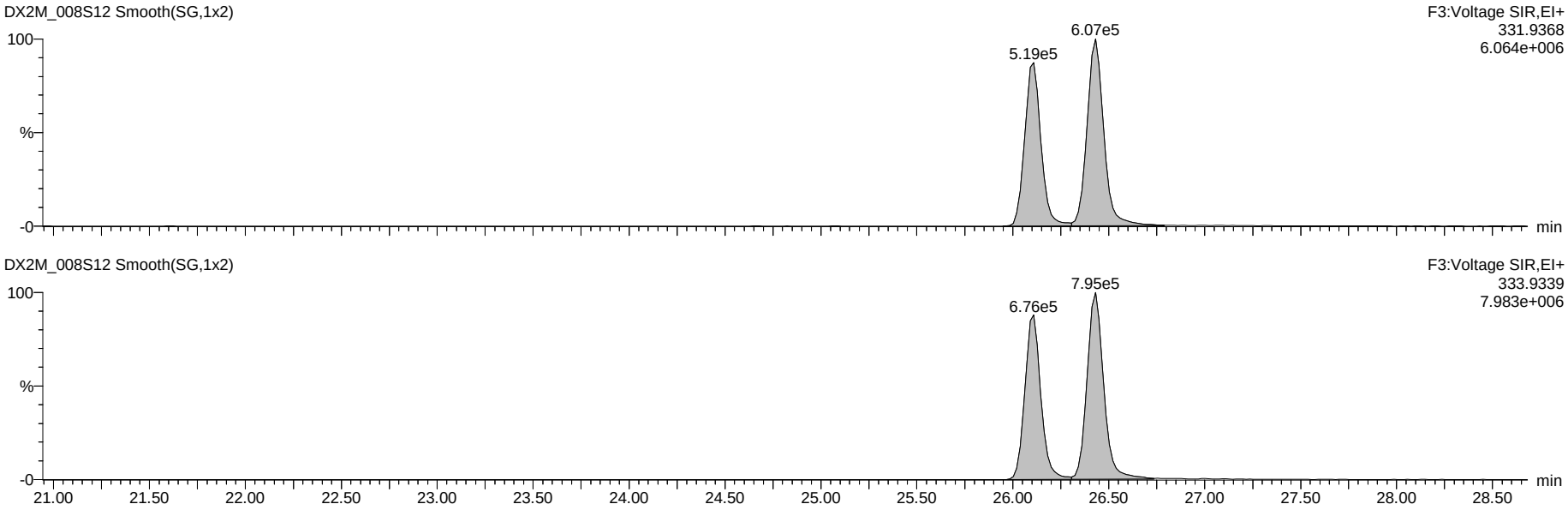
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Name: DX2M_008S12, Date: 10-Jan-2012, Time: 18:21:01, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

Total Tetra-Dioxins



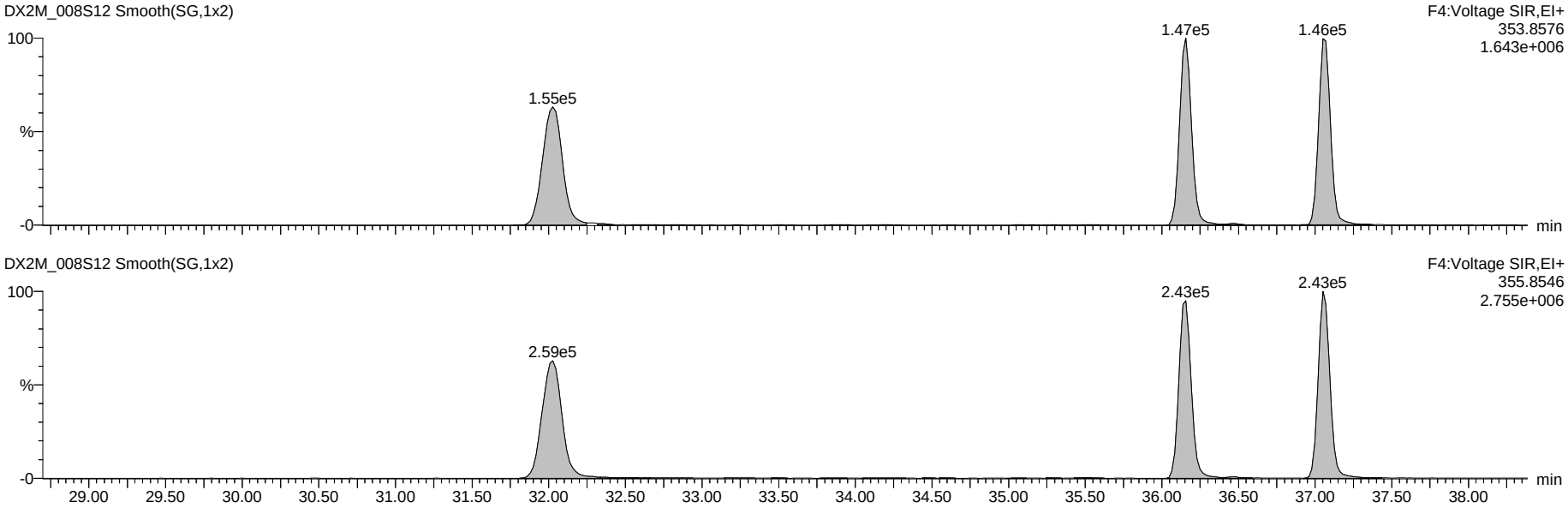
13C-Tetra-Dioxins



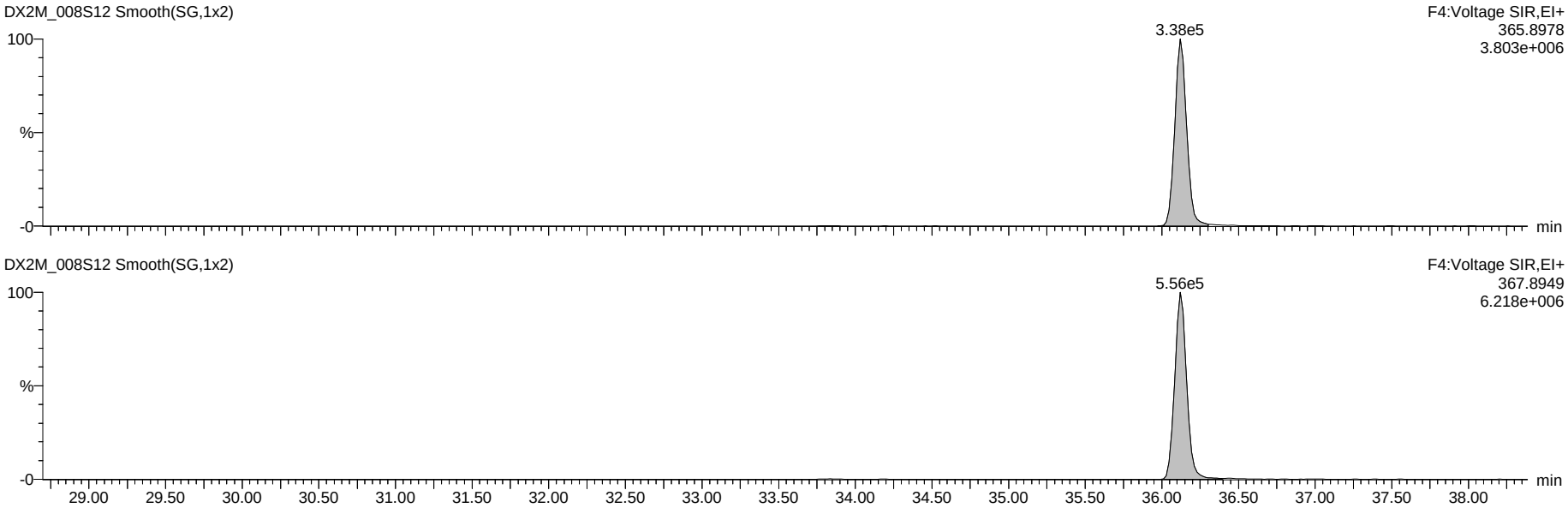
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Name: DX2M_008S12, Date: 10-Jan-2012, Time: 18:21:01, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

Total Penta-Dioxins



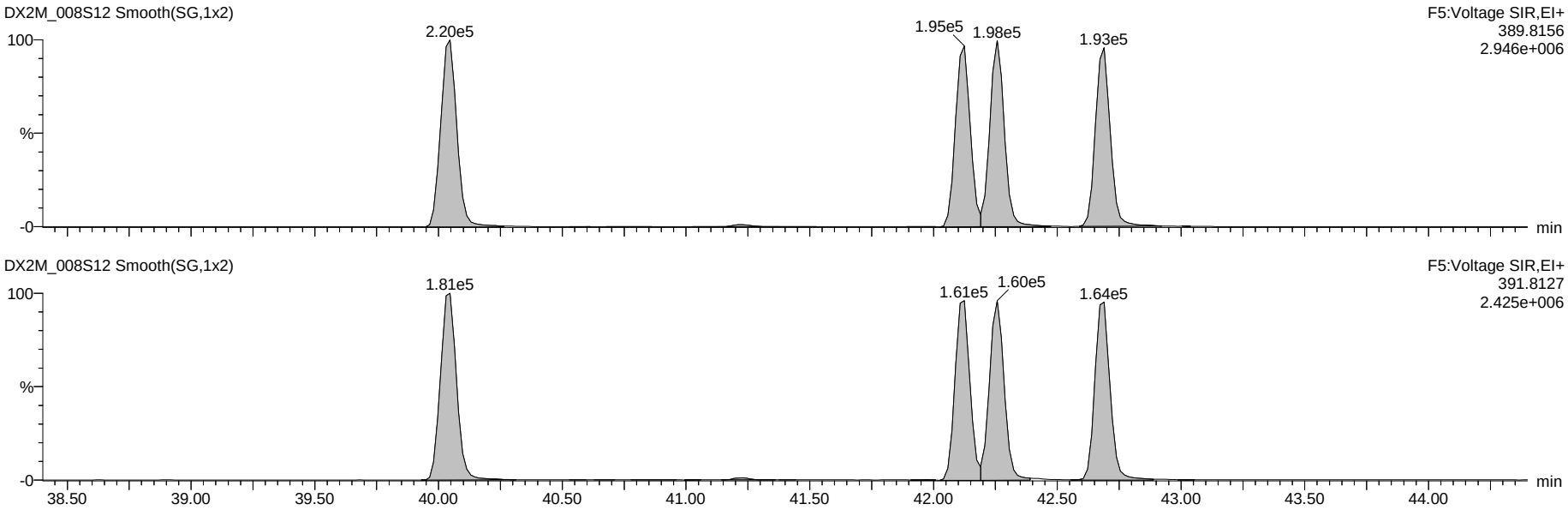
13C-Penta-Dioxins



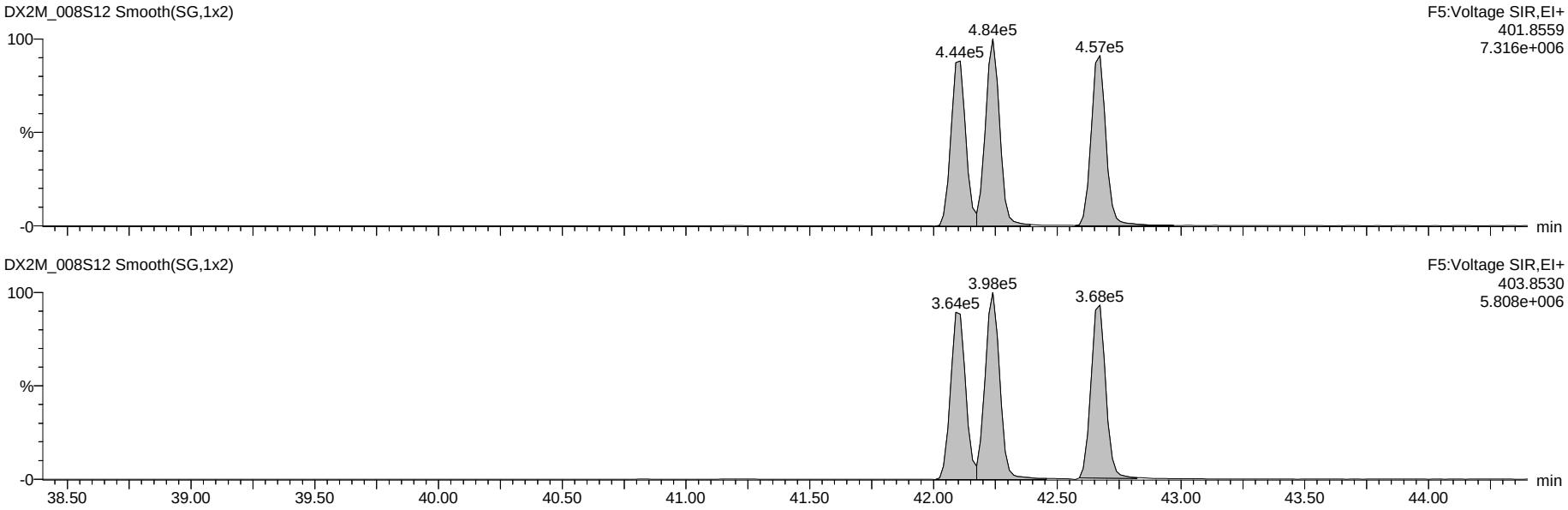
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Name: DX2M_008S12, Date: 10-Jan-2012, Time: 18:21:01, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

Total Hexa-Dioxins



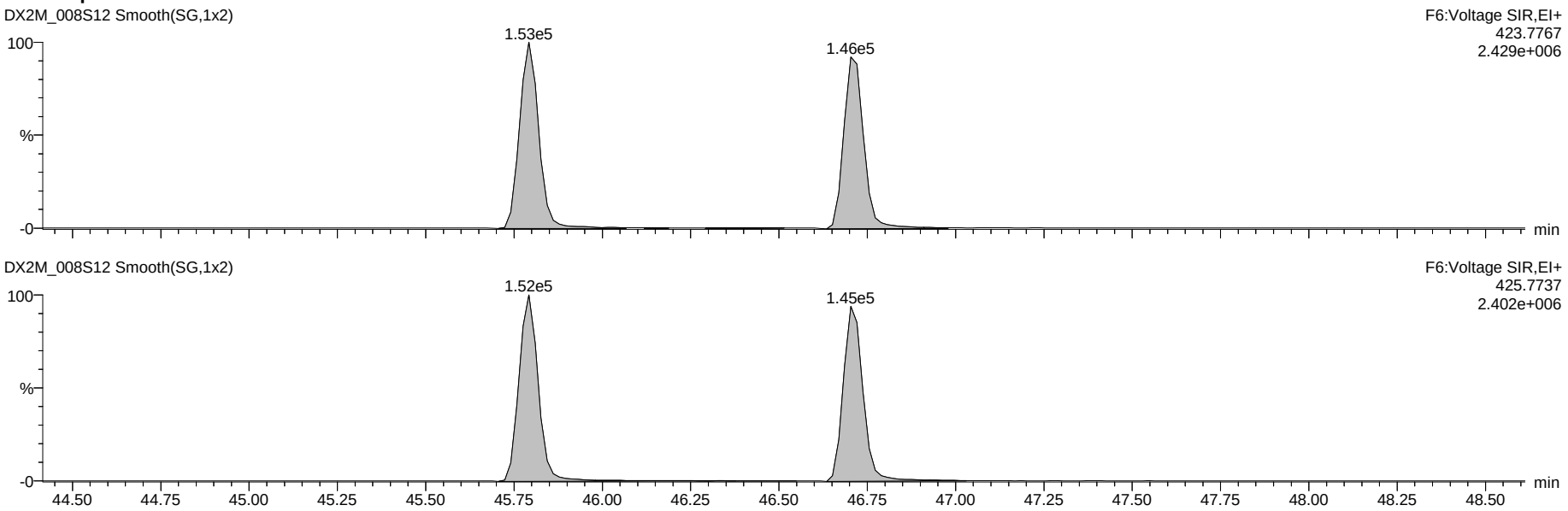
13C-Hexa-Dioxins



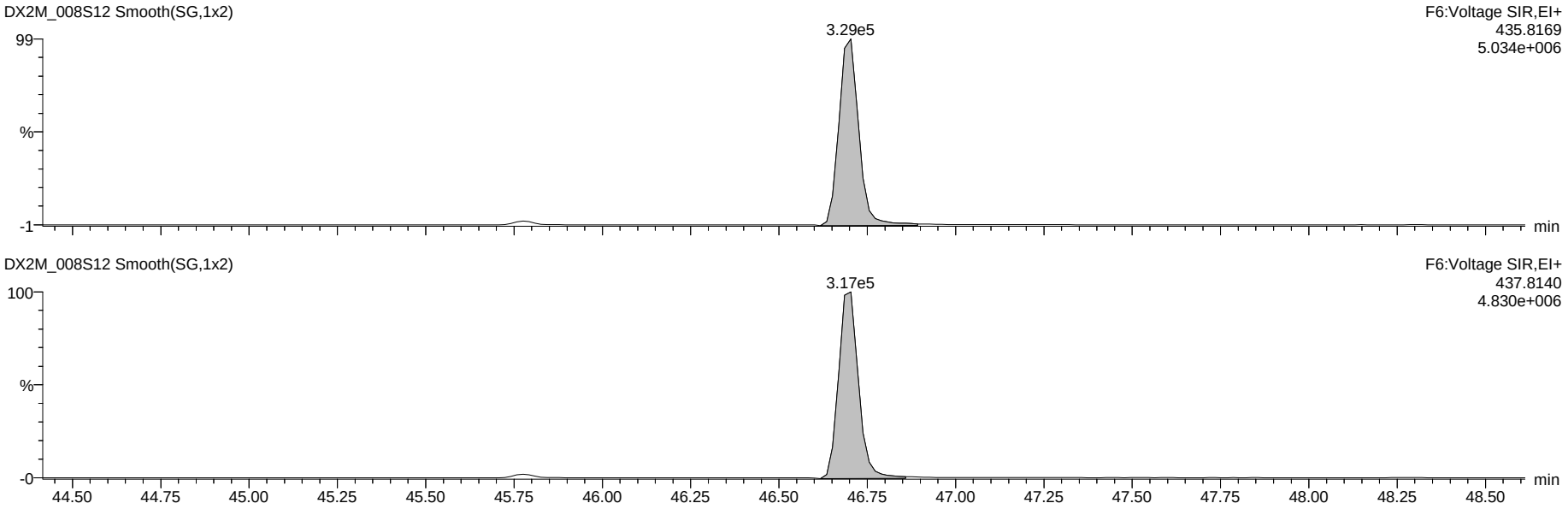
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Total Hepta-Dioxins



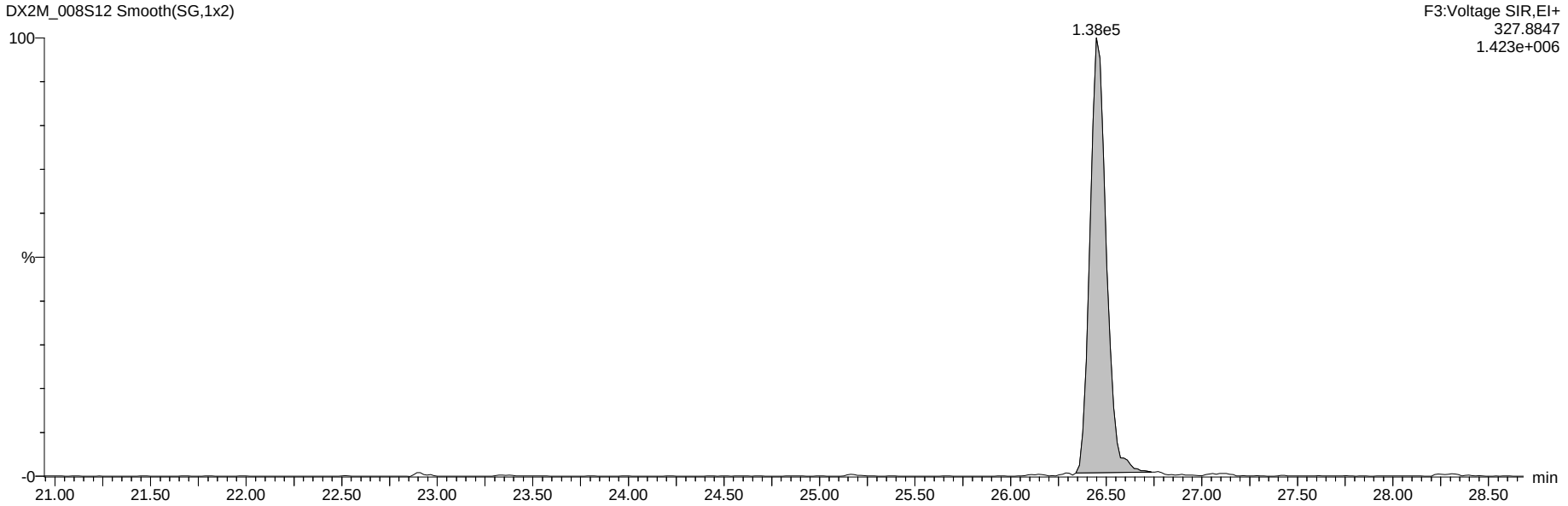
13C-Hepta-Dioxins



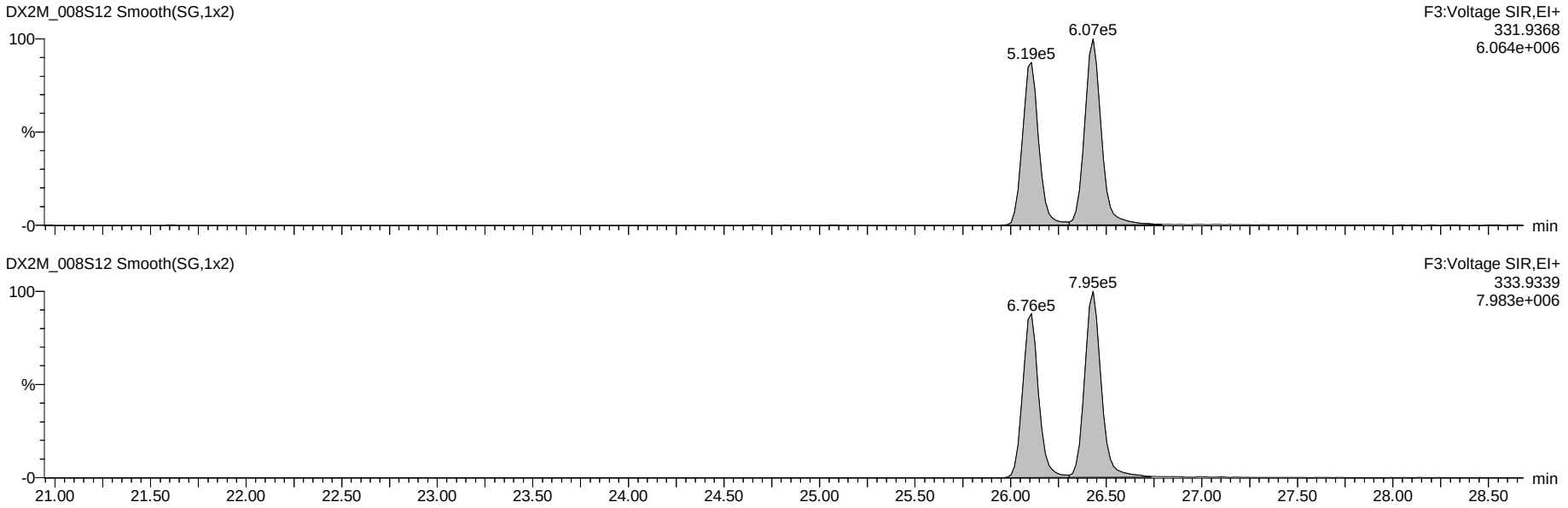
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37Cl-2,3,7,8-TCDD



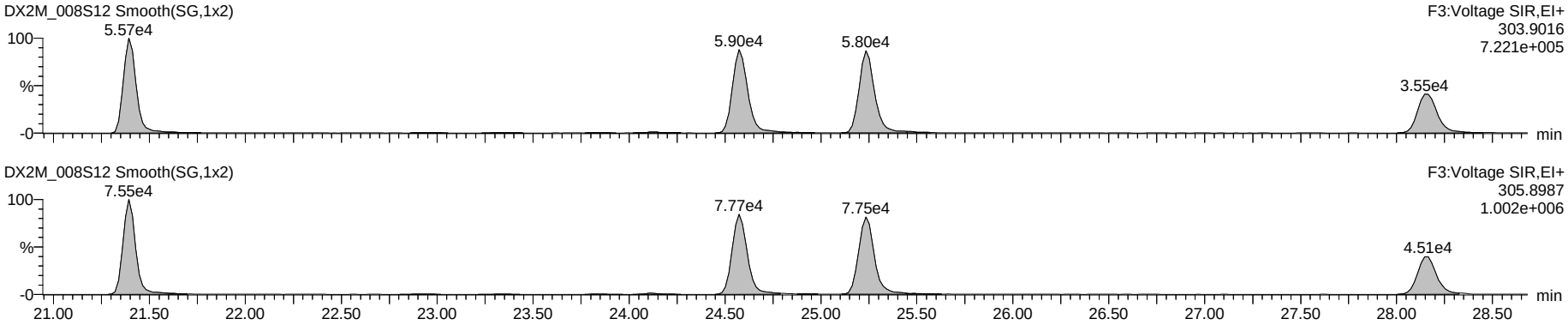
13C-Tetra-Dioxins



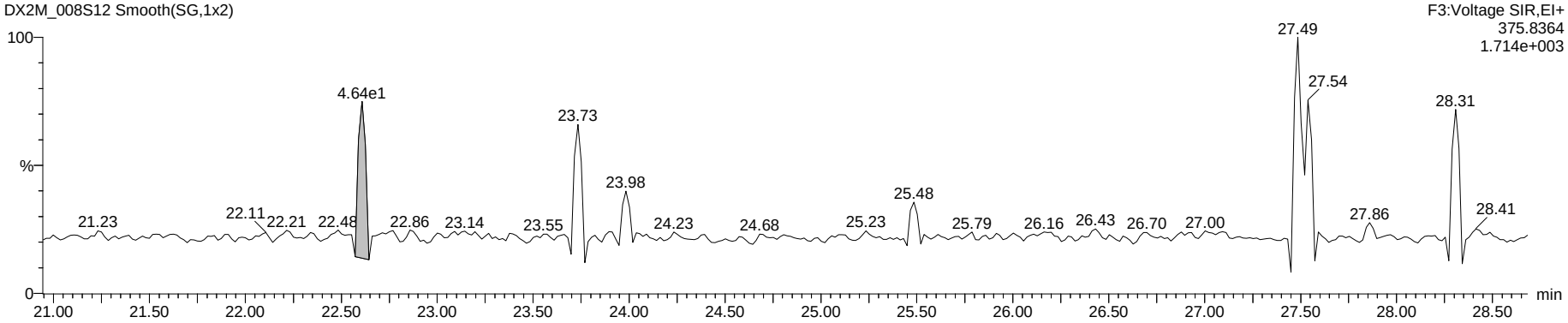
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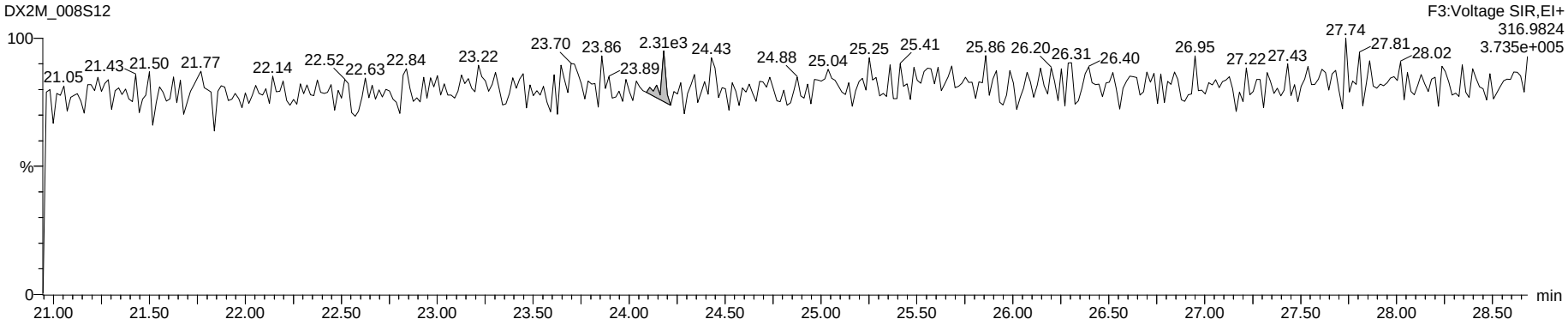
Total Tetra-Furans



Hexa DPE



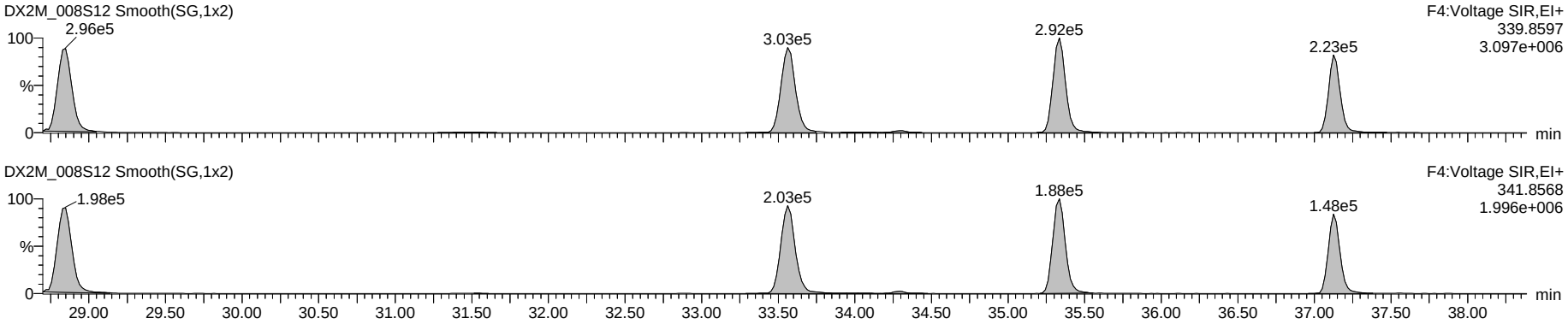
Tetra Lock



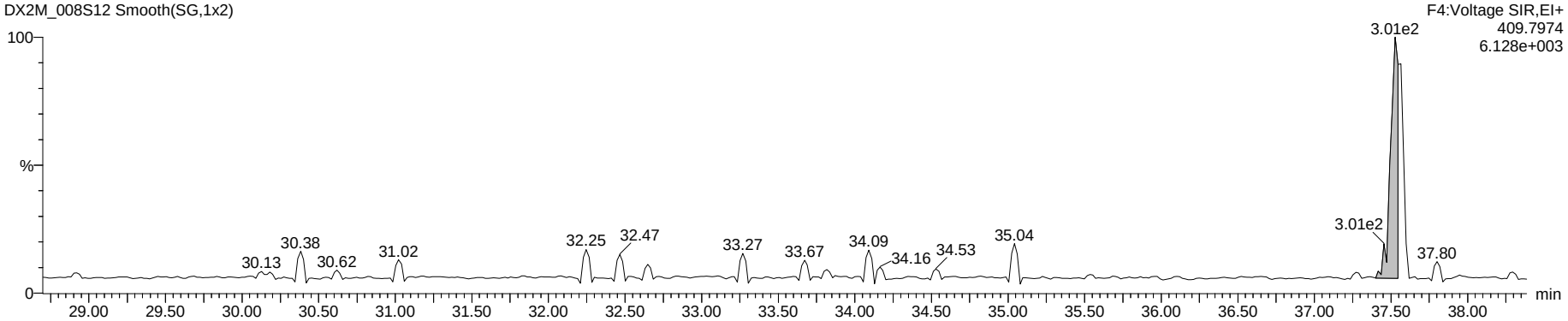
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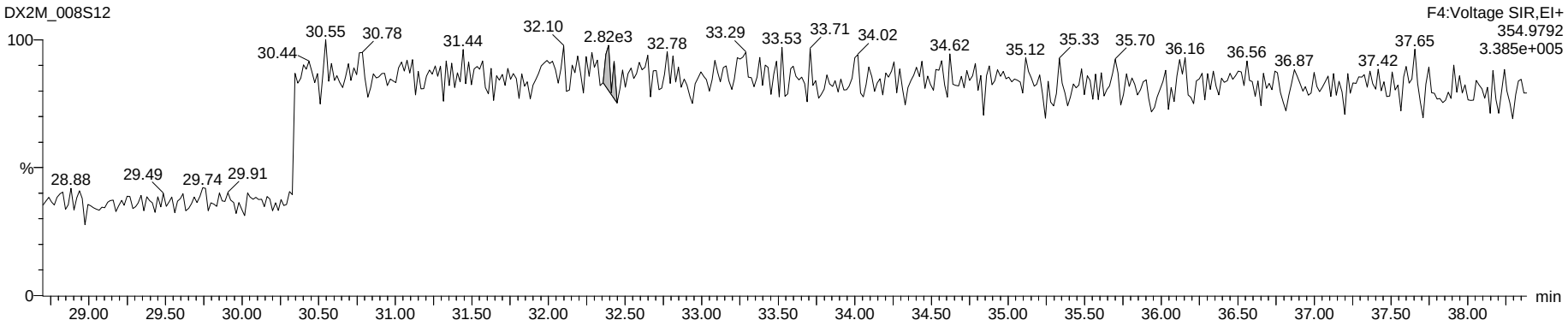
Total Penta-Furans



Hepta DPE



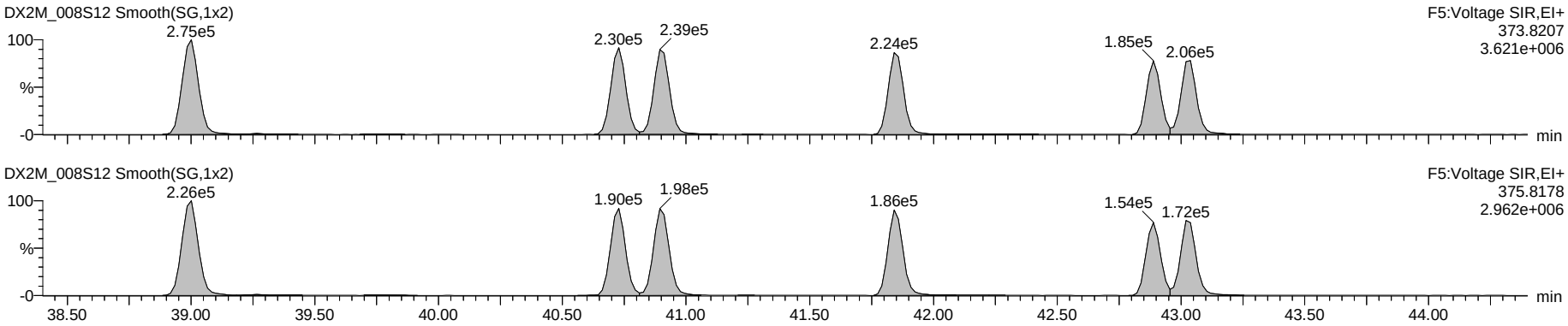
Penta Lock



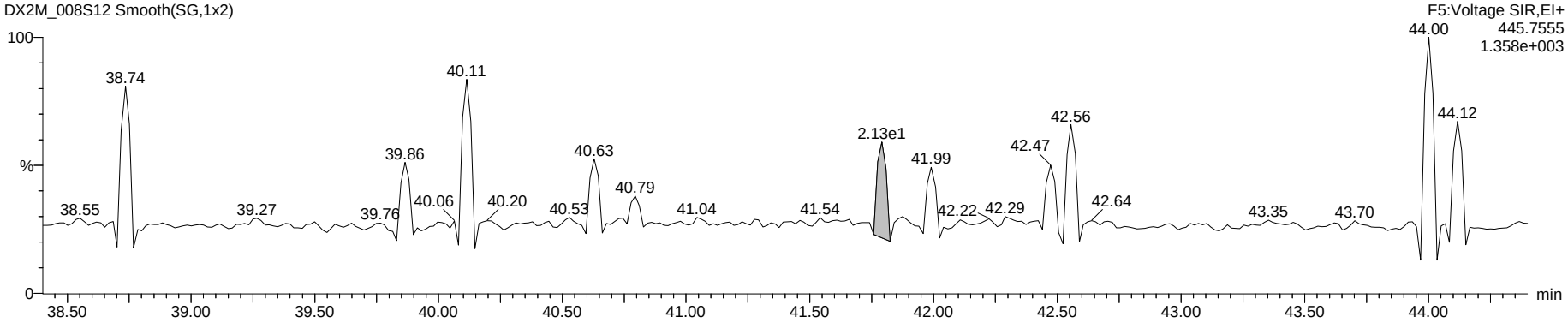
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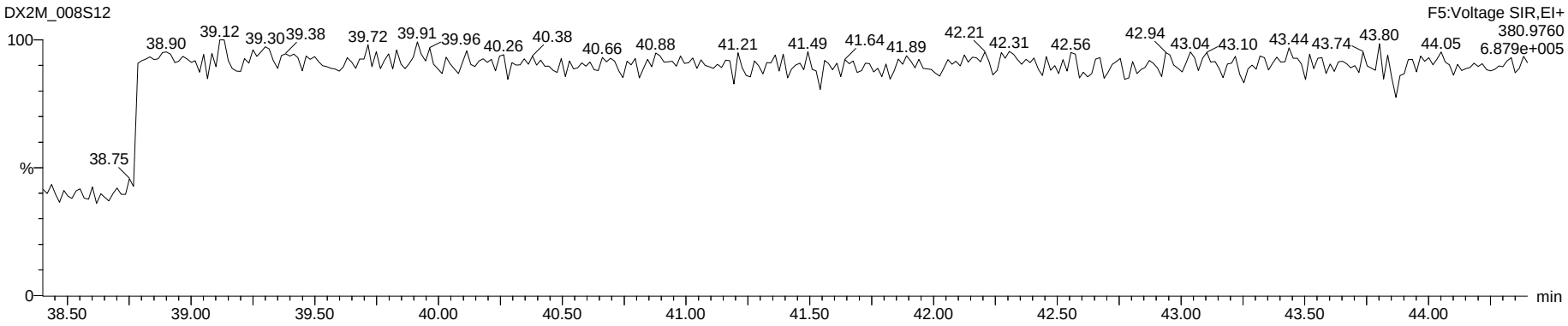
Total Hexa-Furans



Octa DPE



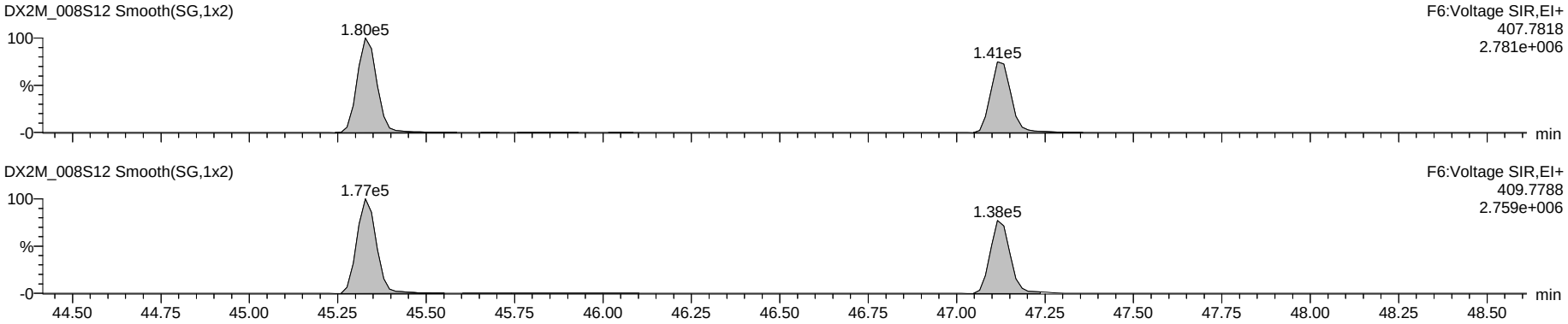
Hexa Lock



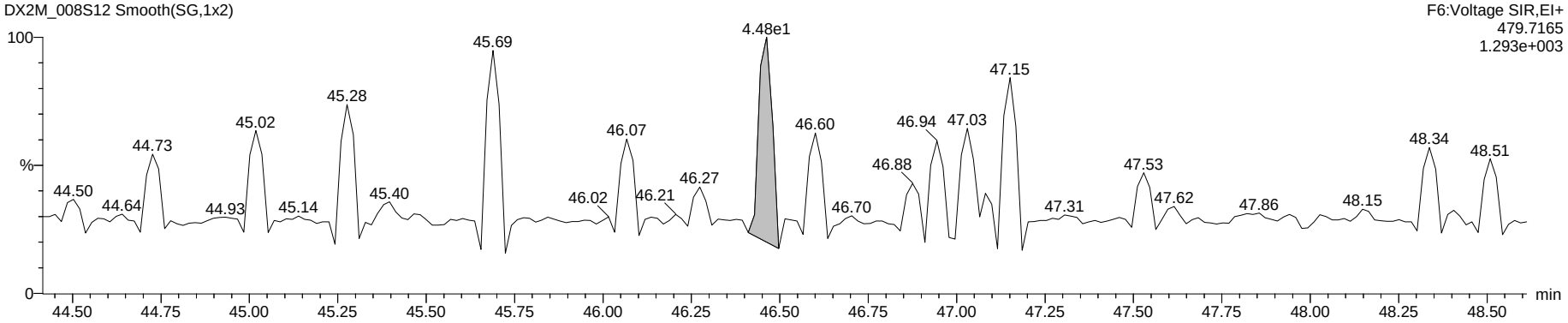
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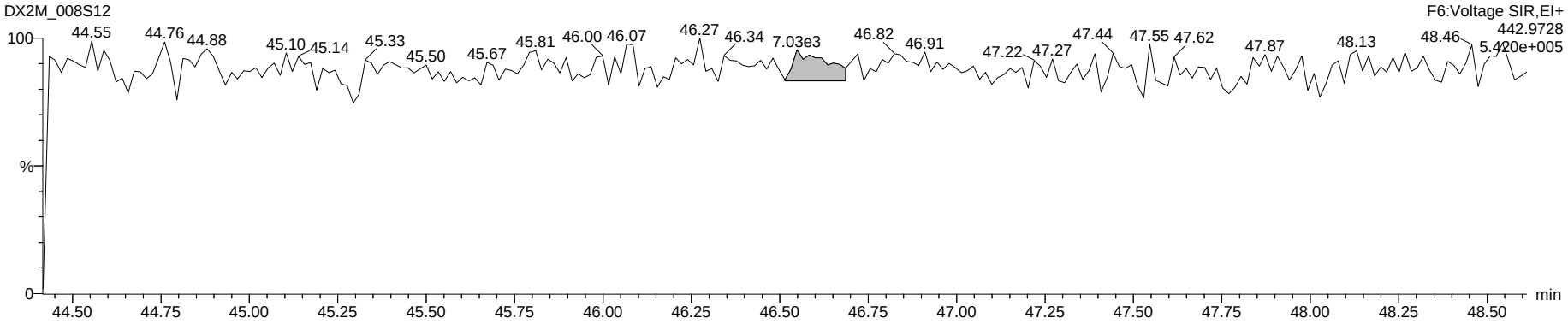
Total Hepta-Furans



Nona DPE



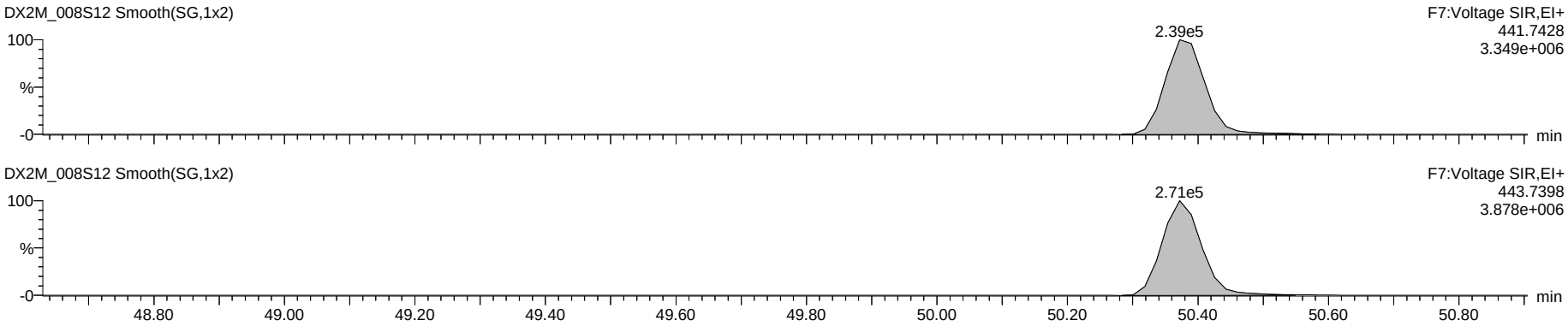
Hepta Lock



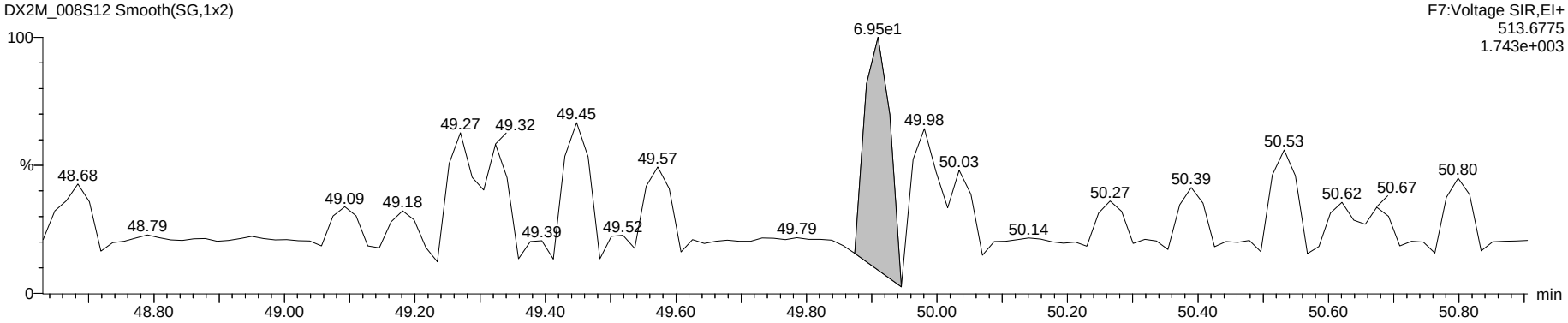
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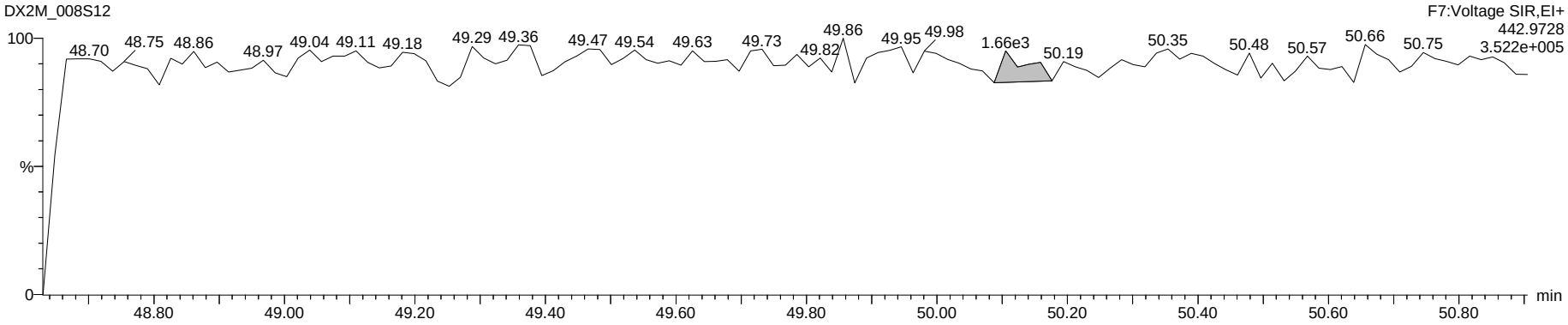
OCDF



Deca DPE



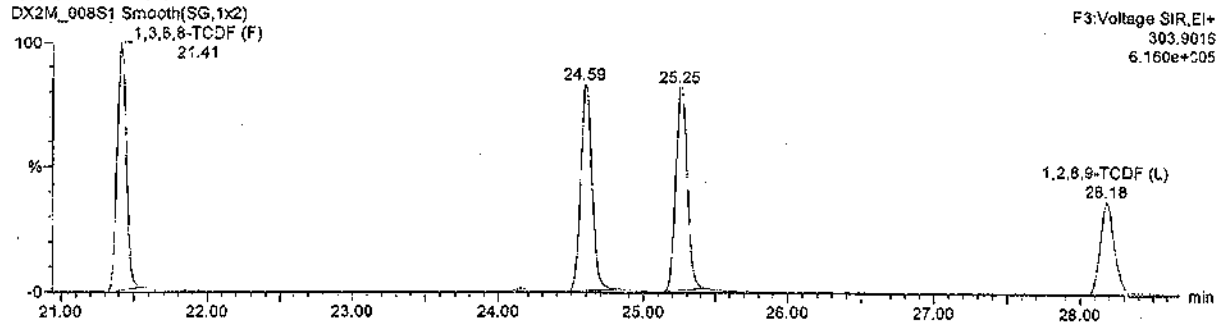
Octa Lock



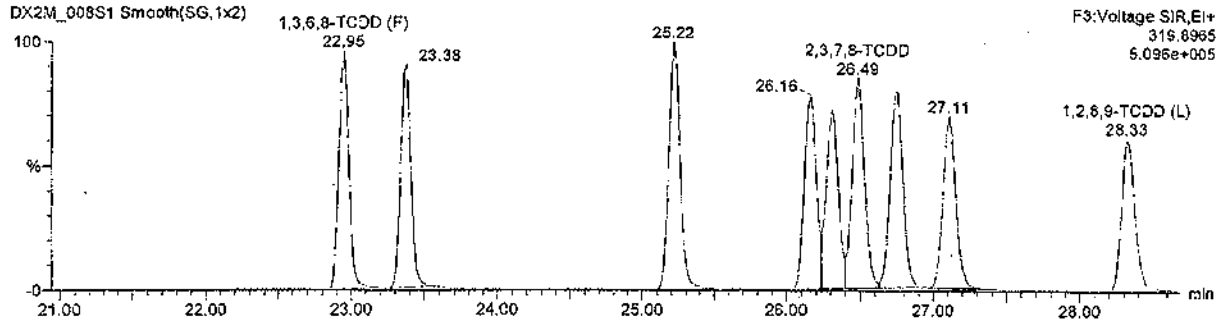
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Name: DX2M_008S1, Date: 10-Jan-2012, Time: 08:16:41, ID: DX036D-CAL,,/02-08, Description: 1,,1.0uL Cal Win/Res

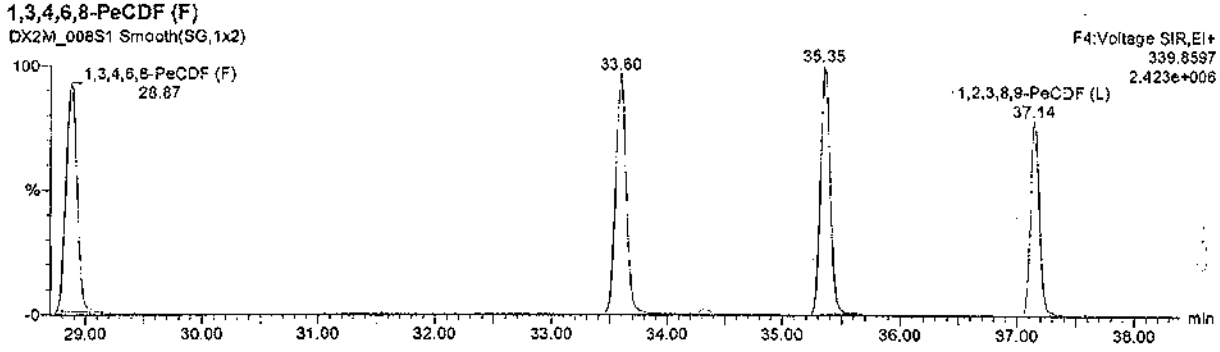
1,3,6,8-TCDF (F)



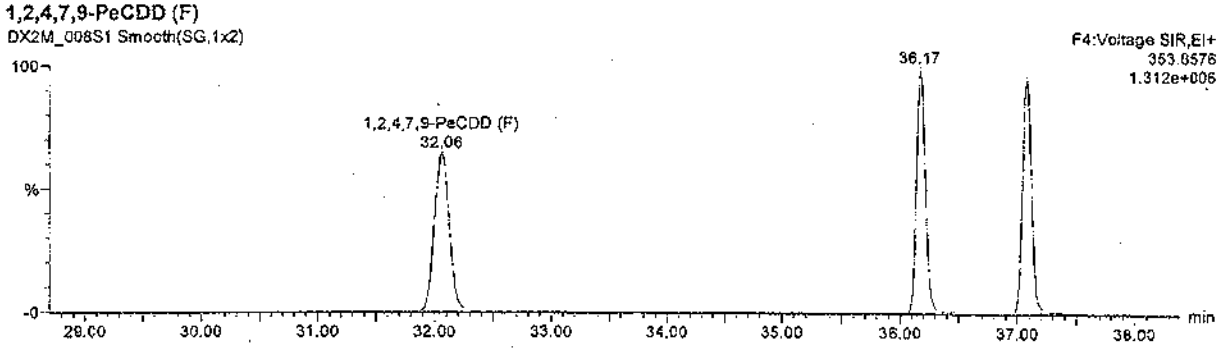
1,3,6,8-TCDD (F)



1,3,4,6,8-PeCDF (F)



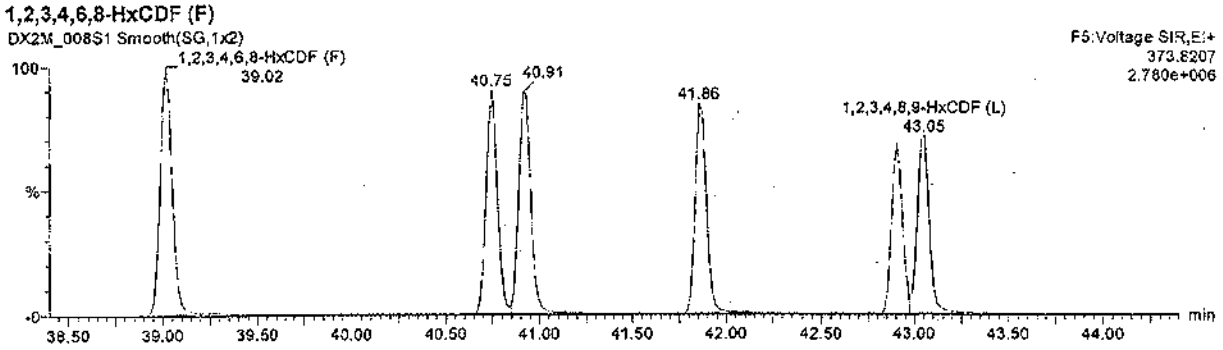
1,2,4,7,9-PeCDD (F)



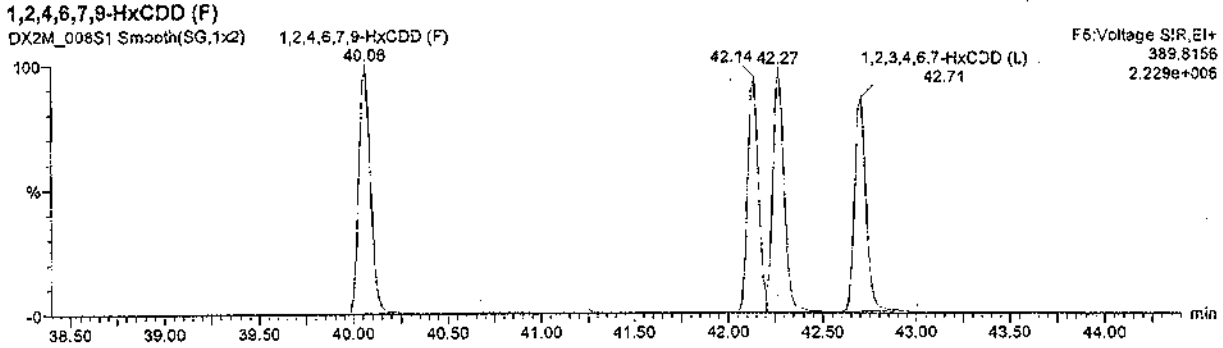
www.axysanalytical.com

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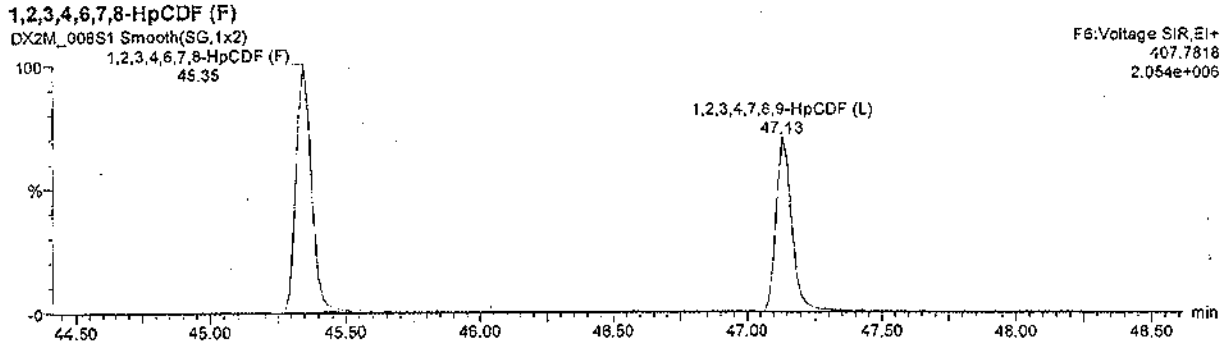
1,2,3,4,6,8-HxCDF (F)



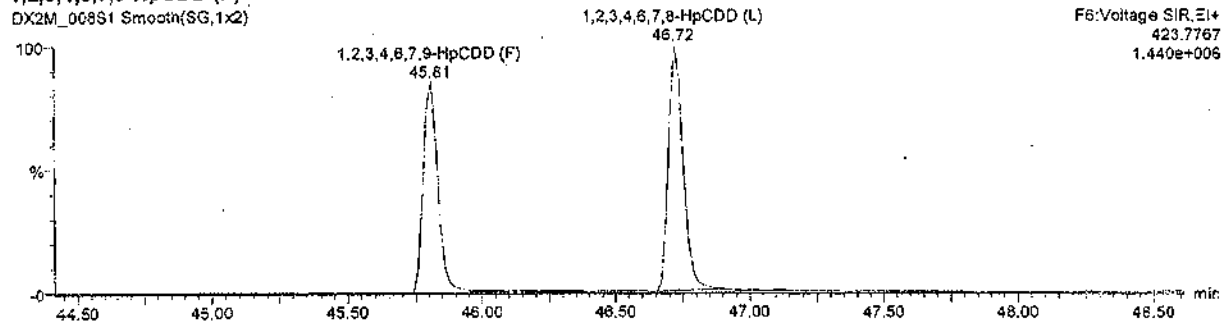
1,2,4,6,7,9-HxCDD (F)



1,2,3,4,6,7,8-HpCDF (F)



1,2,3,4,6,7,9-HpCDD (F)



AXYS Analytical Services Ltd.

Table 1a
NELAP Accreditation Held by AXYS Analytical Services Ltd.
for Chlorinated Dioxins/Furans, Chlorinated Pesticides, PCBs and PAHs

Matrix Codes for Table 1a

NPW = Non-Potable Water
DrW = Drinking Water
S = Solid
T = Tissue

Accreditation Method Codes and Explanation for Table 1

Code No.	Accreditation Certificate Method Reference	Applicable AXYS Method and Description
1	EPA 1613B	MLA-017, performance based implementation of EPA1613B (GC/HRMS)
2	EPA 8290	MLA-017, performance based implementation of EPA 8290 (GC/HRMS)
3	AXYS MLA-017	MLA-017, performance based implementation of EPA 1613B, 8290 (GC/HRMS)
4	EPA 608	MLA-007, performance based implementation of EPA 608 (GC/ECD)
5	EPA 8270C or 8270D	MLA-007, performance based **modification** of 8270C/D (GC/LRMS)
6	EPA 8081A or 8081B	MLA-007, performance based implementation of EPA 8081A/B (GC/ECD)
7	EPA 1668A	MLA-010, performance based implementation of EPA 1668A (GC/HRMS)
8	SM 6630B	MLA-007, performance based implementation of SM 18-20 6630B (GC/ECD)
9	EPA 1625B	MLA-021, performance based **modification** of EPA 1625B (GC/LRMS)
11	EPA 625	MLA-007, performance based **modification** of EPA 625 (GC/LRMS)
20	EPA 8270C or 8270D	MLA-021, performance based **modification** of EPA 8270C/D (GC/LRMS)

TABLE 1	**New York State Department of Health**		**California Department of Public Health**		**State of Florida Department of Health**				**State of New Jersey Department of Environmental Protection**			
	Lab ID 11674 NELAP Primary		Lab ID 01138CA NELAP Secondary		Lab ID E871007 NELAP Primary				Lab ID CANA005 NELAP Secondary			
	NPW	**S**	**NPW**	**S**	**Dr. W**	**NPW**	**S**	**T**	**Dr. W**	**NPW**	**S**	**T**
PCDD/F - Polychlorinated Dioxins and Furans												
Dioxins			1									
Dioxins and Dibenzofurans				2								
1,2,3,4,6,7,8-HpCDD			1	2		1, 2, 3	2, 3	2, 3		1	2	2
1,2,3,4,6,7,8-HpCDF			1	2		1, 2, 3	2, 3	2, 3		1	2	2
1,2,3,4,7,8,9-HpCDF			1	2		1, 2, 3	2, 3	2, 3		1	2	2
1,2,3,4,7,8-HxCDD			1	2		1, 2, 3	2, 3	2, 3		1	2	2
1,2,3,4,7,8-HxCDF			1	2		1, 2, 3	2, 3	2, 3		1	2	2
1,2,3,6,7,8-HxCDD			1	2		1, 2, 3	2, 3	2, 3		1	2	2

AXYS Analytical Services Ltd.

TABLE 1	New York State Department of Health		California Department of Public Health		State of Florida Department of Health				State of New Jersey Department of Environmental Protection			
	Lab ID 11674 NELAP Primary		Lab ID 01138CA NELAP Secondary		Lab ID E871007 NELAP Primary				Lab ID CANA005 NELAP Secondary			
	NPW	S	NPW	S	Dr. W	NPW	S	T	Dr. W	NPW	S	T
1,2,3,6,7,8-HxCDF			1	2		1, 2, 3	2, 3	2, 3		1	2	2
1,2,3,7,8,9-HxCDD			1	2		1, 2, 3	2, 3	2, 3		1	2	2
1,2,3,7,8,9-HxCDF			1	2		1, 2, 3	2, 3	2, 3		1	2	2
1,2,3,7,8-PeCDD			1	2		1, 2, 3	2, 3	2, 3		1	2	2
1,2,3,7,8-PeCDF			1	2		1, 2, 3	2, 3	2, 3		1	2	2
2,3,4,6,7,8-HxCDF			1	2		1, 2, 3	2, 3	2, 3		1	2	2
2,3,4,7,8-PeCDF			1	2		1, 2, 3	2, 3	2, 3		1	2	2
2,3,7,8-TCDD	1		1	2		1, 2, 3	2, 3	2, 3		1	2	2
2,3,7,8-TCDF			1	2		1, 2, 3	2, 3	2, 3		1	2	2
OCDD			1	2		1, 2, 3	2, 3	2, 3		1	2	2
OCDF			1	2		1, 2, 3	2, 3	2, 3		1	2	2
Total TCDD			1			1, 2, 3	2, 3	2, 3			2	2
Total TCDF			1			1, 2, 3	2, 3	2, 3			2	2
Total PeCDD			1			1, 2, 3	2, 3	2, 3			2	2
Total PeCDF			1			1, 2, 3	2, 3	2, 3			2	2
Total HxCDD			1			1, 2, 3	2, 3	2, 3			2	2
Total HxCDF			1			1, 2, 3	2, 3	2, 3			2	2
Total HpCDD			1			1, 2, 3	2, 3	2, 3			2	2
Total HpCDF			1			1, 2, 3	2, 3	2, 3			2	2
PCBs – Polychlorinated biphenyls												
PCB 1 2-Chlorobiphenyl	7	7								7	7	
PCB 3 4-Chlorobiphenyl	7	7								7	7	
PCB 4 2,2'-Dichlorobiphenyl	7	7								7	7	
PCB 5 2,3-Dichlorobiphenyl	7	7								7	7	
PCB 15 4,4'-Dichlorobiphenyl	7	7								7	7	
PCB 18 2,2',5-Trichlorobiphenyl	7	7								7	7	
PCB 19 2,2',6-Trichlorobiphenyl	7	7								7	7	
PCB 31 2,4',5-Trichlorobiphenyl	7	7								7	7	
PCB 37 3,4,4'-Trichlorobiphenyl	7	7								7	7	
PCB 44 2,2',3,5'-Tetrachlorobiphenyl	7	7								7	7	
PCB 52 2,2',5,5'-Tetrachlorobiphenyl	7	7								7	7	
PCB 54 2,2',6,6'-Tetrachlorobiphenyl	7	7								7	7	
PCB 66 2,3',4,4'-Tetrachlorobiphenyl	7	7								7	7	
PCB 77 3,3',4,4'-Tetrachlorobiphenyl	7	7								7	7	
PCB 81 3,4,4',5-Tetrachlorobiphenyl	7	7								7	7	
PCB 87 2,2',3,4,5'-Pentachlorobiphenyl	7	7								7	7	

AXYS Analytical Services Ltd.

TABLE 1		New York State Department of Health		California Department of Public Health		State of Florida Department of Health				State of New Jersey Department of Environmental Protection			
		Lab ID 11674 NELAP Primary		Lab ID 01138CA NELAP Secondary		Lab ID E871007 NELAP Primary				Lab ID CANA005 NELAP Secondary			
		NPW	S	NPW	S	Dr. W	NPW	S	T	Dr. W	NPW	S	T
PCB 101	2,2',4,5,5'-Pentachlorobiphenyl	7	7								7	7	
PCB 104	2,2',4,6,6'-Pentachlorobiphenyl	7	7								7	7	
PCB 105	2,3,3',4,4'-Pentachlorobiphenyl	7	7								7	7	
PCB 109	2,3,3',4,6-Pentachlorobiphenyl	7	7								7	7	
PCB 114	2,3,4,4',5-Pentachlorobiphenyl	7	7								7	7	
PCB 118	2,3',4,4',5-Pentachlorobiphenyl	7	7								7	7	
PCB 123	2,3',4,4',5'-Pentachlorobiphenyl	7	7								7	7	
PCB 124	2,3',4',5,5'-Pentachlorobiphenyl										7	7	
PCB 126	3,3',4,4',5-Pentachlorobiphenyl	7	7								7	7	
PCB 138	2,2',3,4,4',5'-Hexachlorobiphenyl	7	7								7	7	
PCB 141	2,2',3,4,5,5'-Hexachlorobiphenyl	7	7								7	7	
PCB 151	2,2',3,5,5',6-Hexachlorobiphenyl	7	7								7	7	
PCB 153	2,2',4,4',5,5'-Hexachlorobiphenyl	7	7								7	7	
PCB 155	2,2',4,4',6,6'-Hexachlorobiphenyl	7	7								7	7	
PCB 156	2,3,3',4,4',5-Hexachlorobiphenyl		7								7		
PCB 157	2,3,3',4,4',5'-Hexachlorobiphenyl	7	7								7	7	
PCB 167	2,3',4,4',5,5'-Hexachlorobiphenyl	7	7								7	7	
PCB 169	3,3',4,4',5,5'-Hexachlorobiphenyl	7	7								7	7	
PCB 170	2,2',3,3',4,4',5-Heptachlorobiphenyl	7	7								7	7	
PCB 180	2,2',3,4,4',5,5'-Heptachlorobiphenyl	7	7								7	7	
PCB 183	2,2',3,4,4',5',6-Heptachlorobiphenyl	7	7								7	7	
PCB 187	2,2',3,4',5,5',6-Heptachlorobiphenyl	7	7								7	7	
PCB 188	2,2',3,4',5,6,6'-Heptachlorobiphenyl	7	7								7	7	
PCB 189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	7	7								7	7	
PCB 202	2,2',3,3',5,5',6,6'-Octachlorobiphenyl	7	7								7	7	
PCB 205	2,3,3',4,4',5,5',6-Octachlorobiphenyl	7	7								7		
PCB 206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	7	7								7	7	
PCB 208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	7	7								7	7	
PCB 209	Decachlorobiphenyl	7	7								7	7	
Aroclor 1260		7, 11	5, 7	11	5								
Aroclor 1254		7, 11	5, 7	11	5								
Aroclor 1221		7, 11	5, 7	11	5								
Aroclor 1232		7, 11	5, 7	11	5								
Aroclor 1248		7, 11	5, 7	11	5								
Aroclor 1016		7, 11	5, 7	11	5								
Aroclor 1242		7, 11	5, 7	11	5								

AXYS Analytical Services Ltd.

TABLE 1	New York State Department of Health		California Department of Public Health		State of Florida Department of Health				State of New Jersey Department of Environmental Protection			
	Lab ID 11674 NELAP Primary		Lab ID 01138CA NELAP Secondary		Lab ID E871007 NELAP Primary				Lab ID CANA005 NELAP Secondary			
	NPW	S	NPW	S	Dr. W	NPW	S	T	Dr. W	NPW	S	T
Pesticides												
4,4'-DDD	11	5	11	5								
4,4'-DDE	11	5	11	5								
4,4'-DDT	11	5	11	5								
Aldrin	11	5	11	5								
Alpha-HCH	11	5	11	5								
Beta-HCH	11	5	11	5								
cis-Chlordane (alpha-Chlordane)	5	5										
Chlordane, technical	5, 11	5	11	5								
Delta-HCH	11	5	11	5								
Dieldrin	4	6	4	6								
Endosulphan I	4	6	4	6								
Endosulphan II	4	6	4	6								
Endosulphan sulphate	4	6	4	6								
Endrin	4	6	4	6								
Endrin aldehyde	4	6	4	6								
trans-Chlordane (gamma-Chlordane)	5	5										
Gamma-HCH (Lindane)	11	5	11	5								
Heptachlor	11	5	11	5								
Heptachlor epoxide	4	6	4	6								
Hexachlorobenzene	9	5	9	5								
Methoxychlor	4,8	6	8	6								
Mirex	5											
PAH												
Anthracene	9	20	9	20								
Pyrene	9	20	9	20								
Benzo[ghi]perylene	9	20	9	20								
Indeno[1,2,3-cd]pyrene	9	20	9	20								
Benzo[b]fluoranthene	9	20	9	20								
Fluoranthene	9	20	9	20								
Benzo[k]fluoranthene	9	20	9	20								
Acenaphthylene	9	20	9	20								
Chrysene	9	20	9	20								
Benzo[a]pyrene	9	20	9	20								
Dibenz[ah]anthracene	9	20	9	20								
Benz[a]anthracene	9	20	9	20								

AXYS Analytical Services Ltd.

TABLE 1	New York State Department of Health		California Department of Public Health		State of Florida Department of Health				State of New Jersey Department of Environmental Protection			
	Lab ID 11674 NELAP Primary		Lab ID 01138CA NELAP Secondary		Lab ID E871007 NELAP Primary				Lab ID CANA005 NELAP Secondary			
	NPW	S	NPW	S	Dr. W	NPW	S	T	Dr. W	NPW	S	T
Acenaphthene	9	20	9	20								
Phenanthrene	9	20	9	20								
Fluorene	9	20	9	20								
Naphthalene	9	20	9	20								

AXYS Analytical Services Ltd.

Table 1b
NELAP Accreditation Held by AXYS Analytical Services Ltd.
for Perfluorinated Organic Compounds

Matrix Codes for Table 1b

NPW = Non-Potable Water
DrW = Drinking Water
S = Solid
T = Tissue

Accreditation Method Codes and Explanation for Table 1b

Code No.	Accreditation Certificate Method Reference	Applicable AXYS Method and Description
12	AXYS MLA-041	MLA-041, laboratory performance based method (LC/MS-MS)
13	AXYS MLA-043	MLA-043, laboratory performance based method (LC/MS-MS)
14	AXYS MLA-060	MLA-060, laboratory performance based method (LC/MS-MS)

TABLE 1	State of Florida Department of Health				Minnesota Department of Health				State of New Jersey Department of Environmental Protection			
	Lab ID E871007 NELAP Primary				Lab ID 232-999-430 NELAP Primary				Lab ID CANA005 NELAP Secondary			
	Dr. W	NP W	S	T	Dr. W	NP W	S	T	Dr. W	NP W	S	T
PFC – Perfluorinated Organic Compounds												
Perfluorobutanoate (PFBA) Note	14	14	12	13	14	14	12	13	14	14	12	13
Perfluoropentanoate (PFPeA) Note	14	14	12	13	14	14	12	13	14	14	12	13
Perfluorohexanoate (PFHxA) Note	14	14	12	13	14	14	12	13	14	14	12	13
Perfluoroheptanoate (PFHpA) Note	14	14	12	13	14	14	12	13	14	14	12	13
Perfluorooctanoate (PFOA) Note	14	14	12	13	14	14	12	13	14	14	12	13
Perfluorononanoate (PFNA) Note	14	14	12	13	14	14	12	13	14	14	12	13
Perfluorodecanoate (PFDA) Note	14	14	12	13	14	14	12	13	14	14	12	13
Perfluoroundecanoate (PFUnA) Note	14	14	12	13	14	14	12	13	14	14	12	13
Perfluorododecanoate (PFDoA) Note	14	14	12	13	14	14	12	13	14	14	12	13
Perfluorobutanesulfonate (PFBS)	14	14	12	13	14	14	12	13	14	14	12	13
Perfluorohexanesulfonate (PFHxS)	14	14	12	13	14	14	12	13	14	14	12	13
Perfluorooctanesulfonate (PFOS)	14	14	12	13	14	14	12	13	14	14	12	13
Perfluorooctane sulfonamide (PFOSA)	14	14	12	13	14	14	12	13				

Note: Accreditations by Minnesota Department of Health and New Jersey Department of Environmental Protection are against the corresponding acid form of the anion shown.

AXYS Analytical Services Ltd.

Table 2:
Canadian and US State Specific Accreditation Held by AXYS Analytical Services Ltd.

Matrix Codes for Table 2

NP W = Non-Potable Water
Dr. W = Drinking Water
W = Aqueous
S = Solid
T = Tissue

Accreditation Method Codes and Explanation for Table 2

Code No.	Accreditation Certificate Method Reference	Applicable AXYS Method and Description
1	EPA 1613	MLA-017 Performance based implementation of EPA 1613B (GC/HRMS)
3	AXYS MLA-017	MLA-017 Performance based implementation of EPA 1613B (GC/HRMS)
7	EPA 1668A	MLA-010 Performance based implementation of EPA 1668A (GC/HRMS)
10	AXYS MLA-007	MLA-007, Performance based **modification** of EPA 8270C/D, 8081A/B (GC/LRMS and GC/ECD)
12	AXYS MLA-041	MLA-041 Laboratory performance based method (LC/MS-MS)
13	AXYS MLA-043	MLA-043 Laboratory performance based method (LC/MS-MS)
14	AXYS MLA-060	MLA-060 Laboratory performance based method (LC/MS-MS)
15	AXYS MLA-010	MLA-010 Performance based implementation of EPA 1668A (GC/HRMS)
16	AXYS MLA-028	MLA-028 Laboratory performance based method (GC/HRMS)
17	AXYS MLA-033	MLA-033 Performance based implementation of EPA 1614 (GC/HRMS)
18	AXYS MLA-021	MLA-021 Performance based **modification** of EPA 8270C/D (GC/LRMS)
19	AXYS MLA-075	MLA-075 Performance based implementation of EPA 1694 (LC/MS-MS)

TABLE 2	**Canadian Association for Laboratory Accreditation (CALA)**				**Washington State Department of Ecology**	
	Accreditation No.: A 2637				Lab. ID: C404	
	W	**S**	**Pulp**	**T**	**NP W**	**S**
PCDD/F - Polychlorinated Dioxins and Furans						
1,2,3,4,6,7,8-HpCDD	3	3	3	3	1	1
1,2,3,4,6,7,8-HpCDF	3	3	3	3	1	1
1,2,3,4,7,8,9-HpCDF	3	3	3	3	1	1
1,2,3,4,7,8-HxCDD	3	3	3	3	1	1
1,2,3,4,7,8-HxCDF	3	3	3	3	1	1
1,2,3,6,7,8-HxCDD	3	3	3	3	1	1
1,2,3,6,7,8-HxCDF	3	3	3	3	1	1
1,2,3,7,8,9-HxCDD	3	3	3	3	1	1
1,2,3,7,8,9-HxCDF	3	3	3	3	1	1
1,2,3,7,8-PeCDD	3	3	3	3	1	1
1,2,3,7,8-PeCDF	3	3	3	3	1	1
2,3,4,6,7,8-HxCDF	3	3	3	3	1	1
2,3,4,7,8-PeCDF	3	3	3	3	1	1
2,3,7,8-TCDD	3	3	3	3	1	1
2,3,7,8-TCDF	3	3	3	3	1	1
OCDD	3	3	3	3	1	1
OCDF	3	3	3	3	1	1
Total TCDD					1	1
Total TCDF					1	1
Total PeCDD					1	1
Total PeCDF					1	1
Total HxCDD					1	1

AXYS Analytical Services Ltd.

TABLE 2		Canadian Association for Laboratory Accreditation (CALA)				Washington State Department of Ecology	
		Accreditation No.: A 2637				Lab. ID: C404	
		W	S	Pulp	T	NP W	S
Total HxCDF						1	1
Total HpCDD						1	1
Total HpCDF						1	1
Total PCDD						1	1
Total PCDF						1	1
Total PCDD + PCDF						1	1
PCBs – Polychlorinated biphenyls							
PCB 1	2-Chlorobiphenyl	15	15		15	7	7
PCB 2	3-Chlorobiphenyl	15	15		15	7	7
PCB 3	4-Chlorobiphenyl	15	15		15	7	7
PCB 4	2,2'-Dichlorobiphenyl	15	15		15	7	7
PCB 5	2,3-Dichlorobiphenyl	15	15		15	7	7
PCB 6	2,3'-Dichlorobiphenyl	15	15		15	7	7
PCB 7	2,4-Dichlorobiphenyl	15	15		15	7	7
PCB 8	2,4'-Dichlorobiphenyl	15	15		15	7	7
PCB 8/5		10	10		10		
PCB 9	2,5-Dichlorobiphenyl	15	15		15	7	7
PCB 10	2,6-Dichlorobiphenyl	15	15		15	7	7
PCB 11	3,3'-Dichlorobiphenyl	15	15		15	7	7
PCB 12	3,4-Dichlorobiphenyl	15	15		15	7	7
PCB 13	3,4'-Dichlorobiphenyl	15	15		15	7	7
PCB 14	3,5-Dichlorobiphenyl	15	15		15	7	7
PCB 15	4,4'-Dichlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 16	2,2',3-Trichlorobiphenyl	15	15		15	7	7
PCB 16/32		10	10		10		
PCB 17	2,2',4-Trichlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 18	2,2',5-Trichlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 19	2,2',6-Trichlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 20	2,3,3'-Trichlorobiphenyl	15	15		15	7	7
PCB 21	2,3,4-Trichlorobiphenyl	15	15		15	7	7
PCB 22	2,3,4'-Trichlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 23	2,3,5-Trichlorobiphenyl	15	15		15	7	7
PCB 24	2,3,6-Trichlorobiphenyl	15	15		15	7	7
PCB 24/27		10	10		10		
PCB 25	2,3',4-Trichlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 26	2,3',5-Trichlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 27	2,3',6-Trichlorobiphenyl	15	15		15	7	7
PCB 28	2,4,4'-Trichlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 29	2,4,5-Trichlorobiphenyl	15	15		15	7	7
PCB 30	2,4,6-Trichlorobiphenyl	15	15		15	7	7
PCB 31	2,4',5-Trichlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 32	2,4',6-Trichlorobiphenyl	15	15		15	7	7
PCB 33	2,3',4'-Trichlorobiphenyl	15	15		15	7	7
PCB 33/20/21		18	10		10		
PCB 34	2,3',5'-Trichlorobiphenyl	15	15		15	7	7
PCB 35	3,3',4-Trichlorobiphenyl	15	15		15	7	7
PCB 36	3,3',5-Trichlorobiphenyl	15	15		15	7	7
PCB 37	3,4,4'-Trichlorobiphenyl	15	15		15	7	7
PCB 38	3,4,5-Trichlorobiphenyl	15	15		15	7	7
PCB 39	3,4',5-Trichlorobiphenyl	15	15		15	7	7
PCB 40	2,2',3,3'-Tetrachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 41	2,2',3,4-Tetrachlorobiphenyl	15	15		15	7	7
PCB 41/71/64/68		10	10		10		

AXYS Analytical Services Ltd.

TABLE 2		Canadian Association for Laboratory Accreditation (CALA)				Washington State Department of Ecology	
		Accreditation No.: A 2637				Lab. ID: C404	
		W	S	Pulp	T	NP W	S
PCB 42	2,2',3,4'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 42/59		10	10		10		
PCB 43	2,2',3,5-Tetrachlorobiphenyl	15	15		15	7	7
PCB 44	2,2',3,5'-Tetrachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 45	2,2',3,6-Tetrachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 46	2,2',3,6'-Tetrachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 47	2,2',4,4'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 47/48/75		10	10		10		
PCB 48	2,2',4,5-Tetrachlorobiphenyl	15	15		15	7	7
PCB 49	2,2',4,5'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 49/43		10	10		10		
PCB 50	2,2',4,6-Tetrachlorobiphenyl	15	15		15	7	7
PCB 51	2,2',4,6'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 52	2,2',5,5'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 52/73		10	10		10		
PCB 53	2,2',5,6'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 54	2,2',6,6'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 55	2,3,3',4-Tetrachlorobiphenyl	15	15		15	7	7
PCB 56	2,3,3',4'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 56/60		10	10		10		
PCB 57	2,3,3',5-Tetrachlorobiphenyl	15	15		15	7	7
PCB 58	2,3,3',5'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 59	2,3,3',6-Tetrachlorobiphenyl	15	15		15	7	7
PCB 60	2,3,4,4'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 61	2,3,4,5-Tetrachlorobiphenyl	15	15		15	7	7
PCB 62	2,3,4,6-Tetrachlorobiphenyl	15	15		15	7	7
PCB 63	2,3,4',5-Tetrachlorobiphenyl	15	15		15	7	7
PCB 64	2,3,4',6-Tetrachlorobiphenyl	15	15		15	7	7
PCB 65	2,3,5,6-Tetrachlorobiphenyl	15	15		15	7	7
PCB 66	2,3',4,4'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 66/80		10	10		10		
PCB 67	2,3',4,5-Tetrachlorobiphenyl	15	15		15	7	7
PCB 68	2,3',4,5'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 69	2,3',4,6-Tetrachlorobiphenyl	15	15		15	7	7
PCB 70	2,3',4',5-Tetrachlorobiphenyl	15	15		15	7	7
PCB 70/76		10	10		10		
PCB 71	2,3',4',6-Tetrachlorobiphenyl	15	15		15	7	7
PCB 72	2,3',5,5'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 73	2,3',5',6-Tetrachlorobiphenyl	15	15		15	7	7
PCB 74	2,4,4',5-Tetrachlorobiphenyl	15	15		15	7	7
PCB 74/61		10	10		10		
PCB 75	2,4,4',6-Tetrachlorobiphenyl	15	15		15	7	7
PCB 76	2,3',4',5'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 77	3,3',4,4'-Tetrachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 78	3,3',4,5-Tetrachlorobiphenyl	15	15		15	7	7
PCB 79	3,3',4,5'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 80	3,3',5,5'-Tetrachlorobiphenyl	15	15		15	7	7
PCB 81	3,4,4',5-Tetrachlorobiphenyl	15	15		15	7	7
PCB 82	2,2',3,3',4-Pentachlorobiphenyl	15	15		15	7	7
PCB 83	2,2',3,3',5-Pentachlorobiphenyl	15	15		15	7	7
PCB 83/108		10	10		10		
PCB 84	2,2',3,3',6-Pentachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 85	2,2',3,4,4'-Pentachlorobiphenyl	15	15		15	7	7
PCB 85/120		10	10		10		

AXYS Analytical Services Ltd.

TABLE 2		Canadian Association for Laboratory Accreditation (CALA)				Washington State Department of Ecology	
		Accreditation No.: A 2637				Lab. ID: C404	
		W	S	Pulp	T	NP W	S
PCB 86	2,2',3,4,5-Pentachlorobiphenyl	15	15		15	7	7
PCB 87	2,2',3,4,5'-Pentachlorobiphenyl	15	15		15	7	7
PCB 87/115/116		10	10		10		
PCB 88	2,2',3,4,6-Pentachlorobiphenyl	15	15		15	7	7
PCB 89	2,2',3,4,6'-Pentachlorobiphenyl	15	15		15	7	7
PCB 90	2,2',3,4',5-Pentachlorobiphenyl	15	15		15	7	7
PCB 91	2,2',3,4',6-Pentachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 92	2,2',3,5,5'-Pentachlorobiphenyl	15	15		15	7	7
PCB 93	2,2',3,5,6-Pentachlorobiphenyl	15	15		15	7	7
PCB 94	2,2',3,5,6'-Pentachlorobiphenyl	15	15		15	7	7
PCB 95	2,2',3,5',6-Pentachlorobiphenyl	15	15		15	7	7
PCB 95/93		10	10		10		
PCB 96	2,2',3,6,6'-Pentachlorobiphenyl	15	15		15	7	7
PCB 97	2,2',3,4',5'-Pentachlorobiphenyl	15	15		15	7	7
PCB 97/86		10	10		10		
PCB 98	2,2',3,4',6'-Pentachlorobiphenyl	15	15		15	7	7
PCB 99	2,2',4,4',5-Pentachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 100	2,2',4,4',6-Pentachlorobiphenyl	15	15		15	7	7
PCB 101	2,2',4,5,5'-Pentachlorobiphenyl	15	15		15	7	7
PCB 101/90/89		10	10		10		
PCB 102	2,2',4,5,6'-Pentachlorobiphenyl	15	15		15	7	7
PCB 103	2,2',4,5',6-Pentachlorobiphenyl	15	15		15	7	7
PCB 104	2,2',4,6,6'-Pentachlorobiphenyl	15	15		15	7	7
PCB 105	2,3,3',4,4'-Pentachlorobiphenyl	15	15		15	7	7
PCB 105/127		10	10		10		
PCB 106	2,3,3',4,5-Pentachlorobiphenyl	15	15		15	7	7
PCB 107	2,3,3',4',5-Pentachlorobiphenyl	15	15		15	7	7
PCB 107/109		10	10		10		
PCB 108	2,3,3',4,5'-Pentachlorobiphenyl	15	15		15	7	7
PCB 109	2,3,3',4,6-Pentachlorobiphenyl	15	15		15	7	7
PCB 110	2,3,3',4',6-Pentachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 111	2,3,3',5,5'-Pentachlorobiphenyl	15	15		15	7	7
PCB 112	2,3,3',5,6-Pentachlorobiphenyl	15	15		15	7	7
PCB 113	2,3,3',5',6-Pentachlorobiphenyl	15	15		15	7	7
PCB 114	2,3,4,4',5-Pentachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 115	2,3,4,4',6-Pentachlorobiphenyl	15	15		15	7	7
PCB 116	2,3,4,5,6-Pentachlorobiphenyl	15	15		15	7	7
PCB 117	2,3,4',5,6-Pentachlorobiphenyl	15	15		15	7	7
PCB 118	2,3',4,4',5-Pentachlorobiphenyl	15	15		15	7	7
PCB 118/116		10	10		10		
PCB 119	2,3',4,4',6-Pentachlorobiphenyl	15	15		15	7	7
PCB 120	2,3',4,5,5'-Pentachlorobiphenyl	15	15		15	7	7
PCB 121	2,3',4,5',6-Pentachlorobiphenyl	15	15		15	7	7
PCB 122	2,3,3',4',5'-Pentachlorobiphenyl	15	15		15	7	7
PCB 123	2,3',4,4',5'-Pentachlorobiphenyl	15	15		15	7	7
PCB 124	2,3',4',5,5'-Pentachlorobiphenyl	15	15		15	7	7
PCB 125	2,3',4',5',6-Pentachlorobiphenyl	15	15		15	7	7
PCB 126	3,3',4,4',5-Pentachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 127	3,3',4,5,5'-Pentachlorobiphenyl	15	15		15	7	7
PCB 128	2,2',3,3',4,4'-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 129	2,2',3,3',4,5-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 130	2,2',3,3',4,5'-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 131	2,2',3,3',4,6-Hexachlorobiphenyl	15	15		15	7	7
PCB 131/142		10	10		10		

AXYS Analytical Services Ltd.

TABLE 2		Canadian Association for Laboratory Accreditation (CALA)				Washington State Department of Ecology	
		Accreditation No.: A 2637				Lab. ID: C404	
		W	S	Pulp	T	NP W	S
PCB 132	2,2',3,3',4,6'-Hexachlorobiphenyl	15	15		15	7	7
PCB 133	2,2',3,3',5,5'-Hexachlorobiphenyl	15	15		15	7	7
PCB 134	2,2',3,3',5,6-Hexachlorobiphenyl	15	15		15	7	7
PCB 134/143		10	10		10		
PCB 135	2,2',3,3',5,6'-Hexachlorobiphenyl	15	15		15	7	7
PCB 136	2,2',3,3',6,6'-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 137	2,2',3,4,4',5-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 138	2,2',3,4,4',5'-Hexachlorobiphenyl	15	15		15	7	7
PCB 138/163/164		10	10		10		
PCB 139	2,2',3,4,4',6-Hexachlorobiphenyl	15	15		15	7	7
PCB 140	2,2',3,4,4',6'-Hexachlorobiphenyl	15	15		15	7	7
PCB 141	2,2',3,4,5,5'-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 142	2,2',3,4,5,6-Hexachlorobiphenyl	15	15		15	7	7
PCB 143	2,2',3,4,5,6'-Hexachlorobiphenyl	15	15		15	7	7
PCB 144	2,2',3,4,5',6-Hexachlorobiphenyl	15	15		15	7	7
PCB 144/135		10	10		10		
PCB 145	2,2',3,4,6,6'-Hexachlorobiphenyl	15	15		15	7	7
PCB 146	2,2',3,4',5,5'-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 147	2,2',3,4',5,6-Hexachlorobiphenyl	15	15		15	7	7
PCB 148	2,2',3,4',5,6'-Hexachlorobiphenyl	15	15		15	7	7
PCB 149	2,2',3,4',5',6-Hexachlorobiphenyl	15	15		15	7	7
PCB 149/139		10	10		10		
PCB 150	2,2',3,4',6,6'-Hexachlorobiphenyl	15	15		15	7	7
PCB 151	2,2',3,5,5',6-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 152	2,2',3,5,6,6'-Hexachlorobiphenyl	15	15		15	7	7
PCB 153	2,2',4,4',5,5'-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 154	2,2',4,4',5,6'-Hexachlorobiphenyl	15	15		15	7	7
PCB 155	2,2',4,4',6,6'-Hexachlorobiphenyl	15	15		15	7	7
PCB 156	2,3,3',4,4',5-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 157	2,3,3',4,4',5'-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 158	2,3,3',4,4',6-Hexachlorobiphenyl	15	15		15	7	7
PCB 158/160		10	10		10		
PCB 159	2,3,3',4,5,5'-Hexachlorobiphenyl	15	15		15	7	7
PCB 160	2,3,3',4,5,6-Hexachlorobiphenyl	15	15		15	7	7
PCB 161	2,3,3',4,5',6-Hexachlorobiphenyl	15	15		15	7	7
PCB 162	2,3,3',4',5,5'-Hexachlorobiphenyl	15	15		15	7	7
PCB 163	2,3,3',4',5,6-Hexachlorobiphenyl	15	15		15	7	7
PCB 164	2,3,3',4',5',6-Hexachlorobiphenyl	15	15		15	7	7
PCB 165	2,3,3',5,5',6-Hexachlorobiphenyl	15	15		15	7	7
PCB 166	2,3,4,4',5,6-Hexachlorobiphenyl	15	15		15	7	7
PCB 167	2,3',4,4',5,5'-Hexachlorobiphenyl	15	15		15	7	7
PCB 168	2,3',4,4',5',6-Hexachlorobiphenyl	15	15		15	7	7
PCB 169	3,3',4,4',5,5'-Hexachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 170	2,2',3,3',4,4',5-Heptachlorobiphenyl	15	15		15	7	7
PCB 170/190		10	10		10		
PCB 171	2,2',3,3',4,4',6-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 172	2,2',3,3',4,5,5'-Heptachlorobiphenyl	15	15		15	7	7
PCB 172/192		10	10		10		
PCB 173	2,2',3,3',4,5,6-Heptachlorobiphenyl	15	15		15	7	7
PCB 174	2,2',3,3',4,5,6'-Heptachlorobiphenyl	15	15		15	7	7
PCB 174/181		10	10		10		
PCB 175	2,2',3,3',4,5',6-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 176	2,2',3,3',4,6,6'-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 177	2,2',3,3',4,5',6'-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7

AXYS Analytical Services Ltd.

TABLE 2		Canadian Association for Laboratory Accreditation (CALA)				Washington State Department of Ecology	
		Accreditation No.: A 2637				Lab. ID: C404	
		W	S	Pulp	T	NP W	S
PCB 178	2,2',3,3',5,5',6-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 179	2,2',3,3',5,6,6'-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 180	2,2',3,4,4',5,5'-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 181	2,2',3,4,4',5,6-Heptachlorobiphenyl	15	15		15	7	7
PCB 182	2,2',3,4,4',5,6'-Heptachlorobiphenyl	15	15		15	7	7
PCB 183	2,2',3,4,4',5',6-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 184	2,2',3,4,4',6,6'-Heptachlorobiphenyl	15	15		15	7	7
PCB 185	2,2',3,4,5,5',6-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 186	2,2',3,4,5,6,6'-Heptachlorobiphenyl	15	15		15	7	7
PCB 187	2,2',3,4',5,5',6-Heptachlorobiphenyl	15	15		15	7	7
PCB 187/182		10	10		10		
PCB 188	2,2',3,4',5,6,6'-Heptachlorobiphenyl	15	15		15	7	7
PCB 189	2,3,3',4,4',5,5'-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 190	2,3,3',4,4',5,6-Heptachlorobiphenyl	15	15		15	7	7
PCB 191	2,3,3',4,4',5',6-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 192	2,3,3',4,5,5',6-Heptachlorobiphenyl	15	15		15	7	7
PCB 193	2,3,3',4',5,5',6-Heptachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 194	2,2',3,3',4,4',5,5'-Octachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 195	2,2',3,3',4,4',5,6-Octachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 196	2,2',3,3',4,4',5,6'-Octachlorobiphenyl	15	15		15	7	7
PCB 196/203		10	10		10		
PCB 197	2,2',3,3',4,4',6,6'-Octachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 198	2,2',3,3',4,5,5',6-Octachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 199	2,2',3,3',4,5,5',6'-Octachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 200	2,2',3,3',4,5,6,6'-Octachlorobiphenyl	15	15		15	7	7
PCB 201	2,2',3,3',4,5',6,6'-Octachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 202	2,2',3,3',5,5',6,6'-Octachlorobiphenyl	15	15		15	7	7
PCB 203	2,2',3,4,4',5,5',6-Octachlorobiphenyl	15	15		15	7	7
PCB 204	2,2',3,4,4',5,6,6'-Octachlorobiphenyl	15	15		15	7	7
PCB 205	2,3,3',4,4',5,5',6-Octachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 206	2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 207	2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 208	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl	10, 15	10, 15		10, 15	7	7
PCB 209	Decachlorobiphenyl	10, 15	10, 15		10, 15	7	7
Total Monochlorobiphenyls		15	15		15		
Total Dichlorobiphenyls		10, 15	10, 15		10, 15		
Total Trichlorobiphenyls		10, 15	10, 15		10, 15		
Total Tetrachlorobiphenyls		10, 15	10, 15		10, 15		
Total Pentachlorobiphenyls		10, 15	10, 15		10, 15		
Total Hexachlorobiphenyls		10, 15	10, 15		10, 15		
Total Heptachlorobiphenyls		10, 15	10, 15		10, 15		
Total Octachlorobiphenyls		10, 15	10, 15		10, 15		
Total Nonachlorobiphenyls		10, 15	10, 15		10, 15		
Total Decachlorobiphenyls		10	10		10		
Total Polychlorinated biphenyls		10	10		10		7
Aroclors							
Aroclor 1260		10	10		10	7	7
Aroclor 1254		10	10		10	7	7
Aroclor 1268		10	10		10		
Aroclor 1221		10	10		10	7	7
Aroclor 1232		10	10		10	7	7
Aroclor 1248		10	10		10	7	7
Aroclor 1016						7	7

AXYS Analytical Services Ltd.

TABLE 2	Canadian Association for Laboratory Accreditation (CALA)				Washington State Department of Ecology	
	Accreditation No.: A 2637				Lab. ID: C404	
	W	S	Pulp	T	NP W	S
Aroclor 1242					7	7
Aroclor 1242/1016	10	10		10		
Pesticides						
2,4'-DDD	10, 16	10, 16		10, 16	16	
2,4'-DDE	10, 16	10, 16		10, 16	16	
2,4'-DDT	10, 16	10, 16		10, 16	16	
4,4'-DDD	10, 16	10, 16		10, 16	16	
4,4'-DDE	10, 16	10, 16		10, 16	16	
4,4'-DDT	10, 16	10, 16		10, 16	16	
Aldrin	10, 16	10, 16		10, 16	16	
Alpha-HCH	10, 16	10, 16		10, 16	16	
Beta-HCH	10, 16	10, 16		10, 16	16	
cis-Chlordane (alpha-Chlordane)	10, 16	10, 16		10, 16	16	
cis-Nonachlor	10, 16	10, 16		10, 16	16	
Delta-HCH	10, 16	10, 16		10, 16	16	
Dieldrin	10, 16	10, 16		10, 16	16	
Endosulphan I	10, 16	10, 16		10, 16	16	
Endosulphan II	10, 16	10, 16		10, 16	16	
Endosulphan sulphate	10, 16	10, 16		10, 16	16	
Endrin	10, 16	10, 16		10, 16	16	
Endrin aldehyde	10, 16	10, 16		16	16	
Endrin ketone	10, 16	10, 16		10, 16	16	
Gamma-HCH (Lindane)	10, 16	10, 16		10, 16	16	
Heptachlor	10, 16	10, 16		10, 16	16	
Heptachlor epoxide	10, 16	10, 16		10, 16	16	
Hexachlorobenzene	10, 16	10, 16		10, 16	16	
Hexachlorobutadiene		16		16		
Methoxychlor	10, 16	10, 16		10, 16	16	
Mirex	10, 16	10, 16		10, 16	16	
Oxychlordane	10, 16	10, 16		10, 16	16	
Toxaphene	10	10		10		
trans-Chlordane (gamma-Chlordane)	10, 16	10, 16		10, 16	16	
trans-Nonachlor	16	10, 16		10, 16	16	
BDE - Brominated Diphenylethers						
BDE 7 2,4-dibromodiphenylether	17	17		17		
BDE 8 2,4'-dibromodiphenylether	17	17		17		
BDE 10 2,6-dibromodiphenylether	17	17		17		
BDE 11 3,3'-dibromodiphenylether	17	17		17		
BDE 12 3,4-dibromodiphenylether	17	17		17		
BDE 13 3,4'-dibromodiphenylether	17	17		17		
BDE 15 4,4'-dibromodiphenylether	17	17		17		
BDE 17 2,2',4-tribromodiphenylether	17	17		17		
BDE 25 2,3',4-tribromodiphenylether	17	17		17		
BDE 28 2,4,4'-tribromodiphenylether	17	17		17		
BDE 30 2,4,6-tribromodiphenylether	17	17		17		
BDE-33 2',3,4-tribromodiphenylether	17	17		17		
BDE 35 3,3',4-tribromodiphenylether	17	17		17		
BDE 37 3,4,4'-tribromodiphenylether	17	17		17		
BDE 47 2,2',4,4'-tetrabromodiphenylether	17	17		17		
BDE 49 2,2',4,5'-tetrabromodiphenylether	17	17		17		
BDE 66 2,3',4,4'-tetrabromodiphenylether	17	17		17		
BDE 75 2,4,4',6-tetrabromodiphenylether	17	17		17		

AXYS Analytical Services Ltd.

TABLE 2		Canadian Association for Laboratory Accreditation (CALA)				Washington State Department of Ecology	
		Accreditation No.: A 2637				Lab. ID: C404	
		W	S	Pulp	T	NP W	S
BDE 77	3,3',4,4'-tetrabromodiphenylether	17	17		17		
BDE 85	2,2',3,4,4'-pentabromodiphenylether	17	17		17		
BDE 99	2,2',4,4',5-pentabromodiphenylether	17	17		17		
BDE 100	2,2',4,4',6-pentabromodiphenylether	17	17		17		
BDE 105	2,3,3',4,4'-pentabromodiphenylether	17	17		17		
BDE 116	2,3,4,5,6-pentabromodiphenylether	17	17		17		
BDE 119	2,3',4,4',6-pentabromodiphenylether	17	17		17		
BDE 126	3,3',4,4',5-pentabromodiphenylether	17	17		17		
BDE 140	2,2',3,4,4',6'-hexabromodiphenylether	17	17		17		
BDE 153	2,2',4,4',5,5'-hexabromodiphenylether	17	17		17		
BDE 154	2,2',4,4',5',6-hexabromodiphenylether	17	17		17		
BDE 155	2,2',4,4',6,6'-hexabromodiphenylether	17	17		17		
BDE 166	2,3,4,4',5,6-hexabromodiphenylether	17	17		17		
BDE 181	2,2',3,4,4',5,6-heptabromodiphenylether	17	17		17		
BDE-183	2,2',3,4,4',5',6-heptabromodiphenylether	17	17		17		
BDE 190	2,3,3',4,4',5,6-heptabromodiphenylether	17	17		17		
BDE 206	2,2',3,3',4,4',5,5',6-nonabromodiphenylether	17	17		17		
BDE 207	2,2',3,3',4,4',5,6,6'-nonabromodiphenylether	17	17		17		
BDE 208	2,2',3,3',4,5,5',6,6'-nonabromodiphenylether	17	17		17		
BDE 209	Decabromodiphenylether	17	17		17		
PFC – Perfluorinated Organic Compounds							
Perfluorobutanoate (PFBA)		14	12		13		
Perfluoropentanoate (PFPeA)		14	12		13		
Perfluorohexanoate (PFHxA)		14	12		13		
Perfluoroheptanoate (PFHpA)		14	12		13		
Perfluorooctanoate (PFOA)		14	12		13		
Perfluorononanoate (PFNA)		14	12		13		
Perfluorodecanoate (PFDA)		14	12		13		
Perfluoroundecanoate (PFUnA)		14	12		13		
Perfluorododecanoate (PFDoA)		14	12		13		
Perfluorobutanesulfonate (PFBS)		14	12		13		
Perfluorohexanesulfonate (PFHxS)		14	12		13		
Perfluorooctanesulfonate (PFOS)		14	12		13		
Perfluorooctane sulfonamide (PFOSA)		14	12		13		
PAH							
Anthracene			18		18		
Pyrene			18		18		
Benzo[ghi]perylene			18		18		
Benzo[e]pyrene			18		18		
Indeno[1,2,3-cd]pyrene			18		18		
Perylene			18		18		
Benzo[b]fluoranthene			18		18		
Fluoranthene			18		18		
Benzo[k]fluoranthene					18		
Acenaphthylene			18		18		
Chrysene			18		18		
Benzo[a]pyrene			18		18		
Dibenz[ah]anthracene			18		18		
Benz[a]anthracene			18		18		
Acenaphthene			18		18		
Phenanthrene			18		18		
Fluorene			18		18		

AXYS Analytical Services Ltd.

TABLE 2	Canadian Association for Laboratory Accreditation (CALA)				Washington State Department of Ecology	
	Accreditation No.: A 2637				Lab. ID: C404	
	W	S	Pulp	T	NP W	S
Naphthalene		18		18		
PPCP (Pharmaceutical and Personal Care Products)						
Acetaminophen	19	19				
Azithromycin	19	19				
Caffeine	19	19				
Carbadox	19	19				
Carbamazepine	19	19				
Cefotaxime	19	19				
Ciprofloxacin	19	19				
Clarithromycin	19	19				
Clinafloxacin	19	19				
Cloxacillin	19	19				
Dehydronifedipine	19	19				
Digoxigenin	19	19				
Digoxin	19	19				
Diltiazem	19	19				
1,7-Dimethylxanthine	19	19				
Diphenhydramine	19	19				
Enrofloxacin	19	19				
Erythromycin	19	19				
Flumequine	19	19				
Fluoxetine	19	19				
Lincomycin	19	19				
Lomefloxacin	19	19				
Miconazole	19	19				
Norfloxacin	19	19				
Norgestimate	19	19				
Ofloxacin	19	19				
Ormetoprim	19	19				
Oxacillin	19	19				
Oxolinic acid	19	19				
Penicillin G	19	19				
Penicillin V	19	19				
Roxithromycin	19	19				
Sarafloxacin	19	19				
Sulfachloropyridazine	19	19				
Sulfadiazine	19	19				
Sulfadimethoxine	19	19				
Sulfamerazine	19	19				
Sulfamethazine	19	19				
Sulfamethizole	19	19				
Sulfamethoxazole	19	19				
Sulfanilamide	19	19				
Sulfathiazole	19	19				
Thiabendazole	19	19				
Trimethoprim	19	19				
Tylosin	19	19				
Virginiamycin	19	19				
Anhydrochlortetracycline (ACTC)	19	19				
Anhydrotetracycline (ATC)	19	19				
Chlortetracycline (CTC)	19	19				
Demeclocycline	19	19				

AXYS Analytical Services Ltd.

TABLE 2	Canadian Association for Laboratory Accreditation (CALA)				Washington State Department of Ecology	
	Accreditation No.: A 2637				Lab. ID: C404	
	W	S	Pulp	T	NP W	S
Doxycycline	19	19				
4-Epianhydrochlortetracycline (EACTC)	19	19				
4-Epianhydrotetracycline (EATC)	19	19				
4-Epichlortetracycline (ECTC)	19	19				
4-Epioxytetracycline (EOTC)	19	19				
4-Epitetracycline (ETC)	19	19				
Isochlortetracycline (ICTC)	19	19				
Minocycline	19	19				
Oxytetracycline (OTC)	19	19				
Tetracycline (TC)	19	19				
Bisphenol A	19	19				
Furosemide	19	19				
Gemfibrozil	19	19				
Glipizide	19	19				
Glyburide	19	19				
Hydrochlorothiazide	19	19				
2-hydroxy-ibuprofen	19	19				
Ibuprofen	19	19				
Naproxen	19	19				
Triclocarban	19	19				
Triclosan	19	19				
Warfarin	19	19				
Albuterol	19	19				
Amphetamine	19	19				
Atenolol	19	19				
Atorvastatin	19	19				
Cimetidine	19	19				
Clonidine	19	19				
Codeine	19	19				
Cotinine	19	19				
Enalapril	19	19				
Hydrocodone	19	19				
Metformin	19	19				
Oxycodone	19	19				
Ranitidine	19	19				
Triamterene	19	19				
Alprazolam	19	19				
Amitriptyline	19	19				
Amlodipine	19	19				
Benzoylecgonine	19	19				
Benztropine	19	19				
Betamethasone	19	19				
Cocaine	19	19				
DEET (N,N-diethyl-m-toluamide)	19	19				
Desmethyldiltiazem	19	19				
Diazepam	19	19				
Fluocinonide	19	19				
Fluticasone propionate	19	19				
Hydrocortisone	19	19				
10-hydroxy-amitriptyline	19	19				
Meprobamate	19	19				

AXYS Analytical Services Ltd.

TABLE 2	Canadian Association for Laboratory Accreditation (CALA)				Washington State Department of Ecology	
	Accreditation No.: A 2637				Lab. ID: C404	
	W	S	Pulp	T	NP W	S
Methylprednisolone	19	19				
Metoprolol	19	19				
Norfluoxetine	19	19				
Norverapamil	19	19				
Paroxetine	19	19				
Prednisolone	19	19				
Prednisone	19	19				
Promethazine	19	19				
Propoxyphene	19	19				
Propranolol	19	19				
Sertraline	19	19				
Simvastatin	19	19				
Theophylline	19	19				
Trenbolone	19	19				
Trenbolone acetate	19	19				
Valsartan	19	19				
Verapamil	19	19				

Table 1 and Table 2 - Explanation of Terms Used:

- NELAP = National Environmental Laboratory Accreditation Program
- Non-potable water = water not fit for consumption without treatment as it may contain pollutants, contaminants, minerals or infective agents. Surface water, ground water, rainwater, effluents as well as any other non-drinking water sources are included in this category.
- Solid = environmental solid sample. Soil, sediment, biosolids, hazardous waste, mixed phase samples with significant solids content are included in this category.
- Performance based implementation = methodology follows that of the method reference but modifications deemed by AXYS as minor [1] may apply, results meet method reference data quality standard.
- Performance based modification = modifications deemed by AXYS as significant[2] have been made to method reference protocol, results meet method reference accuracy standard. The suitability of the methodology for any method prescriptive applications should be assessed based on the modifications made and the specific work requirements.
- Performance based method = an in-house AXYS method, published method reference not applicable.
- GC/LRMS = gas chromatography, low resolution mass spectrometry detection.
- GC/HRMS = gas chromatography, high resolution mass spectrometry detection.
- GC/ECD = gas chromatography, electron capture detection.
- LC/MS-MS = liquid chromatography, mass spectrometry-mass spectrometry detection.

Note 1:

Performance Based Implementation - Examples of Minor Modifications

- use of additional isotopically labeled references
- adjustment of calibration range
- adjustment of clean-up technique
- use of a different extraction of same general type (example soxhlet vs soxhlet Dean Stark)
- addition of matrix type using same principles (example addition of tissue matrix using same detection principle and similar extraction type)

Note 2:

Performance Based Modification - Examples of Significant Modifications

- different acquisition conditions using same detection principle (example MS SIM vs. full scan)
- different internal control limits while meeting method reference accuracy standard

Attachment B
January 2012
Data Assessment Review
Memorandums

Memorandum

Environmental Resources Management

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To: Shira DeGrood

From: Irene Lavigne

Date: 27 January 2012

Subject: Data Review of Reichhold-Glacier Fall 2011 Groundwater Monitoring Samples Collected November – December 2011

Project Number: 0128296.07

Data Packages: Analytical Resources Incorporated Data Packages TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, and UA33
Axys Analytical Service Data Package DPWG38865

The quality of the data was assessed and any necessary qualifiers were applied following the *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,* October 1999, *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review,* October 2004, and the *EPA Region 10 SOP for the Validation of Polychlorinated Dibenzodioxin (PCDD) and Polychlorinated Dibenzofuran (PCDF) Data*, January 1996.

HOLDING TIME AND PRESERVATION EVALUATION

The sample shipments were received at the laboratory within the method-prescribed preservation requirements. None of the data were qualified based on temperature preservation exceedances.

The samples were prepared and analyzed within the method-prescribed time period from the date of collection with limited exceptions. One sample was re-extracted outside of the 7-day holding time for semivolatile organic compound (SVOC) analysis. Nondetected sample results for this sample were qualified as estimated (UJ), as shown in Table 1.

BLANK EVALUATION

The method blank, trip blank and field blank sample results were nondetected for each of the target analytes with a number of exceptions. Detections of total chromium in two method blanks required qualification

of four sample results as nondetected (U) for this compound. Detections of bis(2-ethylhexyl)phthalate in a method blank resulted in qualification of two associated sample results as nondetected (U). Detections of common laboratory contaminants, acetone and methylene chloride, required qualification of six sample results as nondetected (U) for these compounds. Additionally, detections of dioxin and furan compounds in a lab blank required qualification of seven dioxin and furan results as nondetected (U). Not all blank detections required qualification of associated sample data. Data were not qualified if the sample were nondetected for the associated compounds, or if the sample results exceeded five times the blank concentrations of organic compounds or 10 times the blank concentrations of inorganic compounds and common laboratory contaminants. The blank detections and associated, qualified data are presented in Table 2.

BLANK SPIKE EVALUATION

The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) recoveries were within the laboratory's limits of acceptance with limited exceptions; however, no sample data were qualified on the basis of the LCS outliers. Sample data are not qualified if only one recovery in a LCS/LCSD pair exceeds acceptable control limits, if only the relative percent difference (RPD) exceeds control limits, or if the recovery is biased high and the associated samples are nondetected for the corresponding compound. The outlying LCS recoveries are shown in Table 3.

MATRIX SPIKE EVALUATION

The matrix spike (MS) and matrix spike duplicate (MSD) recoveries were within the laboratory's limits of acceptance with a number of exceptions. Seventeen sample results were qualified as estimated (UJ or J) due to six MS recoveries that exceeded acceptable limits for various compounds. Additional outlying compounds did not require qualification of sample data. Data are not qualified if the concentration of the unspiked samples is greater than four times the amount spiked, if the data could be verified using and associated, in-control LCS recovery, or if the recovery is biased high and the associated samples are nondetected for the corresponding compound. The outlying MS recoveries and qualified sample data are listed in Table 4.

ESTIMATED MAXIMUM POSSIBLE CONCENTRATION

The laboratory identified a number of dioxin and furan results as estimated maximum possible concentrations (EMPC). An EMPC value is the maximum possible concentration of a compound that could be present in the sample. This classification is used when all of the identification criteria for a given dioxin or furan compound are not met. Sample data identified as EMPC by the laboratory were qualified as nondetected (U), as shown in Table 5.

SURROGATE SPIKE EVALUATION

The surrogate recoveries were within acceptable limits with limited exceptions. Nondetected sample results for one sample submitted for SVOC analysis were qualified as estimated (UJ) due surrogate recoveries that were below the acceptable limits. The outlying surrogate recoveries are presented in Table 6.

FIELD DUPLICATE EVALUATION

Ten samples were collected and analyzed in duplicate. ERM calculated the RPD between detected results. The USEPA has not established control criteria for field duplicate samples; therefore, sample data are not qualified on the basis of field duplicate imprecision. Detected duplicate results and calculated RPDs are listed in Table 7.

ANALYTICAL DUPLICATE & REPLICATE EVALUATION

The laboratory prepared and analyzed a number of samples as analytical duplicates and replicates. ERM calculated the RPD between detected results. The RPDs were less than 20 percent, with one exception. The detected sample results for total copper for the outlying sample was qualified as estimated (J). The analytical duplicate and replicate sample results and calculated RPDs are shown in Table 8.

CONTINUING CALIBRATION EVALUATION

The laboratory noted that nine continuing calibration verification (CCV) recoveries for volatile organic compounds exceeded acceptable control limits for various compounds. Nondetected sample results for one sample associated with outlying compounds were qualified as estimated (UJ). Additional sample data were not qualified because either the CCV recoveries were biased high and the associated samples were nondetected for the corresponding compounds, or the samples associated with the outlying CCV were not field samples. The CCV outliers and qualified data are listed in Table 9.

CALIBRATION RANGE EVALUATION

The laboratory noted five instances where the results of undiluted samples exceeded the calibration range of the equipment. The affected samples were diluted and reanalyzed. The sample data resulting from the reanalyses were within the calibration range; and should be used for decision-making purposes. The sample results which exceeded the calibration range were qualified as estimated (J), and are listed in Table 10.

TPH EVALUATION

The laboratory noted that the chromatograms for five samples analyzed for total petroleum hydrocarbons did not resemble the standard chromatographic pattern, or contained additional, unidentifiable hydrocarbons. The results for these samples were qualified as tentatively identified and estimated (NJ) as presented in Table 11.

OVERALL ASSESSMENT

No data were determined to be unusable. All of the data, including qualified data, can be used for decision-making purposes; however, the limitations indicated by the applied qualifiers should be considered when using the data. The quality of the data generated during this investigation is acceptable for the preparation of technically-defensible documents.

Table 1
Samples with Exceeded Holding Times
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Sample ID	Method	Holding Time (days)	# of Days Exceeded	ERM Qualifier
TZ21	MW-17-112811 RE	SVOC	7/40	3 extraction	UJ

Data packages reviewed: Analytical Resources TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, UA33; Axys DPWG38865

Key:
RE = Reextracted/reanalyzed sample
SVOC = Semivolatile organic compounds (Phenol compounds)
7/40 = 7 days to extraction/40 days to analysis
UJ = Nondetected sample result qualified as estimated

Table 2
Blank and Associated Suspect Sample Detections
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Blank ID	Associated Samples	Detected Compound	Reported Concentration	Report Limit	Units	ERM Qualifier
TZ21	TB-112811-1	NA	Styrene	0.2	0.2	µg/L	--
TZ32	TB-112911-1	NA	Methylene chloride	0.5	0.5	µg/L	--
TZ32	TB-112911-1	NA	Styrene	0.2	0.2	µg/L	--
TZ32	MB-120611	See below	Chromium, total	0.8	0.5	µg/L	--
TZ32	MB-120611	MW-1S-112911	Chromium, total	1.9	0.5	µg/L	1.9 U
TZ73	MB-122011	See below	Chromium, total	0.7	0.5	µg/L	--
TZ73	MB-122011	MW-27-120111	Chromium, total	2	1	µg/L	2 U
TZ73	MB-122011	MW-26-120111	Chromium, total	2	1	µg/L	2 U
TZ73	MB-122011	MW-3D-120111	Chromium, total	5	1	µg/L	5 U
TZ84	TB-120211-1	See below	Methylene choride	0.4	0.5	µg/L	--
TZ84	TB-120211-1	MW-29S-120211	Methylene choride	0.4	0.5	µg/L	0.5 U
TZ84	TB-120211-1	See below	Acetone	1.6	5.0	µg/L	--
TZ84	TB-120211-1	MW-28S-120211	Acetone	2.0	5.0	µg/L	5.0 U
TZ84	TB-120211-1	MW-29S-120211	Acetone	5.1	5.0	µg/L	5.1 U
TZ84	TB-120211-1	DUP-120211-2	Acetone	1.8	5.0	µg/L	5.0 U
TZ86	MB-122111	NA	Chromium, dissolved	0.6	0.5	µg/L	--
TZ97	FB-120511-1	NA	Methylene chloride	1.6	0.5	µg/L	--
TZ97	FB-120511-1	NA	Toluene	0.2	0.2	µg/L	--
TZ97	MB-120811	See below	bis(2-Ethylhexyl)phthalate	0.9	1.0	µg/L	--
TZ97	MB-120811	MW-33S-120511	bis(2-Ethylhexyl)phthalate	2.4	1.0	µg/L	2.4 U
TZ97	MB-120811	DUP-120511-3	bis(2-Ethylhexyl)phthalate	1.4	1.0	µg/L	1.4 U
UA17	MB-120911	NA	bis(2-Ethylhexyl)phthalate	1.0	1.0	µg/L	--
UA17	MB-122011	NA	Chromium	0.5	0.5	µg/L	--

Table 2
Blank and Associated Suspect Sample Detections
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Blank ID	Associated Samples	Detected Compound	Reported Concentration	Report Limit	Units	ERM Qualifier
UA17	MB-120811	NA	Chloride	0.1	0.5	mg/L	--
UA33	TB-120611-1	See below	Methylene chloride	0.3	0.5	µg/L	--
UA33	TB-120611-1	MW-16-120611	Methylene chloride	0.2	0.5	µg/L	0.5 U
UA33	TB-120611-1	See below	Acetone	2.1	5.0	µg/L	--
UA33	TB-120611-1	MW-16-120611	Acetone	5.1	5.0	µg/L	5.1 U
DPWG38865	Lab Blank	See below	2,3,7,8-TCDD	0.504	0.500	pg/L	--
DPWG38865	Lab Blank	MW-10-112911	2,3,7,8-TCDD	0.879	0.567	pg/L	0.879 U
DPWG38865	Lab Blank	MW-13-112911	2,3,7,8-TCDD	0.633	0.561	pg/L	0.633 U
DPWG38865	Lab Blank	See below	1,2,3,7,8,9-HXCDD	0.533	0.500	pg/L	--
DPWG38865	Lab Blank	MW-10-112911	1,2,3,7,8,9-HXCDD	0.704	0.567	pg/L	0.704 U
DPWG38865	Lab Blank	NA	1,2,3,4,6,7,8-HPCDD	0.975	0.500	pg/L	--
DPWG38865	Lab Blank	NA	OCDD	2.73	0.500	pg/L	--
DPWG38865	Lab Blank	See below	1,2,3,4,6,7,8-HPCDF	0.637	0.500	pg/L	--
DPWG38865	Lab Blank	MW-7S-112911	1,2,3,4,6,7,8-HPCDF	1.79	0.598	pg/L	1.79 U
DPWG38865	Lab Blank	DUP-112911-2	1,2,3,4,6,7,8-HPCDF	1.56	0.917	pg/L	1.56 U
DPWG38865	Lab Blank	See below	OCDF	1.62	0.500	pg/L	--
DPWG38865	Lab Blank	MW-7S-112911	OCDF	5.80	0.598	pg/L	5.80 U
DPWG38865	Lab Blank	DUP-112911-2	OCDF	7.36	0.554	pg/L	7.36 U

Data packages reviewed: Analytical Resources TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, UA33; Axys DPWG38865

Key:

TB = Trip blank
MB = Method blank
FB = Field blank
µg/L = Micrograms per liter
mg/L = Milligrams per liter
pg/L = Picograms per liter
U = Nondetected
TCDD = Tetrachlorodibenzo-p-dioxim
HXCDD = Hexachlorodibenzo-p-dioxin
NA = Not applicable; qualification of sample data not required
HPCDD = Heptachlorodibenzo-p-dioxin
OCDD = Octochlorodibenzo-p-dioxin
HPCDF = Heptachlorodibenzofuran
OCDF = Octochlorodibenzofuran

Table 3
Laboratory Control Spike Recoveries Outside of Acceptable Limits
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Spike Sample ID	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Sample Result	ERM Qualifier
TZ21	LCS/LCSD-120611	NA	Hexachlorobutadiene	100/122	77-120	19.8	30	--	--
TZ21	LCS/LCSD-120611	NA	1,2,4-Trichlorobenzene	101/121	77-120	18.0	30	--	--
TZ21	LCS/LCSD-120611	NA	Naphthalene	102/123	76-120	18.7	30	--	--
TZ21	LCS/LCSD-120611	NA	1,2,3-Trichlorobenzene	99.0/124	79-120	22.4	30	--	--
TZ83	LCS/LCSD-120711	NA	Benzoic acid	26.1/92.0	10-131	112	30	--	--
TZ83	LCS/LCSD-120711	NA	4-Nitrophenol	121/121	35-119	0.1	30	--	--
TZ83	LCS/LCSD-120711	NA	N-Nitrosodiphenylamine	72.8/52.4	60-136	32.6	30	--	--
TZ84	LCS/LCSD-120711	NA	Bromomethane	114/131	71-120	13.9	30	--	--
TZ84	LCS/LCSD-120711	NA	Chloroethane	103/133	80-120	25.4	30	--	--
TZ84	LCS/LCSD-120711	NA	Trichlorofluoromethane	98.0/126	80-120	25.0	30	--	--
TZ84	LCS/LCSD-120711	NA	2,2-Dichloropropane	115/122	80-120	5.9	30	--	--
TZ97	LCS/LCSD-121211	NA	Acrolein	64.2/69.8	69-126	8.4	30	--	--
TZ97	LCS-120811	NA	4-Nitrophenol	122	35-119	--	--	--	--
TZ97	LCS-120811	NA	Butylbenzylphthalate	118	51-114	--	--	--	--
TZ97	LCS-120811	NA	Benzo(a)anthracene	108	55-100	--	--	--	--
UA17	LCS/LCSD-120911	NA	4-Nitrophenol	115/125	35-119	8.1	30	--	--
UA33	LCS/LCSD-121211	NA	Acrolein	64.2/69.8	69-126	8.4	30	--	--

Data packages reviewed: Analytical Resources TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, UA33; Axys DPWG38865

Key:

LCS/LCSD = Laboratory control sample/laboratory control sample duplicate

RPD = Relative percent difference

NA = Not applicable; qualification of sample data not required

Table 4
Matrix Spike Recoveries Outside of Acceptable Limits
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Spike Sample ID	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Sample Result	ERM Qualifier
TZ21	MW-22-112811 MS/MSD	See below	Arsenic, dissolved	134	75-125	--	--	--	--
TZ21	MW-22-112811 MS/MSD	MW-17-112811	Arsenic, dissolved	--	--	--	--	47.5	J
TZ21	MW-22-112811 MS/MSD	MW-04S-112811	Arsenic, dissolved	--	--	--	--	42.7	J
TZ21	MW-22-112811 MS/MSD	MW-22-112811	Arsenic, dissolved	--	--	--	--	7.9	J
TZ21	MW-22-112811 MS/MSD	MW-23-112811	Arsenic, dissolved	--	--	--	--	2.9	J
TZ32	MW-1S-112911 MS	See below	Hexavalent chromium	55.7	75-125	--	--	--	--
TZ32	MW-1S-112911 MS	MW-1S-112911	Hexavalent chromium	--	--	--	--	< 0.010	UJ
TZ50	MW-24-113011 MS	See below	Silver, dissolved	67	75-125	--	--	--	--
TZ50	MW-24-113011 MS	MW-24-113011	Silver, dissolved	--	--	--	--	< 3	UJ
TZ50	MW-24-113011 MS	MW-20-113011	Silver, dissolved	--	--	--	--	< 3	UJ
TZ50	MW-24-113011 MS	MW-18-113011	Silver, dissolved	--	--	--	--	< 3	UJ
TZ50	MW-24-113011 MS	DUP-113011-2	Silver, dissolved	--	--	--	--	< 3	UJ
TZ73	MW-3S-120111 MS	NA	Arsenic, total	72	75-125	--	--	4X	--
TZ73	MW-3S-120111 MS	NA	Arsenic, dissolved	36	75-125	--	--	4X	--
TZ73	MW-3S-120111 MS	See below	Silver, dissolved	69.4	75-125	--	--	--	--
TZ73	MW-3S-120111 MS	MW-3S-120111	Silver, dissolved	--	--	--	--	< 3	UJ
TZ73	MW-3S-120111 MS	MW-27-120111	Silver, dissolved	--	--	--	--	< 3	UJ
TZ73	MW-3S-120111 MS	MW-26-120111	Silver, dissolved	--	--	--	--	< 3	UJ
TZ73	MW-3S-120111 MS	MW-3D-120111	Silver, dissolved	--	--	--	--	< 3	UJ
TZ83	MW-14D-120211 MS	NA	Arsenic, total	176	75-125	--	--	4X	--
TZ83	MW-14D-120211 MS	NA	Arsenic, dissolved	192	75-125	--	--	4X	--
TZ86	MW-14-120211 MS	NA	Arsenic, total	308	75-125	--	--	4X	--
TZ86	MW-14-120211 MS	NA	Arsenic, dissolved	128	75-125	--	--	4X	--

Table 4
Matrix Spike Recoveries Outside of Acceptable Limits
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Spike Sample ID	Associated Sample	Compound	Recovery (%)	Limit (%)	RPD	RPD Limit	Sample Result	ERM Qualifier
TZ97	MW-31S-120511 MS/MSD	NA	2-Chloroethylvinylether	NR	80-120	NR	30	--	--
TZ97	MW-31S-120511 MS/MSD	NA	trans-1,4-Dichloro-2-butene	63/73	80-120	14.7	30	--	--
TZ97	MW-30S-120511 MS/MSD	NA	4-Nitrophenol	133/128	35-119	3.6	30	--	--
TZ97	MW-30S-120511 MS	NA	Iron, total	126	75-125	--	--	4X	--
TZ97	MW-30S-120511 MS	See below	Total Phosphorus	130	75-125	--	--	--	--
TZ97	MW-30S-120511 MS	MW-30S-120511	Total Phosphorus	--	--	--	--	1.22	J
TZ97	MW-30S-120511 MS	MW-31S-120511	Total Phosphorus	--	--	--	--	0.384	J
TZ97	MW-30S-120511 MS	MW-33S-120511	Total Phosphorus	--	--	--	--	2.60	J
TZ97	MW-31S-120511 MS	See below	Hexavalent chromium	47.6	75-125	--	--	--	--
TZ97	MW-31S-120511 MS	See below	Hexavalent chromium	30.2	75-125	--	--	--	--
TZ97	MW-31S-120511 MS	MW-31S-120511	Hexavalent chromium	--	--	--	--	< 0.010	UJ
DPWG38865	MW-13-112911 MS/MSD	NA	OCDD	124/615	70-130	133	20	--	--

Data packages reviewed: Analytical Resources TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, UA33; Axys DPWG38865

Key:
MS/MSD = Matrix spike/matrix spike duplicate
NA = Not applicable; qualification of sample data not required
J = Detected sample result qualified as estimated
UJ = Nondetected sample result qualified as estimated
4X = Concentration of unspiked sample was greater than 4 times the amount spiked; no qualification required
OCDD = Octochlorodibenzo-p-dioxin

Table 5
Estimated Maximum Possible Concentration
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Sample ID	Compound	Reported Concentration	Report Limit	Units	ERM Qualifier
DPWG38865	MW-7S-112911	1,2,3,4,6,7,8-HPCDD	5.28	0.598	pg/L	5.28 U
DPWG38865	MW-7S-112911	1,2,3,4,6,7,8-HPCDF	1.79	0.598	pg/L	1.79 U
DPWG38865	MW-7S-112911	1,2,3,4,7,8,9-HPCDF	0.703	0.598	pg/L	0.703 U
DPWG38865	DUP-112911-2	1,2,3,4,6,7,8-HPCDF	1.56	0.917	pg/L	1.56 U
DPWG38865	DUP-112911-2	OCDF	7.36	0.554	pg/L	7.36 U
DPWG38865	MW-10-112911	2,3,7,8-TCDD	0.879	0.567	pg/L	0.879 U
DPWG38865	MW-10-112911	1,2,3,6,7,8-HXCDD	1.14	0.567	pg/L	1.14 U
DPWG38865	MW-10-112911	2,3,4,7,8-PECDF	0.624	0.57	pg/L	0.624 U
DPWG38865	MW-10-112911	1,2,3,4,7,8-HXCDF	3.88	0.567	pg/L	3.88 U
DPWG38865	MW-10-112911	1,2,3,4,7,8,9-HPCDF	1.68	0.567	pg/L	1.68 U
DPWG38865	MW-10-112911	OCDF	17.0	0.567	pg/L	17.0 U
DPWG38865	MW-13-112911	2,3,7,8-TCDD	0.633	0.561	pg/L	0.633 U
DPWG38865	MW-13-112911	1,2,3,6,7,8-HXCDD	0.716	0.561	pg/L	0.716 U
DPWG38865	MW-13-112911	1,2,3,4,7,8,9-HPCDF	1.21	0.561	pg/L	1.21 U

Data packages reviewed: Analytical Resources TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, UA33; Axys DPWG38865

Key:
pg/L = Picograms per liter
U = Nondetected
HPCDD = Heptachlorodibenzo-p-dioxin
HPCDF = Heptachlorodibenzofuran
OCDF = Octochlorodibenzofuran
TCDD = Tetrachlorodibenzo-p-dioxim
HXCDD = Hexachlorodibenzo-p-dioxin
PECDF = Pentachlorodibenzofuran
HXCDF = Hexachlorodibenzofuran

Table 6
Surrogate Recovery Results out of Acceptable Limits
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Sample ID	Method	Surrogate	Recovery (%)	Limit (%)	ERM Qualifier
TZ21	MW-17-112811	SVOC	d5-Phenol	35.2	41-100	UJ
TZ21	MW-17-112811	SVOC	2-Fluorophenol	30.4	38-100	UJ
TZ21	MW-17-112811	SVOC	d4-2-Chlorophenol	33.6	44-100	UJ
TZ21	MW-22-112811	SVOC	d4-2-Chlorophenol	42.9	44-100	--

Data packages reviewed: Analytical Resources TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, UA33; Axys DPWG38865

Key:
SVOC = Semivolatile organic compounds (Phenol compounds)
UJ = Nondetected result qualified as estimated

Table 7
Field Duplicate Results and Calculated Relative Percent Differences
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Sample/Duplicate ID	Compound	Concentration		Report Limit	Units	RPD
			Sample	Duplicate			
TZ32	MW-7S-112911/DUP-112911-2	Pentachlorophenol	480	330	5.0	µg/L	37
TZ32	MW-7S-112911/DUP-112911-2	2,3,4,6-Tetrachlorophenol	18	11	1.0	µg/L	48
TZ32	MW-7S-112911 DL/DUP-112911-2 DL	Pentachlorophenol	370	240	100	µg/L	43
TZ32	MW-7S-112911 DL/DUP-112911-2 DL	2,3,4,6-Tetrachlorophenol	16	12	20	µg/L	29
TZ32	MW-13-112911/DUP-112911-3	Pentachlorophenol	130	130	5.0	µg/L	0
TZ32	MW-13-112911/DUP-112911-3	2,3,4,6-Tetrachlorophenol	9.6	11	1.0	µg/L	14
TZ32	MW-13-112911 DL/DUP-112911-3 DL	Pentachlorophenol	100	98	25	µg/L	2.0
TZ32	MW-13-112911 DL/DUP-112911-3 DL	2,3,4,6-Tetrachlorophenol	8.5	8.4	5.0	µg/L	1.2
TZ32	MW-1S-112911/DUP-112911-1	Arsenic, total	16.1	15.4	0.2	µg/L	4.4
TZ32	MW-1S-112911/DUP-112911-1	Arsenic, dissolved	14.9	13.0	0.2	µg/L	14
TZ50	MW-21-113011/DUP-113011-1	Arsenic, total	1870	1820	2	µg/L	2.7
TZ50	MW-18-113011/DUP-113011-2	Nickel, total	0.7	0.7	0.5	µg/L	0
TZ50	MW-21-113011/DUP-113011-1	Arsenic, dissolved	1850	1800	2	µg/L	2.7
TZ84	MW-28S-120211/DUP-120211-2	Acetone	2.0	1.8	5.0	µg/L	11
TZ84	MW-28S-120211/DUP-120211-2	Tetrachloroethene	0.2	0.2	0.2	µg/L	0
TZ84	MW-29S-120211/DUP-120211-3	Arsenic, total	2.5	2.6	0.2	µg/L	3.9
TZ84	MW-29S-120211/DUP-120211-3	Arsenic, dissolved	2.4	2.5	0.2	µg/L	4.1
TZ86	MW-14-120211/DUP-120211-1	Arsenic, total	933	858	2/1	µg/L	8.4
TZ86	MW-14-120211/DUP-120211-1	Arsenic, dissolved	935	892	2/1	µg/L	4.7
TZ97	MW-33S-120511/DUP-120511-3	Phenol	2.3	2.0	1.0	µg/L	14
TZ97	MW-33S-120511/DUP-120511-3	bis(2-Ethylhexyl)phthalate	2.4	1.4	1.0	µg/L	53
TZ97	MW-33S-120511/DUP-120511-3	Naphthalene	0.08	0.07	0.1	µg/L	13
TZ97	MW-33S-120511/DUP-120511-3	Acenaphthene	0.05	0.06	0.1	µg/L	18
TZ97	MW-31S-120511/DUP-120511-2	Aluminum, total	50	60	50	µg/L	18

Table 7
Field Duplicate Results and Calculated Relative Percent Differences
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Sample/Duplicate ID	Compound	Concentration		Report Limit	Units	RPD
			Sample	Duplicate			
TZ97	MW-31S-120511/DUP-120511-2	Calcium, total	53800	55600	50	µg/L	3.3
TZ97	MW-31S-120511/DUP-120511-2	Iron, total	2440	2420	50	µg/L	0.8
TZ97	MW-31S-120511/DUP-120511-2	Magnesium, total	4020	4180	50	µg/L	3.9
TZ97	MW-31S-120511/DUP-120511-2	Manganese, total	112	113	1	µg/L	0.9
TZ97	MW-31S-120511/DUP-120511-2	Potassium, total	4440	4590	500	µg/L	3.3
TZ97	MW-31S-120511/DUP-120511-2	Sodium, total	4360	4410	500	µg/L	1.1
TZ97	MW-31S-120511/DUP-120511-2	Iron, dissolved	2500	2500	50	µg/L	0
TZ97	MW-31S-120511/DUP-120511-2	Manganese, dissolved	114	117	1	µg/L	2.6
DPWG38865	MW-7S-112911/DUP-112911-2	1,2,3,4,6,7,8-HPCDD	5.28	17.7	0.598/0.628	µg/L	108
DPWG38865	MW-7S-112911/DUP-112911-2	OCDD	140	1100	0.598/2.10	µg/L	155
DPWG38865	MW-7S-112911/DUP-112911-2	1,2,3,4,6,7,8-HPCDF	1.79	1.56	0.598/0.917	µg/L	14
DPWG38865	MW-7S-112911/DUP-112911-2	OCDF	5.80	7.36	0.598/0.554	µg/L	24
DPWG38865	MW-7S-112911/DUP-112911-2	Total Tetra-Dioxins	4.69	7.68	0.598/0.554	µg/L	48
DPWG38865	MW-7S-112911/DUP-112911-2	Total Hepta-Dioxins	4.50	39.1	0.598/0.628	µg/L	159
DPWG38865	MW-7S-112911/DUP-112911-2	Total Tetra-Furans	5.15	7.49	0.598/0.554	µg/L	37

Data packages reviewed: Analytical Resources TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, UA33; Axys DPWG38865

Key:
RPD = Relative percent difference
µg/L = Micrograms per liter
DL = Sample dilution and reanalysis

Table 8
Analytical Duplicate & Replicate Results and Calculated Relative Percent Differences
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Sample ID	Compound	Concentration		Report Limit	Units	RPD	ERM Qualifier
			Sample	Duplicate				
Analytical Duplicates								
TZ21	MW-22-112811	Arsenic, total	7.9	8.3	0.2	µg/L	4.9	--
TZ21	MW-22-112811	Arsenic, dissolved	7.9	8.4	0.2	µg/L	6.1	--
TZ32	MW-1S-112911	Arsenic, total	16.1	16.3	0.2	µg/L	1.2	--
TZ32	MW-1S-112911	Chromium, total	1.9	2.0	0.5	µg/L	5.1	--
TZ32	MW-1S-112911	Copper, total	7	7	2	µg/L	0	--
TZ32	MW-1S-112911	Zinc, total	70	70	10	µg/L	0	--
TZ32	MW-1S-112911	Arsenic, dissolved	14.9	14.7	0.2	µg/L	1.4	--
TZ32	MW-1S-112911	Chromium, total	1.0	1.0	0.5	µg/L	0	--
TZ32	MW-1S-112911	Copper, total	2	2	2	µg/L	0	--
TZ32	MW-1S-112911	Zinc, total	70	70	10	µg/L	0	--
TZ50	MW-24-113011	Nickel, total	1.1	1.1	0.5	µg/L	0	--
TZ50	MW-24-113011	Arsenic, dissolved	0.2	0.2	0.2	µg/L	0	--
TZ50	MW-24-113011	Nickel, dissolved	0.7	0.6	0.5	µg/L	15	--
TZ73	MW-3S-120111	Arsenic, total	414	414	1	µg/L	0	--
TZ73	MW-3S-120111	Copper, total	2	2	2	µg/L	0	--
TZ73	MW-3S-120111	Nickel, total	1.0	1.0	0.5	µg/L	0	--
TZ73	MW-3S-120111	Arsenic, dissolved	412	412	1	µg/L	0	--
TZ73	MW-3S-120111	Nickel, dissolved	0.9	0.9	0.5	µg/L	0	--
TZ83	MW-14D-120211	Aluminum, total	560	570	50	µg/L	1.8	--
TZ83	MW-14D-120211	Arsenic, total	427	426	1	µg/L	0.2	--
TZ83	MW-14D-120211	Calcium, total	20400	20200	50	µg/L	1.0	--
TZ83	MW-14D-120211	Chromium, total	13	12	1	µg/L	8.0	--

Table 8
Analytical Duplicate & Replicate Results and Calculated Relative Percent Differences
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Sample ID	Compound	Concentration		Report Limit	Units	RPD	ERM Qualifier
			Sample	Duplicate				
TZ83	MW-14D-120211	Copper, total	4	3	2	µg/L	29	J
TZ83	MW-14D-120211	Iron, total	9600	9470	50	µg/L	1.4	--
TZ83	MW-14D-120211	Magnesium, total	12500	12500	50	µg/L	0	--
TZ83	MW-14D-120211	Manganese, total	413	412	1	µg/L	0.2	--
TZ83	MW-14D-120211	Potassium, total	14800	14700	500	µg/L	0.7	--
TZ83	MW-14D-120211	Sodium, total	161000	161000	500	µg/L	0	--
TZ83	MW-14D-120211	Aluminum, dissolved	240	230	50	µg/L	4.3	--
TZ83	MW-14D-120211	Arsenic, dissolved	390	416	1	µg/L	6.5	--
TZ83	MW-14D-120211	Chromium, dissolved	9	9	1	µg/L	0	--
TZ83	MW-14D-120211	Iron, dissolved	9230	9320	50	µg/L	1.0	--
TZ83	MW-14D-120211	Manganese, dissolved	412	415	1	µg/L	0.7	--
TZ84	MW-28S-120211	Arsenic, total	11.2	10.8	0.2	µg/L	3.6	--
TZ84	MW-28S-120211	Calcium, total	76500	76600	50	µg/L	0.1	--
TZ84	MW-28S-120211	Iron, total	6940	6850	50	µg/L	1.3	--
TZ84	MW-28S-120211	Magnesium, total	7230	7140	50	µg/L	1.3	--
TZ84	MW-28S-120211	Manganese, total	583	580	1	µg/L	0.5	--
TZ84	MW-28S-120211	Nickel, total	1.8	1.7	0.5	µg/L	5.7	--
TZ84	MW-28S-120211	Potassium, total	6640	6530	500	µg/L	1.7	--
TZ84	MW-28S-120211	Sodium, total	21500	21400	500	µg/L	0.5	--
TZ84	MW-28S-120211	Arsenic, dissolved	11.9	11.4	0.2	µg/L	4.3	--
TZ84	MW-28S-120211	Iron, dissolved	7020	6990	50	µg/L	0	--
TZ84	MW-28S-120211	Manganese, dissolved	587	584	1	µg/L	1	--
TZ84	MW-28S-120211	Nckel, dissolved	1.9	1.7	0.5	µg/L	11	--
TZ86	MW-14-120211	Arsenic, total	933	936	2	µg/L	0.3	--
TZ86	MW-14-120211	Copper, total	9	9	2	µg/L	0	--

Table 8
Analytical Duplicate & Replicate Results and Calculated Relative Percent Differences
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Sample ID	Compound	Concentration		Report Limit	Units	RPD	ERM Qualifier
			Sample	Duplicate				
TZ86	MW-14-120211	Arsenic, dissolved	935	917	2	µg/L	1.9	--
TZ97	MW-30S-120511	Arsenic, total	8.5	8.8	0.2	µg/L	3.5	--
TZ97	MW-30S-120511	Calcium, total	56000	53800	50	µg/L	4.0	--
TZ97	MW-30S-120511	Iron, total	8280	7930	50	µg/L	4.3	--
TZ97	MW-30S-120511	Magnesium, total	11100	10600	50	µg/L	4.6	--
TZ97	MW-30S-120511	Manganese, total	441	421	1	µg/L	4.6	--
TZ97	MW-30S-120511	Nickel, total	0.9	1.0	0.5	µg/L	11	--
TZ97	MW-30S-120511	Potassium, total	7930	7550	500	µg/L	4.9	--
TZ97	MW-30S-120511	Sodium, total	13800	13200	500	µg/L	4.4	--
TZ97	MW-30S-120511	Arsenic, dissolved	9.2	9.7	0.2	µg/L	5.3	--
TZ97	MW-30S-120511	Iron, dissolved	8300	8210	50	µg/L	1.1	--
TZ97	MW-30S-120511	Manganese, dissolved	448	442	1	µg/L	1.3	--
TZ97	MW-30S-120511	Nickel, dissolved	1.1	1.2	0.5	µg/L	8.7	--
UA17	MW-32S-120611	Arsenic, total	2.2	2.1	0.2	µg/L	4.7	--
UA17	MW-32S-120611	Calcium, total	33000	33100	50	µg/L	0.3	--
UA17	MW-32S-120611	Iron, total	19100	19400	50	µg/L	1.6	--
UA17	MW-32S-120611	Magnesium, total	26600	26900	50	µg/L	1.1	--
UA17	MW-32S-120611	Manganese, total	819	832	1	µg/L	1.6	--
UA17	MW-32S-120611	Potassium, total	20500	20600	500	µg/L	0.5	--
UA17	MW-32S-120611	Sodium, total	32300	32500	500	µg/L	0.6	--
UA17	MW-32S-120611	Arsenic, dissolved	2.1	2.2	0.2	µg/L	4.7	--
UA17	MW-32S-120611	Iron, dissolved	19400	19400	50	µg/L	0	--
UA17	MW-32S-120611	Manganese, dissolved	821	820	1	µg/L	0.1	--
UA33	MW-16-120611	Arsenic, total	13.3	13.3	0.2	µg/L	0	--

Table 8
Analytical Duplicate & Replicate Results and Calculated Relative Percent Differences
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Sample ID	Compound	Concentration		Report Limit	Units	RPD	ERM Qualifier
			Sample	Duplicate				
Replicates								
TZ84	MW-28S-120211	Alkalinity	253	254	1.0	mg/L	0.4	--
TZ84	MW-28S-120211	Bicarbonate	253	254	1.0	mg/L	0.4	--
TZ84	MW-28S-120211	Chloride	10.6	10.6	0.5	mg/L	0	--
TZ84	MW-28S-120211	N-Ammonia	0.360	0.374	0.010	mg/L	3.8	--
TZ84	MW-28S-120211	Total Phosphorus	0.234	0.232	0.008	mg/L	0.9	--
TZ84	MW-28S-120211	Sulfate	13.4	13.2	0.5	mg/L	1.5	--
TZ84	MW-28S-120211	TOC	7.59	7.08	1.5	mg/L	7.0	--
TZ97	MW-30S-120511	Total Phosphorus	1.22	1.25	0.060	mg/L	2.4	--
TZ97	MW-30S-120511	TOC	4.74	5.07	1.50	mg/L	6.7	--
TZ97	MW-31S-120511	Alkalinity	141	141	1.0	mg/L	0	--
TZ97	MW-31S-120511	Bicarbonate	141	141	1.0	mg/L	0	--
TZ97	MW-31S-120511	Chloride	3.5	3.5	0.1	mg/L	0	--
TZ97	MW-31S-120511	N-Nitrate	0.2	0.2	0.1	mg/L	0	--
TZ97	MW-31S-120511	Sulfate	19.4	19.3	0.5	mg/L	0.5	--
UA17	MW-32S-120611	Chloride	7.8	7.8	0.5	mg/L	0	--
UA17	MW-32S-120611	Sulfate	0.7	0.6	0.1	mg/L	15	--
UA17	MW-32S-120611	TOC	8.79	9.00	1.5	mg/L	2.4	--

Data packages reviewed: Analytical Resources TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, UA33; Axys DPWG38865

Key:
RPD = Relative percent difference
µg/L = Micrograms per liter
J = Detected sample result qualified as estimated
mg/L = Milligrams per liter
TOC = Total organic carbon

Table 9
Calibration Verification Recoveries Outside of Acceptable Limits
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	CCV ID	Compound	CCV Recovery	CCV Limit	Associated Samples	Reported Concentration	Units	ERM Qualifier
TZ21	CCV-113011	1,2-Dibromo-3-chloropropane	24	20	NA	--	--	--
TZ83	CCV-120911	4-Nitrophenol	45.9	20	NA	--	--	--
TZ83	CCV-120911	Benzo(g,h,i)perylene	-22.7	20	NA	--	--	--
TZ83	CCV-121211	4-Nitrophenol	36.9	20	NA	--	--	--
TZ84	CCV-120711	Bromomethane	23.3	20	NA	--	--	--
TZ84	CCV-120711	Chloroethane	29.7	20	NA	--	--	--
TZ84	CCV-120711	Trichlorofluoromethane	21.2	20	NA	--	--	--
TZ84	CCV-121411	4-Nitrophenol	27.0	20	NA	--	--	--
TZ84	CCV-121411	Butylbenzylphthalate	20.4	20	NA	--	--	--
TZ97	CCV-121211	Bromomethane	21.4	20	NA	--	--	--
TZ97	CCV-121211	Trichlorofluoromethane	26.2	20	NA	--	--	--
TZ97	CCV-121211	Acrolein	-23.7	20	NA	--	--	--
TZ97	CCV-121211	trans-1,4-Dichloro-2-butene	-22.3	20	NA	--	--	--
TZ97	CCV-121211	1,2-Dibromo-3-chloropropane	-20.4	20	NA	--	--	--
UA20	CCV-121311	Benzoic acid	-20.3	20	NA	--	--	--
UA20	CCV-121311	4-Nitrophenol	27.0	20	NA	--	--	--
UA20	CCV-121411	4-Nitrophenol	27.0	20	NA	--	--	--
UA20	CCV-121411	Butylbenzylphthalate	20.4	20	NA	--	--	--
UA33	CCV-121211	Bromomethane	21.4	20	NA	--	--	--
UA33	CCV-121211	Trichlorofluoromethane	26.2	20	NA	--	--	--
UA33	CCV-121211	Acrolein	-23.7	20	MW-16-120611	< 5.0	µg/L	UJ
UA33	CCV-121211	trans-1,4-Dichloro-2-butene	-22.3	20	MW-16-120611	< 1.0	µg/L	UJ

Table 9
Calibration Verification Recoveries Outside of Acceptable Limits
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	CCV ID	Compound	CCV Recovery	CCV Limit	Associated Samples	Reported Concentration	Units	ERM Qualifier
UA33	CCV-121211	1,2-Dibromo-3-chloropropane	-20.4	20	MW-16-120611	< 5.0	µg/L	UJ

Data packages reviewed: Analytical Resources TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, UA33; Axys DPWG38865

Key:
CCV = Continuing calibration verification
NA = Not applicable; qualification of sample data not required
µg/L = Micrograms per liter
UJ = Nondetected sample result qualified as estimated

Table 10
Calibration Range Exceedances
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Sample ID	Compound	Reported Concentration	Units	ERM Qualifier	Notes
TZ32	MW-7S-112911	Pentachlorophenol	480 E	µg/L	J	Result exceeded instrument calibration range
TZ32	DUP-112911-2	Pentachlorophenol	330 E	µg/L	J	Result exceeded instrument calibration range
TZ32	MW-13-112911	Pentachlorophenol	130 E	µg/L	J	Result exceeded instrument calibration range
TZ32	DUP-112911-3	Pentachlorophenol	130 E	µg/L	J	Result exceeded instrument calibration range
TZ73	MW-26-120111	Pentachlorophenol	99 E	µg/L	J	Result exceeded instrument calibration range

Data packages reviewed: Analytical Resources TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, UA33; Axys DPWG38865

Key:
E = Undiluted sample concentration exceeded calibration range; use result of reanalysis for decision-making purposes
µg/L = Micrograms per liter
J = Detected sample result qualified as estimated

Table 11
TPH Results
Fall 2011 Groundwater Sampling
Reichhold-Glacier Site
Seattle, Washington

Lab Package	Sample ID	Compound	Reported Concentration	Units	ERM Qualifier	Notes
TZ32	MW-1S-112911	TPH-g	0.03	mg/L	NJ	Positive result does not match an identifiable gasoline pattern
TZ84	MW-29S-120211	TPH-d	0.11	mg/L	NJ	Results of organics or additional hydrocarbons are not identifiable
TZ97	MW-30S-120511	TPH-d	0.23	mg/L	NJ	Results of organics or additional hydrocarbons are not identifiable
TZ97	MW-31S-120511	TPH-d	0.27	mg/L	NJ	Results of organics or additional hydrocarbons are not identifiable
TZ97	DUP-120511-1	TPH-d	0.23	mg/L	NJ	Results of organics or additional hydrocarbons are not identifiable

Data packages reviewed: TZ21, TZ32, TZ50, TZ73, TZ83, TZ84, TZ86, TZ97, UA17, UA20, UA33

Key:
TPH-g = Total petroleum hydrocarbons as gasoline
TPH-d = Total petroleum hydrocarbons as diesel
mg/L = Milligrams per liter
NJ = Estimated value

Memorandum

Environmental Resources Management

1218 3rd Avenue
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(425) 455-3573 (fax)

To:	Donna Ortiz De Anaya/Washington State Department of Ecology
From:	Michael Mendes, PG/ERM-West, Inc. Erik Ipsen, PE/ERM-West, Inc.
cc:	Ron Timm/Washington State Department of Ecology John J. Oldham/Reichhold Scott Isaacson/Glacier Northwest Pete Stoltz/Glacier Northwest John Bjorkman/K&L Gates Howard Jensen / Veris Law Group Claudia Powers/Ater Wynne Doug MacCourt/Ater Wynne Carolyn Kossik/CH2M HILL
Date:	30 January 2013
Subject:	Spring 2012 Groundwater Sampling Results Glacier Northwest, Inc. – Reichhold, Inc. Site Seattle, Washington

ERM-West, Inc. (ERM) has prepared this *Spring 2012 Groundwater Sampling Results Memorandum* on behalf of Glacier Northwest, Inc. and Reichhold, Inc. (Glacier-Reichhold), for the Glacier-Reichhold site located at 5900 West Marginal Way SW, Seattle, Washington (the "site"). Figure 1 provides a site location map. This memorandum presents the groundwater sampling objectives, scope, and results of the spring 2012 groundwater sampling event.

The sampling described in this memorandum was conducted in accordance with the *Final Remedial Investigation and Feasibility Study Work Plan*, Glacier-Reichhold site (Work Plan), dated September 2011, and the *Sampling and Analysis Approach for Revised Remedial Investigation/Feasibility Study Work Plan*, dated 21 December 2011 (Sampling and Analysis Approach).

SPRING 2012 GROUNDWATER SAMPLING OBJECTIVES

In April and May 2012, ERM completed a round of groundwater sampling at the site. The spring 2012 groundwater sampling objectives are outlined below:

- Assess the site's current groundwater conditions and the status of remedial actions completed to date; and
- Evaluate concentrations of the site constituents of primary concern, as well as other key constituents in groundwater.

The sections below describe the monitoring well sampling activities completed in spring 2012, as well as the analytical and field data results.

GROUNDWATER SAMPLING ACTIVITIES

On 24 April 2012, prior to initiating groundwater sampling activities, ERM personnel collected water level measurements from 35 existing and two new site monitoring wells and from the Lower Duwamish Waterway measuring point at the site.

Groundwater samples were collected from 25 April 2012 through 3 May 2012 from 35 existing monitoring wells and two new monitoring wells (MW-36S and MW-32DR, installed 22 February 2012). The locations of the monitoring wells sampled and parameters analyzed are summarized on Figure 2 and in Table 1, respectively.

Quality assurance/quality control samples were collected as prescribed in the Work Plan. This included blind duplicate samples from MW-4S, MW-7S, MW-13, MW-20, MW-21, MW-31S, and MW-36S.

Samples were delivered to Analytical Resources, Inc., in Tukwila, Washington and AXYS Analytical Services Ltd. in Sidney, British Columbia. Results of the groundwater sampling are presented below.

RESULTS

Groundwater Elevations and Observations

Groundwater elevations are measured from site wells and the Lower Duwamish Waterway measuring point on a quarterly basis. Table 2 provides groundwater elevations for the monitoring wells, as recorded on the collection dates.

Two distinct saturated zones have been identified underlying the site. Shallow groundwater present within the upper silty sand/sandy silt fill unit is encountered beneath the site between 4 and 13 feet below ground surface (bgs). This shallow unconfined aquifer lies above the aquitard, which is organic silt and clay. The saturated thickness of the shallow aquifer varies across the site from 2 to 11 feet, and experiences seasonal fluctuations of approximately 1 to 4 feet. The deeper confined aquifer lies below the aquitard, and is at least 11.5 feet thick.

Approximate shallow aquifer groundwater elevation contours for April 2012 and July 2012 are shown on Figures 3 and 4. Based on these measurements, at the time the water levels were collected, shallow site groundwater flow directions were similar and consistent with previous monitoring events. Groundwater flow was to the south in the southern portion of the site and easterly to northeasterly in the northern portion of the site, with northeasterly to southeasterly groundwater flow components along the eastern portions of the site. Groundwater in the southern portion of the site is expected to flow toward the City of Seattle Public Utilities 48-inch diameter storm water pipe where southerly flow terminates and likely becomes easterly. The approximate average hydraulic gradient (feet/feet) across the site was 0.0065 and 0.0027 in April and July 2012, respectively.

Deeper aquifer groundwater elevations were measured twice on 19 July 2012, once between 9:32 AM and 10:39 AM and then again between 2:32 PM and 3:08 PM to evaluate tidal effects on deep groundwater movement at the site. [Note: In the period between deep aquifer measurements, the Lower Duwamish Waterway tide was falling (i.e., ebb tide)]. Approximate deeper aquifer groundwater elevation contours for the first reading are shown on Figure 5, and for the second reading on Figure 6. Site groundwater flow during the first reading was generally towards the east in the northern portion of the site and towards the southeast in the southern portion of the site at an approximate average gradient of 0.0019. During the second reading, groundwater flow direction shifted toward the northeast at an approximate average gradient of 0.0020.

Tidal studies performed to determine the effects of tidal and river stage influences on groundwater flow gradient and direction concluded that the shallow aquifer is not influenced by tidal fluctuations, with the exception of monitoring well MW-3S; in the southeastern portion of the site. Based on preliminary assessments of the confined deeper aquifer from the previous tidal studies, the deeper aquifer appears to be tidally influenced. The potentiometric gradient may shift toward the river during low tide events and away from the river during high tide events. The shift in groundwater flow direction observed in the deeper aquifer monitoring wells between measurements supports the previous findings of a deeper aquifer that is tidally influenced.

Field Results

Field parameters were measured during well purging in accordance with the Work Plan. Final field parameter values were collected after the parameters had stabilized and are presented in Table 3; water quality parameters for a select set of wells are presented in Table 8. As required in the Work Plan, turbidity in all wells was less than 10 nephelometric turbidity units (NTUs) prior to groundwater

sample collection. In 29 wells, the turbidity was less than 5 NTUs. The following observations were made regarding water quality parameters in shallow wells after these parameters stabilized during purging:

- Measured groundwater temperatures ranged from 9.05 to 19.18 degrees Celsius. The large range in groundwater temperatures is not indicative of normal in-situ conditions. The measured temperature was likely affected by ambient outdoor conditions; the purged water traveled through the pump tubing and into the flow-through cell of the field parameter instrument.
- Dissolved oxygen ranged from 0.12 to 3.01 milligrams per Liter (mg/L). In general, dissolved oxygen saturation levels, as determined by temperature and dissolved oxygen concentrations, ranged between three and 27 percent and are within typical ranges for groundwater.
- Groundwater alkalinity/acidity (pH) values ranged from 5.42 to 8.04 and averaged 6.44 across the site. Specifically, 76 percent of the groundwater samples had a pH between 5.42 and 7 and 24 percent had a pH between 7 and 8.04. The pH is a function of the buffering capacity of weak acids and bases present in groundwater. The presence of carbonates, sulfates, nitrates, natural organic matter, metals and other water quality parameters affect the equilibrium and pH of groundwater. As presented in Table 3 and Table 8, concentrations of these constituents vary from well to well; therefore, it is expected to see variations in pH of the site's groundwater.
- ORP values ranged from -269 millivolts (mV) to 231 mV and averaged -12.81 mV, indicative of an anaerobic groundwater geochemistry environment.
- Salinity ranged from 0.1 to 0.5 parts per trillion (ppt) in shallow wells. The greatest salinity was reported at MW-27, which is located in close proximity to the embayment.
- Turbidity ranged from 0.17 to 9.79 NTUs prior to groundwater sampling.
- Conductivity ranged from 159 to 1,020 microsiemens per centimeter (µS/cm). The highest conductivity was noted at MW-27.
- Field-measured ferrous iron concentrations ranged from 0.03 to 30.00 mg/L. The median concentration was 2.75 mg/L.
- Sulfide concentrations ranged from non-detect to 0.32 mg/L.

Field measurement values for the deep aquifer wells were within the range of values reported for shallow wells, with the following exceptions:

- Conductivity was generally greater in the deep wells (median conductivity of 1,050 µS/cm).

- ORP values were generally lower than in the shallow aquifer with ORP values ranging between -62 and -22 mV. The average ORP value in the deep aquifer was -40 mV, indicative of anaerobic conditions.
- Salinity was reported at 0.40 to 0.50 ppt and was, on average, greater than in the shallow wells.

The higher conductivity and salinity concentrations in the deeper aquifer relative to the shallow aquifer are indicative of elevated total dissolved solids as a result of tidal influence and salt water intrusion from the adjacent Lower Duwamish Waterway. The field parameter measurements collected in April 2012 are consistent with previous semiannual groundwater monitoring event findings.

Analytical Results and Observations

This section presents the analytical results for the spring 2012 groundwater monitoring event. The analytical laboratory reports are provided in Attachment A and the analytical results are summarized in Tables 4 through 8. Constituents detected in one or more groundwater samples are summarized in Table 9 and select compounds are presented on Figures 4, 5, and 6.

Selected Preliminary Screening Levels

The detected groundwater constituents have been screened against the following groundwater cleanup levels and surface water standards for comparison and data screening purposes. Except where noted, the screening levels were obtained from the Ecology's online CLARC website (Ecology 2004).

Groundwater screening levels include the following:

- Method B screening levels for carcinogenic and non-carcinogenic risk (Method B); and
- Method C screening levels for carcinogenic and non-carcinogenic risk (Method C).

Surface water screening levels include the following:

- Water Quality Criteria for chronic exposure of aquatic life (SW-AL) from the Washington Administrative Code (WAC) 173-201A Water Quality Standards for Surface Waters of the State of Washington; and
- Water Quality Criteria for human health in marine environments (SW-HH) from the Federal Clean Water Act (WAC not established).

Arsenic screening levels for Method B, Method C, and SW-HH [0.058, 0.58, and 0.14 micrograms per Liter (µg/L), respectively] are less than background concentrations of arsenic (10 to 15 µg/L) in the Lower Duwamish area (ENSR/AECOM 2009).

These generic screening levels are provided for purposes of preliminary data screening only. Site-specific cleanup levels will be developed as part of the remedial investigation and feasibility study at the site, as described in the Work Plan.

Data Validation

ERM assessed the quality of the data and applied any necessary qualifiers per the *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (USEPA 1999) and the *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA 2004). Based on the data quality evaluation, the analytical results for groundwater samples, collected as part of the spring 2012 sampling, are valid and usable with standard data qualifiers; as noted in the associated data review packages (Attachment B) and in data summary Tables 4 through 9.

Analytical Results and Observations

Of the constituents analyzed, concentrations of PCP, total and dissolved arsenic, dioxins/furans expressed as 2,3,7,8- tetrachlorodibenzo-p-dioxin (TCDD) toxic equivalency quotient (TEQ), total and dissolved copper, total nickel, and total petroleum hydrocarbons - diesel range (TPH-D) were the only analytes detected at concentrations greater than at least one of the preliminary screening levels in one or more monitoring wells. Further discussion of PCP, total and dissolved arsenic, dioxins/furans, total and dissolved copper, and TPH-D are detailed in the following sections.

Constituents that were either not detected or detected at concentrations less than the preliminary screening levels (Tables 4 through 9) are summarized below, but are not discussed in this memorandum.

Constituents that were analyzed, but not detected at concentrations at or above the laboratory detection limits, included the following:

- Seven metals [total (T) and dissolved (D) beryllium; D cadmium; D lead; T/D mercury; T/D selenium; T/D silver; and T/D thallium], (see Table 4);
- Hexavalent chromium (see Table 4);

- Tributyltin (see Table 4);
- 55 semi-volatile organic compounds (SVOCs) (see Table 5);
- 68 volatile organic compounds (VOCs) (see Table 6);
- Nine dioxins/furans congeners (see Table 7);
- Total petroleum hydrocarbons – gasoline range (TPH-G) (see Table 8); and
- Total petroleum hydrocarbons – heavy oil range (TPH-O) (see Table 8).

Constituents that were analyzed and detected at concentrations less than the preliminary screening levels included the following (see Table 9):

- Six metals (T/D chromium; T/D zinc; T/D antimony; T cadmium; T lead; and D nickel);
- Four VOCs (1,1-dichloroethane, acetone, chloroform, and toluene);
- Three phenols (phenol; 2,3,4,6-tetrachlorophenol; and 2,4-dichlorophenol);
- Ammonia (discussed below); and
- Seven polycyclic aromatic hydrocarbons (1-methylnaphthalene, 2-methylnaphthalene, acenaphthene, dibenzofuran, naphthalene, phenanthrene, and pyrene).

Pentachlorophenol

The PCP analytical results are summarized and compared to preliminary screening levels in Table 9 and presented on Figure 4**.** Samples from 36 of the 37 monitoring wells were analyzed for PCP in spring 2012. PCP was not detected in 29 of 36 monitoring wells. PCP was not detected in the deep wells, which is consistent with historical monitoring results for the site. In the seven shallow wells where PCP was detected, concentrations ranged from 0.65 µg/L (MW-33S) to 340 µg/L (MW-16). The detections in wells MW-7S (58 µg/L), MW-10 (1.4 µg/L), MW-13 (72 µg/L), MW-26 (8.2 µg/L), and MW-33S (0.65 µg/L) were within historical ranges of previous sampling events. The detections in MW-11 (50 µg/L) and MW-16 (340 µg/L) were above the historical maximums measured in the six monitoring events following the March 2009 baseline event of undetected (<2.4 µg/L) and 24 µg/L, respectively.

Discussion

PCP, as previously noted, was not detected in 29 of 36 monitoring wells in April 2012. Ten of the 36 monitoring wells analyzed were new monitoring wells installed at the site between November 2011 and April 2012, and of these, only one well (MW-33S) exhibited a detectable concentration of PCP (0.65 µg/L), which was below the SW-AL, SW-HH and Method C screening levels. The results of the spring 2012 groundwater monitoring for the new wells confirms our previous understanding of the areas of concern at the site and the sampling data from these wells were consistent with previous sampling data. Therefore, it appears the existing monitoring well network provides an adequate representation of groundwater conditions at the site.

The general areas where PCP has been detected in groundwater include a small area south of the Former Second PCP Pilot Plant (wells MW-16 and MW-7S) and the Former Washwater Impoundment area (well MW-13). PCP has been detected periodically at lower concentrations in other wells near the Former Washwater Impoundment area (MW-10, MW-11, and MW-33S) and at only one well in the General Southern Area (MW-26). The areas with detectable concentrations of PCP appear to be well bound and the PCP concentrations in groundwater do not appear to be migrating to nearby downgradient monitoring wells. Seasonal variability in PCP concentrations continues to be observed between sampling events, which may be the result of variations in precipitation quantities and water table elevation fluctuation. Although MW-11 and MW-16 exhibited historical maximums during this event, in general PCP concentrations were within the historical ranges of concentrations that have been observed at the site.

Arsenic

Arsenic analytical results from the spring 2012 groundwater sampling event are summarized and compared to the preliminary screening levels in Table 9. Total and dissolved arsenic data compared to the preliminary screening levels are shown on Figure 5.

Total and dissolved arsenic samples were analyzed in spring 2012 from all 37 monitoring wells. Detections of total and dissolved arsenic were noted in all 32 shallow and five deep wells (Table 9). Total arsenic concentrations in the shallow wells ranged from 0.4 µg/L (MW-24) to 6,130 µg/L (MW-14) and dissolved concentrations ranged from 0.3 µg/L (MW-24) to 5,810 µg/L (MW-14). Total arsenic concentrations in the deep wells ranged from 1.7 µg/L (MW-32DR) to 361 µg/L (MW-14D), and dissolved concentrations ranged from 1.4 µg/L (MW-32DR) to 361 µg/L (MW-14D).

Discussion

The lowest total and dissolved arsenic concentrations are generally located along the western and northern portions of the site. The highest total and dissolved arsenic concentrations are located in the southern and eastern portions of the site where releases of arsenic from the Former Mineralized Cell Wood Preserving Company (Mineralized Cell) are likely to have occurred during Mineralized Cell's operation at the site. The greatest arsenic concentrations (i.e., greater than 1,000 µg/L) are generally noted in wells MW-13, MW-14, MW-20, and MW-21, located in the south-central portion of the site. Elevated arsenic concentrations greater than 100 µg/L extend as far north and east as MW-33S. Arsenic impacts to groundwater appear to be limited to the shallow aquifer with the exception of the new deeper aquifer monitoring well MW-14D, where the highest deep-aquifer arsenic concentration was noted. Arsenic concentrations in the other four deep monitoring wells were one to two orders of magnitude lower in concentration. New monitoring well MW-14D was installed as a deep well pair to MW-14 to evaluate arsenic concentrations in the deeper aquifer from Mineralized Cell operations.

Dioxins/Furans

A comparison to the selected preliminary screening levels for the TEQs[1] are presented in Table 9 and shown on Figure 9. TEQs reported in Table 7, Table 9, and Figure 9 were calculated using two conventions: 1) adding only detected congeners [non-detect (ND) equal to 0 picograms per liter (pg/L)]; and, 2) using one-half the detection limit for non-detected congeners [ND = ½ detection limit (DL)].

Samples from three shallow wells (MW-7S, MW-10, and MW-13) were analyzed for dioxins/furans in the spring 2012 monitoring event. Dioxins/furans were detected in each of the three wells, as summarized in Table 7. TEQs ranged from

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1 The generally accepted method for comparing dioxins/furans results against a given criteria consists of calculating a TEQ relative to 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD). The results for individual analytes are multiplied by a factor, and the results totaled to provide an overall concentration value for the sample. In this document, toxicity equivalence factors (TEFs) for dioxins/furans (Washington Administrative Code [WAC] 173-340-708, Table 708-1) endorsed by the World Health Organization (WHO 2005) were used to calculate the TEQs. The TEFs used to calculate TEQs are presented in Table 7.

0.19 pg/L (MW-7S) to 2.31 pg/L (MW-10) when only positively identified compounds were included, and ranged from 1.07 pg/L (MW-7S) to 3.08 pg/L (MW-10) when non-detects were considered equal to one-half the detection limit. TEQs were less than the Method C cleanup level (5.8 pg/L) in each of the three wells (ND=0 and ND= ½ DL), and greater than the Method B cleanup level (0.58 pg/L) in wells MW-7S (ND=½ DL), MW-10 (ND=0 and ND= ½ DL) and MW-13 (ND=0 and ND= ½ DL). Total dioxins/furans (homologs) were also reported, as summarized in Tables 7 and 9.

Discussion

Samples for dioxins/furan analysis were collected from three monitoring wells (MW-7S, MW-10 and MW-13) that exhibited the highest pre-remediation concentrations of PCP in groundwater. These wells would be most likely to exhibit elevated levels of dioxins/furans if PCP was contributing to their presence in groundwater. The results of these analyses demonstrate that concentrations of dioxins/furans in groundwater are less than the Method C cleanup level and are relatively consistent between wells with varying concentrations of PCP.

Copper

Copper analytical results from the spring 2012 groundwater sampling event are summarized in Table 4 and compared to the preliminary screening levels in Table 9. Copper was analyzed in samples collected from 20 monitoring wells (17 shallow wells and three deep wells) during the spring 2012 monitoring event. Total copper was detected in 14 shallow wells and three deep wells. Similarly, dissolved copper was detected in 15 shallow wells and three deep wells.

Discussion

Total and dissolved copper concentrations at the site are less than 5 µg/L with the exception of total copper in monitoring wells MW-14 (24.2 µg/L), MW-31S (8.1 µg/L), MW-32DR (6.5 µg/L), MW-33S (75.1 µg/L), and MW-35S (67.7 µg/L). Total copper was detected at concentrations less than the groundwater screening levels in 12 of the 17 shallow wells sampled and one of the three deep wells sampled. Dissolved copper was detected at concentrations less than the groundwater screening levels in 15 of the 17 shallow wells sampled and two of the three deep wells.

Total Petroleum Hydrocarbons - Diesel Range

The TPH-D analytical results are summarized in Table 8 and compared to the preliminary screening levels in Table 9. The MTCA Method A cleanup level of 0.5 mg/L was used to screen TPH–D in groundwater. Samples from six shallow wells were analyzed for TPH-D in spring 2012. TPH-D was not detected in four monitoring wells. In MW-31S and MW-35S, TPH-D was detected at 0.28 mg/L and 3.2 mg/L, respectively. The TPH-D detection of 3.2 mg/L in MW-35S, located in the northeast portion of the site, was the only sample that exceeded the Method A screening level.

Discussion

TPH-D analyses were collected from new monitoring wells along the northern property boundary (MW-28S, MW-29S, MW-30S and MW-31S) and new monitoring well MW-35S to evaluate the former north ditch. TPH-D was also analyzed in Monitoring Well MW-1S to evaluate a former underground storage tank (UST) in the vicinity. TPH concentrations along the north property boundary wells and MW-1S were either not detected or detected at concentrations less than the Method A screening level. Diesel range hydrocarbons above the Method A screening value are limited to MW-35S.

SUMMARY

This section provides a summary and conclusions of results for the spring 2012 sampling event.

Groundwater Elevations

- Shallow groundwater at the site flows generally to the south in the southern portion of the site and northeasterly in the northern portion of the site, with northeasterly to southeasterly groundwater flow components along the eastern portions of the site. Deep groundwater flow direction at the site is influenced by tide and river stage as observed by the shift in groundwater flow direction in the deeper aquifer monitoring wells over a five hour period.

Field Results

- Field geochemistry parameters were collected during groundwater purging at each well. In general, groundwater geochemistry across the site in spring 2012 was consistent with previous sampling events.

Analytical Results

- Groundwater samples were collected from 37 monitoring wells in April/May 2012.
- The following compounds were analyzed in selected monitoring wells but were not detected: seven total and/or dissolved metals, hexavalent chromium, tributyltin, 55 SVOC compounds, 68 VOC compounds, nine dioxins/furans congeners, TPH-G, and TPH-O.
- Compounds that were analyzed and detected below the preliminary screening levels include: six total and/or dissolved metals, four VOCs, three phenols, ammonia, and seven polycyclic aromatic hydrocarbons.
- PCP was not detected in 29 of the 36 monitoring wells analyzed and was only detected in one of the ten new wells installed at the site (MW-33S at 0.65 µg/L). The detection in MW-33S was below the SW-AL, SW-HH and Method C screening levels.
- PCP was not detected in the deep monitoring wells, consistent with previous groundwater monitoring events.
- Total and dissolved arsenic was detected in all 32 shallow and five deep wells. The greatest arsenic concentrations are generally located in the south-central portion of the site where releases of arsenic from Mineralized Cell are likely to have occurred during Mineralized Cell's operation at the site.
- Dioxins/furans were analyzed and detected in three shallow wells below the MTCA Method C cleanup level.
- Total copper was detected at concentrations less than the groundwater screening levels in 12 of the 17 shallow wells sampled and one of the three deep wells sampled. Dissolved copper was detected at concentrations less than the groundwater screening levels in 15 of the 17 shallow wells sampled and two of the three deep wells.
- TPH-D was detected in two of the six shallow wells analyzed and exceeded the MTCA Method A Cleanup Level of 0.5 mg/L in only one monitoring well (MW-35).
- In general, concentrations of the constituents of primary concern (PCP, total/dissolved arsenic) detected in the spring 2012 sampling event are within the ranges of concentrations observed at the site since the baseline sampling event in March 2009 (ERM 2009). Seasonal variability in concentrations continues to be observed between sampling events, which may be the result of variations in precipitation and water table elevation fluctuations.

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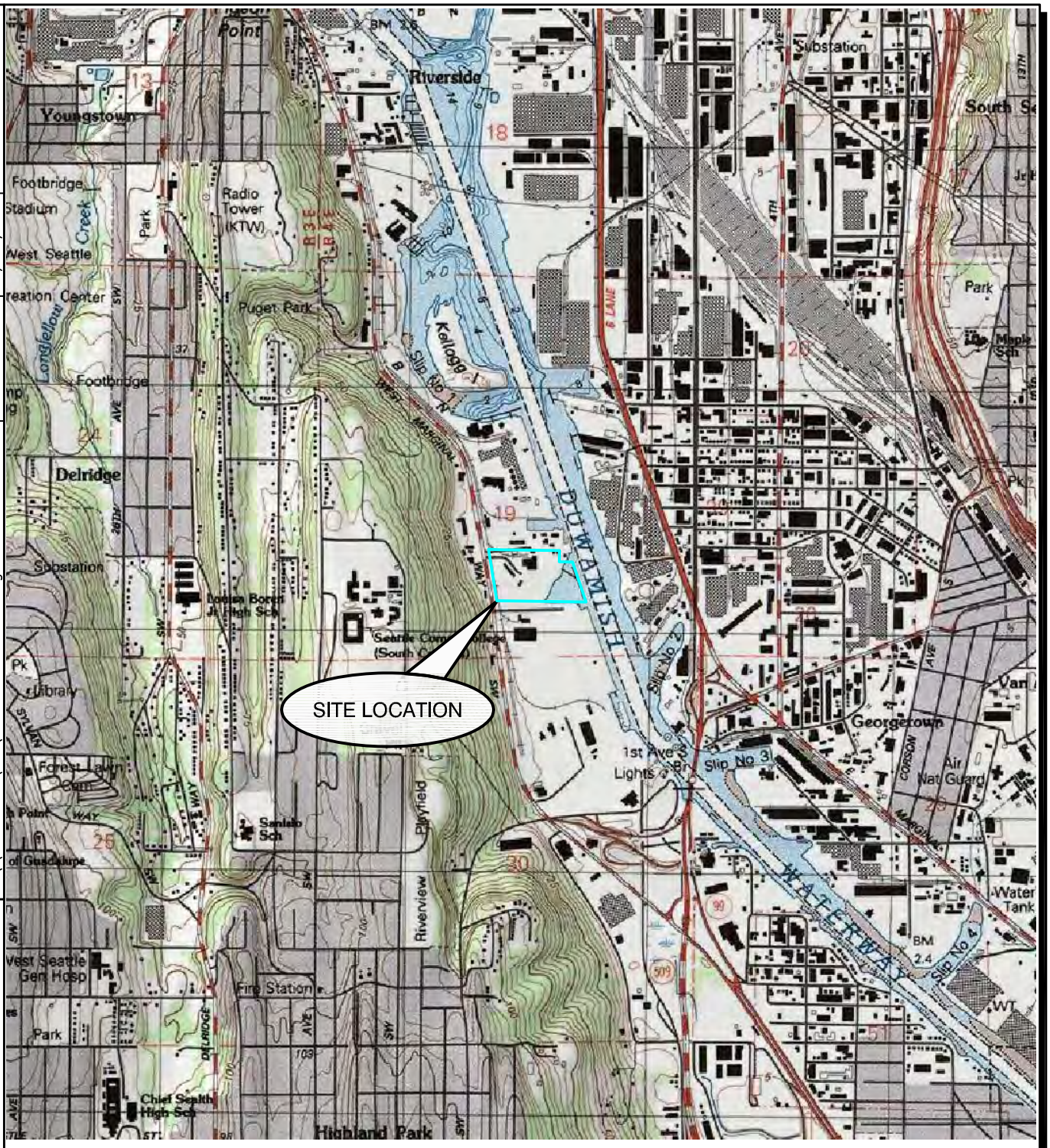
Van den Berg, M., L.S. Birnbaum, M. Denison, M. De Vito, W. Farland, M. Feeley, H. Fiedler, H. Hakansson, A. Hanberg, L. Haws, M. Rose, S. Safe, D. Schrenk, C. Tohyama, A. Tritscher, J. Tuomisto, M. Tysklind, N. Walker, R.E. Peterson. *The 2005 World Health Organization reevaluation of human and mammalian toxic equivalency factors for dioxins and dioxin-like compounds*. Toxicol. Sci. 93 (2006) 223–241.

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Figures

Project No. 0112489.05
Date: 04/13/10
Drawn By: R. Olson
CAD File: G:\0112489\05\011248905-01.dwg



SCALE 1: 24,000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

N

References:
TOPO!® Software
U.S.G.S. 7.5 Minute Series (Topographic) Quadrangle,
Seattle South E, WA
Version: 1983; Current: 1978

Figure 1
Site Location Map
Glacier Northwest, Inc. - Reichhold, Inc. Site
5900 W. Marginal Way, SW
Seattle, Washington

ERM 04/10

File:	Created By:	Date:	Project Number:
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Shallow Monitoring Well Sampled during Spring 2012

Deep Monitoring Well Sampled during Spring 2012

Site Boundary

N

0 50 100 200 Feet

FIGURE 2

Existing Monitoring Well Network
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc.
- Reichhold, Inc. Site
5900 W. Marginal Way SW
Seattle, Washington

ERM 12/12

Project No. 0155129.30
Date: 06/27/12
Drawn By: R.Olson
CAD File: G:\0155129\03\0155129903-12.dwg

San. Sewer Easement
Property Boundary Line
MW-28S 12.23
MW-29S 11.50
MW-30S 9.48
MW-31S 9.11
MW-35S 9.51
MW-34S 11.80
MW-32DR
MW-32S 12.02
MW-16 12.05
MW-4S 12.01
MW-5S 11.60
MW-1D
MW-1S 10.92
MW-33S 9.97
MW-7S 11.79
MW-6S 11.61
MW-10 10.75
MW-17 11.61
MW-11 10.81
MW-2D
MW-12 11.16
MW-2S 10.56
MW-36S 11.58
MW-22 11.21
MW-14 10.58
MW-13 10.67
MW-14D
MW-21 10.70
MW-23 10.90
MW-19 10.17
MW-24 9.40
MW-20 9.67
MW-18 9.37
MW-3S 9.15
MW-3D
MW-27 5.72
MW-25 NM
MW-26 8.89
12.0
11.5
11.0
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
Rail Silo
Tanks
Truck Wash
Additional Parking
Storage Silos
Load-out Silos
Deed Line
Paved
Parking
Maintenance Building
Existing Office
Exit
ELECTRIC SHOP
WOOD SHED
HAZARDOUS WASTE STORAGE AREA
OFFICE
PAINT SHOP
WASTE OIL
SOLVENT STILL
PAINT MIXING SHED
SAND BLAST SHED
DUST TRAP
Approximate Location of Existing DSI Storm Outfall
Float
Former DSI Floating Dock
Former DSI Dry Dock
EXISTING DITCH
DOCK
7.35 (07:55)
-2.67 (13:22)
Exist Conc Dock 55' x 500'
Existing Storm Outfall
Existing Transfer Tower
Docksider
Existing Piles
Line of Mean High Water (El 7.82 NAVD88)
10,000 Ton Barge
Duwamish Waterway
Embayment
Approximate Location of Existing Port of Seattle T115 Storm Outfall
Former City of Seattle SPU Stormwater Discharge Location
Existing City of Seattle Storm Outfall
City of Seattle Storm Outfall Easement
Existing Aggregates
Property Boundary
Access to West Marginal Way
City of Seattle Storm Outfall Easement
Truck Entrance
WEST MARGINAL WAY
N
0 50 100
FEET

LEGEND

- Shallow Monitoring Well
- Deep Monitoring Well
- DOCK Water Elevation Measurement of Bay Water; Time in Parentheses
- 9.67 Groundwater Elevation, Feet Above Mean Sea Level. Data Collected 25 April 2012
- NM Not Measured
- Horizontal Datum: Washington State Plane World Geodetic System, 1984.
  Vertical Datum: North American Vertical Datum, 1988.
- 9.5 Groundwater Isoelevation Contours; Dashed Where Inferred
- Approximate Groundwater Flow Direction
- Property Line
- City of Seattle Public Utilities Stormwater Pipe

Figure 3
Shallow Groundwater Elevation Map
25 April 2012
Glacier Northwest, Inc. - Reichhold, Inc. Site
5900 W. Marginal Way, SW
Seattle, Washington
ERM 06/12

Project No. 0155129.30
Date: 11/28/12
Drawn By: R.Olson
CAD File: G:\0155129\03\0155129903-14.dwg

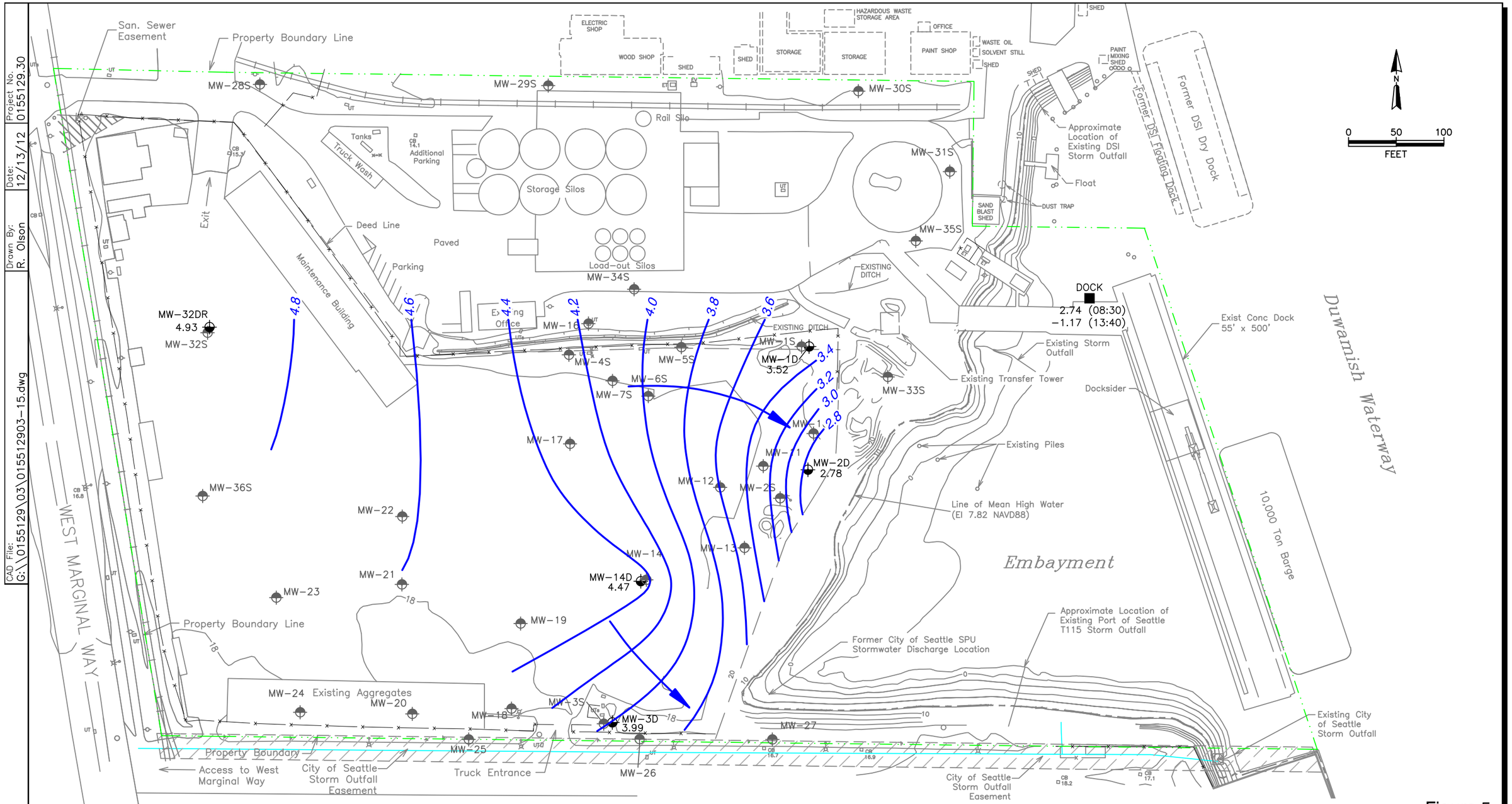
San. Sewer Easement
Property Boundary Line
MW-28S 10.35
MW-29S 9.81
MW-30S 8.59
MW-31S 8.36
MW-35S 8.61
MW-34S 9.70
MW-32DR
MW-32S 10.36
MW-16 9.84
MW-4S 9.84
MW-5S 9.62
MW-7S 9.79
MW-6S 9.70
MW-1D
MW-1S 9.28
MW-33S 8.77
MW-10 9.11
MW-17 9.81
MW-11 9.29
MW-2D
MW-12 9.62
MW-2S 9.11
MW-36S 10.09
MW-22 9.82
MW-13 9.35
MW-14D
MW-14 9.37
MW-21 9.53
MW-23 9.70
MW-19 9.13
MW-24 8.37
MW-20 8.69
MW-18 8.42
MW-3S 8.26
MW-26 8.01
MW-3D
MW-27 4.92
MW-25 NM
DOCK 2.74 (08:30) -1.17 (13:40)
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
Rail Silo
Storage Silos
Load-out Silos
Tanks
Truck Wash
Additional Parking
Paved
Parking
Deed Line
Exit
Maintenance Building
Existing Office
EXISTING DITCH
ELECTRIC SHOP
WOODSHOP
SHED
STORAGE
HAZARDOUS WASTE STORAGE AREA
OFFICE
PAINT SHOP
WASTE OIL
SOLVENT STILL
PAINT MIXING SHED
SAND BLAST SHED
DUST TRAP
Former DSI Floating Dock
Former DSI Dry Dock
Approximate Location of Existing DSI Storm Outfall
Float
Exist Conc Dock 55' x 500'
Existing Storm Outfall
Existing Transfer Tower
Docksider
Existing Piles
Line of Mean High Water (El 7.82 NAVD88)
10,000 Ton Barge
Duwamish Waterway
Embayment
Approximate Location of Existing Port of Seattle T115 Storm Outfall
Former City of Seattle SPU Stormwater Discharge Location
Existing City of Seattle Storm Outfall
City of Seattle Storm Outfall Easement
Existing Aggregates
Property Boundary
Access to West Marginal Way
City of Seattle Storm Outfall Easement
Truck Entrance
WEST MARGINAL WAY
N
0 50 100
FEET

LEGEND

- Shallow Monitoring Well
- Deep Monitoring Well
- DOCK Water Elevation Measurement of Bay Water; Time in Parentheses
- 9.53 Groundwater Elevation, Feet Above Mean Sea Level. Data Collected 19 July 2012
- NM Not Measured
- Horizontal Datum: Washington State Plane World Geodetic System, 1984.
- Vertical Datum: North American Vertical Datum, 1988.
- 9.5 Groundwater Isoelevation Contours; Dashed Where Inferred
- Approximate Groundwater Flow Direction
- Property Line
- City of Seattle Public Utilities Stormwater Pipe

Figure 4
Shallow Groundwater Elevation Map
19 July 2012
Glacier Northwest, Inc. - Reichhold, Inc. Site
5900 W. Marginal Way, SW
Seattle, Washington
ERM 11/12

Project No. 0155129.30
Date: 12/13/12
Drawn By: R. Olson
CAD File: G:\0155129\03\0155129-15.dwg



LEGEND

- Shallow Monitoring Well
- Deep Monitoring Well
- DOCK ■ Water Elevation Measurement of Bay Water; Time in Parentheses
- 4.47 Groundwater Elevation, Feet Above Mean Sea Level. Data Collected 19 July 2012

Note: Wells were measured between 9:32AM and 10:39AM.

Horizontal Datum: Washington State Plane World Geodetic System, 1984.
Vertical Datum: North American Vertical Datum, 1988.

- 4.4 Groundwater Isoelevation Contours; Dashed Where Inferred
- Approximate Groundwater Flow Direction
- Property Line
- City of Seattle Public Utilities Stormwater Pipe

Figure 5

Deep Groundwater Elevation Map
19 July 2012 (First Reading)
Glacier Northwest, Inc. - Reichhold, Inc. Site
5900 W. Marginal Way, SW
Seattle, Washington

ERM 12/12

Project No. 0155129.03
Date: 12/13/12
Drawn By: R.Olson
CAD File: G:\0155129\03\0155129032903-16.dwg

San. Sewer Easement
Property Boundary Line
MW-28S
MW-29S
MW-30S
ELECTRIC SHOP
WOOD SHOP
SHED
STORAGE
HAZARDOUS WASTE STORAGE AREA
OFFICE
PAINT SHOP
WASTE OIL
SOLVENT STILL
PAINT MIXING SHED
Former DSI Dry Dock
Former DSI Floating Dock
Approximate Location of Existing DSI Storm Outfall
Float
DUST TRAP
SAND BLAST SHED
Rail Silo
Tanks
Truck Wash
Additional Parking
Storage Silos
Load-out Silos
MW-34S
MW-31S
MW-35S
Exit
Deed Line
Paved
Parking
Maintenance Building
Existing Office
EXISTING DITCH
MW-16
MW-1S
MW-1D
2.08
MW-4S
MW-5S
MW-6S
MW-7S
MW-33S
DOCK
2.74 (08:30)
-1.17 (13:40)
Exist Conc Dock
55' x 500'
Existing Storm Outfall
Existing Transfer Tower
Docksider
Existing Piles
Duwamish Waterway
MW-32S
MW-32DR
3.39
MW-36S
MW-22
MW-21
MW-23
MW-17
MW-10
MW-11
MW-2D
2.41
MW-12
MW-2S
MW-13
MW-14D
2.90
MW-14
MW-19
Line of Mean High Water (El 7.82 NAVD88)
Embayment
10,000 Ton Barge
Approximate Location of Existing Port of Seattle T115 Storm Outfall
Former City of Seattle SPU Stormwater Discharge Location
Existing City of Seattle Storm Outfall
WEST MARGINAL WAY
Property Boundary Line
MW-24 Existing Aggregates
MW-20
MW-18
MW-39
MW-3D
3.47
MW-25
MW-26
MW-27
Property Boundary
Access to West Marginal Way
City of Seattle Storm Outfall Easement
Truck Entrance
City of Seattle Storm Outfall Easement
3.4
3.2
3.0
2.8
2.6
2.4
2.2
N
0 50 100
FEET

LEGEND

- Shallow Monitoring Well
- Deep Monitoring Well
- DOCK ■ Water Elevation Measurement of Bay Water; Time in Parentheses
- 2.90 Groundwater Elevation, Feet Above Mean Sea Level. Data Collected 19 July 2012
- Note: Wells were measured between 2:32PM and 3:08PM.
- Horizontal Datum: Washington State Plane World Geodetic System, 1984.
- Vertical Datum: North American Vertical Datum, 1988.
- 3.0 Groundwater Isoelevation Contours; Dashed Where Inferred
- Approximate Groundwater Flow Direction
- Property Line
- City of Seattle Public Utilities Stormwater Pipe

Figure 6
Deep Groundwater Elevation Map
19 July 2012 (Second Reading)
Glacier Northwest, Inc. - Reichhold, Inc. Site
5900 W. Marginal Way, SW
Seattle, Washington

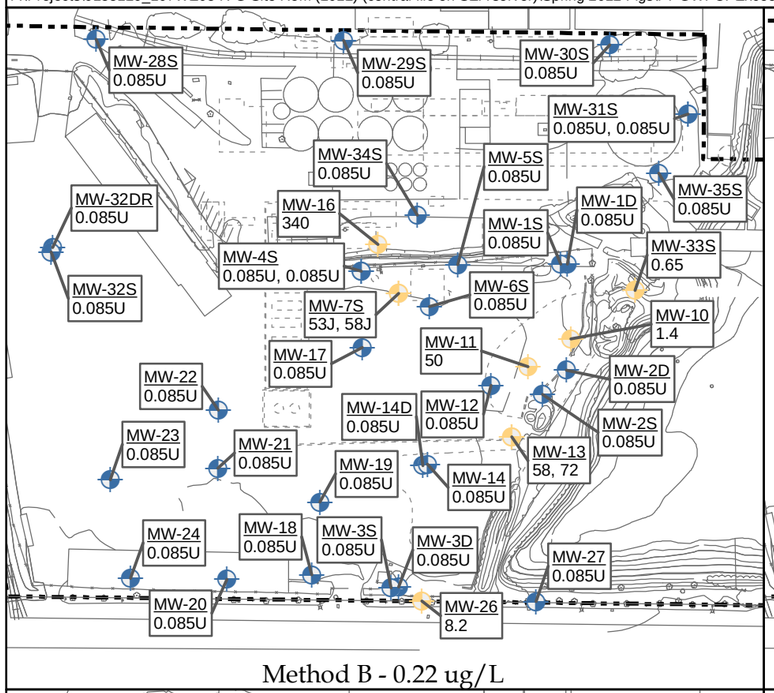
ERM 12/12

File:
F:\Projects\0155129_107WE05 R-G Site Rem (2012) (central file on SEA server)\Spring 2012 Figs\F7 GWPCPExceeds Spring2012.mxd

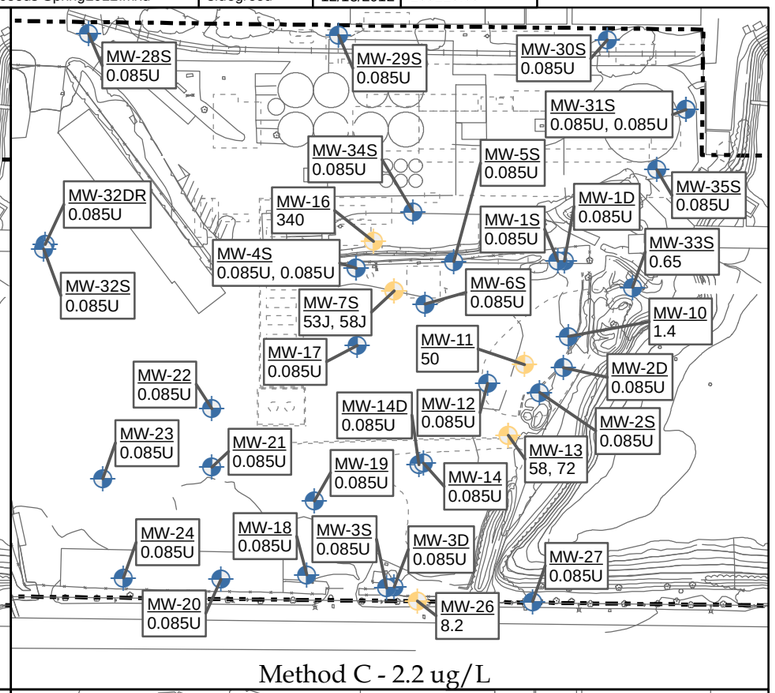
Created By: s.degrood

Date: 12/13/2012

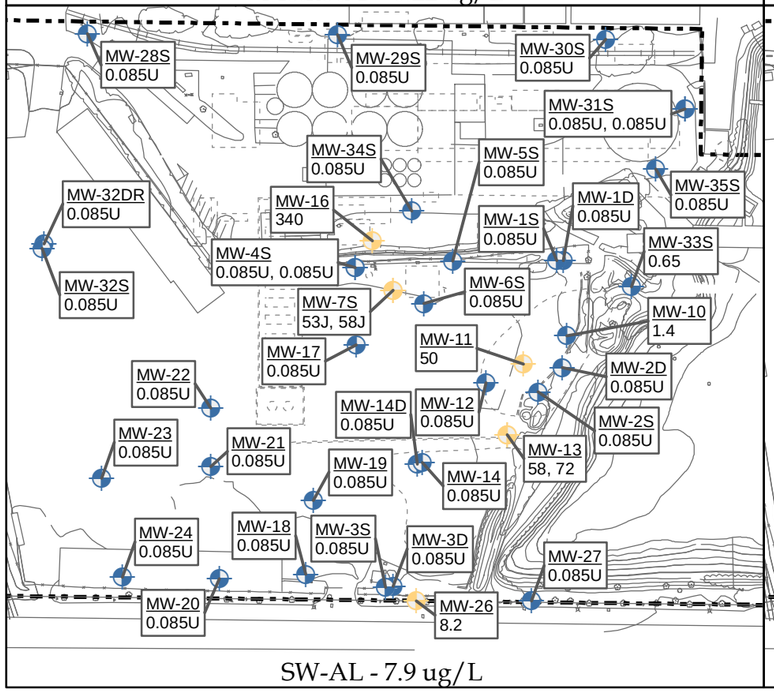
Project Number: 155129.09



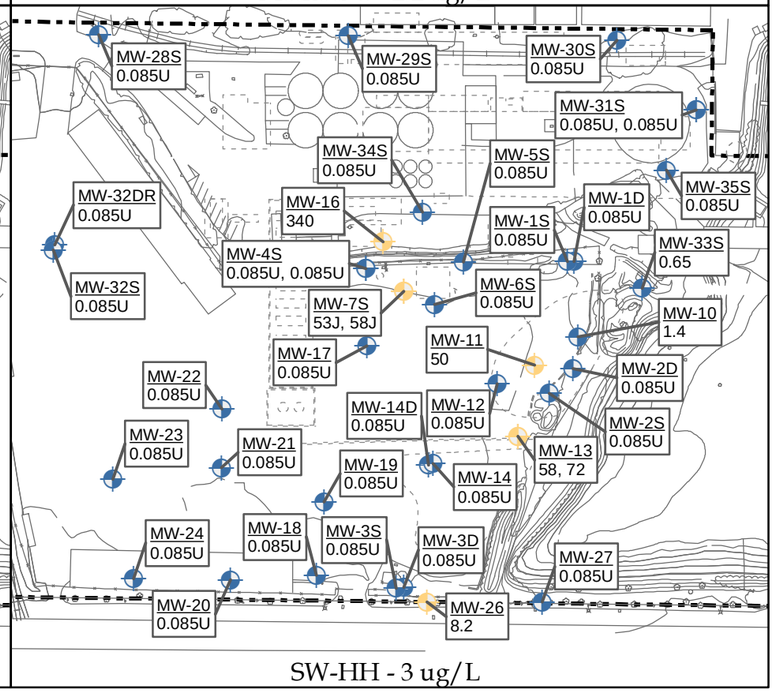
Method B - 0.22 ug/L



Method C - 2.2 ug/L



SW-AL - 7.9 ug/L



SW-HH - 3 ug/L

Legend

- Sample Result Does not Exceed the Pentachlorophenol Screening Level
- Sample Result Exceeds the Pentachlorophenol Screening Level

Notes:
All results in micrograms per liter.
53J, 58J - Primary Sample, Field Duplicate Sample
If the primary or field duplicate sample concentration exceeds the screening level, the well is displayed as an exceedence.
Data qualifiers are defined in Tables 4 through 9 of *Spring 2012 Groundwater Sampling Results Memorandum*.
Method B = Ground Water, Method B, Carcinogen\Non-Carcinogen Composite, Standard Formula Value
Method C = Ground Water, Method C, Carcinogen\Non-Carcinogen Composite, Standard Formula Value
Method B and C screening levels provided are lowest of the carcinogenic and non-carcinogenic values.
SW-AL = Surface Water, Water Quality Criteria- Aquatic Life - Marine/Chronic - Washington Administrative Code (WAC)
SW-HH = Surface Water, Water Quality Criteria - Human Health – Marine – Clean Water Act (WAC Not Established)
Primary and field duplicate samples collected April through May 2012.

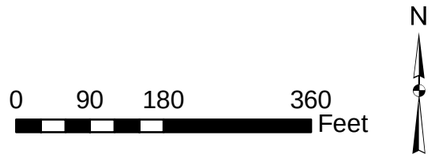
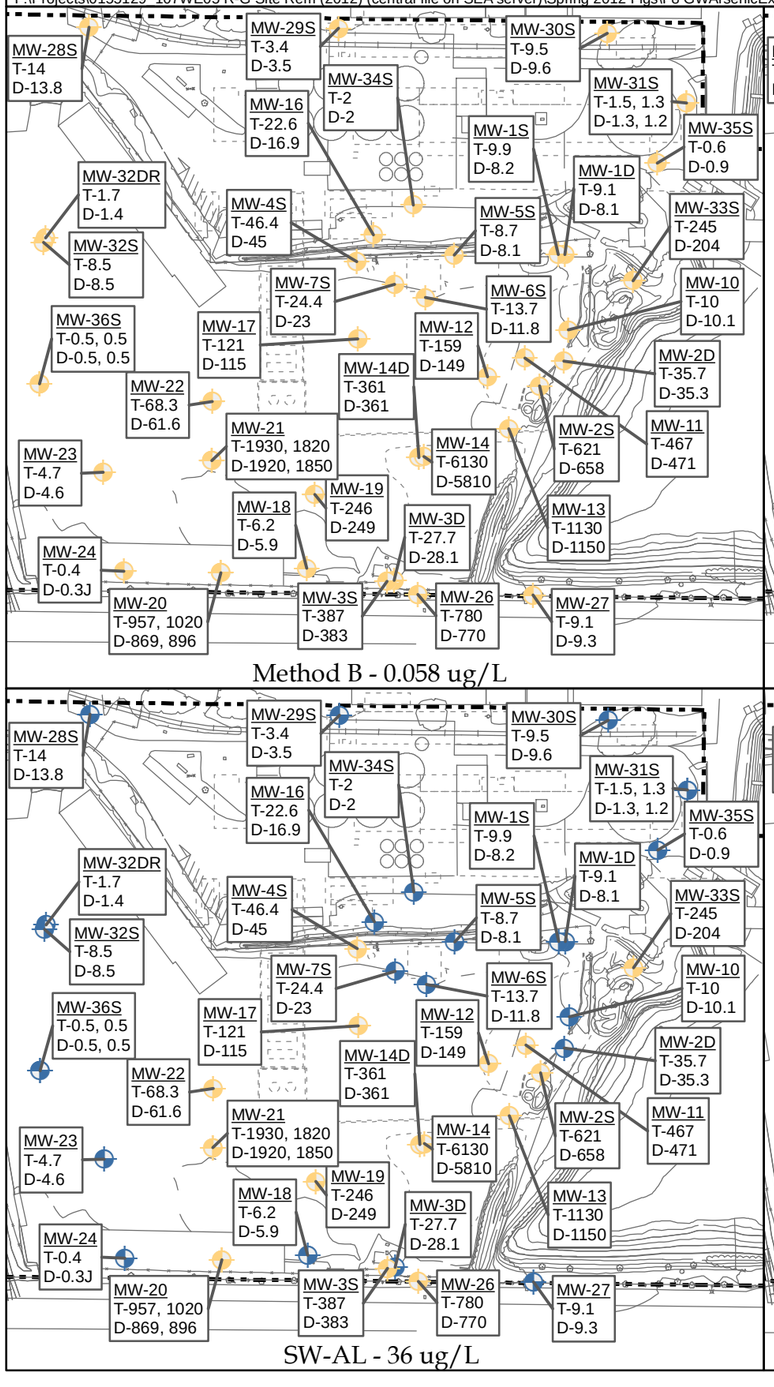


FIGURE 7
Screening Level Exceedences
Pentachlorophenol in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc.
- Reichhold, Inc. Site
5900 W. Marginal Way SW
Seattle, Washington

File:
F:\Projects\0155129_107WE05 R-G Site Rem (2012) (central file on SEA server)\Spring 2012 Figs\F8 GWArsenicExceeds Spring2012.mxd

Created By: s.degrood | Date: 12/13/2012 | Project Number: 0155129.09



Legend

- Location where Arsenic did not Exceed the Screening Level
- Location where Arsenic Exceeds the Screening Level

Notes:
All results in micrograms per liter.
1.5, 1.3 - Primary Sample Result, Field Duplicate Result.
T- Total metal concentration.
D - Dissolved metal concentration.
If either the total or dissolved concentration of primary or field duplicate sample exceeds the screening level, the well is displayed as an exceedence.
Data qualifiers are defined in Tables 4 through 9 of *Spring 2012 Groundwater Sampling Results Memorandum*.
Method B = Ground Water, Method B, Carcinogen\Non-Carcinogen Composite, Standard Formula Value.
Method C = Ground Water, Method C, Carcinogen\Non-Carcinogen Composite, Standard Formula Value.
Method B and C screening levels provided are lowest of the carcinogenic and non-carcinogenic values.
SW-AL = Surface Water, Water Quality Criteria- Aquatic Life - Marine/Chronic - Washington Administrative Code (WAC).
SW-HH = Surface Water, Water Quality Criteria - Human Health – Marine – Clean Water Act (WAC Not Established).
*Arsenic screening levels for Method B, Method C, and SW-HH are less than anthropogenic background concentrations of arsenic (10 to 15 µg/L) in the Lower Duwamish area (ENSR/AECOM, 2009).
Primary and field duplicate samples collected April and May 2012.

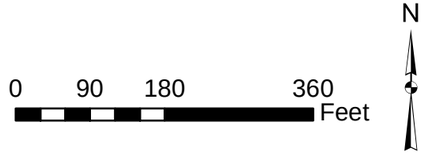


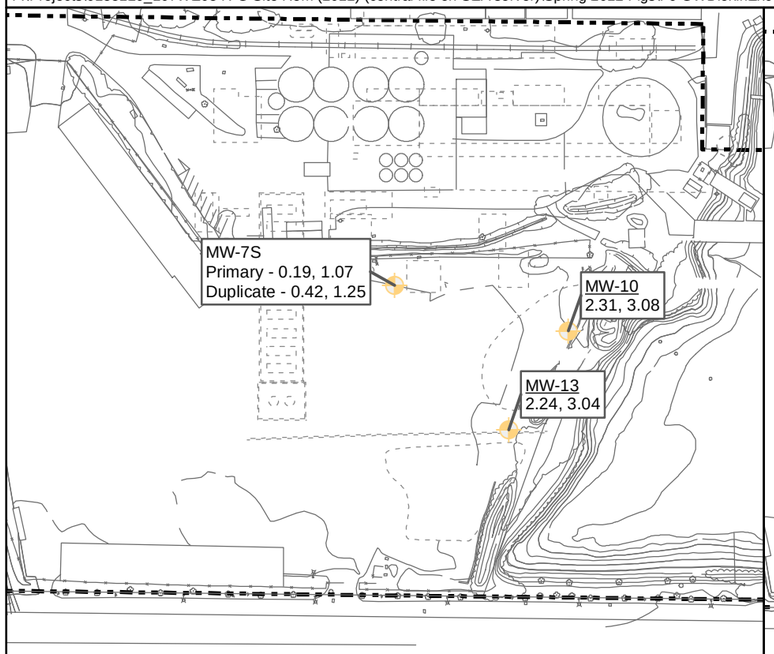
FIGURE 8
Screening Level Exceedences
Arsenic in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc.
- Reichhold, Inc. Site
5900 W. Marginal Way SW
Seattle, Washington

File:
F:\Projects\0155129_107WE05 R-G Site Rem (2) (central file on SEA server)\Spring 2012 Figs\F9 GWDioxinExceeds Spring2012.mxd

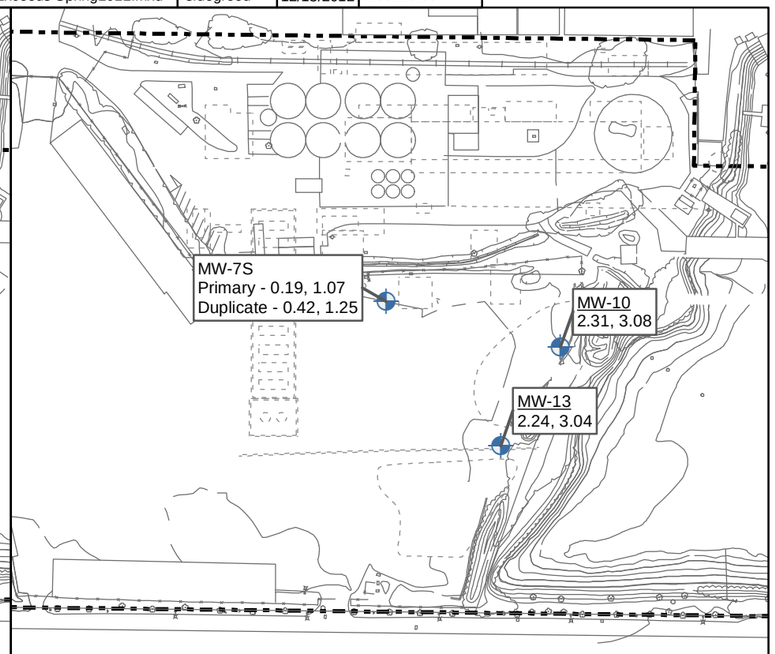
Created By:
s.degrood

Date:
12/13/2012

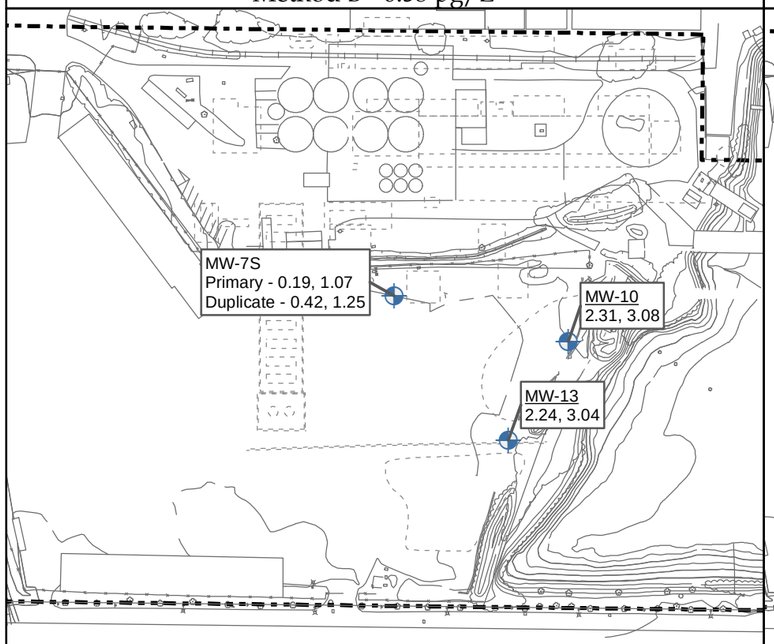
Project Number:
155129.09



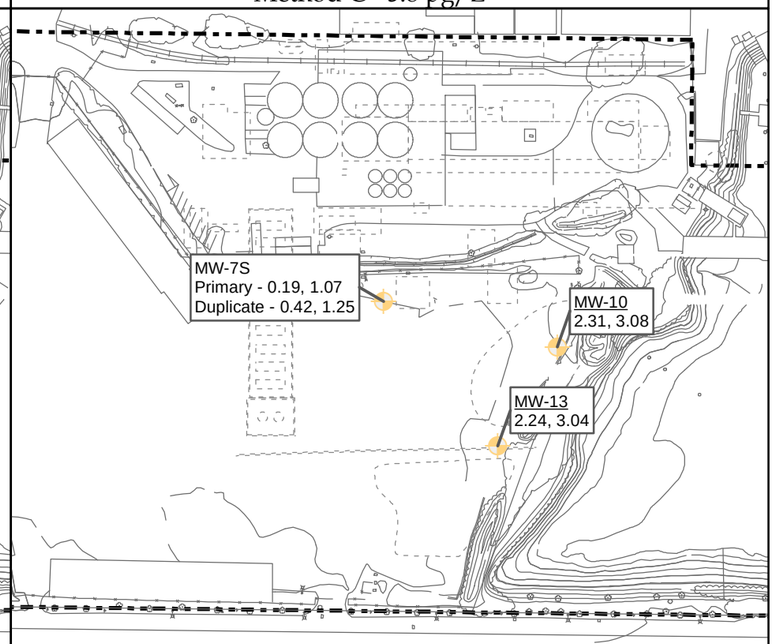
Method B - 0.58 pg/L



Method C - 5.8 pg/L



SW-AL - None Provided



SW-HH - 0.0051 pg/L

Legend

- Location where Dioxin/Furan TEQ did not Exceed the Screening Level
- Location where Dioxin/Furan TEQ Exceeds the Screening Level

Notes:
All results in picograms per liter.
0.19, 1.07 - TEQ calcuated with non-detected dioxins/furans equal to zero, TEQ calculated with non-detected dioxins/furans equal to one-half the detection limit.
If either of the TEQs exceed the screening level, the well is displayed as an exceedence.
Data qualifiers are defined in Tables 4 through 9 of *Spring 2012 Groundwater Sampling Results Memorandum*.
TEQ = toxicity equivalents relative to 2,3,7,8-tetrachlorodibenzo-p-dioxin, calculated using toxicity equivalency factors provided by World Health Organization (2005).
Method B = Ground Water, Method B, Carcinogen\Non-Carcinogen Composite, Standard Formula Value.
Method C = Ground Water, Method C, Carcinogen\Non-Carcinogen Composite, Standard Formula Value.
Method B and C screening levels provided are lowest of the carcinogenic and non-carcinogenic values.
SW-AL = Surface Water, Water Quality Criteria- Aquatic Life - Marine/Chronic - Washington Administrative Code (WAC).
SW-HH = Surface Water, Water Quality Criteria - Human Health – Marine – Clean Water Act (WAC Not Established).
Primary and field duplicate samples collected April and May 2012.

N

0 90 180 360 Feet

FIGURE 9
Screening Level Exceedences
Dioxins/Furans Toxicity Equivalency Quotient in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc.
- Reichhold, Inc. Site
5900 W. Marginal Way SW
Seattle, Washington

Tables

Table 1

Groundwater Sampling Parameters
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

Location ID				Site COPCs	Characterization of COIs						Adjacent Site COIs								Water Quality Parameters/General Chemistry												Characterization of COIs		Sediment and Adjacent Site COPCs					
Analyte					Metals																															
USEPA Method	Aquifer Setting	Sample Date	Sample ID	Phenol/ Chlorinated Phenols	As*	Cr*	Cu*	Ag*	Zn*	Cr VI*	Sb*	Be*	Cd*#	Pb*#	Ni*	Se*	Tl*	Hg*#	Ca	K	Mg	Na	Al*	Fe*	Mn*	Anions Cl, SO_4, NO_3, PO_4	TOX	TOC	TSS	Hardness	Alkalinity	Ammonia	TPH	TBT	Dioxins/ Furans	VOCs	SVOCs	PCB Aroclors	Field Measurements
				USEPA 8270D	USEPA 6010B/6020					USEPA 7196A	USEPA 6010B/6020							USEPA 7470A	USEPA 6010B/6020							EPA 300.0/ SM 4500	USEPA 9020	USEPA 9060	SM 2450D	SM 2340D	SM 2320B	USEPA 350.1	NWTPH-Dx, Gx	Krone/ 8270-SIM	AXYS Method	USEPA 8260C	USEPA 8270D/ 8270-SIM	USEPA 8082B	Various
MW-1S	Shallow	4/25/2012	MW-1S-042512	X	X	X	X	X	X	X																					X						X
MW-1D	Deeper	4/25/2012	MW-1D-042512	X	X																																X
MW-2S	Shallow	4/26/2012	MW-2S-042612	X	X																																X
MW-2D	Deeper	4/26/2012	MW-2D-042612	X	X																																X
MW-3S	Shallow	4/27/2012	MW-3S-042712	X	X	X	X	X	X		X	X	X	X	X	X	X	X																			X
MW-3D	Deeper	4/27/2012	MW-3D-042712	X	X	X	X	X	X																												X
MW-4S	Shallow	4/25/2012	MW-4S-042512	X	X																														X		X
MW-4S (dup)	Shallow	4/25/2012	DUP-042512-1	X																																	
MW-5S	Shallow	5/1/2012	MW-5S-050112	X	X																																X
MW-6S	Shallow	4/26/2012	MW-6S-042612	X	X																																X
MW-7S	Shallow	4/27/2012	MW-7S-042712	X	X																							X						X			X
MW-7S (dup)	Shallow	4/27/2012	DUP-042712-1	X																								X									
MW-10	Shallow	4/27/2012	MW-10-042712	X	X																							X						X			X
MW-11	Shallow	5/1/2012	MW-11-050112	X	X																																X
MW-12	Shallow	5/1/2012	MW-12-050112	X	X																																X
MW-13	Shallow	4/30/2012	MW-13-043012	X	X																							X						X	X		X
MW-13 (dup)	Shallow	4/30/2012	DUP-043012-1	X																																	
MW-14	Shallow	4/30/2012	MW-14-043012	X	X	X	X	X	X																												X
MW-14D[1]	Deeper	4/30/2012	MW-14D-043012		X	X	X	X	X										X	X	X	X	X	X	X	X	X	X	X	X	X					X		X
MW-16	Shallow	4/30/2012	MW-16-043012	X	X																														X		X
MW-17	Shallow	4/25/2012	MW-17-042512	X	X																																X
MW-18	Shallow	4/26/2012	MW-18-042612	X	X	X	X	X	X		X	X	X	X	X	X	X	X																			X
MW-19	Shallow	5/1/2012	MW-19-050112	X	X																																X
MW-20	Shallow	4/26/2012	MW-20-042612	X	X	X	X	X	X		X	X	X	X	X	X	X	X																			X
MW-20 (dup)	Shallow	4/26/2012	DUP-042612-2		X																																
MW-21	Shallow	4/26/2012	MW-21-042612	X	X																																X
MW-21 (dup)	Shallow	4/26/2012	DUP-042612-1		X																																
MW-22	Shallow	4/25/2012	MW-22-042512	X	X																																X
MW-23	Shallow	4/25/2012	MW-23-042512	X	X																																X
MW-24	Shallow	4/25/2012	MW-24-042512	X	X	X	X	X	X		X	X	X	X	X	X	X	X																			X
MW-26	Shallow	4/30/2012	MW-26-043012	X	X	X	X	X	X		X	X	X	X	X	X	X	X																			X
MW-27	Shallow	4/30/2012	MW-27-043012	X	X	X	X	X	X		X	X	X	X	X	X	X	X																			X
MW-28S[1]	Shallow	5/1/2012	MW-28S-050112		X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MW-29S[1]	Shallow	5/2/2012	MW-29S-050212		X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MW-30S[1]	Shallow	5/2/2012	MW-30S-050212		X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MW-31S[1]	Shallow	5/2/2012	MW-31S-050212		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MW-31S (dup)	Shallow	5/2/2012	DUP-052012-1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X						X	X	X	X	X	X		
MW-32S[1]	Shallow	5/1/2012	MW-32D-050112		X	X	X	X	X										X	X	X	X	X	X	X	X	X	X	X	X						X	X	X
MW-32DR[1]	Deeper	5/1/2012	MW-32DR-050112		X	X	X	X	X										X	X	X	X	X	X	X	X	X	X	X	X						X	X	X
MW-33S[1]	Shallow	5/2/2012	MW-33S-050212		X	X	X	X	X										X	X	X	X	X	X	X	X	X	X	X	X						X	X	X
MW-34S[1]	Shallow	5/3/2012	MW-34S-050312		X	X	X	X	X	X									X	X	X	X	X	X	X	X	X	X	X	X	X					X	X	X
MW-35S[1]	Shallow	5/3/2012	MW-35S-050312		X	X	X	X	X										X	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X	X
MW-36S[1]	Shallow	5/3/2012	MW-36S-050312		X	X	X	X	X										X	X	X	X	X	X	X	X	X	X	X	X								X
MW-36S (dup)	Shallow	5/3/2012	DUP-050312-1		X	X	X	X	X										X	X	X	X	X	X	X													
				29	40	21	21	21	21	4	11	11	11	11	11	11	11	11	12	12	12	12	12	12	12	11	11	11	14	11	11	7	7	5	4	8	11	0	37

Notes:

[1] = New monitoring well.

[2] = Field measurements include: dissolved oxygen, temperature, pH, oxidation reduction potential, specific conductivity, and turbidity.

* = Collect total (unfiltered) and dissolved (filtered) metals samples

- Cd, Pb and Hg metals also grouped in Sediment Management Standards constituent list.

ACOE = Army Corps of Engineers

AXYS Method = USEPA Method 1613B (i.e., AXYS MLA-017)

COI = Constituent of Interest

COPC = Constituent of Potential Concern

NA = Not Applicable

Notes (continued):

S, D designation following well identification number indicates shallow or deep monitoring well.

SIM = Selective Ion Method for polycyclic aromatic hydrocarbons

SM = Standard Method

STW = Stormwater Sample Location

PPL = Priority Polutant List Metals

SVOCs include phenols, phthalates, and polycyclic aromatic hydrocarbons.

USEPA = United States Environmental Protection Agency

Phenols & Chlorinated Phenols = 2-chlorophenol, 2,4-dichlorophenol, pentachlorophenol, phenol, 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol

Analytes Key

Sb	Antimony	Hg	Mercury
Al	Aluminum	Ni	Nickel
As	Arsenic	K	Potassium
Be	Beryllium	Se	Selenium
Ca	Calcium	Ag	Silver
Cd	Cadmium	Na	Sodium
Cr	Chromium	Tl	Thallium
Cr VI	Hexavalent Chromium	TOX	Total Organic Halides
Cu	Copper	TOC	Total Organic Carbon
Fe	Iron	TSS	Total Suspended Solids
Pb	Lead	TBT	Tributyltin
Mg	Magnesium	Zn	Zinc
Mn	Manganese		

Table 2

Groundwater Level Measurements
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

Well ID	Measuring Point Elevation *ft-amsl*	Northings	Eastings	Date	Time	Depth to Groundwater *ft-toc*	Groundwater Elevation *ft-amsl*
MW-01S	17.69	204056.54384	1267772.56387	3/23/2009	8:28	6.49	11.20
				6/25/2009	10:06	8.52	9.17
				10/7/2009	9:21	9.37	8.32
				1/28/2010	9:41	6.24	11.45
				4/26/2010	7:44	6.84	10.85
				8/5/2010	9:05	8.89	8.80
				10/25/2010	8:12	5.83	11.87
				4/25/2011	7:52	6.83	10.86
				7/14/2011	8:21	8.63	9.06
				11/28/2011	7:22	5.51	12.18
				10/28/2011	7:45	9.01	8.68
				1/25/2012	10:01	5.10	12.59
				4/24/2012	8:49	6.77	10.92
				7/19/2012	9:30	8.41	9.28
				11/5/2012	9:56	5.81	11.88
MW-01D	17.16	204056.58750	1267780.48417	3/23/2009	8:30	12.02	5.14
				6/25/2009	10:37	13.22	3.94
				10/7/2009	9:22	11.15	6.01
				1/28/2010	9:37	10.48	6.68
				4/26/2010	7:38	12.43	4.73
				8/5/2010	9:00	15.86	1.30
				10/25/2010	8:18	10.07	7.09
				4/25/2011	7:55	11.78	5.38
				7/14/2011	8:24	13.45	3.71
				11/28/2011	7:20	10.38	6.78
				10/28/2012	7:48	10.77	6.39
				1/25/2012	9:58	10.51	6.65
				4/24/2012	8:51	10.75	6.41
				7/19/2012	9:32	13.64	3.52
				7/19/2012	14:45	15.08	2.08
				11/5/2012	8:35	11.05	6.11
MW-02S	17.42	203897.54374	1267750.17664	3/23/2009	8:32	6.82	10.60
				6/25/2009	11:03	8.39	9.03
				10/7/2009	10:42	9.26	8.16
				1/28/2010	10:44	6.41	11.01
				4/26/2010	8:51	6.94	10.48
				8/5/2010	9:40	8.72	8.70
				10/25/2010	8:54	6.40	11.02
				4/25/2011	8:20	6.87	10.55
				7/14/2011	8:48	8.48	8.94
				11/28/2011	7:40	6.30	11.12
				10/28/2011	8:06	8.85	8.57
				1/25/2012	9:47	5.40	12.02
				4/24/2012	9:09	6.86	10.56
				7/19/2012	9:47	8.31	9.11
				11/5/2012	10:00	6.62	10.80
MW-02D	17.43	203927.36169	1267779.32250	3/23/2009	8:36	12.43	5.00
				6/25/2009	11:01	14.70	2.73
				10/7/2009	10:46	11.71	5.72
				1/28/2010	10:29	10.68	6.75
				4/26/2010	8:18	13.96	3.47
				8/5/2010	9:35	15.83	1.60
				10/25/2010	8:50	10.31	7.12
				4/25/2011	8:17	11.99	5.44
				7/14/2011	8:44	14.79	2.64
				11/28/2011	7:38	10.40	7.03
				10/28/2011	8:00	11.04	6.39
				1/25/2012	9:50	10.79	6.64
				4/24/2012	9:05	11.26	6.17
				7/19/2012	9:44	14.65	2.78
				7/19/2012	14:50	15.02	2.41
				11/5/2012	8:42	11.42	6.01
MW-03S	19.62	203661.20996	1267565.26400	3/23/2009	8:50	10.71	8.91
				6/25/2009	11:19	11.22	8.40
				10/7/2009	11:03	12.20	7.42
				1/28/2010	12:31	9.84	9.78
				4/26/2010	10:09	10.89	8.73
				8/5/2010	10:57	11.80	7.82
				10/25/2010	10:45	11.77	7.85
				4/25/2011	9:17	10.51	9.11
				7/14/2011	9:47	11.51	8.11
				11/28/2011	8:08	11.64	7.98
				10/28/2011	8:55	12.28	7.34
				1/25/2012	9:20	10.44	9.18
				4/24/2012	9:56	10.47	9.15
				7/19/2012	10:30	11.36	8.26
				11/5/2012	10:11	11.77	7.85
MW-03D	19.51	203662.55602	1267574.28418	3/23/2009	8:52	14.23	5.28
				6/25/2009	11:22	15.21	4.30
				10/7/2009	11:03	14.20	5.31
				1/28/2010	12:34	12.49	7.02
				4/26/2010	10:13	15.75	3.76
				8/5/2010	11:00	15.94	3.57
				10/25/2010	10:48	13.23	6.28
				4/25/2011	9:14	13.70	5.81
				7/14/2011	9:44	15.75	3.76
				11/28/2011	8:11	13.42	6.09
				10/28/2011	8:50	13.96	5.55
				1/25/2012	9:18	12.82	6.69
				4/24/2012	9:52	13.51	6.00
				7/19/2012	10:27	15.52	3.99
				7/19/2012	15:08	16.04	3.47
				11/5/2012	8:57	13.60	5.91

Table 2

Groundwater Level Measurements
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

Well ID	Measuring Point Elevation *ft-amsl*	Northings	Eastings	Date	Time	Depth to Groundwater *ft-toc*	Groundwater Elevation *ft-amsl*
MW-04S	18.81	204047.96657	1267528.70925	3/23/2009	8:16	7.09	11.72
				6/25/2009	10:21	9.09	9.72
				10/7/2009	9:04	9.86	8.95
				1/28/2010	10:04	6.64	12.17
				4/26/2010	8:06	7.17	11.64
				8/5/2010	9:18	9.49	9.32
				10/25/2010	8:34	5.88	12.93
				4/25/2011	9:50	6.80	12.01
				7/14/2011	10:15	9.17	9.64
				11/28/2011	9:14	6.04	12.77
				10/28/2011	9:21	9.56	9.25
				1/25/2012	12:20	5.45	13.36
				4/24/2012	11:21	6.80	12.01
				7/19/2012	12:14	8.97	9.84
				11/5/2012	11:49	6.00	12.81
MW-05S	18.42	204055.92275	1267646.61849	3/23/2009	8:25	6.87	11.55
				6/25/2009	10:11	8.93	9.49
				10/7/2009	9:16	9.71	8.71
				1/28/2010	9:47	6.57	11.85
				4/26/2010	7:47	7.04	11.38
				8/5/2010	10:02	6.31	12.11
				10/25/2010	8:23	5.98	12.44
				4/25/2011	9:24	7.01	11.41
				7/14/2011	9:56	9.02	9.40
				11/28/2011	8:32	6.04	12.38
				10/28/2011	9:01	9.43	8.99
				1/25/2012	12:12	5.48	12.94
				4/24/2012	11:10	6.82	11.60
				7/19/2012	12:06	8.80	9.62
				11/5/2012	11:39	6.15	12.27
MW-06S	18.50	204004.58908	1267611.92486	3/23/2009	8:23	6.98	11.52
				6/25/2009	10:15	8.90	9.60
				10/7/2009	9:12	9.73	8.77
				1/28/2010	9:58	6.60	11.90
				4/26/2010	8:01	7.11	11.39
				8/5/2010	9:09	9.29	9.21
				10/25/2010	8:27	6.75	11.75
				4/25/2011	9:30	7.05	11.45
				7/14/2011	10:02	8.99	9.51
				11/28/2011	8:36	6.37	12.13
				10/28/2011	9:08	9.50	9.00
				1/25/2012	12:08	5.63	12.87
				4/24/2012	11:04	6.89	11.61
				7/19/2012	12:01	8.80	9.70
				11/5/2012	11:32	6.44	12.06
MW-07S	18.50	204020.49534	1267574.41961	3/23/2009	8:18	6.90	11.60
				6/25/2009	10:18	8.81	9.69
				10/7/2009	9:09	9.64	8.86
				1/28/2010	9:54	6.47	12.03
				4/26/2010	7:56	6.98	11.52
				8/5/2010	9:14	9.21	9.29
				10/25/2010	8:29	6.31	12.19
				4/25/2011	9:35	6.84	11.66
				7/14/2011	10:22	8.91	9.59
				11/28/2011	9:10	6.18	12.32
				10/28/2011	9:13	9.36	9.14
				1/25/2012	12:15	5.51	12.99
				4/24/2012	11:18	6.71	11.79
				7/19/2012	12:11	8.71	9.79
				11/5/2012	11:45	6.19	12.31
MW-10	15.51	203965.45545	1267785.06206	3/23/2009	8:33	4.74	10.77
				6/25/2009	10:56	6.49	9.02
				10/7/2009	10:37	7.33	8.18
				1/28/2010	10:38	4.32	11.19
				4/26/2010	8:31	4.82	10.69
				8/5/2010	9:30	6.81	8.70
				10/25/2010	8:43	2.51	13.00
				4/25/2011	8:10	4.87	10.64
				7/14/2011	8:37	6.57	8.94
				11/28/2011	7:30	2.91	12.60
				10/28/2011	7:58	6.88	8.63
				1/25/2012	12:00	3.82	11.69
				4/24/2012	8:57	4.76	10.75
				7/19/2012	10:53	6.40	9.11
				11/5/2012	10:21	3.24	12.27
MW-11	15.34	203931.25080	1267732.36107	3/23/2009	8:40	4.49	10.85
				6/25/2009	10:47	6.19	9.15
				10/7/2009	10:29	7.05	8.29
				1/28/2010	10:21	3.47	11.87
				4/26/2010	8:39	4.59	10.75
				8/5/2010	9:57	6.49	8.85
				10/25/2010	*	*	*
				4/25/2011	8:56	4.56	10.78
				7/14/2011	9:28	6.23	9.11
				11/28/2011	8:28	3.95	11.39
				10/28/2011	8:44	6.66	8.68
				1/25/2012	11:56	2.95	12.39
				4/24/2012	9:19	4.53	10.81
				7/19/2012	11:02	6.05	9.29
				11/5/2012	10:27	4.09	11.25

Table 2

Groundwater Level Measurements
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

Well ID	Measuring Point Elevation *ft-amsl*	Northings	Eastings	Date	Time	Depth to Groundwater *ft-toc*	Groundwater Elevation *ft-amsl*
MW-12	15.92	203908.83835	1267687.31078	3/23/2009	8:05	4.84	11.08
				6/25/2009	10:33	6.39	9.53
				10/7/2009	10:26	7.36	8.56
				1/28/2010	10:55	4.35	11.57
				4/26/2010	8:59	4.91	11.01
				8/5/2010	9:49	6.79	9.13
				10/25/2010	9:34	5.33	10.59
				4/25/2011	9:00	4.83	11.09
				7/14/2011	9:33	6.50	9.42
				11/28/2011	8:24	4.63	11.29
				10/28/2011	8:40	7.05	8.87
				1/25/2012	11:35	3.59	12.33
				4/24/2012	9:27	4.76	11.16
				7/19/2012	11:04	6.30	9.62
				11/5/2012	10:32	4.75	11.17
MW-13	15.95	203845.60548	1267712.70978	3/23/2009	8:44	5.43	10.52
				6/25/2009	11:07	6.67	9.28
				10/7/2009	10:46	7.64	8.31
				1/28/2010	11:27	4.62	11.33
				4/26/2010	8:56	5.45	10.50
				8/5/2010	9:45	7.04	8.91
				10/25/2010	9:29	5.83	10.12
				4/25/2011	8:26	5.28	10.67
				7/14/2011	8:53	6.77	9.18
				11/28/2011	7:44	5.58	10.37
				10/28/2011	8:10	7.37	8.58
				1/25/2012	11:40	4.49	11.46
				4/24/2012	9:34	5.28	10.67
				7/19/2012	11:09	6.60	9.35
				11/5/2012	10:37	5.67	10.28
MW-14	16.38	203812.11685	1267609.88790	3/23/2009	8:48	6.09	10.29
				6/25/2009	11:14	7.08	9.30
				10/7/2009	10:51	8.07	8.31
				1/28/2010	11:10	5.40	10.98
				4/26/2010	9:04	6.05	10.33
				8/5/2010	9:52	7.45	8.93
				10/25/2010	9:40	7.04	9.34
				4/25/2011	9:10	5.79	10.59
				7/14/2011	9:38	7.18	9.20
				11/28/2011	8:18	6.81	9.57
				10/28/2011	8:36	7.93	8.45
				1/25/2012	9:37	5.49	10.89
				4/24/2012	9:40	5.80	10.58
				7/19/2012	10:00	7.01	9.37
				11/5/2012	10:06	6.85	9.53
MW-14D	16.48	203810.58000	1267604.15700	11/28/2011	8:15	10.13	6.35
				1/25/2012	9:35	9.75	6.73
				4/24/2012	9:43	10.58	5.90
				7/19/2012	9:56	12.01	4.47
				7/19/2012	15:00	13.58	2.90
				11/5/2012	8:52	10.57	5.91
MW-16	13.80	204080.65296	1267549.20703	3/23/2009	9:51	2.09	11.71
				6/25/2009	9:54	4.08	9.72
				10/7/2009	9:34	4.82	8.98
				1/28/2010	9:25	1.64	12.16
				4/26/2010	7:28	2.19	11.61
				8/5/2010	8:47	4.47	9.33
				10/25/2010	11:23	0.82	12.98
				4/25/2011	9:42	1.75	12.05
				7/14/2011	10:10	4.15	9.65
				11/28/2011	9:19	1.02	12.78
				10/28/2011	9:17	4.53	9.27
				1/25/2012	10:13	0.40	13.40
				4/24/2012	11:32	1.75	12.05
				7/19/2012	12:24	3.96	9.84
				11/5/2012	11:57	0.99	12.81
MW-17	16.24	203954.60493	1267530.00292	3/23/2009	7:59	4.92	11.32
				6/25/2009	10:27	6.53	9.71
				10/7/2009	8:57	7.42	8.82
				1/28/2010	10:12	4.40	11.84
				4/26/2010	9:14	4.90	11.34
				8/5/2010	10:09	6.93	9.31
				10/25/2010	9:44	5.05	11.19
				4/25/2011	9:55	4.73	11.51
				7/14/2011	10:32	6.62	9.62
				11/28/2011	8:40	4.69	11.55
				10/28/2011	9:32	7.18	9.06
				1/25/2012	10:21	3.81	12.43
				4/24/2012	10:57	4.63	11.61
				7/19/2012	11:56	6.43	9.81
				11/5/2012	11:25	4.68	11.56
MW-18	17.21	203677.06233	1267468.56680	3/23/2009	8:56	6.97	10.24
				6/25/2009	11:27	8.71	8.50
				10/7/2009	11:11	9.72	7.49
				1/28/2010	12:26	7.41	9.80
				4/26/2010	10:05	8.38	8.83
				8/5/2010	10:43	9.32	7.89
				10/25/2010	10:41	6.61	10.60
				4/25/2011	10:13	7.95	9.26
				7/14/2011	10:47	8.96	8.25
				11/28/2011	9:00	7.10	10.11
				10/28/2011	9:55	9.71	7.50
				1/25/2012	12:37	5.55	11.66
				4/24/2012	10:43	7.84	9.37
				7/19/2012	11:40	8.79	8.42
				11/5/2012	11:09	6.42	10.79

Table 2

Groundwater Level Measurements
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

Well ID	Measuring Point Elevation *ft-amsl*	Northings	Eastings	Date	Time	Depth to Groundwater *ft-toc*	Groundwater Elevation *ft-amsl*
MW-19	16.84	203766.18777	1267478.08281	3/23/2009	9:01	7.04	9.80
				6/25/2009	12:17	7.75	9.09
				10/7/2009	10:56	8.73	8.11
				1/28/2010	12:40	6.26	10.58
				4/26/2010	9:43	7.03	9.81
				8/5/2010	10:37	8.17	8.67
				10/25/2010	11:05	8.08	8.76
				4/25/2011	10:04	6.71	10.13
				7/14/2011	10:39	7.89	8.95
				11/28/2011	8:55	8.04	8.80
				10/28/2011	9:42	8.64	8.20
				1/25/2012	12:31	6.75	10.09
				4/24/2012	10:51	6.67	10.17
				7/19/2012	11:48	7.71	9.13
				11/5/2012	11:14	8.04	8.80
MW-20	17.46	203671.59840	1267364.59998	3/23/2009	9:05	8.21	9.25
				6/25/2009	11:55	8.75	8.71
				10/7/2009	11:19	9.84	7.62
				1/28/2010	12:18	7.37	10.09
				4/26/2010	9:58	8.44	9.02
				8/5/2010	10:54	9.41	8.05
				10/25/2010	10:35	9.30	8.16
				4/25/2011	10:19	7.95	9.51
				7/14/2011	10:54	8.93	8.53
				11/28/2011	9:04	9.02	8.44
				10/28/2011	10:04	9.64	7.82
				1/25/2012	12:40	7.80	9.66
				4/24/2012	12:27	7.79	9.67
				7/19/2012	13:17	8.77	8.69
				11/5/2012	13:00	9.10	8.36
MW-21	17.22	203807.20569	1267353.70698	3/23/2009	9:15	7.04	10.18
				6/25/2009	11:33	7.78	9.44
				10/7/2009	11:45	8.75	8.47
				1/28/2010	12:01	6.25	10.97
				4/26/2010	9:35	6.95	10.27
				8/5/2010	10:22	8.19	9.03
				10/25/2010	10:00	8.07	9.15
				4/25/2011	10:26	6.63	10.59
				7/14/2011	11:00	7.88	9.34
				11/28/2011	9:42	7.99	9.23
				10/28/2011	10:11	8.64	8.58
				1/25/2012	12:55	6.67	10.55
				4/24/2012	12:40	6.52	10.70
				7/19/2012	13:12	7.69	9.53
				11/5/2012	12:54	7.96	9.26
MW-22	16.79	203878.42265	1267354.09852	3/23/2009	9:22	6.11	10.68
				6/25/2009	12:03	7.12	9.67
				10/7/2009	8:45	8.04	8.75
				1/28/2010	11:41	5.39	11.40
				4/26/2010	9:21	5.96	10.83
				8/5/2010	10:15	7.76	9.03
				10/25/2010	9:52	6.96	9.83
				4/25/2011	10:34	5.70	11.09
				7/14/2011	11:07	7.18	9.61
				11/28/2011	9:36	6.76	10.03
				10/28/2011	10:18	7.83	8.96
				1/25/2012	11:16	5.60	11.19
				4/24/2012	12:50	5.58	11.21
				7/19/2012	13:07	6.97	9.82
				11/5/2012	12:46	6.72	10.07
MW-23	16.72	203793.38141	1267222.11951	3/23/2009	9:40	6.41	10.31
				6/25/2009	11:45	7.10	9.62
				10/7/2009	11:38	8.13	8.59
				1/28/2010	11:49	5.65	11.07
				4/26/2010	9:28	6.34	10.38
				8/5/2010	10:29	7.52	9.20
				10/25/2010	10:09	7.52	9.20
				4/25/2011	10:46	5.98	10.74
				7/14/2011	11:16	7.21	9.51
				11/28/2011	9:53	7.40	9.32
				10/28/2011	10:34	8.00	8.72
				1/25/2012	13:01	6.02	10.70
				4/24/2012	12:57	5.82	10.90
				7/19/2012	13:29	7.02	9.70
				11/5/2012	13:15	7.40	9.32
MW-24	16.78	203673.20066	1267247.14526	3/23/2009	9:09	7.87	8.91
				6/25/2009	11:39	8.42	8.37
				10/7/2009	11:31	9.50	7.28
				1/28/2010	12:12	7.05	9.73
				4/26/2010	9:51	8.07	8.71
				8/5/2010	10:49	9.04	7.74
				10/25/2010	10:18	8.95	7.83
				4/25/2011	10:40	7.58	9.20
				7/14/2011	11:22	8.57	8.21
				11/28/2011	9:48	8.73	8.05
				10/28/2011	10:28	9.33	7.45
				1/25/2012	12:46	7.52	9.26
				4/24/2012	12:34	7.38	9.40
				7/19/2012	13:23	8.41	8.37
				11/5/2012	13:08	8.82	7.96

Table 2

Groundwater Level Measurements
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

Well ID	Measuring Point Elevation *ft-amsl*	Northings	Eastings	Date	Time	Depth to Groundwater *ft-toc*	Groundwater Elevation *ft-amsl*
MW-26	16.62	203644.99716	1267602.70357	3/23/2009	10:03	8.01	8.61
				6/25/2009	12:37	8.50	8.13
				10/7/2009	10:16	9.45	7.17
				1/28/2010	13:02	7.15	9.47
				4/26/2010	10:39	8.22	8.40
				8/5/2010	11:13	9.15	7.47
				10/25/2010	10:53	8.95	7.67
				4/25/2011	8:36	7.82	8.80
				7/14/2011	9:09	8.76	7.86
				11/28/2011	8:00	8.83	7.79
				10/28/2011	8:20	9.53	7.09
				1/25/2012	9:10	7.61	9.01
				4/24/2012	10:21	7.73	8.89
				7/19/2012	11:26	8.61	8.01
				11/5/2012	11:00	8.95	7.67
MW-27	16.58	203644.72154	1267742.00960	3/23/2009	10:12	11.54	5.04
				6/25/2009	12:44	11.26	5.32
				10/7/2009	10:10	12.12	4.46
				1/28/2010	12:58	10.15	6.43
				4/26/2010	10:35	11.81	4.77
				8/5/2010	11:09	12.33	4.25
				10/25/2010	10:59	10.92	5.66
				4/25/2011	8:47	11.13	5.45
				7/14/2011	9:15	11.26	5.32
	`			11/28/2011	7:55	11.24	5.34
				10/28/2011	8:24	12.12	4.46
`	`	`		1/25/2012	9:00	10.39	6.19
				4/24/2012	10:28	10.86	5.72
				7/19/2012	11:20	11.66	4.92
				11/5/2012	10:52	11.25	5.33
MW-28S	14.41	204331.27100	1267205.03200	11/28/2011	10:06	1.96	12.45
				1/25/2012	10:51	1.22	13.19
				4/24/2012	11:54	2.18	12.23
				7/19/2012	12:38	4.06	10.35
				11/5/2012	12:23	1.79	12.62
MW-29S	13.06	204330.02400	1267507.11700	11/28/2011	9:30	0.85	12.21
				1/25/2012	10:46	*	*
				4/24/2012	11:45	1.56	11.50
				7/19/2012	12:32	3.25	9.81
				11/5/2012	12:15	0.35	12.71
MW-30S	12.15	204324.18200	1267832.08300	11/28/2011	7:01	2.27	9.88
				1/25/2012	10:38	1.56	10.59
				4/24/2012	8:02	2.67	9.48
				7/19/2012	8:49	3.56	8.59
				11/5/2012	9:10	2.25	9.90
MW-31S	14.15	204239.86200	1267927.96400	11/28/2011	7:05	4.62	9.53
				1/25/2012	10:25	4.13	10.02
				4/24/2012	8:07	5.04	9.11
				7/19/2012	8:59	5.79	8.36
		`		11/5/2012	9:16	1.37	12.78
MW-32S	15.35	204071.09300	1267150.05800	11/28/2011	10:02	4.07	11.28
				1/25/2012	11:08	3.08	12.27
				4/24/2012	12:08	3.33	12.02
				7/19/2012	12:53	4.99	10.36
				11/5/2012	12:30	4.09	11.26
MW-32DR	15.35	204076.86200	1267152.18500	1/25/2012	11:05	9.76	5.59
				4/24/2012	12:14	10.02	5.33
				7/19/2012	10:39	10.42	4.93
				7/19/2012	14:32	11.96	3.39
				11/5/2012	8:28	9.42	5.93
MW-33S	15.00	204024.70900	1267862.87400	11/28/2011	7:16	4.23	10.77
				1/25/2012	11:31	3.90	11.10
				4/24/2012	8:21	5.03	9.97
				7/19/2012	9:22	6.23	8.77
				11/5/2012	9:51	4.45	10.55
MW-34S	13.93	204116.60400	1267597.09600	11/28/2011	9:23	1.35	12.58
				1/25/2012	10:21	0.85	13.08
				4/24/2012	11:37	2.13	11.80
				7/19/2012	12:25	4.23	9.70
				11/5/2012	12:05	1.37	12.56
MW-35S	14.06	204167.25400	1267892.28800	11/28/2011	7:11	3.92	10.14
				1/25/2012	10:31	3.55	10.51
				4/24/2012	8:13	4.55	9.51
				7/19/2012	9:11	5.45	8.61
				11/5/2012	9:44	3.97	10.09
MW-36S	17.30	203899.90500	1267144.89200	4/24/2012	13:01	5.72	11.58
				7/19/2012	12:58	7.21	10.09
				11/5/2012	12:38	7.05	10.25

Notes:
ft-amsl = feet above mean sea level
ft-toc = feet below measuring point
* = Well could not be accessed due to recharging water in the well monument.

Table 3

Field Parameter Values
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

Location	Sample Date	Sample Time	Depth to Water (ft btoc)	Ferrous Iron (mg/L)	Sulfide (mg/L)	Temperature (°C)	pH	EC (µS/cm)	D.O. (mg/L)	Redox Potential (mV)	Salinity (ppt)	Turbidity (ntu)
MW-1D	4/25/2012	8:13	10.21	14.55	0.09	12.35	7.41	816	0.68	-62	0.4	2.12
MW-2D	4/26/2012	8:33	10.43	21.50	0.09	12.43	5.58	1090	0.74	-24	0.5	4.22
MW-3D	4/27/2012	9:42	13.41	9.00	0.07	15.07	5.73	1100	0.91	-22	0.5	1.62
MW-14D	4/30/2012	13:01	10.60	14.00	0.09	14.55	5.92	886	0.55	-37	0.4	2.90
MW-32DR	5/1/2012	13:57	9.91	4.00	0.05	16.20	7.28	1050	0.57	-57	0.5	9.33
MW-1S	4/25/2012	6:39	6.72	1.54	0.00	10.81	7.36	305	0.94	-26	0.1	6.69
MW-2S	4/26/2012	9:45	6.58	1.00	0.12	11.02	5.80	444	0.60	-12	0.2	2.37
MW-3S	4/27/2012	8:10	10.57	4.00	0.04	11.55	5.77	485	1.50	-57	0.2	1.32
MW-4S	4/25/2012	10:17	6.74	1.45	0.00	11.76	7.22	318	1.82	119	0.2	0.62
MW-5S	5/1/2012	7:00	6.66	0.20	0.00	9.05	6.02	159	0.64	181	0.1	3.97
MW-6S	4/26/2012	12:32	6.22	0.20	0.07	13.97	5.73	476	0.51	5	0.2	3.18
MW-7S	4/27/2012	12:54	5.69	1.40	0.21	13.83	5.69	496	0.60	6	0.2	2.46
MW-10	4/27/2012	14:53	4.29	0.45	0.26	19.18	6.38	338	0.53	-45	0.2	3.15
MW-11	5/1/2012	7:50	4.58	0.03	0.01	10.70	6.74	320	0.72	143	0.2	4.12
MW-12	5/1/2012	8:34	4.70	0.35	0.00	10.95	5.63	229	1.00	184	0.1	4.20
MW-13	4/30/2012	6:32	5.29	1.90	0.06	10.99	5.73	802	0.84	-35	0.4	4.32
MW-14	4/30/2012	14:45	5.65	12.95	0.02	14.21	5.80	691	0.45	-36	0.3	1.85
MW-16	4/30/2012	16:07	1.35	1.00	0.32	14.13	5.42	578	0.46	9	0.3	9.79
MW-17	4/25/2012	9:16	4.62	4.80	0.23	11.62	7.25	384	0.93	-68	0.2	0.90
MW-18	4/26/2012	15:18	7.08	0.20	0.07	14.28	6.08	441	2.40	-17	0.2	2.73
MW-19	5/1/2012	9:33	6.74	8.65	0.01	11.81	6.81	353	0.53	-35	0.2	2.77
MW-20	4/26/2012	13:44	7.77	16.00	0.06	15.79	5.75	484	2.87	-66	0.2	7.95
MW-21	4/26/2012	11:01	6.45	5.00	0.09	11.05	5.79	400	0.61	-39	0.2	2.13
MW-22	4/25/2012	11:31	5.56	6.05	0.09	12.96	7.44	470	1.10	-69	0.2	1.75
MW-23	4/25/2012	13:10	5.81	18.00	0.04	13.93	7.09	738	0.93	-27	0.4	0.71
MW-24	4/25/2012	14:57	7.40	24.00	0.25	14.01	6.77	579	0.73	-26	0.3	0.60
MW-26	4/30/2012	11:50	8.04	30.00	0.20	13.46	5.57	736	0.71	-65	0.4	1.83
MW-27	4/30/2012	10:46	11.22	17.00	0.08	13.00	5.96	1020	0.70	-44	0.5	1.05
MW-28S	5/1/2012	10:27	1.83	2.25	0.09	13.05	6.90	485	0.55	-31	0.2	6.01
MW-29S	5/2/2012	9:59	1.38	8.40	0.02	10.55	7.03	537	0.51	-66	0.3	5.14
MW-30S	5/2/2012	7:57	2.60	3.25	0.08	9.78	6.66	351	0.84	-20	0.2	4.52
MW-31S	5/2/2012	12:15	5.07	7.05	0.02	14.62	6.53	411	0.52	-18	0.2	7.32
MW-32S	5/1/2012	12:13	3.29	21.00	0.01	14.32	6.82	578	0.58	-65	0.3	6.40
MW-33S	5/2/2012	16:17	5.01	2.00	0.12	15.16	8.04	511	0.25	-269	0.2	4.88
MW-34S	5/3/2012	9:08	1.94	0.06	0.00	12.13	6.95	240	3.01	231	0.1	0.74
MW-35S	5/3/2012	11:38	4.44	1.89	0.01	11.24	6.68	196	0.12	-71	0.1	0.86
MW-36S	5/3/2012	14:26	5.81	5.75	0.03	10.65	6.53	402	0.63	-81	0.2	0.17

Notes:

°C = degrees Celsius
D.O. = dissolved oxygen
EC = electrical conductivity
ft btoc = feet below top of casing
mg/L = milligrams per liter
N/A = data not recorded
mV = millivolts
ntu = nephelometric turbidity units
ppt = parts per trillion
µS/cm = microsiemens per centimeter

Metals in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

			Characterization of COIs											Adjacent Site COIs							
Location ID	Sample Date	Sample Code	Arsenic D ug/l	Arsenic T ug/l	Chromium D ug/l	Chromium T ug/l	Chromium (VI) D mg/l	Copper D ug/l	Copper T ug/l	Silver D ug/l	Silver T ug/l	Zinc D ug/l	Zinc T ug/l	Antimony D ug/l	Antimony T ug/l	Beryllium D ug/l	Beryllium T ug/l	Cadmium D ug/l	Cadmium T ug/l	Lead D ug/l	Lead T ug/l
MW-1S	4/25/2012	MW-1S-042512	**8.2**	**9.9**	0.045 U	0.045 U	0.01 U	**0.9**	**1.8**	0.2 U	0.2 U	**22**	**29**	na	na	na	na	na	na	na	na
MW-1D	4/25/2012	MW-1D-042512	**8.1**	**9.1**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-2S	4/26/2012	MW-2S-042612	**658**	**621**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-2D	4/26/2012	MW-2D-042612	**35.3**	**35.7**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-3S	4/27/2012	MW-3S-042712	**383**	**387**	0.045 U	0.045 U	na	**0.9**	**0.9**	0.2 U	0.2 U	4 U	4 U	0.01 U	0.01 U	0.021 U	0.021 U	0.01 U	**0.1**	0.046 U	0.046 U
MW-3D	4/27/2012	MW-3D-042712	**28.1**	**27.7**	**3.9**	**3.9**	na	**0.6**	**0.9**	0.2 U	0.2 U	4 U	4 U	na	na	na	na	na	na	na	na
MW-4S	4/25/2012	MW-4S-042512	**45**	**46.4**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-5S	5/1/2012	MW-5S-050112	**8.1**	**8.7**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-6S	4/26/2012	MW-6S-042612	**11.8**	**13.7**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-7S	4/27/2012	MW-7S-042712	**23**	**24.4**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-10	4/27/2012	MW-10-042712	**10.1**	**10**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-11	5/1/2012	MW-11-050112	**471**	**467**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-12	5/1/2012	MW-12-050112	**149**	**159**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-13	4/30/2012	MW-13-043012	**1150**	**1130**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-14	4/30/2012	MW-14-043012	**5810**	**6130**	**0.7**	**0.7**	na	**2.3**	**24.2**	0.2 U	0.2 U	**35**	**35**	na	na	na	na	na	na	na	na
MW-14D	4/30/2012	MW-14D-043012	**361**	**361**	**9.4**	**11.5**	na	**1.1**	**3.1**	0.2 UJ	0.2 UJ	4 U	4 U	na	na	na	na	na	na	na	na
MW-16	4/30/2012	MW-16-043012	**16.9**	**22.6**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-17	4/25/2012	MW-17-042512	**115**	**121**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-18	4/26/2012	MW-18-042612	**5.9**	**6.2**	0.045 U	**0.6**	na	**1.7**	**1.9**	0.2 U	0.2 U	4 U	4 U	**0.3**	**0.2**	0.021 U	0.021 U	0.01 U	0.01 U	0.046 U	0.046 U
MW-19	5/1/2012	MW-19-050112	**249**	**246**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-20	4/26/2012	MW-20-042612	**869**	**957**	0.045 U	0.045 U	na	**0.5**	**0.8**	0.2 U	0.2 U	**5**	**6**	0.01 U	0.01 U	0.021 U	0.021 U	0.01 U	0.01 U	0.046 U	0.046 U
MW-20 (dup)	4/26/2012	DUP-042612-2	**896**	**1020**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-21	4/26/2012	MW-21-042612	**1920**	**1930**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-21 (dup)	4/26/2012	DUP-042612-1	**1850**	**1820**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-22	4/25/2012	MW-22-042512	**61.6**	**68.3**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-23	4/25/2012	MW-23-042512	**4.6**	**4.7**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-24	4/25/2012	MW-24-042512	**0.3** J	**0.4**	0.045 U	0.045 U	na	**0.8**	0.5 U	0.2 U	0.2 U	4 U	4 U	0.01 U	0.01 U	0.021 U	0.021 U	0.01 U	0.01 U	0.046 U	0.046 U
MW-26	4/30/2012	MW-26-043012	**770**	**780**	**1**	**1.1**	na	**0.9**	**2.1**	0.2 UJ	0.2 UJ	4 U	4 U	0.01 U	0.01 U	0.021 U	0.021 U	0.01 U	**0.2**	0.046 U	**0.1**
MW-27	4/30/2012	MW-27-043012	**9.3**	**9.1**	0.045 U	**0.7**	na	**0.6**	**1**	0.2 UJ	0.2 UJ	4 U	4 U	0.01 U	0.01 U	0.021 U	0.021 U	0.01 U	0.01 U	0.046 U	0.046 U
MW-28S	5/1/2012	MW-28S-050112	**13.8**	**14**	0.045 U	0.045 U	na	**0.8**	**0.8**	0.2 U	0.2 U	4 U	4 U	0.01 U	0.01 U	0.021 U	0.021 U	0.01 U	0.01 U	0.046 U	0.046 U
MW-29S	5/2/2012	MW-29S-050212	**3.5**	**3.4**	0.045 U	0.045 U	na	**1.9**	**0.5**	0.2 U	0.2 U	4 U	4 U	**0.3**	na	0.021 U	0.021 U	0.01 U	0.01 U	0.046 U	0.046 U
MW-30S	5/2/2012	MW-30S-050212	**9.6**	**9.5**	0.045 U	0.045 U	na	0.5 U	0.5 U	0.2 U	0.2 U	4 U	4 U	0.01 U	na	0.021 U	0.021 U	0.01 U	0.01 U	0.046 U	0.046 U
MW-31S	5/2/2012	MW-31S-050212	**1.3**	**1.5**	0.045 U	0.045 U	0.01 U	**0.5**	**0.9**	0.2 U	0.2 U	4 U	4 U	**0.2**	na	0.021 U	0.021 U	0.01 U	0.01 U	0.046 U	0.046 U
MW-31S (dup)	5/2/2012	DUP-050212-1	**1.2**	**1.3**	0.045 U	0.045 U	0.01 U	**0.9**	**8.1** J	0.2 U	0.2 U	4 U	4 U	**0.2**	**0.2**	0.021 U	0.021 U	0.01 U	0.01 U	0.046 U	0.046 U
MW-32S	5/1/2012	MW-32S-050112	**8.5**	**8.5**	**0.7**	**0.8**	na	0.5 U	0.5 U	0.2 U	0.2 U	4 U	**5**	na	na	na	na	na	na	na	na
MW-32DR	5/1/2012	MW-32DR-050112	**1.4**	**1.7**	**13.1**	**12.9**	na	**4.9**	**6.5**	0.2 U	0.2 U	**4**	**8**	na	na	na	na	na	na	na	na
MW-33S	5/2/2012	MW-33S-050212	**204**	**245**	0.11 U	**2.4**	na	**3.8**	**75.1**	0.2 U	0.2 U	4 U	**5**	na	na	na	na	na	na	na	na
MW-34S	5/3/2012	MW-34S-050312	**2**	**2**	0.045 U	0.045 U	0.01 U	**3.5**	**3.4**	0.2 U	0.2 U	4 U	4 U	na	na	na	na	na	na	na	na
MW-35S	5/3/2012	MW-35S-050312	**0.9**	**0.6**	0.045 U	0.045 U	na	**2.7**	**67.7**	0.2 U	0.2 U	4 U	4 U	na	na	na	na	na	na	na	na
MW-36S	5/3/2012	MW-36S-050312	**0.5**	**0.5**	0.11 U	0.11 U	na	**0.5**	**0.7**	0.2 U	0.2 U	4 U	4 U	na	na	na	na	na	na	na	na
MW-36S (dup)	5/3/2012	DUP-050312-1	**0.5**	**0.5**	0.045 U	0.045 U	na	**0.5**	**0.8**	0.2 U	0.2 U	4 U	4 U	na	na	na	na	na	na	na	na

Notes and Key:
ug/L = Micrograms per liter
mg/L = Milligrams per liter
D = Dissolved
dup = Duplicate sample
na = Not analyzed
T = Total
Bold text indicates that compound was detected.

Data Qualifiers:
U = Result is ≤ Reporting Limit (RL). Result reported as the RL and is qualified as non detected. If qualified as non-detect due to a detection in associated blank samples, than RL has been revised.
J = The detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.
UJ = The non detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.

Table 4

Metals in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

			Adjacent Site COIs (cont.)									Water Quality Parameters									
Location ID	Sample Date	Sample Code	Mercury D ug/l	Mercury T ug/l	Nickel D ug/l	Nickel T ug/l	Selenium D ug/l	Selenium T ug/l	Thallium D ug/l	Thallium T ug/l	Tributyltin T ug/l	Aluminum D ug/l	Aluminum T ug/l	Calcium T ug/l	Iron D ug/l	Iron T ug/l	Magnesium T ug/l	Manganese D ug/l	Manganese T ug/l	Potassium T ug/l	Sodium T ug/l
MW-1S	4/25/2012	MW-1S-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-1D	4/25/2012	MW-1D-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-2S	4/26/2012	MW-2S-042612	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-2D	4/26/2012	MW-2D-042612	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-3S	4/27/2012	MW-3S-042712	0.0069 U	0.0069 U	**0.6**	**0.5** J	0.64 U	0.64 U	0.004 U	0.004 U	na	na	na	na	na	na	na	na	na	na	na
MW-3D	4/27/2012	MW-3D-042712	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-4S	4/25/2012	MW-4S-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-5S	5/1/2012	MW-5S-050112	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-6S	4/26/2012	MW-6S-042612	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-7S	4/27/2012	MW-7S-042712	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-10	4/27/2012	MW-10-042712	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-11	5/1/2012	MW-11-050112	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-12	5/1/2012	MW-12-050112	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-13	4/30/2012	MW-13-043012	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-14	4/30/2012	MW-14-043012	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-14D	4/30/2012	MW-14D-043012	na	na	na	na	na	na	na	na	na	**250**	**460**	**18100**	**9840**	**10100**	**12600**	**316**	**318**	**14800**	**170000**
MW-16	4/30/2012	MW-16-043012	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-17	4/25/2012	MW-17-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-18	4/26/2012	MW-18-042612	0.0069 U	0.0069 U	0.079 U	**9.2** J	0.13 U	0.13 U	0.004 U	0.004 U	na	na	na	na	na	na	na	na	na	na	na
MW-19	5/1/2012	MW-19-050112	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-20	4/26/2012	MW-20-042612	0.0069 U	0.0069 U	**1.2**	**2.9**	0.13 U	0.13 U	0.004 U	0.004 U	na	na	na	na	na	na	na	na	na	na	na
MW-20 (dup)	4/26/2012	DUP-042612-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-21	4/26/2012	MW-21-042612	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-21 (dup)	4/26/2012	DUP-042612-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-22	4/25/2012	MW-22-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-23	4/25/2012	MW-23-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-24	4/25/2012	MW-24-042512	0.0069 U	0.0069 U	**0.7**	**1.1** J	0.13 U	0.13 U	0.004 U	0.004 U	na	na	na	na	na	na	na	na	na	na	na
MW-26	4/30/2012	MW-26-043012	0.0069 U	0.0069 U	**0.9**	**0.9**	0.13 U	0.13 U	0.004 U	0.004 U	na	na	na	na	na	na	na	na	na	na	na
MW-27	4/30/2012	MW-27-043012	0.0069 U	0.0069 U	**2.2**	**2.8**	0.13 U	0.13 U	0.004 U	0.004 U	na	na	na	na	na	na	na	na	na	na	na
MW-28S	5/1/2012	MW-28S-050112	0.0069 U	0.0069 U	**0.9**	**4**	0.13 U	0.13 U	0.004 U	0.004 U	0.002 U	50 U	50 U	**67100**	**12100**	**11900**	**6500**	**350**	**367**	**5210**	**11500**
MW-29S	5/2/2012	MW-29S-050212	0.0069 U	0.0069 U	**0.6**	**0.8**	0.13 U	0.13 U	0.004 U	0.004 U	0.002 U	50 U	50 U	**48000**	**9300**	**9700**	**11200**	**366**	**377**	**7680**	**32400**
MW-30S	5/2/2012	MW-30S-050212	0.0069 U	0.0069 U	**0.5**	**0.8**	0.13 U	0.13 U	0.004 U	0.004 U	0.002 U	50 U	50 U	**45000**	**6800**	**7040**	**9660**	**366**	**377**	**6470**	**10600**
MW-31S	5/2/2012	MW-31S-050212	0.0069 U	0.0069 U	**1**	**2**	0.13 U	0.13 U	0.004 U	0.004 U	0.002 U	50 U	50 U	**68000**	**7070**	**7510**	**6390**	**185**	**191**	**5480**	**6130**
MW-31S (dup)	5/2/2012	DUP-050212-1	0.0069 U	0.0069 U	**1**	**15.6**	0.13 U	0.13 U	0.004 U	0.004 U	0.002 U	na	na	na	na	na	na	na	na	na	na
MW-32S	5/1/2012	MW-32S-050112	na	na	na	na	na	na	na	na	na	50 U	50 U	**30400**	**25100**	**25000**	**24700**	**684**	**673**	**18000**	**34800**
MW-32DR	5/1/2012	MW-32DR-050112	na	na	na	na	na	na	na	na	na	**330**	**870**	**10100**	**8460**	**9080**	**16400**	**339**	**369**	**14500**	**211000**
MW-33S	5/2/2012	MW-33S-050212	na	na	na	na	na	na	na	na	na	**440**	**750**	**59800**	**9780**	**12500**	**5110**	**312**	**357**	**21200**	**34700**
MW-34S	5/3/2012	MW-34S-050312	na	na	na	na	na	na	na	na	na	50 U	50 U	**39200**	50 U	50 U	**1640**	1 U	**1**	**1610**	**11600**
MW-35S	5/3/2012	MW-35S-050312	na	na	na	na	na	na	na	na	na	50 U	50 U	**33700**	**1980**	**1860**	**2070**	**48**	**49**	**2130**	**4770**
MW-36S	5/3/2012	MW-36S-050312	na	na	na	na	na	na	na	na	na	50 U	50 U	**47900**	**8320**	**8030**	**20000**	**315**	**329**	**6840**	**22700**
MW-36S (dup)	5/3/2012	DUP-050312-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Notes and Key:
ug/L = Micrograms per liter
mg/L = Milligrams per liter
D = Dissolved
dup = Duplicate sample
na = Not analyzed
T = Total
Bold text indicates that compound was detected.

Data Qualifiers:
U = Result is ≤ Reporting Limit (RL). Result reported as the RL and is qualified as non detected.

Semi-Volatile Organic Compounds in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

			Location ID	MW-1S	MW-1D	MW-2S	MW-2D	MW-3S	MW-3D	MW-4S	MW-4S (dup)	MW-5S	MW-6S	MW-7S	MW-7S (dup)	MW-10	MW-11	MW-12	MW-13	MW-13 (dup)	MW-14	MW-14D	MW-16	MW-17	MW-18
			Sample Date	4/25/2012	4/25/2012	4/26/2012	4/26/2012	4/27/2012	4/27/2012	4/25/2012	4/25/2012	5/1/2012	4/26/2012	4/27/2012	4/27/2012	4/27/2012	5/1/2012	5/1/2012	4/30/2012	4/30/2012	4/30/2012	4/30/2012	4/30/2012	4/25/2012	4/26/2012
			Sample Code	MW-1S-042512	MW-1D-042512	MW-2S-042612	MW-2D-042612	MW-3S-042712	MW-3D-042712	MW-4S-042512	DUP-042512-1	MW-5S-050112	MW-6S-042612	MW-7S-042712	DUP-042712-1	MW-10-042712	MW-11-050112	MW-12-050112	MW-13-043012	DUP-043012-1	MW-14-043012	MW-14D-043012	MW-16-043012	MW-17-042512	MW-18-042612
2,3,4,6-Tetrachlorophenol	SW8270D	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**4**	**4.1**	0.5 U	0.5 U	0.5 U	**4.1**	**4.6**	0.5 U	0.5 U	**30 J**	0.5 U	0.5 U
2,4,5-Trichlorophenol	SW8270D	ug/l	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
2,4,6-Trichlorophenol	SW8270D	ug/l	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
2,4-Dichlorophenol	SW8270D	ug/l	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
2-Chlorophenol	SW8270D	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Pentachlorophenol	SW8041	ug/l	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	**53 J**	**58 J**	**1.4**	**50**	0.085 U	**58**	**72**	0.085 U	0.085 U	**340**	0.085 U	0.085 U
Phenol	SW8270D	ug/l	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.4 U	na	na	na
1,2-Dichlorobenzene	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.4 U	na	na	na
1,3-Dichlorobenzene	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.4 U	na	na	na
1,4-Dichlorobenzene	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.4 U	na	na	na
2,4-Dimethylphenol	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.4 U	na	na	na
2,4-Dinitrophenol	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	3.5 U	na	na	na
2,4-Dinitrotoluene	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.5 U	na	na	na
2,6-Dinitrotoluene	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.4 U	na	na	na
2-Chloronaphthalene	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5 U	na	na	na
2-Methylphenol	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5 U	na	na	na
2-Nitroaniline	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.6 U	na	na	na
2-Nitrophenol	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2 U	na	na	na
3,3-Dichlorobenzidine	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.5 U	na	na	na
3and4-Methylphenol	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5 U	na	na	na
3-Nitroaniline	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.3 U	na	na	na
4,6-Dinitro-o-cresol	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	3.1 U	na	na	na
4-Bromophenyl Phenyl Ether	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.4 U	na	na	na
4-Chloro-3-methylphenol	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.4 U	na	na	na
4-Chlorophenyl Phenyl Ether	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5 U	na	na	na
4-Nitrophenol	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.6 U	na	na	na
Benzoic acid	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	5.1 U	na	na	na
Benzyl Alcohol	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2 U	na	na	na
Benzyl Butyl Phthalate	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.6 U	na	na	na
Bis(2-chloro-1-methylethyl) ether	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.6 U	na	na	na
Bis(2-chloroethoxy) methane	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.6 U	na	na	na
Bis(2-chloroethyl) ether	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.6 U	na	na	na
Bis(2-ethylhexyl) phthalate	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1 U	na	na	na
Carbazole	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.3 U	na	na	na
Dibutyl phthalate	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5 U	na	na	na
Diethyl Phthalate	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.6 U	na	na	na
Dimethyl Phthalate	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5 U	na	na	na
Di-n-Octyl Phthalate	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5 U	na	na	na
Hexachloro-1,3-Butadiene	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.3 U	na	na	na
Hexachlorobenzene	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5 U	na	na	na
Hexachlorocyclopentadiene	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.2 U	na	na	na
Hexachloroethane	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.4 U	na	na	na
Isophorone	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5 U	na	na	na
Nitrobenzene	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.6 U	na	na	na
N-nitrosodi-n-propylamine	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.6 U	na	na	na
n-Nitrosodiphenylamine	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.5 U	na	na	na
p-Chloroaniline	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.6 U	na	na	na
Pentachlorophenol	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.4 U	na	na	na
P-Nitroaniline	SW8270D	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.2 U	na	na	na
1,2-Benzphenanthracene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.026 U	na	na	na
1-Methylnaphthalene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.016 U	na	na	na
2-Methylnaphthalene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.02 U	na	na	na
Acenaphthene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.015 U	na	na	na
Acenaphthylene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.024 U	na	na	na
Anthracene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.025 U	na	na	na
Benzo(a) anthracene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.023 U	na	na	na
Benzo(a) pyrene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.059 U	na	na	na
Benzo(g,h,i) perylene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.03 U	na	na	na
Dibenzo(a,h) anthracene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.042 U	na	na	na
Dibenzofuran	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.016 U	na	na	na
Fluoranthene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.021 U	na	na	na
Fluorene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.019 U	na	na	na
Indeno(1,2,3-c,d) pyrene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.029 U	na	na	na
Naphthalene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.02 U	na	na	na
Phenanthrene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.026 U	na	na	na
Pyrene	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.028 U	na	na	na
Total (B+J+K) Benzofluoranthenes	SW8270D-SIM	ug/l	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	0.2 U	na	na	na

Notes and Key:
ug/L = Micrograms per liter
dup = Duplicate Sample
na = Not analyzed
Bold text indicates that compound was detected.

Data Qualifiers:
j = The value reported is below the routine reporting limit and should be considered an estimate; qualifier reported by the Laboratory.
U = Result is ≤ Method Detection Limit (MDL). Result reported as the MDL and is qualified as non detected.
If qualified as non-detect due to a detection in associated blank samples, than MDL has been revised.

Table 5

Semi-Volatile Organic Compounds in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

			Location ID	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-26	MW-27	MW-28S	MW-29S	MW-30S	MW-31S	MW-31S (dup)	MW-32S	MW-32DR	MW-33S	MW-34S	MW-35S
			Sample Date	5/1/2012	4/26/2012	4/26/2012	4/25/2012	4/25/2012	4/25/2012	4/30/2012	4/30/2012	5/1/2012	5/2/2012	5/2/2012	5/2/2012	5/2/2012	5/1/2012	5/1/2012	5/2/2012	5/3/2012	5/3/2012
			Sample Code	MW-19-050112	MW-20-042612	MW-21-042612	MW-22-042512	MW-23-042512	MW-24-042512	MW-26-043012	MW-27-043012	MW-28S-050112	MW-29S-050212	MW-30S-050212	MW-31S-050212	DUP-050212-1	MW-32S-050112	MW-32DR-050112	MW-33S-050212	MW-34S-050312	MW-35S-050312
2,3,4,6-Tetrachlorophenol	SW8270D	ug/l		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**6.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,4,5-Trichlorophenol	SW8270D	ug/l		2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
2,4,6-Trichlorophenol	SW8270D	ug/l		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
2,4-Dichlorophenol	SW8270D	ug/l		2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	**20**	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
2-Chlorophenol	SW8270D	ug/l		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Pentachlorophenol	SW8041	ug/l		0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	**8.2**	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	**0.65**	0.085 U	0.085 U
Phenol	SW8270D	ug/l		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**4.3**	**4**	0.5 U	0.5 U	**4.2**	0.5 U	**7.6**
1,2,4-Trichlorobenzene	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichlorobenzene	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,3-Dichlorobenzene	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,4-Dichlorobenzene	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
2,4-Dimethylphenol	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
2,4-Dinitrophenol	SW8270D	ug/l		na	na	na	na	na	na	na	na	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
2,4-Dinitrotoluene	SW8270D	ug/l		na	na	na	na	na	na	na	na	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2,6-Dinitrotoluene	SW8270D	ug/l		na	na	na	na	na	na	na	na	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
2-Chloronaphthalene	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Methylphenol	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Nitroaniline	SW8270D	ug/l		na	na	na	na	na	na	na	na	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
2-Nitrophenol	SW8270D	ug/l		na	na	na	na	na	na	na	na	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
3,3-Dichlorobenzidine	SW8270D	ug/l		na	na	na	na	na	na	na	na	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
3and4-Methylphenol	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
3-Nitroaniline	SW8270D	ug/l		na	na	na	na	na	na	na	na	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U
4,6-Dinitro-o-cresol	SW8270D	ug/l		na	na	na	na	na	na	na	na	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U
4-Bromophenyl Phenyl Ether	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
4-Chloro-3-methylphenol	SW8270D	ug/l		na	na	na	na	na	na	na	na	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
4-Chlorophenyl Phenyl Ether	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Nitrophenol	SW8270D	ug/l		na	na	na	na	na	na	na	na	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Benzoic acid	SW8270D	ug/l		na	na	na	na	na	na	na	na	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Benzyl Alcohol	SW8270D	ug/l		na	na	na	na	na	na	na	na	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzyl Butyl Phthalate	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Bis(2-chloro-1-methylethyl) ether	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Bis(2-chloroethoxy) methane	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Bis(2-chloroethyl) ether	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Bis(2-ethylhexyl) phthalate	SW8270D	ug/l		na	na	na	na	na	na	na	na	1 U	1 U	1 U	1 U	1 U	**1.1**	1 U	1 U	1 U	1 U
Carbazole	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dibutyl phthalate	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Diethyl Phthalate	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Dimethyl Phthalate	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Di-n-Octyl Phthalate	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachloro-1,3-Butadiene	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Hexachlorobenzene	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorocyclopentadiene	SW8270D	ug/l		na	na	na	na	na	na	na	na	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Hexachloroethane	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Isophorone	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Nitrobenzene	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
N-nitrosodi-n-propylamine	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
n-Nitrosodiphenylamine	SW8270D	ug/l		na	na	na	na	na	na	na	na	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Chloroaniline	SW8270D	ug/l		na	na	na	na	na	na	na	na	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Pentachlorophenol	SW8270D	ug/l		na	na	na	na	na	na	na	na	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
P-Nitroaniline	SW8270D	ug/l		na	na	na	na	na	na	na	na	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
1,2-Benzphenanthracene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U
1-Methylnaphthalene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	**0.22**
2-Methylnaphthalene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**0.05** j
Acenaphthene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.015 U	0.015 U	**0.14**	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U
Acenaphthylene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.024 U	0.024 U	0.024 U	0.024 U	0.024 U	0.024 U	0.024 U	0.024 U	0.024 U	0.024 U
Anthracene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
Benzo(a) anthracene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.023 U	0.023 UJ	0.023 UJ	0.023 UJ	0.023 UJ	0.023 U	0.023 U	0.023 UJ	0.023 UJ	0.023 UJ
Benzo(a) pyrene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U	0.059 U
Benzo(g,h,i) perylene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Dibenzo(a,h) anthracene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U
Dibenzofuran	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	**1**
Fluoranthene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.021 U	0.021 U	**0.06** j	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U	0.021 U
Fluorene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Indeno(1,2,3-c,d) pyrene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U
Naphthalene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.02 U	0.02 U	**0.07** j	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**0.21**
Phenanthrene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.026 U	0.026 U	**0.08** j	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U	0.026 U
Pyrene	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.028 U	0.028 U	**0.09** j	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U
Total (B+J+K) Benzofluoranthenes	SW8270D-SIM	ug/l		na	na	na	na	na	na	na	na	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Notes and Key:
ug/L = Micrograms per liter
dup = Duplicate Sample
na = Not analyzed
Bold text indicates that compound was detected.

Data Qualifiers:
j = The value reported is below the routine reporting limit and should be considered an estimate; qualifier reported by the Laboratory.
U = Result is ≤ Method Detection Limit (MDL). Result reported as the MDL and is qualified as non detected.
If qualified as non-detect due to a detection in associated blank samples, than MDL has been revised.

Volatile Organic Compounds in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

Location ID		MW-4S	MW-13	MW-16	MW-28S	MW-29S	MW-30S	MW-31S	MW-31S (dup)
Sample Date		4/25/2012	4/30/2012	4/30/2012	5/1/2012	5/2/2012	5/2/2012	5/2/2012	5/2/2012
Sample Code		MW-4S-042512	MW-13-043012	MW-16-043012	MW-28S-050112	MW-29S-050212	MW-30S-050212	MW-31S-050212	DUP-050212-1
1,1,1,2-Tetrachloroethane	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,1,1-Trichloroethane	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,1,2,2-Tetrachloroethane	ug/l	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,1,2-Trichloroethane	ug/l	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,1-Dichloroethane	ug/l	0.05 U	0.05 U	0.05 U	0.05 U	**0.1** j	0.05 U	0.05 U	0.05 U
1,1-Dichloroethylene	ug/l	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1-Dichloropropene	ug/l	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
1,2,3-Trichlorobenzene	ug/l	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,2,3-Trichloropropane	ug/l	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
1,2,4-Trichlorobenzene	ug/l	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,2,4-Trimethylbenzene	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
1,2-Dibromo-3-Chloropropane (DBCP)	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,2-Dibromoethane	ug/l	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
1,2-Dichlorobenzene	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,2-Dichloroethane	ug/l	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
1,2-Dichloropropane	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,3,5-Trimethylbenzene	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
1,3-Dichlorobenzene	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,3-Dichloropropane	ug/l	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
1,4-Dichlorobenzene	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
1,4-Dichloro-trans-2-butene	ug/l	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
2,2-Dichloropropane	ug/l	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Butanone (MEK)	ug/l	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U
2-Chloroethyl Vinyl Ether	ug/l	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2-Chlorotoluene	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
4-Chlorotoluene	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Acetone	ug/l	**16** J	**5.6**	**120**	**63**	15 U	7 U	2.1 U	2.1 U
Acrolein	ug/l	2.5 UJ	2.5 U	2.5 UJ	2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 U
Acrylonitrile	ug/l	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Benzene	ug/l	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Bromobenzene	ug/l	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Bromochloromethane	ug/l	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Bromodichloromethane	ug/l	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromoform	ug/l	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Bromomethane	ug/l	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Carbon Disulfide	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Carbon Tetrachloride	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Chlorobenzene	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Chlorodibromomethane	ug/l	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroethane	ug/l	0.09 UJ	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Chloroform	ug/l	**0.2** j	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Chloromethane	ug/l	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
cis-1,2-Dichloroethene	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
cis-1,3-Dichloropropene	ug/l	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Cymene	ug/l	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Dibromomethane	ug/l	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Ethyl bromide	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Ethylbenzene	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Hexachloro-1,3-Butadiene	ug/l	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Isopropylbenzene (Cumene)	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
m&p-xylene	ug/l	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methyl Iodide	ug/l	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Methyl Isobutyl Ketone	ug/l	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U	0.97 U
Methyl n-Butyl Ketone	ug/l	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
Methylene Chloride	ug/l	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
Methyl-t-butyl ether (MTBE)	ug/l	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Naphthalene	ug/l	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
N-Butylbenzene	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
n-Propylbenzene	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
o-Xylene	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
sec-Butylbenzene	ug/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Styrene (Monomer)	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
tert-Butylbenzene	ug/l	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U
Tetrachloroethene	ug/l	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Toluene	ug/l	0.04 U	0.04 U	**0.1** j	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
trans-1,2-Dichloroethene	ug/l	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
trans-1,3-Dichloropropene	ug/l	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Trichloroethylene	ug/l	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Trichlorofluoromethane (CFC-11)	ug/l	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U
Vinyl Acetate	ug/l	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Vinyl Chloride	ug/l	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U

Notes and Key:

ug/L = Micrograms per liter
dup = Duplicate sample
Bold text indicates that compound was detected.

Data Qualifiers:

j = The value reported is below the routine reporting limit and should be considered an estimate; qualifier reported by the Laboratory.
U = Result is ≤ Method Detection Limit (MDL). Result reported as the MDL and is qualified as non detected.
If qualified as non-detect due to a detection in associated blank samples, than MDL has been revised.
J = The detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.
UJ = The non detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.

Final

Table 7

Dioxins/Furans in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

Location ID			MW-7S	MW-7S (dup)	MW-10	MW-13	Laboratory Blank	Laboratory Blank
Sample Date			4/27/2012	4/27/2012	4/27/2012	4/30/2012		
Sample Code		TEFs	MW-7S-042712	DUP-042712-1	MW-10-042712	MW-13-043012	WG38741-101	WG40091-101
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	pg/l	1	0.547 U	0.549 U	0.528 U	0.54 U	**0.504** j	0.6 U
Tetrachlorodibenzo-p-dioxin homologs (Total TCDD)	pg/l		0.547 U	0.549 U	0.528 U	0.54 U	0 U	0 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	pg/l	1	0.547 U	0.549 U	0.528 U	0.54 U	0.98 U	0.98 U
Pentachlorodibenzo-p-dioxin homologs (Total PeCDD)	pg/l		0.547 U	0.549 U	**0.987**	0.54 U	0 U	0 U
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/l	0.1	0.547 U	0.6 U	**1.68** j	0.54 U	1.8 U	1.8 U
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/l	0.1	0.621 U	**0.724** j	**1.52** j	0.766 U	1.7 U	1.7 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	pg/l	0.1	0.74 U	0.549 U	0.72 U	**0.579** j	**0.533** j	1.2 U
Hexachlorodibenzo-p-dioxin homologs (Total HxCDD)	pg/l		**1.57** *	**3.05** *	**17.1** *	**4.17** *	0 U	0 U
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	pg/l	0.01	**16.6** J	**23.7** J	**84.8** J	**46.5** J	**0.975** j	**0.751** j
Heptachlorodibenzo-p-dioxin homologs (Total HpCDD)	pg/l		**25**	**36.1**	**151**	**76.6**	0 U	0 U
Octachlorodibenzo-p-dioxin (OCDD)	pg/l	0.0003	**92.8** J	**332** J	**1530** J	**5000** J	**2.73** J	**1.95** j
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	pg/l	0.1	0.547 U	0.549 U	0.528 U	0.54 U	0.44 U	0.44 U
Tetrachlorodibenzofuran homologs (Total TCDF)	pg/l		0.547 U	0.549 U	**15.2**	0.54 U	0 U	0 U
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	pg/l	0.03	0.547 U	0.549 U	0.528 U	0.54 U	0.74 U	0.74 U
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	pg/l	0.3	0.547 U	0.549 U	0.608 U	0.54 U	0.6 U	0.6 U
Pentachlorodibenzofuran homologs (Total PeCDF)	pg/l		0.547 U	0.549 U	**15.2** *	0.54 U	0 U	0 U
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	pg/l	0.1	0.547 U	0.549 U	**5.33** j	**0.692** j	1.1 U	1.1 U
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/l	0.1	0.547 U	0.549 U	0.655 U	0.54 U	0.61 U	0.61 U
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	pg/l	0.1	0.547 U	0.549 U	0.528 U	0.54 U	2 U	2 U
1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)	pg/l	0.1	0.547 U	0.549 U	0.528 U	0.54 U	1 U	1 U
Hexachlorodibenzofuran homologs (Total HxCDF)	pg/l		0.547 U	0.549 U	**41.5** *	**2.53**	0 U	0 U
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	pg/l	0.01	0.835 U	0.791 U	**13.5** j	**10.2** j	**0.637** j	2.5 U
1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)	pg/l	0.01	0.547 U	**0.654** j	**0.916** j	**1.2** j	1.1 U	1.1 U
Heptachlorodibenzofuran homologs (Total HpCDF)	pg/l		0.547 U	**0.654** *	**27.4**	**11.4**	0 U	0 U
Octachlorodibenzofuran (OCDF)	pg/l	0.0003	**3.08** j	**2.25** j	**13.7** j	**115**	**1.62** j	**1.21** j
Calculated TEQ (ND=0)	pg/l		**0.19**	**0.42**	**2.31**	**2.24**	**0.57**	**0.00**
Calculated TEQ (ND=1/2 DL)	pg/l		**1.07**	**1.25**	**3.08**	**3.04**	**1.60**	**1.41**

Notes and Key:

dup = Duplicate Sample

pg/L = Picograms per liter (1E-12 g/L) equivalent to parts per quadrillion.

TEQ = Toxicity Equivalency Quotient to 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD). Only positively identified compounds are included in TEQ calculation.

TEF = Toxicity Equivalency Factors (World Health Organization, 2005)

Bold text indicates that compound was detected.

Data Qualifiers:

j = The value reported is below the routine reporting limit and should be considered an estimate; qualifier reported by the Laboratory.

U = Result is ≤ Reporting Limit (RL). Result reported as the RL and is qualified as non detected. If qualified as non-detect due to a detection in associated blank samples, than RL has been revised.

J = The detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.

* = May be biased high; associated congeners were U-qualified due to laboratory-identified estimated maximum possible concentrations (EMPCs).

Final
Table 8

Total Petroleum Hydrocarbons and Water Quality/
General Chemistry Parameters in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

			Total Petroleum Hydrocarbons			Water Quality Parameters												
Location ID	Sample Date	Sample Code	TPH as Diesel mg/L	TPH as Motor Oil mg/L	TPH as Gasoline mg/L	Chloride mg/L	Nitrate mg/L	Sulfate mg/L	Ammonia mg-N/L	Alkalinity, Bicarbonate (as CaCO3) mg/L	Alkalinity, Carbonate (as CaCO3) mg/L	Alkalinity, Hydroxide (as CaCO3) mg/L	Alkalinity, Total (as CaCO3) mg/L	Total Suspended Solids mg/L	Phosphorus T mg/L	Hardness T mg/L	TOC mg/L	TOX ug/L
MW-1S	4/25/2012	MW-1S-042512	0.02 U	0.04 U	0.011 U	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-7S	4/27/2012	MW-7S-042712	na	na	na	na	na	na	na	na	na	na	na	**1.4**	na	na	na	na
MW-10	4/27/2012	MW-10-042712	na	na	na	na	na	na	na	na	na	na	na	1.1 U	na	na	na	na
MW-13	4/30/2012	MW-13-043012	na	na	na	na	na	na	na	na	na	na	na	**1.5**	na	na	na	na
MW-14D	4/30/2012	MW-14D-043012	na	na	na	**38.5**	0.007 U	**0.5**	na	**412**	1 U	1 U	**412**	1.1 U	**1.78**	**97**	**21**	**15**
MW-28S	5/1/2012	MW-28S-050112	0.02 U	0.04 U	0.011 U	**35.8**	0.007 U	**21**	**0.344**	**166**	1 U	1 U	**166**	**12.7**	**0.391**	**190**	**3.73**	**6**
MW-29S	5/2/2012	MW-29S-050212	0.02 U	0.04 U	0.022 U	**55.7**	0.007 U	**2.5**	**1.47**	**169**	1 U	1 U	**169**	**15.2**	**1.07**	**170**	**4.17**	4 U
MW-30S	5/2/2012	MW-30S-050212	0.02 U	0.04 U	0.011 U	**8.9**	0.007 U	0.059 U	**1.98**	**169**	1 U	1 U	**169**	**6.5**	**1.26**	**150**	**4.08**	4 U
MW-31S	5/2/2012	MW-31S-050212	**0.23** NJ	0.04 U	0.022 U	**3.4**	0.007 U	**11.8**	**0.682**	**191**	1 U	1 U	**191**	**10.4**	**0.39**	**200**	**3.14**	4 U
MW-31S (dup)	5/2/2012	DUP-050212-1	**0.28** NJ	0.04 U	0.022 U	na	na	na	**0.674**	na	na	na	na	na	na	na	na	na
MW-32S	5/1/2012	MW-32S-050112	na	na	na	**7.9**	0.007 U	**4.8**	na	**289**	1 U	1 U	**289**	**51**	**1.73**	**180**	**8.81**	**5**
MW-32DR	5/1/2012	MW-32DR-050112	na	na	na	**97.1**	0.007 U	**0.7**	na	**434**	1 U	1 U	**434**	**2.4**	**1.28**	**93**	**24.6**	**14**
MW-33S	5/2/2012	MW-33S-050212	na	na	na	**3**	0.007 U	**7.9**	na	**268**	1 U	1 U	**268**	**36.4**	**1.08**	**170**	**7.59**	**6** j
MW-34S	5/3/2012	MW-34S-050312	na	na	na	**4.2**	**0.2** J	**6.4**	0.01 U	**121**	1 U	1 U	**121**	1.1 U	0.006 U	**100**	**1.98**	4 U
MW-35S	5/3/2012	MW-35S-050312	**3.2** NJ	0.04 U	0.011 U	**2.9**	0.007 U	**6.7**	**0.091**	**20.1**	1 U	1 U	**20.1**	**3.6**	**0.136**	**93**	**2.21**	4 U
MW-36S	5/3/2012	MW-36S-050312	na	na	na	**6.4**	0.007 U	**14.8**	na	**220**	1 U	1 U	**220**	**9.3**	**0.126**	**200**	**2.7**	4 U

Notes and Key:

ug/L = Micrograms per liter
CaCO3 = Calcium carbonate
D = Dissolved
dup = Duplicate sample
mg/L = Milligrams per liter
mg-N/L = Milligrams of Nitrogen per Liter
na = Not analyzed
T = Total
TOC = Total Organic Carbon
TOX = Total Organic Halides
TPH = Total petroleum hydrocarbons
Bold text indicates that compound was detected.

Data Qualifiers:

j = The value reported is below the routine reporting limit and should be considered an estimate; qualifier reported by the Laboratory.
U = Result is ≤ the detection limit. TPH compounds are reported to the Method Detection Limit (MDL) and water quality parameters are reported to the Reporting Limit (RL). Result reported as the MDL or RL and is qualified as non detected. If qualified as non-detect due to a detection in associated blank samples, than MDL has been revised, as applicable.
J = The detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.

Table 9

Constituents Detected in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

			Inorganic Compounds															
Location ID	**Sample Date**	**Sample ID**	**Arsenic D ug/l**	**Arsenic T ug/l**	**Chromium D ug/l**	**Chromium T ug/l**	**Copper D ug/l**	**Copper T ug/l**	**Zinc D ug/l**	**Zinc T ug/l**	**Antimony D ug/l**	**Antimony T ug/l**	**Cadmium T ug/l**	**Lead T ug/l**	**Nickel D ug/l**	**Nickel T ug/l**	**Ammonia [1] N mg-N/L**	**Ammonia [2] NH_3 ug/L**
MW-1S	4/25/2012	MW-1S-042512	8.2	9.9	0.045 U	0.045 U	0.9	1.8	22	29	na	na	na	na	na	na	na	na
MW-1D	4/25/2012	MW-1D-042512	8.1	9.1	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-2S	4/26/2012	MW-2S-042612	658	621	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-2D	4/26/2012	MW-2D-042612	35.3	35.7	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-3S	4/27/2012	MW-3S-042712	383	387	0.045 U	0.045 U	0.9	0.9	4 U	4 U	0.2 U	0.2 U	0.1	0.046 U	0.6	0.5 J	na	na
MW-3D	4/27/2012	MW-3D-042712	28.1	27.7	3.9	3.9	0.6	0.9	4 U	4 U	na	na	na	na	na	na	na	na
MW-4S	4/25/2012	MW-4S-042512	45	46.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-4S (dup)	4/25/2012	DUP-042512-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-5S	5/1/2012	MW-5S-050112	8.1	8.7	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-6S	4/26/2012	MW-6S-042612	11.8	13.7	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-7S	4/27/2012	MW-7S-042712	23	24.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-7S (dup)	4/27/2012	DUP-042712-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-10	4/27/2012	MW-10-042712	10.1	10	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-11	5/1/2012	MW-11-050112	471	467	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-12	5/1/2012	MW-12-050112	149	159	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-13	4/30/2012	MW-13-043012	1150	1130	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-13 (dup)	4/30/2012	DUP-043012-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-14	4/30/2012	MW-14-043012	5810	6130	0.7	0.7	2.3	24.2	35	35	na	na	na	na	na	na	na	na
MW-14D	4/30/2012	MW-14D-043012	361	361	9.4	11.5	1.1	3.1	4 U	4 U	na	na	na	na	na	na	na	na
MW-16	4/30/2012	MW-16-043012	16.9	22.6	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-17	4/25/2012	MW-17-042512	115	121	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-18	4/26/2012	MW-18-042612	5.9	6.2	0.045 U	0.6	1.7	1.9	4 U	4 U	0.3	0.2	0.01 U	0.046 U	0.079 U	9.2 J	na	na
MW-19	5/1/2012	MW-19-050112	249	246	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-20	4/26/2012	MW-20-042612	869	957	0.045 U	0.045 U	0.5	0.8	5	6	0.2 U	0.2 U	0.01 U	0.046 U	1.2	2.9	na	na
MW-20 (dup)	4/26/2012	DUP-042612-2	896	1020	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-21	4/26/2012	MW-21-042612	1920	1930	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-21 (dup)	4/26/2012	DUP-042612-1	1850	1820	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-22	4/25/2012	MW-22-042512	61.6	68.3	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-23	4/25/2012	MW-23-042512	4.6	4.7	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-24	4/25/2012	MW-24-042512	0.3 J	0.4	0.045 U	0.045 U	0.8	0.5 U	4 U	4 U	0.2 U	0.2 U	0.01 U	0.046 U	0.7	1.1 J	na	na
MW-26	4/30/2012	MW-26-043012	770	780	1	1.1	0.9	2.1	4 U	4 U	0.2 U	0.2 U	0.2	0.1	0.9	0.9	na	na
MW-27	4/30/2012	MW-27-043012	9.3	9.1	0.045 U	0.7	0.6	1	4 U	4 U	0.2 U	0.2 U	0.01 U	0.046 U	2.2	2.8	na	na
MW-28S	5/1/2012	MW-28S-050112	13.8	14	0.045 U	0.045 U	0.8	0.8	4 U	4 U	0.2 U	0.2 U	0.01 U	0.046 U	0.9	4	0.344	1.56
MW-29S	5/2/2012	MW-29S-050212	3.5	3.4	0.045 U	0.045 U	1.9	0.5	4 U	4 U	0.3	0.3	0.01 U	0.046 U	0.6	0.8	1.47	9.00
MW-30S	5/2/2012	MW-30S-050212	9.6	9.5	0.045 U	0.045 U	0.5 U	0.5 U	4 U	4 U	0.2 U	0.2 U	0.01 U	0.046 U	0.5	0.8	1.98	5.19
MW-31S	5/2/2012	MW-31S-050212	1.3	1.5	0.045 U	0.045 U	0.5	0.9	4 U	4 U	0.2	0.3	0.01 U	0.046 U	1	2	0.682	1.33
MW-31S (dup)	5/2/2012	DUP-050212-1	1.2	1.3	0.045 U	0.045 U	0.9	8.1 J	4 U	4 U	0.2	0.2	0.01 U	0.046 U	1	15.6	0.674	1.31
MW-32DR	5/1/2012	MW-32DR-050112	1.4	1.7	13.1	12.9	4.9	6.5	4	8	na	na	na	na	na	na	na	na
MW-32S	5/1/2012	MW-32S-050112	8.5	8.5	0.7	0.8	0.5 U	0.5 U	4 U	5	na	na	na	na	na	na	na	na
MW-33S	5/2/2012	MW-33S-050212	204	245	0.11 U	2.4	3.8	75.1	4 U	5	na	na	na	na	na	na	na	na
MW-34S	5/3/2012	MW-34S-050312	2	2	0.045 U	0.045 U	3.5	3.4	4 U	4 U	na	na	na	na	na	na	0.01 U	0.05 U
MW-35S	5/3/2012	MW-35S-050312	0.9	0.6	0.045 U	0.045 U	2.7	67.7	4 U	4 U	na	na	na	na	na	na	0.091	0.25
MW-36S	5/3/2012	MW-36S-050312	0.5	0.5	0.11 U	0.11 U	0.5	0.7	4 U	4 U	na	na	na	na	na	na	na	na
MW-36S (dup)	5/3/2012	DUP-050312-1	0.5	0.5	0.045 U	0.045 U	0.5	0.8	4 U	4 U	na	na	na	na	na	na	na	na
Maximum Detected Concentrations			**5810**	**6130**	**13.1**	**12.9**	**4.9**	**75.1**	**35**	**35**	**0.3**	**0.3**	**0.2**	**0.1**	**2.2**	**15.6**	**1.98**	**9.00**
Method B			**0.058** ca	**0.058** ca	**50** a	**50** a	**640** nc	**640** nc	**4,800** nc	**4,800** nc	**6.4** nc	**6.4** nc	**16** nc	**NP**	**320** nc	**320** nc	**NP**	**NP**
Method C			**0.58** ca	**0.58** ca	**50** a	**50** a	**1,400** nc	**1,400** nc	**10,500** nc	**10,500** nc	**14** nc	**14** nc	**35** nc	**NP**	**700** nc	**700** nc	**NP**	**NP**
SW-AL			**36**	**36**	**NP**	**NP**	**3.1**	**3.1**	**81**	**81**	**NP**	**NP**	**9.3**	**8.1**	**8.2**	**8.2**	**NP**	**35 [3]**
SW-HH			**0.14**	**0.14**	**NP**	**NP**	**NP**	**NP**	**26,000**	**26,000**	**640**	**640**	**NP**	**NP**	**4600**	**4600**	**NP**	**NP**

Notes and Key:

1/2dl = One-half the detection limit
D = Dissolved
dup = Duplicate sample
mg/L = Milligrams per liter
ND = Non-detect values calculation method
NP = No Cleanup level provided. The screening levels were
obtained from Ecology's online Cleanup Levels and Risk Calculation (CLARC) website.
pg/L = Picograms per liter
T = Total
TPH-d = Total petroleum hydrocarbons as diesel
ug/L = Micrograms per liter
ca = carcinogen
nc = non-carinogen
SIM = Selective Ion Monitoring
Method B = State of Washington Model Toxics Control Act Method B Screening Level. Level provided is the lowest of the carcinogenic and non-carcinogenic.
Method C = State of Washington Model Toxics Control Act Method C Screening Level
SW-AL = • Water Quality Criteria for chronic exposure of aquatic life from Washington Administrative Code (WAC) 173-201A.
SW-HH = • Water Quality Criteria for human health in marine environments from the Federal Clean Water Act (WAC not established).
a = State of Washington Model Toxics Control Act Method A Screening Level, no Method B or C screening level available.
Bold text indicates that compound was detected.
Shaded cells indicate values that exceed the Method B or Method A as noted (a).
Boxed cells indicate values that exceed the Method C.
Hatched cells indicate value exceeds Surface Water, Water Quality Criteria - Aquatic Life - Marine/Chronic - Clean Water Act (SW-AL)
Underlined text indicate values exceed Surface Water, Water Quality Criteria - Human Health – Marine – Clean Water Act (SW-HH)

[1] = Analytical results expressed in milligrams of nitrogen per liter (mg-N/L), equivelant to ammonium-N (NH_4+) plus ammonia-N (NH_3).

[2] = Calculated value of ammonia (NH_3) using the dissociation constant (Ka=5.75x10^-10) and pH of each sample (i.e., NH3 = total ammonia as nitrogen[1]/(1+[H+]/Ka).

[3] = SW-AL value expressed in micrograms of ammonia (NH_3) per liter (ug-NH_3/L).

Data Qualifiers:

j = The value reported is below the routine reporting limit and should be considered an estimate; qualifier reported by the Laboratory.
J = The detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines
for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.
U = Result is ≤ the detection limit. Organic compounds are reported to the Method Detection Limit (MDL) and water quality parameters and metals are reported to the Reporting Limit (RL).
Result reported as the MDL or RL and is qualified as non detected. If qualified as non-detect due to a detection in associated blank samples, than MDL has been revised, as applicable.
NJ = Estimated value - chromatogram did not resemble the standard hydrocarbon pattern
UJ = The non detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines
for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.
* = May be biased high; associated congeners were U-qualified due to detections in the laboratory blank

Compound Acronymns

TCDD = Tetrachlorodibenzo-p-dioxin
HxCDD = Hexachlorodibenzo-p-dioxin
HpCDD = Heptachlorodibenzo-p-dioxin
OCDD = Octachlorodibenzo-p-dioxin
TCDF = Tetrachlorodibenzofuran
PeCDF = Pentachlorodibenzofuran
HxCDF = Hexachlorodibenzofuran
HpCDF = Heptachlorodibenzofuran
OCDF =Octachlorodibenzofuran

Table 9, continued

Constituents Detected in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

			Volatile Organic Compounds				Semi-Volatile Organic Compounds											TPH
Location ID	Sample Date	Sample ID	1,1-Dichloroethane ug/l	Acetone ug/l	Chloroform ug/l	Toluene ug/l	2,3,4,6-Tetrachlorophenol ug/l	2,4-Dichlorophenol ug/l	Pentachloro-phenol ug/l	Phenol ug/l	1-Methylnaphthalene (SIM) ug/l	2-Methylnaphthalene (SIM) ug/l	Acenaphthene (SIM) ug/l	Dibenzofuran (SIM) ug/l	Naphthalene (SIM) ug/l	Phenanthrene (SIM) ug/l	Pyrene (SIM) ug/l	TPH-d mg/l
MW-1S	4/25/2012	MW-1S-042512	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	0.02 U
MW-1D	4/25/2012	MW-1D-042512	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-2S	4/26/2012	MW-2S-042612	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-2D	4/26/2012	MW-2D-042612	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-3S	4/27/2012	MW-3S-042712	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-3D	4/27/2012	MW-3D-042712	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-4S	4/25/2012	MW-4S-042512	0.05 U	**16** J	**0.2** j	0.04 U	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-4S (dup)	4/25/2012	DUP-042512-1	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-5S	5/1/2012	MW-5S-050112	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-6S	4/26/2012	MW-6S-042612	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-7S	4/27/2012	MW-7S-042712	na	na	na	na	**4**	2.6 U	**53** j	0.5 U	na	na	na	na	na	na	na	na
MW-7S (dup)	4/27/2012	DUP-042712-1	na	na	na	na	**4.1**	2.6 U	**58** j	0.5 U	na	na	na	na	na	na	na	na
MW-10	4/27/2012	MW-10-042712	na	na	na	na	0.5 U	2.6 U	**1.4**	0.5 U	na	na	na	na	na	na	na	na
MW-11	5/1/2012	MW-11-050112	na	na	na	na	0.5 U	2.6 U	**50**	0.5 U	na	na	na	na	na	na	na	na
MW-12	5/1/2012	MW-12-050112	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-13	4/30/2012	MW-13-043012	0.05 U	**5.6**	0.03 U	0.04 U	**4.1**	2.6 U	**58**	0.5 U	na	na	na	na	na	na	na	na
MW-13 (dup)	4/30/2012	DUP-043012-1	na	na	na	na	**4.6**	2.6 U	**72**	0.5 U	na	na	na	na	na	na	na	na
MW-14	4/30/2012	MW-14-043012	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-14D	4/30/2012	MW-14D-043012	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	0.016 U	0.02 U	0.015 U	0.016 U	0.02 U	0.026 U	0.028 U	na
MW-16	4/30/2012	MW-16-043012	0.05 U	**120**	0.03 U	**0.1** j	**30** Jq	2.6 U	**340**	0.5 U	na	na	na	na	na	na	na	na
MW-17	4/25/2012	MW-17-042512	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-18	4/26/2012	MW-18-042612	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-19	5/1/2012	MW-19-050112	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-20	4/26/2012	MW-20-042612	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-20 (dup)	4/26/2012	DUP-042612-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-21	4/26/2012	MW-21-042612	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-21 (dup)	4/26/2012	DUP-042612-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-22	4/25/2012	MW-22-042512	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-23	4/25/2012	MW-23-042512	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-24	4/25/2012	MW-24-042512	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-26	4/30/2012	MW-26-043012	na	na	na	na	**6.4**	**20**	**8.2**	0.5 U	na	na	na	na	na	na	na	na
MW-27	4/30/2012	MW-27-043012	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	na	na	na	na	na	na	na	na
MW-28S	5/1/2012	MW-28S-050112	0.05 U	**63**	0.03 U	0.04 U	0.5 U	2.6 U	0.085 U	0.5 U	0.016 U	0.02 U	0.015 U	0.016 U	0.02 U	0.026 U	0.028 U	0.02 U
MW-29S	5/2/2012	MW-29S-050212	**0.1** j	15 U	0.03 U	0.04 U	0.5 U	2.6 U	0.085 U	0.5 U	0.016 U	0.02 U	0.015 U	0.016 U	0.02 U	0.026 U	0.028 U	0.02 U
MW-30S	5/2/2012	MW-30S-050212	0.05 U	7 U	0.03 U	0.04 U	0.5 U	2.6 U	0.085 U	0.5 U	0.016 U	0.02 U	**0.14**	0.016 U	**0.07** j	**0.08** j	**0.09** j	0.02 U
MW-31S	5/2/2012	MW-31S-050212	0.05 U	2.1 U	0.03 U	0.04 U	0.5 U	2.6 U	0.085 U	**4.3**	0.016 U	0.02 U	0.015 U	0.016 U	0.02 U	0.026 U	0.028 U	**0.23** NJ
MW-31S (dup)	5/2/2012	DUP-050212-1	0.05 U	2.1 U	0.03 U	0.04 U	0.5 U	2.6 U	0.085 U	**4**	0.016 U	0.02 U	0.015 U	0.016 U	0.02 U	0.026 U	0.028 U	**0.28** NJ
MW-32DR	5/1/2012	MW-32DR-050112	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	0.016 U	0.02 U	0.015 U	0.016 U	0.02 U	0.026 U	0.028 U	na
MW-32S	5/1/2012	MW-32S-050112	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	0.016 U	0.02 U	0.015 U	0.016 U	0.02 U	0.026 U	0.028 U	na
MW-33S	5/2/2012	MW-33S-050212	na	na	na	na	0.5 U	2.6 U	**0.65**	**4.2**	0.016 U	0.02 U	0.015 U	0.016 U	0.02 U	0.026 U	0.028 U	na
MW-34S	5/3/2012	MW-34S-050312	na	na	na	na	0.5 U	2.6 U	0.085 U	0.5 U	0.016 U	0.02 U	0.015 U	0.016 U	0.02 U	0.026 U	0.028 U	na
MW-35S	5/3/2012	MW-35S-050312	na	na	na	na	0.5 U	2.6 U	0.085 U	**7.6**	**0.22**	**0.05** j	0.015 U	**1**	**0.21**	0.026 U	0.028 U	**3.2** NJ
MW-36S	5/3/2012	MW-36S-050312	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-36S (dup)	5/3/2012	DUP-050312-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Maximum Detected Concentrations			**0.1**	**120**	**0.2**	**0.1**	**30**	**20**	**340**	**7.6**	**0.22**	**0.05**	**0.14**	**1**	**0.21**	**0.08**	**0.09**	**3.2**
Method B			**1600** nc	**7200** nc	**80** nc	**640** nc	**480** nc	**24** nc	**0.219** ca	**2400** nc	**1.51** ca	**32** nc	**960** nc	**16** nc	**160** nc	**NP**	**480** nc	**0.5** a
Method C			**3500** nc	**15800** nc	**175** nc	**1400** nc	**1050** nc	**52.5** nc	**2.19** ca	**5250** nc	**15.1** ca	**70** nc	**2100** nc	**35** nc	**350** nc	**NP**	**1050** nc	**NP**
SW-AL			**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**7.9**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**
SW-HH			**NP**	**NP**	**470**	**15000**	**NP**	**290**	**3**	**1700000**	**NP**	**NP**	**990**	**NP**	**NP**	**NP**	**4000**	**NP**

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SW-AL = • Water Quality Criteria for chronic exposure of aquatic life from Washington Administrative Code (WAC) 173-201A.
SW-HH = • Water Quality Criteria for human health in marine environments from the Federal Clean Water Act (WAC not established).
a = State of Washington Model Toxics Control Act Method A Screening Level, no Method B or C screening level available.
Bold text indicates that compound was detected.
Shaded cells indicate values that exceed the Method B or Method A as noted (a).
Boxed cells indicate values that exceed the Method C.
Hatched cells indicate value exceeds Surface Water, Water Quality Criteria - Aquatic Life - Marine/Chronic - Clean Water Act (SW-AL)
Underlined text indicate values exceed Surface Water, Water Quality Criteria - Human Health – Marine – Clean Water Act (SW-HH)

[1] = Analytical results expressed in milligrams of nitrogen per liter (mg-N/L), equivelant to ammonium-N (NH_4+) plus ammonia-N (NH_3).

[2] = Calculated value of ammonia (NH_3) using the dissociation constant (Ka=5.75x10^-10) and pH of each sample (i.e., NH3 = total ammonia as nitrogen[1]/(1+[H+]/Ka).

[3] = SW-AL value expressed in micrograms of ammonia (NH_3) per liter (ug-NH_3/L).

Data Qualifiers:

j = The value reported is below the routine reporting limit and should be considered an estimate; qualifier reported by the Laboratory.
J = The detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.
U = Result is ≤ the detection limit. Organic compounds are reported to the Method Detection Limit (MDL) and water quality parameters and metals are reported to the Reporting Limit (RL). Result reported as the MDL or RL and is qualified as non detected. If qualified as non-detect due to a detection in associated blank samples, than MDL has been revised, as applicable.
NJ = Estimated value - chromatogram did not resemble the standard hydrocarbon pattern
UJ = The non detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.
* = May be biased high; associated congeners were U-qualified due to detections in the laboratory blank

Compound Acronymns

TCDD = Tetrachlorodibenzo-p-dioxin
HxCDD = Hexachlorodibenzo-p-dioxin
HpCDD = Heptachlorodibenzo-p-dioxin
OCDD = Octachlorodibenzo-p-dioxin
TCDF = Tetrachlorodibenzofuran
PeCDF = Pentachlorodibenzofuran
HxCDF = Hexachlorodibenzofuran
HpCDF = Heptachlorodibenzofuran
OCDF =Octachlorodibenzofuran

Table 9, continued

Constituents Detected in Groundwater
Spring 2012 Groundwater Sampling Event
Glacier Northwest, Inc. - Reichhold, Inc. Site
Seattle, Washington

			Dioxin/Furans																	
Location ID	**Sample Date**	**Sample ID**	**Total PeCDD pg/l**	**1,2,3,4,7,8-HxCDD pg/l**	**1,2,3,6,7,8-HxCDD pg/l**	**1,2,3,7,8,9-HxCDD pg/l**	**Total HxCDD pg/l**	**1,2,3,4,6,7,8-HpCDD pg/l**	**Total HpCDD pg/l**	**OCDD pg/l**	**Total TCDF pg/l**	**Total PeCDF pg/l**	**1,2,3,4,7,8-HxCDF pg/l**	**Total HxCDF pg/l**	**1,2,3,4,6,7,8-HpCDF pg/l**	**1,2,3,4,7,8,9-HpCDF pg/l**	**Total HpCDF pg/l**	**OCDF pg/l**	**Calculated TEQ (ND =0) pg/l**	**Calculated TEQ (ND =1/2dl) pg/l**
MW-1S	4/25/2012	MW-1S-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-1D	4/25/2012	MW-1D-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-2S	4/26/2012	MW-2S-042612	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-2D	4/26/2012	MW-2D-042612	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-3S	4/27/2012	MW-3S-042712	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-3D	4/27/2012	MW-3D-042712	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-4S	4/25/2012	MW-4S-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-4S (dup)	4/25/2012	DUP-042512-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-5S	5/1/2012	MW-5S-050112	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-6S	4/26/2012	MW-6S-042612	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-7S	4/27/2012	MW-7S-042712	0.547 U	0.547 U	0.621 U	0.74 U	**1.57** *	**16.6** J	**25**	**92.8** J	0.547 U	0.547 U	0.547 U	0.547 U	0.835 U	0.547 U	0.547 U	**3.08** j	**0.19**	**1.07**
MW-7S (dup)	4/27/2012	DUP-042712-1	0.549 U	0.6 U	**0.724** j	0.549 U	**3.05** *	**23.7** J	**36.1**	**332** J	0.549 U	0.549 U	0.549 U	0.549 U	0.791 U	**0.654** j	**0.654** *	**2.25** j	**0.42**	**1.25**
MW-10	4/27/2012	MW-10-042712	**0.987**	**1.68** j	**1.52** j	0.72 U	**17.1** *	**84.8** J	**151**	**1530** J	**15.2**	**15.2** *	**5.33** j	**41.5** *	**13.5** j	**0.916** j	**27.4**	**13.7** j	**2.31**	**3.08**
MW-11	5/1/2012	MW-11-050112	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-12	5/1/2012	MW-12-050112	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-13	4/30/2012	MW-13-043012	0.54 U	0.54 U	0.766 U	**0.579** j	**4.17** *	**46.5** J	**76.6**	**5000** J	0.54 U	0.54 U	**0.692** j	**2.53**	**10.2** j	**1.2** j	**11.4**	**115**	**2.24**	**3.04**
MW-13 (dup)	4/30/2012	DUP-043012-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-14	4/30/2012	MW-14-043012	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-14D	4/30/2012	MW-14D-043012	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-16	4/30/2012	MW-16-043012	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-17	4/25/2012	MW-17-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-18	4/26/2012	MW-18-042612	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-19	5/1/2012	MW-19-050112	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-20	4/26/2012	MW-20-042612	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-20 (dup)	4/26/2012	DUP-042612-2	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-21	4/26/2012	MW-21-042612	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-21 (dup)	4/26/2012	DUP-042612-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-22	4/25/2012	MW-22-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-23	4/25/2012	MW-23-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-24	4/25/2012	MW-24-042512	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-26	4/30/2012	MW-26-043012	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-27	4/30/2012	MW-27-043012	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-28S	5/1/2012	MW-28S-050112	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-29S	5/2/2012	MW-29S-050212	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-30S	5/2/2012	MW-30S-050212	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-31S	5/2/2012	MW-31S-050212	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-31S (dup)	5/2/2012	DUP-050212-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-32DR	5/1/2012	MW-32DR-050112	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-32S	5/1/2012	MW-32S-050112	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-33S	5/2/2012	MW-33S-050212	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-34S	5/3/2012	MW-34S-050312	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-35S	5/3/2012	MW-35S-050312	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-36S	5/3/2012	MW-36S-050312	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
MW-36S (dup)	5/3/2012	DUP-050312-1	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Maximum Detected Concentrations			**0.987**	**1.68**	**1.52**	**0.74**	**17.1**	**84.8**	**151**	**5000**	**15.2**	**15.2**	**5.33**	**41.5**	**13.5**	**1.2**	**27.4**	**115**	**2.31**	**3.08**
Method B			**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**0.58** ca	**0.58** ca
Method C			**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**5.8** ca	**5.8** ca
SW-AL			**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**
SW-HH			**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**NP**	**0.0051**	**0.0051**

Notes and Key:

1/2dl = One-half the detection limit
D = Dissolved
dup = Duplicate sample
mg/L = Milligrams per liter
ND = Non-detect values calculation method
NP = No Cleanup level provided. The screening levels were
obtained from Ecology's online Cleanup Levels and Risk Calculation (CLARC) website.
pg/L = Picograms per liter
T = Total
TPH-d = Total petroleum hydrocarbons as diesel
ug/L = Micrograms per liter
ca = carcinogen
nc = non-carinogen
SIM = Selective Ion Monitoring
Method B = State of Washington Model Toxics Control Act Method B Screening Level. Level provided is the lowest of the carcinogenic and non-carcinogenic.
Method C = State of Washington Model Toxics Control Act Method C Screening Level
SW-AL = • Water Quality Criteria for chronic exposure of aquatic life from Washington Administrative Code (WAC) 173-201A.
SW-HH = • Water Quality Criteria for human health in marine environments from the Federal Clean Water Act (WAC not established).
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Bold text indicates that compound was detected.
Shaded cells indicate values that exceed the Method B or Method A as noted (a).
Boxed cells indicate values that exceed the Method C.
Hatched cells indicate value exceeds Surface Water, Water Quality Criteria - Aquatic Life - Marine/Chronic - Clean Water Act (SW-AL)
Underlined text indicate values exceed Surface Water, Water Quality Criteria - Human Health – Marine – Clean Water Act (SW-HH)

[1] = Analytical results expressed in milligrams of nitrogen per liter (mg-N/L), equivelant to ammonium-N (NH_4+) plus ammonia-N (NH_3).

[2] = Calculated value of ammonia (NH_3) using the dissociation constant (Ka=5.75x10^-10) and pH of each sample (i.e., NH3 = total ammonia as nitrogen[1]/(1+[H+]/Ka).

[3] = SW-AL value expressed in micrograms of ammonia (NH_3) per liter (ug-NH_3/L).

Data Qualifiers:

j = The value reported is below the routine reporting limit and should be considered an estimate; qualifier reported by the Laboratory.
J = The detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.
U = Result is ≤ the detection limit. Organic compounds are reported to the Method Detection Limit (MDL) and water quality parameters and metals are reported to the Reporting Limit (RL). Result reported as the MDL or RL and is qualified as non detected. If qualified as non-detect due to a detection in associated blank samples, than MDL has been revised, as applicable.
NJ = Estimated value - chromatogram did not resemble the standard hydrocarbon pattern
UJ = The non detected results are qualified as estimated in accordance with USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999 or USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.
* = May be biased high; associated congeners were U-qualified due to detections in the laboratory blank

Compound Acronymns

TCDD = Tetrachlorodibenzo-p-dioxin
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TCDF = Tetrachlorodibenzofuran
PeCDF = Pentachlorodibenzofuran
HxCDF = Hexachlorodibenzofuran
HpCDF = Heptachlorodibenzofuran
OCDF =Octachlorodibenzofuran

Attachment A
Analytical Laboratory Reports

Table of Contents: ARI Job US82

Client: ERM-West

Project: 155129.09 RG Spring GW Sampling

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General Chemistry Analysis		
Report and Summary QC Forms	381	391
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Analyst Notes and Raw Data	427	539

AV
Signature

May-18-2012
Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

May 31, 2012

Michael F. Mendes
ERM-West, Inc.
1218 3rd Avenue, Suite 1412
Seattle, WA 98101

RE: RG Spring GW Sampling, 155129.09
ARI Job No.: US82

Dear Mr. Mendes:

Please find enclosed Chain-of-Custody (COC) records, sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

Please note that current ARI control limits are available at www.arilabs.com.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
-For-
Susan D. Dunnihoo
Director, Client Services
206-695-6207
sue@arilabs.com

cc: eFile US82

Enclosures

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Documentation

ARI Job ID: US82

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: USE2	Turn-around Requested: Standard	Page: 1 of 2	
ARI Client Company: ERM	Phone: 425 24 0458	Date: 5/3/12	Ice Present?
Client Contact: Mike Mendes		No. of Coolers:	Cooler Temps:
Client Project Name: RG- Spring GW Sampling			
Client Project #: 155129.09	Samplers: Cyrus / Matt		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	TPH-GX	TPH-DX	TOC	SVOC/cPAH	TOX	TSS	Anions Cl, SO4, NO3	Total Phosphate	Ammonia	Alkalinity	Total / Dissolved As	Notes/Comments
MW-34S-050312	5/3/12	0908	water	18			X	X	X	X	X	X	X	X	X	analysis continued on page 2
MW-35S-050312	5/3/12	1138	water	21	X	X	X	X	X	X	X	X	X	X	X	MS MSD Ammonia
TB-050312-1	5/3/12	1138	water	2	X											pea sized bubble in VOA
MW-36S-050312	5/3/12	1426	water	8			X		X	X	X	X		X	X	
DUP-050312-1	5/3/12	0835	water	2											X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
Dissolved metals samples filtered in the field	Printed Name: Cyrus Gerry	Printed Name: Chris Atwell	Printed Name:	Printed Name:
	Company: ERM	Company: ARI	Company:	Company:
	Date & Time: 5/3/12 1544	Date & Time: 5/3/12 1544	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Page: 2 of 2	
ARI Client Company: EDM	Phone: 425 214 0458	Date: 5/3/12	Ice Present?
Client Contact: Mike Mendes		No. of Coolers:	Cooler Temps:
Client Project Name: RG Spring GW Sampling			
Client Project #: 155129.09	Samplers: Cyrus / Matt		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Hex Chromium	Total Metals (1) & (2)	Dissolved Metals (1) & (2)	Hardness	pH				Notes/Comments
					Analysis Requested								
MW-345-050312	5/3/12	0908	water	18	X	X	X	X					MS IMSD Hex Chromium
MW-355-050312	5/3/12	1138	water	21		X	X	X					
MW-365-050312	5/3/12	1426	water	8		X	X	X					
DUP-050312-1	5/3/12	0835	water	2		X	X						
IDW-050312	5/3/12	1530	water	1					X				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
Dissolved metals samples filtered in the field	Printed Name: Cyrus	Printed Name: Chris Atwell	Printed Name:	Printed Name:
	Company: EDM	Company: ARI	Company:	Company:
	Date & Time: 5/3/12 1544	Date & Time: 5/3/12 1544	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

① Cr, Cu, Ag, Zn ② Ca, K, Mg, Na, Al, Fe, Mn

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

③ Al, Fe, Mn

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Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: ERM
Project Name: RG Spring GW Sampling
COC No(s): _____ (NA)
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
Assigned ARI Job No: U3537
Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)	5.1 1.4 0.8 [illegible] 0.4	
If cooler temperature is out of compliance fill out form 00070F	Temp Gun ID#: 90401619	

Cooler Accepted by: CG Date: 5/3/2012 Time: 1544

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ...	(Bubble Wrap) (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	(NA)	YES	(NO)
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	NA	4/24/12	

Was Sample Split by ARI: (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: AV Date: 5/4/12 Time: 1636

*** Notify Project Manager of discrepancies or concerns ***

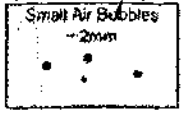
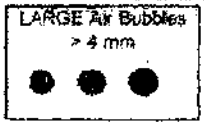
Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

TB = 1.2D

~~All Amber bottle for 34's~~
~~500K Amber~~ IS

By: TS Date: 5-3-12 "MW-335" Not on COC

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 05/04/12
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **US82**

PC: Sue D.
VTSR: 05/03/12

Inquiry Number: NONE
Analysis Requested: 05/04/12
Contact: Mendes, Michael F.
Client: ERM-West
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: Lv3
Deliverables:

Project #: 155129.09
Project: RG Spring GW Sampling
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
12-8016 **US82A**	MW-34S-050312			*			TOT		*			*										
12-8017 **US82B**	MW-35S-050312			*			TOT		*			*										
12-8018 **US82C**	MW-36S-050312						TOT		*			*										
12-8019 **US82D**	IDW-050312																					
12-8020 **US82E**	MW-33S-050312						TOT		*			*										
12-8021 **US82F**	MW-34S-050312						DIS									Y						
12-8022 **US82G**	MW-35S-050312						DIS									Y						
12-8023 **US82H**	MW-36S-050312						DIS									Y						
12-8024 **US82I**	MW-33S-050312						DIS									Y						
12-8044 **US82K**	DUP-050312-1						TOT															
12-8045 **US82L**	DUP-050312-1						DIS									Y						

Checked By AV Date 5/4/12

Subject: RE: Sample MW-33S
From: Cyrus Gorman <Cyrus.Gorman@erm.com>
Date: 2:56 PM
To: Cheronne Oreiro <cheronneo@arilabs.com>
CC: Mike Mendes <Mike.Mendes@erm.com>, Shira DeGrood <Shira.DeGrood@erm.com>

Hi Cheronne,

MW-33s should be analyzed for the following:

TOC
SVOC/CPAH
Alkalinity
TOX
ISS
Anions Cl, SO4, NO3
Total Phosphate
Total As
Total Cr, Cu, Ag, Zn, Ca, K, Mg, Na
Total Al, Fe, Mn
Hardness
Dissolved As
Dissolved Cr, Cu, Ag, Zn, Al, Fe, Mn

Thanks for letting me know.

Regards,

Cyrus Gorman, P.G.

Environmental Resources Management (ERM)
Seattle Tower
1218 3rd Avenue, Suite 1412
Seattle, Washington 98101

Cell: 206-794-9405
Office: 425-214-0468

cyrus.gorman@erm.com
www.erm.com

----Original Message----
From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
Sent: Friday, May 04, 2012 2:53 PM
To: Cyrus Gorman
Cc: Mike Mendes; Shira DeGrood
Subject: Sample MW-33S

Hi Cyrus,

Sample MW-33S-050312 was not on the COC for samples received yesterday.
Since the bottle count was exactly the same as MW-34S, sample MW-33S was logged for the exact same analyses. Please confirm which analyses you need for sample MW-33S.
Thanks,
-Cheronne

--
Cheronne Oreiro
Project Manager
Analytical Resources, Inc.
4611 S. 134th Place, Suite 100
Tukwila, WA 98168-3240
cheronneo@arilabs.com
(206)-695-6214

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Please visit ERM's web site: http://www.erm.com

USB2 : 00005 4/2012 3:21 PM

Subject: RE: US82 RG Sample Receipt and COCs
From: Shira DeGrood <Shira.DeGrood@erm.com>
Date: 12:03 PM
To: Cheronne Oreiro <cheronneo@arilabs.com>

Hi Cheronne,
Can you please remove the following metals from DUP-C50312-1 (see attached):
Al, Ca, Fe, Mg, Mn, K, Na

Shira DeGrood, R.G.
Project Geologist
Direct: 503 621 5911
Mobile: 503 961 4845

-----Original Message-----
From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
Sent: Friday, May 04, 2012 3:41 PM
To: Shira DeGrood
Cc: Cyrus Gorman; Mike Mendes
Subject: US82 RG Sample Receipt and COCs

Hi Shira,

Please see attached.
Thanks,
-Cheronne

Cheronne Oreiro
Project Manager
Analytical Resources, Inc.
4611 S. 134th Place, Suite 100
Tukwila, WA 98168-3240
cheronneo@arilabs.com
(206)-695-6214

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Please visit ERM's web site: http://www.erm.com

Attachments:

US82_receipt.pdf 32.2 KB

Narrative

Client: ERM-West, Inc.
Project: RG Spring GW Sampling, 155129.09
ARI Job No.: US82

Sample Receipt

Five water samples and a trip blank were received on May 3, 2012 under ARI job US82. The cooler temperatures measured by IR thermometer following ARI SOP were 0.4, 0.8, 1.6, 2.7, and 5.1°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The TOX analysis was subcontracted to ALS Environmental in Kelso, WA. All data have been included in this data package.

Semivolatiles by SW8270

The samples were extracted and analyzed within recommended holding times.

The initial and continuing calibrations were within method requirements for requested compounds. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

SIM PAHs by SW8270

The samples were extracted and analyzed within recommended holding times.

The initial calibrations were within method requirements.

The continuing calibration fell outside the 20% control limit low for Benzo(a)anthracene. All detected results for this compound have been flagged with a "Q" qualifier. No further corrective action was taken.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

Pentachlorophenol by SW8041

The samples were extracted and analyzed within recommended holding times.

The initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

NWTPH-Dx

The sample was extracted and analyzed within recommended holding times.

The initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

NWTPH-Gx

The samples were analyzed within recommended holding times.

The initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Total and Dissolved Metals by SW6010/6020/7470

The samples and associated laboratory QC were digested and analyzed within recommended holding times.

Initial calibrations were within limits.

The third ICP continuing calibration verification (CCV) on 5/10/12 fell outside the control limits low for manganese and sodium. No sample results were associated with this CCV. No corrective action was taken.

The method blanks were clean at the detection limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries and duplicate RPDs were within control limits.

General Chemistry Parameters

The samples and associated laboratory QC were prepared and analyzed within recommended holding times.

The method blanks were clean at the detection limits. The LCS percent recoveries were within control limits.

The SRM percent recoveries were within limits.

The matrix spike percent recoveries were within control limits.

The replicate RPD of nitrate was outside the control limit for sample **MW-34S-050312**. All other quality control parameters were met for this analysis. No corrective action was taken.

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: US82

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: US82
Client: ERM-West
Project Event: 155129.09
Project Name: RG Spring GW Sampling

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	MW-34S-050312	US82A	12-8016	Water	05/03/12 09:08	05/03/12 15:44
2.	MW-35S-050312	US82B	12-8017	Water	05/03/12 11:38	05/03/12 15:44
3.	MW-36S-050312	US82C	12-8018	Water	05/03/12 14:26	05/03/12 15:44
4.	IDW-050312	US82D	12-8019	Water	05/03/12 15:30	05/03/12 15:44
5.	MW-33S-050212	US82E	12-8020	Water	05/02/12 16:17	05/03/12 15:44
6.	MW-34S-050312	US82F	12-8021	Water	05/03/12 09:08	05/03/12 15:44
7.	MW-35S-050312	US82G	12-8022	Water	05/03/12 11:38	05/03/12 15:44
8.	MW-36S-050312	US82H	12-8023	Water	05/03/12 14:26	05/03/12 15:44
9.	MW-33S-050212	US82I	12-8024	Water	05/02/12 16:17	05/03/12 15:44
10.	TB-050312-1	US82J	12-8025	Water	05/03/12	05/03/12 15:44
11.	DUP-050312-1	US82K	12-8044	Water	05/03/12 08:35	05/03/12 15:44
12.	DUP-050312-1	US82L	12-8045	Water	05/03/12 08:35	05/03/12 15:44

LOD, LOQ and Control Limits Summary
GC - MS – SVOA Analysis of Aqueous Samples
EPA Method 8270D
ARI Analysis: BANWLI & BANWSI

Continuous Liquid-Liquid (EPA Method 3520C, Bench Sheet 3006F) or Separatory Funnel (EPA method 3510C, Bench Sheet 3010F) extraction using 500mL sample concentrated to 0.5 mL final extract volume

LOD Spike level = LOQ (unless otherwise noted)

Analyte	DL[1] µg/L	LOD[1] µg/L	LOQ[1] µg/L	LCS, MS Recovery[2,3]	Replicate RPD[4]
Phenol	**0.445**	**0.5**	**1**	26 – 112	≤ 40
Bis(2-Chloroethyl)ether	**0.257**	**0.5**	**1**	51 – **100**	≤ 40
2-Chlorophenol	**0.246**	**0.5**	**1**	50 – **100**	≤ 40
1,3-Dichlorobenzene	**0.499**	**0.5**	**1**	27 – **100**	≤ 40
1,4-Dichlorobenzene	**0.470**	**0.5**	**1**	29 – **100**	≤ 40
1,2-Dichlorobenzene	**0.436**	**0.5**	**1**	32 – **100**	≤ 40
Benzyl alcohol	**0.409**	**1.0**	**2**	**10** - 128	≤ 40
2,2'-oxybis(1-Chloropropane)	**0.221**	**0.5**	**1**	39 - 101	≤ 40
2-Methylphenol	**0.329**	**0.5**	**1**	47 – **100**	≤ 40
Hexachloroethane	**0.610**	**1.0**	**2**	19 – **100**	≤ 40
N-Nitroso-di-n-propylamine	**0.365**	**0.5**	**1**	46 – **100**	≤ 40
4-Methylphenol	**0.536**	**1.0**	**2**	46 – **100**	≤ 40
Nitrobenzene	**0.490**	**0.5**	**1**	46 – 103	≤ 40
Isophorone	**0.258**	**0.5**	**1**	62 – 105	≤ 40
2-Nitrophenol	**0.979**	**1.5**	**3**	32 – 116	≤ 40
2,4-Dimethylphenol	**0.627**	**1.5**	**3**	15 – **100**	≤ 40
Bis(2-Chloroethoxy)methane	**0.252**	**0.5**	**1**	44 – **100**	≤ 40
2,4-Dichlorophenol	**1.109**	**1.5**	**3**	35 – 114	≤ 40
1,2,4-Trichlorobenzene	**0.495**	**0.5**	**1**	34 – **100**	≤ 40
Naphthalene	**0.326**	**0.5**	**1**	48 – **100**	≤ 40
Benzoic acid	**8.647**	**10**	**20**	**10** - 172	≤ 40
4-Chloroaniline	**1.733**	**2.5**	**5**	**10** - 153	≤ 40
2,6-Dinitrotoluene	**1.300**	**1.5**	**3**	32 – 129	≤ 40
Hexachlorobutadiene	**0.604**	**1.5**	**3**	22 – **100**	≤ 40
4-Chloro-3-methylphenol	**0.919**	**1.5**	**3**	33 – 123	≤ 40
Hexachlorocyclopentadiene	**1.862**	**2.5**	**5**	**10** – **100**	≤ 40
2,4,6-Trichlorophenol	**1.235**	**1.5**	**3**	37 – 120	≤ 40
2,4,5-Trichlorophenol	**1.706**	**2.5**	**5**	37 – 124	≤ 40
2-Chloronaphthalene	**0.340**	**0.5**	**1**	49 – **100**	≤ 40
2-Nitroaniline	**0.784**	**1.5**	**3**	18 – 140	≤ 40
Acenaphthylene	**0.274**	**0.5**	**1**	47 – 110	≤ 40
Dimethylphthalate	**0.264**	**0.5**	**1**	60 – 106	≤ 40
Acenaphthene	**0.347**	**0.5**	**1**	55 – 101	≤ 40

USB2 : 00014

LOD, LOQ and Control Limits Summary
GC - MS – SVOA Analysis of Aqueous Samples
EPA Method 8270D
ARI Analysis: BANWLI & BANWSI

Continuous Liquid-Liquid (EPA Method 3520C, Bench Sheet 3006F) or Separatory Funnel (EPA method 3510C, Bench Sheet 3010F) extraction using 500mL sample concentrated to 0.5 mL final extract volume

LOD Spike level = LOQ (unless otherwise noted)

Analyte	DL[1] µg/L	LOD[1] µg/L	LOQ[1] µg/L	LCS, MS Recovery[2,3]	Replicate RPD[4]
3-Nitroaniline	1.140	1.5	3	10 – 208	≤ 40
2-Methylnaphthalene	0.241	0.5	1	38 – 100	≤ 40
2,4-Dinitrophenol	5.474	10	20	10 – 224	≤ 40
Dibenzofuran	0.198	0.5	1	46 – 108	≤ 40
4-Nitrophenol	2.895	5.0	10	10 – 103	≤ 40
2,4-Dinitrotoluene	1.277	1.5	3	33 – 134	≤ 40
Fluorene	0.266	0.5	1	59 – 108	≤ 40
4-Chlorophenyl-phenylether	0.342	0.5	1	54 – 104	≤ 40
Diethylphthalate	0.407	0.5	1	60 - 108	≤ 40
4-Nitroaniline	1.366	1.5	3	13 – 144	≤ 40
4,6-Dinitro-2-methylphenol	4.928	5.0	10	10 – 190	≤ 40
N-Nitrosodiphenylamine	0.392	0.5	1	39 – 100	≤ 40
4-Bromophenyl-phenylether	0.262	0.5	1	56 – 105	≤ 40
Hexachlorobenzene	0.335	0.5	1	54 – 108	≤ 40
Pentachlorophenol	2.746	5.0	10	25 – 144	≤ 40
Phenanthrene	0.283	0.5	1	64 – 115	≤ 40
Anthrcene	0.303	0.5	1	59 – 107	≤ 40
Carbazole	0.251	0.5	1	36 – 123	≤ 40
Di-n-butylphthalate	0.304	0.5	1	62 – 110	≤ 40
Fluoranthene	0.290	0.5	1	63 – 119	≤ 40
Pyrene	0.379	0.5	1	57 – 117	≤ 40
Butylbenzylphthalate	0.402	0.5	1	49 – 118	≤ 40
Benzo(a)anthracene	0.373	0.5	1	61 – 113	≤ 40
3,3'-Dichlorobenzidine	1.553	2.5	5	10 – 151	≤ 40
Chrysene	0.397	0.5	1	62 – 115	≤ 40
bis(2-Ethylhexyl)phthalate	1.050	1.5	3	47 – 127	≤ 40
Di-n-octylphthalate	0.331	0.5	1	60 – 106	≤ 40
Benzo(b)fluoranthene	0.298	0.5	1	61 – 120	≤ 40
Benzo(k)fluoranthene	0.487	0.5	1	59 – 120	≤ 40
Benzo(a)pyrene	0.425	0.5	1	46 – 105	≤ 40
Indeno(1,2,3-cd)pyrene	0.435	0.5	1	42 – 134	≤ 40
Dibenzo(a,h)anthracene	0.437	0.5	1	46 – 132	≤ 40
Benzo(g,h,i)perylene	0.464	0.5	1	33 – 135	≤ 40
N-Nitrosodimethylamine	1.209	1.5	3	17 - 106	≤ 40

US82 : 00015

LOD, LOQ and Control Limits Summary
GC - MS – SVOA Analysis of Aqueous Samples
EPA Method 8270D
ARI Analysis: BANWLI & BANWSI

Continuous Liquid-Liquid (EPA Method 3520C, Bench Sheet 3006F) or Separatory Funnel (EPA method 3510C, Bench Sheet 3010F) extraction using 500mL sample concentrated to 0.5 mL final extract volume

LOD Spike level = LOQ (unless otherwise noted)

Analyte	DL[1] µg/L	LOD[1] µg/L	LOQ[1] µg/L	LCS, MS Recovery[2,3]	Replicate RPD[4]
Aniline	**0.470**	**0.5**	**1**	**10** – 113	≤ 40
1-methylnaphthalene	**0.199**	**0.5**	**1**	43 – **100**	≤ 40
Azobenzene (1,2-DP-Hydrazine)	**0.214**	**0.5**	**1**	52 - 111	≤ 40
Benzofluoranthenes, Total	**2.317**	**2.5**	**5**		≤ 40
1,4-Dioxane[5]				13 – 114	≤ 40
Surrogate Standard Recovery			**MB / LCS**	**Samples**	**RPD**
2-Fluorophenol			33 – 100	23 – **100**	≤ 40
Phenol-d_5			15 - 121	16 – 106	≤ 40
2-Chlorophenol-d_4			46 – 102	33 – 100	≤ 40
1,2-Dichlorobenzene-d_4			40 – **100**	27 – **100**	≤ 40
Nitrobenzene-d_5			50 – **100**	34 – 101	≤ 40
2-Fluorobiphenyl			51 – **100**	38 – **100**	≤ 40
2,4,6-Tribromophenol			46 – 125	31 – 128	≤ 40
p-Terphenyl-d_{14}			54 – 117	27 – 122	≤ 40

(1) Detection Limit (DL), Limit of Detection (LOD) and Limit of Quantitation (LOQ) are defined in ARI SOP 1018S
(2) Control limits calculated using all data from 8/1/10 through 7/31/11.
(3) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(4) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$

(5) Sample extracts for 1,4-Dioxane analysis are concentrated to 1 mL.

US82 : 00016

DL[1], LOD[2], LOQ[3] and Control Limits Summary
Analysis of Water Samples for PNA
EPA Method 8270 – SIM
ARI Analyses: PNSWLL & PNSWSL

Separatory Funnel (EPA Method 3510C) or Liq-Liq (EPA Method 3520C) Extraction using 500 mL sample with extract concentrated to 0.5 mL final volume. ARI Bench Sheet 3053F or 3054F

LOD Spike level = LOQ = 0.1ppb

Analyte	DL[1] µg/L	LOD[2] µg/L	LOQ[3] µg/L	LCS Control Limit[4,5]	Replicate RPD[6]
Naphthalene	0.020	**0.050**	**0.1**	37 – 100	≤ 40
2-Methylnaphthalene	0.020	**0.050**	**0.1**	34 – 107	≤ 40
Acenaphthylene	0.024	**0.050**	**0.1**	32 – 104	≤ 40
Acenaphthene	0.015	**0.050**	**0.1**	40 – 102	≤ 40
Dibenzofuran	0.016	**0.050**	**0.1**	44 – 104	≤ 40
Fluorene	0.019	**0.050**	**0.1**	43 – 114	≤ 40
Phenanthrene	0.026	**0.050**	**0.1**	43 – 116	≤ 40
Anthracene	0.025	**0.050**	**0.1**	30 – 121	≤ 40
Fluoranthene	0.021	**0.050**	**0.1**	46 – 138	≤ 40
Pyrene	0.028	**0.050**	**0.1**	47 – 124	≤ 40
Benzo(a)anthracene	0.023	**0.050**	**0.1**	38 – 134	≤ 40
Chrysene	0.026	**0.050**	**0.1**	52 – 112	≤ 40
Benzo(b)fluoranthene	0.027	**0.050**	**0.1**	49 – 123	≤ 40
Benzo(k)fluoranthene	0.027	**0.050**	**0.1**	50 – 127	≤ 40
Benzo(a)pyrene	0.059	**0.075**	**0.1**	24 – 118	≤ 40
Indeno(1,2,3-cd)pyrene	0.029	**0.050**	**0.1**	32 – 123	≤ 40
Dibenz(a,h)anthracene	0.042	**0.050**	**0.1**	30 – 127	≤ 40
Benzo(g,h,i)perylene	0.030	**0.050**	**0.1**	26 – 124	≤ 40
1-Methylnaphthalene	0.016	**0.050**	**0.1**	30 – 160[7]	≤ 40
Perylene	0.061	**0.075**	**0.1**	30 – 160[7]	≤ 40
Surrogate Standard Recovery			**MB / LCS**	**Samples**	**RPD**
2-Methylnapthalene-d_{10}			40 – 110	33 – 107	≤ 40
Dibenzo(a,h)anthracene-d_{14}			33 – 140	**10** – 142	≤ 40

(1) Detection Limit (DL) as defined in ARI SOP 1018S
(2) Limit of Detection (LOD) as defined in ARI SOP 1018S
(3) Limit of Quantitation (LOQ) as defined in ARI SOP 1018S
(4) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(5) Control limits calculated using all data from 6/1/10 through 5/31/11.
(6) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$

(7) Default limits pending generation of historic limits for total benzofluoranthenes and 1-Methylnaphthalene.

US82 : 00017

Chlorinated Phenols
DL, LOD, LOQ and Control Limit Summary [1]
EPA Method 8041A

Analyte	Aqueous Samples [2,3]				Solid Samples [2,4]				RPD [5]
	DL µg/L	LOD µg/L	LOQ µg/L	LCS Recovery [6]	DL µg/kg	LOD µg/kg	LOQ µg/kg	LCS Recovery [6]	
Pentachlorophenol (PCP)	0.085	**0.13**	**0.25**	48 – 116%	0.83	**3.13**	**6.25**	56 – 111%	≤ 40
2,4,6-Trichlorophenol	0.106	**0.13**	**0.25**	30 – 160%	1.21	**3.13**	**6.25**	30 – 160%	≤ 40
2,3,6-Trichlorophenol	0.066	**0.13**	**0.25**	30 – 160%	2.96	**3.13**	**6.25**	30 – 160%	≤ 40
2,4,5-Trichlorophenol	0.077	**0.13**	**0.25**	30 – 160%	2.24	**3.13**	**6.25**	30 – 160%	≤ 40
2,3,4-Trichlorophenol	0.126	**0.13**	**0.25**	30 – 160%	1.67	**3.13**	**6.25**	30 – 160%	≤ 40
2,3,5,6-Tetrachlorophenol	0.091	**0.13**	**0.25**	30 – 160%	1.61	**3.13**	**6.25**	30 – 160%	≤ 40
2,3,4,5-Tetrachlorophenol	0.077	**0.13**	**0.25**	30 – 160%	1.26	**3.13**	**6.25**	30 – 160%	≤ 40
2,4-Dichlorophenol	1.510	**3.0**	**6.0**	30 – 160%	16.6	**31.3**	**62.5**	30 – 160%	≤ 40
Pentachlorophenol (PCP)(low level prep)	0.014 [7]	**0.013**	**0.025**	36 – 159%					≤ 40
Surrogate % Recovery	**MB / LCS**	**Sample**			**MB / LCS**	**Sample**			
2,4,6-Tribromophenol	41 – 98	26 – 113			39 – 99	**10** – 129 [8]			≤ 40
2,4,6-Tribromophenol (low level preparation)	33 – 151	**10** – 181 [8]							≤ 40

(1) Detection Limit (DL), Limit of Detection (LOD) and Limit of Quantitation as defined in ARI SOP 1018S
(2) Control limits calculated using all data from 1/1/10 through 8/1/11.
(3) Separatory funnel extraction (EPA Method 3510C) 500 mL sample to 50 mL final volume (5 mL for low level Prep)
(4) Microwave assisted extraction (EPA Method 3546) 10 g sample to 25 mL final volume
(5) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$

(6) 30 – 160 are default values used when there is insufficient data to calculate historic control limits.
(7) MDL study QS97 (4/30/10)
(8) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

USA2 : 00015

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Quality Control Criteria
Total Petroleum Hydrocarbons
(Diesel & Motor Oil)

Analysis Code	Analyte[5]	DL[1]	LOD[1]	LOQ[2] ppm	Spike % Recovery Control Limits[3]			RPD[4]
					LCS	MB/LCS Surrogate	Sample Surrogate	
HCIWVX	NWTPH-HCID – Water Samples	--	--	0.50 [7]	--	--	50-150	≤ 40
HCISVX	NWTPH-HCID – Solid Samples	--	--	50 [7]	--	--	50-150	
Aqueous Samples – No Extract Clean-up – Separatory Funnel Extraction – 500 to 1.0 mL								
DIESWI	DRO – NWTPH-Dext (C_{12}-C_{24})	0.022	0.05	0.1	64-112	50-150	50-150	≤ 40
AK2WSI	DRO – AK102 (C_{10}-C_{25})	0.022	0.05	0.1	75-125 [6]	60-120	50-150	
OILWSI	RRO – NWTPH-Dext (C_{24}-C_{38})	0.044	0.1	0.2	64-112	50-150	50-150	
AK3WSI	RRO – AK103 (C_{25}-C_{36})	0.030 [9]	0.1	0.2	60-120 [6]	60-120	50-150	
Aqueous Samples – With Acid and/or Silica Gel Clean-up – Separatory Funnel Extraction – 500 to 1.0 mL								
DIESWI	DRO – NWTPH-Dext (C_{12}-C_{24})	0.039	0.05	0.1	61-104	50-150	50-150	≤ 40
AK2WSI	DRO – AK102 (C_{10}-C_{25})	0.042	0.05	0.1	75-125 [6]	60-120	50-150	
OILWSI	RRO – NWTPH-Dext (C_{24}-C_{38})	0.010	0.1	0.2	61-104	50-150	50-150	
AK3WSI	RRO – AK103 (C_{25}-C_{36})	0.030 [8]	0.1	0.2	60-120 [6]	60-120	50-150	
Solid Matrix Samples – No Extract Clean-up – Microwave Extraction – 10 g to 1 mL								
DIESMI	DRO – NWTPH-Dext (C_{12}-C_{24})	1.35	2.5	5	62-119	50-150	50-150	≤ 40
DIESMI	DRO – NWTPH-Dext Jet A	2.22 [11]	2.5	5	60 – 130 [8]	50-150	50-150	
AK2SMI	DRO – AK102 (C_{10}-C_{25})	2.43	2.5	5	75-125 [6]	60-120	50-150	
OILSMI	RRO – NWTPH-Dext (C_{24}-C_{38})	2.48	5	10	62-119	50-150	50-150	
AK3SMI	RRO – AK103 (C_{25}-C_{36})	0.665 [9]	5	10	60-120 [6]	60-120	50-150	
Solid Matrix Samples – With Acid and/or Silica Gel Clean-up – Microwave Extraction – 10 g to 1 mL								
DIESMI	DRO – NWTPH-Dext (C_{12}-C_{24})	1.28	2.5	5	60-108	50-150	50-150	≤ 40
AK2SMI	DRO – AK102 (C_{10}-C_{25})	2.06	2.5	5	75-125 [6]	60-120	50-150	
OILSMI	RRO – NWTPH-Dext (C_{24}-C_{38})	1.57	5	10	60-108	50-150	50-150	
AK3SMI	RRO – AK103 (C_{25}-C_{36})	0.665 [10]	5	10	60-120 [6]	60-120	50-150	

(1) DL (Detection Limit) and LOD (Limit of Detection) as defined in ARI SOP 1018S.
(2) Limit of Quantitation as defined in ARI SOP 1018S. The spike concentration used to determine the DL and the concentration of the lowest standard used to calibrate the GC-FID instrument.
(3) All surrogate recovery limits are specified in the published methods (AK102, AK103 & NWTPH-Dext). The surrogate standard is o-Terphenyl.
(4) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$
(5) DRO = Diesel Range Organics and RRO = Residual Range Organics as defined in the methods referenced in footnote 3.
(6) Method specified LCS acceptance limits.
(7) Method specified reporting limits
(8) Default LCS control limits pending calculation of historic limits
(9) MDL study QD55 completed 2/12/10
(10) MDL study QD35 completed 1/29/10
(11) LOD Study UI44 completed 2/28/12

US82 : 00019

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Quality Control Criteria
Gasoline and BTEX

Method	Analyte	DL[1]	LOD[1]	LOQ[1]	Spike % Recovery Control Limits			RPD[3]
					LCS	MB/LCS Surrogate	Sample Surrogate	
Aqueous Samples 5 mL purge volume (DL, LOD & LOQ values in µg/L (ppb) for BTEX and mg/L (ppm) for gasoline								
NWTPH-G	Toluene – Naphthalene	0.057	0.125	0.25	75 – 124	--	--	≤ 40
8015B	2-methylpentane – 1,2,4-Trimethylbenzene	0.031	0.125	0.25	75 – 124	--	--	
WA-TPH-G	Toluene – nC_{12})	0.087	0.125	0.25	75 – 124	--	--	
AK-101	nC_6 – nC_{12}	0.032	0.050	0.10	75 – 124	--	--	
	Trifluorotoluene (TFT)	--	--	--	--	**80 - 120**	**80** - 120	
	Bromobenzene	--	--	--	--	**80 - 120**	**80** - 120	
8021B	Benzene	0.094	0.5	1.0	73 – **120**	--	--	≤ 40
8021B	Toluene	0.113	0.5	1.0	73 – **120**	--	--	
8021B	Ethylbenzene	0.117	0.5	1.0	69 – **120**	--	--	
8021B	m/p-Xylene	0.265	1.0	2.0	72 – **120**	--	--	
8021B	o-Xylene	0.136	0.5	1.0	73 – **120**	--	--	
8021B	MTBE	0.412	0.5	1.0	30 – 182	--	--	
	Trifluorotoluene (TFT)	--	--	--	--	79 – **120**	**80 - 120**	
	Bromobenzene	--	--	--	--	79 – **120**	**80 - 120**	
Solid Samples - (DL, LOD & LOQ values in µg/kg (ppb) for BTEX and mg/kg (ppm) for gasoline								
NWTPH-G	Toluene – Naphthalene	1.66	2.5	5	74 – 124	--	--	≤ 40
8015B	2-methylpentane – 1,2,4-Trimethylbenzene	1.57	2.5	5	74 – 124	--	--	
WA-TPH-G	Toluene – nC_{12})	1.54	2.5	5	74 – 124	--	--	
AK-101	nC_6 – nC_{12}	1.84	2.5	5	74 – 124	--	--	
	Trifluorotoluene (TFT)	--	--	--	--	**80 - 120**	66-123	
	Bromobenzene	--	--	--	--	**80 - 120**	62-130	
8021B	Benzene	4.59	12.5	25	72 – **120**	--	--	≤ 40
8021B	Toluene	7.13	12.5	25	72 – **120**	--	--	
8021B	Ethylbenzene	4.98	12.5	25	71 – **120**	--	--	
8021B	m/p-Xylene	11.9	25.0	50	72 – **120**	--	--	
8021B	o-Xylene	6.23	12.5	25	72 – **120**	--	--	
8021B	MTBE	3.82	12.5	25	40 – 163	--	--	
	Trifluorotoluene (TFT)	--	--	--	--	80 – **120**	68 – 124	
	Bromobenzene	--	--	--	--	77 – **120**	62 – 134	

(1) Detection Limit (DL), Limit of Detection (LOD) and Limit of Quantitation (LOQ) as defined in ARI SOP 1018S.
(2) Highlighted control limits (bold font) are adjusted from the calculated values as follows:
a) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
b) Control limits for analytes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.
(3) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$$

US82 : 00026

Quality Control Parameters for Metals Analysis using ICP-MS

Analyte	Mass	Aqueous Samples[2]			Spike Recovery		RPD[4]	Solids[3]
		DL[1] µg/L	LOD[1] µg/L	LOQ[1] µg/L	Matrix Spike	LCS		LOQ[1] mg/kg
Aluminum	27	1.601	10	**20.0**	75 – 125	80 – 120	≤ 20	**20.0**
Antimony	121	0.010	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
	123	0.011	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Arsenic #1	75	0.048	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Arsenic #2	75	0.092	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Barium	135	0.020	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
	137	0.019	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Beryllium	9	0.021	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Cadmium	111	0.010	0.05	**0.1**	75 – 125	80 – 120	≤ 20	**0.1**
	114	0.005	0.05	**0.1**	75 – 125	80 – 120	≤ 20	**0.1**
Calcium	43	3.983	25	**50.0**	75 – 125	80 – 120	≤ 20	**50.0**
Chromium	52	0.045	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
	53	0.118	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Cobalt	59	0.011	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Copper	63	0.158	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
	65	0.236	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Iron	54	5.753	10	**20.0**	75 – 125	80 – 120	≤ 20	**20.0**
	57	3.876	10	**20.0**	75 – 125	80 – 120	≤ 20	**20.0**
Lead	208	0.046	0.05	**0.1**	75 – 125	80 – 120	≤ 20	**0.1**
Magnesium	24	0.297	10	**20.0**	75 – 125	80 – 120	≤ 20	**20.0**
Manganese	55	0.022	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Molybdenum	98	0.013	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Nickel	60	0.079	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
	62	0.089	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Potassium	39	2.944	10	**20.0**	75 – 125	80 – 120	≤ 20	**20.0**
Selenium	82	0.127	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
	78	0.324	0.25	**2.0**	75 – 125	80 – 120	≤ 20	**2.0**
Silver	107	0.008	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Sodium	23	2.833	50	**100.0**	75 – 125	80 – 120	≤ 20	**100.0**
Thorium[5]	232	0.013	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Thallium	205	0.004	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Uranium[5]	238	0.003	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Vanadium	51	0.043	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Zinc	66	0.497	2	**4.0**	75 – 125	80 – 120	≤ 20	**4.0**
	67	0.531	2	**4.0**	75 – 125	80 – 120	≤ 20	**4.0**
	68	0.524	2	**4.0**	75 – 125	80 – 120	≤ 20	**4.0**

(1) Detection Limit (DL), Limit of Detection Limit (LOD) and Limit of Quantitation (LOQ) as defined in ARI SOP 1018S
(2) 50 mL sample and 50 mL final volume
(3) Solids LOQ based on 100% solids using 1.0 g sample with 100 mL final volume.
(4) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$

(5) ARI has no accreditation for these elements.

US82 : 00021

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

USB2 : 00022

Semivolatile Analysis
Report and Summary QC Forms

ARI Job ID: US82

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-34S-050312
SAMPLE

Lab Sample ID: US82A
LIMS ID: 12-8016
Matrix: Water
Data Release Authorized:
Reported: 05/14/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 19:15
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-34S-050312
SAMPLE

Lab Sample ID: US82A
LIMS ID: 12-8016
Matrix: Water
Date Analyzed: 05/10/12 19:15

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	56.0%	2-Fluorobiphenyl	59.2%
d14-p-Terphenyl	81.2%	d4-1,2-Dichlorobenzene	48.4%
d5-Phenol	54.4%	2-Fluorophenol	57.1%
2,4,6-Tribromophenol	68.5%	d4-2-Chlorophenol	56.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: MW-35S-050312
SAMPLE

Lab Sample ID: US82B
LIMS ID: 12-8017
Matrix: Water
Data Release Authorized:
Reported: 05/14/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 19:49
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	**Phenol**	**1.0**	**7.6**
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	**Dibenzofuran**	**1.0**	**1.1**
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-35S-050312
SAMPLE

Lab Sample ID: US82B
LIMS ID: 12-8017
Matrix: Water
Date Analyzed: 05/10/12 19:49

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	66.4%	2-Fluorobiphenyl	67.2%
d14-p-Terphenyl	83.2%	d4-1,2-Dichlorobenzene	52.4%
d5-Phenol	67.2%	2-Fluorophenol	67.7%
2,4,6-Tribromophenol	78.7%	d4-2-Chlorophenol	65.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-33S-050212
SAMPLE

Lab Sample ID: US82E
LIMS ID: 12-8020
Matrix: Water
Data Release Authorized:
Reported: 05/14/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/03/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 20:24
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	**Phenol**	**1.0**	**4.2**
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

Lab Sample ID: US82E
LIMS ID: 12-8020
Matrix: Water
Date Analyzed: 05/10/12 20:24

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	67.6%	2-Fluorobiphenyl	71.2%
d14-p-Terphenyl	84.8%	d4-1,2-Dichlorobenzene	59.6%
d5-Phenol	71.7%	2-Fluorophenol	73.1%
2,4,6-Tribromophenol	88.3%	d4-2-Chlorophenol	69.1%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MW-34S-050312	56.0%	59.2%	81.2%	48.4%	54.4%	57.1%	68.5%	56.5%	0
MB-050812	74.0%	67.6%	72.0%	54.0%	74.4%	78.1%	68.5%	74.9%	0
LCS-050812	70.0%	72.0%	77.6%	53.2%	70.9%	71.5%	81.3%	69.3%	0
LCSD-050812	66.0%	67.6%	75.6%	48.8%	67.7%	67.7%	77.6%	65.6%	0
MW-35S-050312	66.4%	67.2%	83.2%	52.4%	67.2%	67.7%	78.7%	65.1%	0
MW-33S-050212	67.6%	71.2%	84.8%	59.6%	71.7%	73.1%	88.3%	69.1%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 12-8016 to 12-8020

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: LCS-050812
LCS/LCSD

Lab Sample ID: LCS-050812
LIMS ID: 12-8017
Matrix: Water
Data Release Authorized: VJ
Reported: 05/12/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Date Extracted LCS/LCSD: 05/08/12

Date Analyzed LCS: 05/10/12 15:50
LCSD: 05/10/12 16:24
Instrument/Analyst LCS: NT6/JZ
LCSD: NT6/JZ
GPC Cleanup: NO

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	16.8	25.0	67.2%	16.5	25.0	66.0%	1.8%
Bis-(2-Chloroethyl) Ether	17.4	25.0	69.6%	16.9	25.0	67.6%	2.9%
2-Chlorophenol	15.9	25.0	63.6%	15.8	25.0	63.2%	0.6%
1,3-Dichlorobenzene	9.9	25.0	39.6%	10.7	25.0	42.8%	8.2%
1,4-Dichlorobenzene	10.5	25.0	42.0%	11.2	25.0	44.8%	6.5%
Benzyl Alcohol	9.8	25.0	39.2%	10.9	25.0	43.6%	10.8%
1,2-Dichlorobenzene	10.9	25.0	43.6%	11.6	25.0	46.4%	6.2%
2-Methylphenol	15.3	25.0	61.2%	15.3	25.0	61.2%	0.0%
2,2'-Oxybis(1-Chloropropane)	16.9	25.0	67.6%	16.6	25.0	66.4%	1.8%
4-Methylphenol	32.1	50.0	64.2%	31.8	50.0	63.6%	0.9%
N-Nitroso-Di-N-Propylamine	17.9	25.0	71.6%	17.7	25.0	70.8%	1.1%
Hexachloroethane	9.2	25.0	36.8%	10.2	25.0	40.8%	10.9%
Nitrobenzene	16.8	25.0	67.2%	16.4	25.0	65.6%	2.4%
Isophorone	20.0	25.0	80.0%	19.9	25.0	79.6%	0.5%
2-Nitrophenol	16.6	25.0	66.4%	16.1	25.0	64.4%	3.1%
2,4-Dimethylphenol	43.4	75.0	57.9%	43.2	75.0	57.6%	0.5%
Benzoic Acid	102	138	73.9%	96.7	138	70.1%	5.3%
bis(2-Chloroethoxy) Methane	17.7	25.0	70.8%	17.5	25.0	70.0%	1.1%
2,4-Dichlorophenol	49.7	75.0	66.3%	48.8	75.0	65.1%	1.8%
1,2,4-Trichlorobenzene	11.8	25.0	47.2%	12.0	25.0	48.0%	1.7%
Naphthalene	13.8	25.0	55.2%	13.7	25.0	54.8%	0.7%
4-Chloroaniline	43.0	75.0	57.3%	44.2	75.0	58.9%	2.8%
Hexachlorobutadiene	9.7	25.0	38.8%	10.4	25.0	41.6%	6.7%
4-Chloro-3-methylphenol	55.0	75.0	73.3%	54.4	75.0	72.5%	1.1%
2-Methylnaphthalene	13.6	25.0	54.4%	13.6	25.0	54.4%	0.0%
Hexachlorocyclopentadiene	22.8	75.0	30.4%	22.1	75.0	29.5%	3.1%
2,4,6-Trichlorophenol	53.5	75.0	71.3%	52.8	75.0	70.4%	1.3%
2,4,5-Trichlorophenol	57.0	75.0	76.0%	55.8	75.0	74.4%	2.1%
2-Chloronaphthalene	17.0	25.0	68.0%	16.6	25.0	66.4%	2.4%
2-Nitroaniline	53.5	75.0	71.3%	53.0	75.0	70.7%	0.9%
Dimethylphthalate	21.1	25.0	84.4%	21.1	25.0	84.4%	0.0%
Acenaphthylene	17.7	25.0	70.8%	17.5	25.0	70.0%	1.1%
3-Nitroaniline	58.9	75.0	78.5%	59.4	75.0	79.2%	0.8%
Acenaphthene	17.2	25.0	68.8%	16.9	25.0	67.6%	1.8%
2,4-Dinitrophenol	101	138	73.2%	102	138	73.9%	1.0%
4-Nitrophenol	59.0	75.0	78.7%	58.7	75.0	78.3%	0.5%
Dibenzofuran	17.1	25.0	68.4%	17.0	25.0	68.0%	0.6%
2,6-Dinitrotoluene	62.5	75.0	83.3%	62.3	75.0	83.1%	0.3%
2,4-Dinitrotoluene	64.8	75.0	86.4%	63.8	75.0	85.1%	1.6%
Diethylphthalate	21.5	25.0	86.0%	21.3	25.0	85.2%	0.9%
4-Chlorophenyl-phenylether	19.1	25.0	76.4%	19.1	25.0	76.4%	0.0%
Fluorene	18.1	25.0	72.4%	17.9	25.0	71.6%	1.1%
4-Nitroaniline	56.8	75.0	75.7%	57.0	75.0	76.0%	0.4%
4,6-Dinitro-2-Methylphenol	125	138	90.6%	122	138	88.4%	2.4%
N-Nitrosodiphenylamine	18.2	25.0	72.8%	18.0	25.0	72.0%	1.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-050812
LCS/LCSD

Lab Sample ID: LCS-050812
LIMS ID: 12-8017
Matrix: Water
Date Analyzed LCS: 05/10/12 15:50
LCSD: 05/10/12 16:24

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
4-Bromophenyl-phenylether	20.1	25.0	80.4%	19.6	25.0	78.4%	2.5%
Hexachlorobenzene	20.1	25.0	80.4%	19.7	25.0	78.8%	2.0%
Pentachlorophenol	60.0	75.0	80.0%	63.3	75.0	84.4%	5.4%
Phenanthrene	19.7	25.0	78.8%	19.2	25.0	76.8%	2.6%
Carbazole	21.4	25.0	85.6%	21.1	25.0	84.4%	1.4%
Anthracene	18.6	25.0	74.4%	18.5	25.0	74.0%	0.5%
Di-n-Butylphthalate	22.5	25.0	90.0%	22.2	25.0	88.8%	1.3%
Fluoranthene	20.7	25.0	82.8%	20.1	25.0	80.4%	2.9%
Pyrene	17.9	25.0	71.6%	17.8	25.0	71.2%	0.6%
Butylbenzylphthalate	20.0	25.0	80.0%	19.7	25.0	78.8%	1.5%
3,3'-Dichlorobenzidine	47.2	75.0	62.9%	51.4	75.0	68.5%	8.5%
Benzo(a)anthracene	18.6	25.0	74.4%	18.2	25.0	72.8%	2.2%
bis(2-Ethylhexyl)phthalate	20.3	25.0	81.2%	21.3	25.0	85.2%	4.8%
Chrysene	19.1	25.0	76.4%	18.5	25.0	74.0%	3.2%
Di-n-Octyl phthalate	20.9	25.0	83.6%	20.7	25.0	82.8%	1.0%
Benzo(a)pyrene	17.5	25.0	70.0%	17.5	25.0	70.0%	0.0%
Indeno(1,2,3-cd)pyrene	11.4	25.0	45.6%	12.8	25.0	51.2%	11.6%
Dibenz(a,h)anthracene	11.4	25.0	45.6%	12.4	25.0	49.6%	8.4%
Benzo(g,h,i)perylene	10.8	25.0	43.2%	12.1	25.0	48.4%	11.4%
2,3,4,6-Tetrachlorophenol	19.2	25.0	76.8%	18.9	25.0	75.6%	1.6%
1-Methylnaphthalene	18.6	25.0	74.4%	18.5	25.0	74.0%	0.5%
Total Benzofluoranthenes	38.2	50.0	76.4%	38.1	50.0	76.2%	0.3%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	70.0%	66.0%
2-Fluorobiphenyl	72.0%	67.6%
d14-p-Terphenyl	77.6%	75.6%
d4-1,2-Dichlorobenzene	53.2%	48.8%
d5-Phenol	70.9%	67.7%
2-Fluorophenol	71.5%	67.7%
2,4,6-Tribromophenol	81.3%	77.6%
d4-2-Chlorophenol	69.3%	65.6%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

US61MBW1

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLIN

Lab File ID: 05101208 Date Extracted: 05/08/12

Instrument ID: NT6 Date Analyzed: 05/10/12

Matrix: LIQUID Time Analyzed: 1515

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	US61LCSW1	US61LCSW1	05101209	05/10/12
02	US61LCSDW1	US61LCSDW1	05101210	05/10/12
03	MW-30S-050212	US61A	05101211	05/10/12
04	MW-29S-050212	US61B	05101212	05/10/12
05	MW-31S-050212	US61C	05101213	05/10/12
06	DUP-050212-1	US61D	05101214	05/10/12
07	MW-34S-050312	US82A	05101215	05/10/12
08	MW-35S-050312	US82B	05101216	05/10/12
09	MW-33S-050212	US82E	05101217	05/10/12
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FORM IV SV

US82:00033

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-050812
METHOD BLANK

Lab Sample ID: MB-050812
LIMS ID: 12-8017
Matrix: Water
Data Release Authorized: WS
Reported: 05/12/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 15:15
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-050812
METHOD BLANK

Lab Sample ID: MB-050812
LIMS ID: 12-8017
Matrix: Water
Date Analyzed: 05/10/12 15:15

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155:29.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	74.0%	2-Fluorobiphenyl	67.6%
d14-p-Terphenyl	72.0%	d4-1,2-Dichlorobenzene	54.0%
d5-Phenol	74.4%	2-Fluorophenol	78.1%
2,4,6-Tribromophenol	68.5%	d4-2-Chlorophenol	74.9%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT6 Project: RG SPRING GW

DFTPP Injection Date: 05/07/12 DFTPP Injection Time: 1847

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	28.0
68	Less than 2.0% of mass 69	0.3 (1.0)1
69	Mass 69 relative abundance	32.5
70	Less than 2.0% of mass 69	0.1 (0.3)1
127	10.0 - 80.0% of mass 198	44.3
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	30.0
365	Greater than 1.0% of mass 198	3.64
441	0.0 - 24.0% of mass 442	26.0 (14.3)2
442	50.0 - 200.0% of mass 198	181.8
443	15.0 - 24.0% of mass 442	35.4 (19.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC250507	IC250507	05071201	05/07/12	1847
02	IC10507	IC10507	05071202	05/07/12	1922
03	IC50507	IC50507	05071203	05/07/12	1956
04	IC100507	IC100507	05071204	05/07/12	2030
05	IC400507	IC400507	05071205	05/07/12	2105
06	IC600507	IC600507	05071206	05/07/12	2139
07	IC800507	IC800507	05071207	05/07/12	2213
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US82 00036

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT6 Project: RG SPRING GW

DFTPP Injection Date: 05/10/12 DFTPP Injection Time: 1113

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	26.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	31.5
70	Less than 2.0% of mass 69	0.1 (0.5)1
127	10.0 - 80.0% of mass 198	43.9
197	Less than 2.0% of mass 198	0.2
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	30.9
365	Greater than 1.0% of mass 198	3.89
441	0.0 - 24.0% of mass 442	27.9 (14.7)2
442	50.0 - 200.0% of mass 198	189.3
443	15.0 - 24.0% of mass 442	36.5 (19.3)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0510	CC0510	05101201	05/10/12	1113
02	US61MBW1	US61MBW1	05101208	05/10/12	1515
03	US61LCSW1	US61LCSW1	05101209	05/10/12	1550
04	US61LCSDW1	US61LCSDW1	05101210	05/10/12	1624
05	MW-30S-050212	US61A	05101211	05/10/12	1658
06	MW-29S-050212	US61B	05101212	05/10/12	1733
07	MW-31S-050212	US61C	05101213	05/10/12	1807
08	DUP-050212-1	US61D	05101214	05/10/12	1841
09	MW-34S-050312	US82A	05101215	05/10/12	1915
10	MW-35S-050312	US82B	05101216	05/10/12	1949
11	MW-33S-050212	US82E	05101217	05/10/12	2024
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FORM V SV

US82:00037

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Calibration Date: 05/07/12

LAB FILE ID: RRF1 =05071202 RRF5 =05071203 RRF10 =05071204
RRF25 =05071201 RRF40 =05071205 RRF60 =05071206
RRF80 =05071207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	___ RRF	%RSD /R^2
Phenol	1.700	1.674	1.608	1.620	1.704	1.558	1.440	1.615	5.8
Bis(2-Chloroethyl)ether	1.164	1.171	1.145	1.258	1.265	1.173	1.094	1.181	5.2
2-Chlorophenol	1.468	1.505	1.442	1.446	1.556	1.446	1.340	1.458	4.6
1,3-Dichlorobenzene	1.578	1.596	1.579	1.649	1.661	1.558	1.428	1.578	4.8
1,4-Dichlorobenzene	1.588	1.601	1.579	1.665	1.660	1.548	1.420	1.580	5.2
1,2-Dichlorobenzene	1.533	1.537	1.519	1.600	1.600	1.471	1.358	1.517	5.5
Benzyl alcohol	0.949	1.007	0.950	1.018	1.057	0.967	0.920	0.981	4.9
2,2'-oxybis(1-Chloropropane)	1.322	1.307	1.277	1.349	1.345	1.229	1.136	1.281	6.0
2-Methylphenol	1.240	1.267	1.205	1.246	1.333	1.235	1.151	1.240	4.5
Hexachloroethane	0.532	0.540	0.537	0.587	0.598	0.571	0.535	0.557	4.9
N-Nitroso-di-n-propylamine	0.759	0.766	0.768	0.822	0.827	0.758	0.712	0.773	5.2
4-Methylphenol	1.311	1.315	1.270	1.299	1.385	1.275	1.197	1.293	4.4
Nitrobenzene	0.329	0.339	0.331	0.347	0.344	0.326	0.302	0.331	4.5
Isophorone	0.489	0.492	0.488	0.514	0.504	0.474	0.441	0.486	4.8
2-Nitrophenol	0.199	0.216	0.214	0.226	0.241	0.232	0.219	0.221	6.3
2,4-Dimethylphenol	0.344	0.351	0.335	0.339	0.352	0.336	0.309	0.338	4.3
Bis(2-Chloroethoxy)methane	0.394	0.374	0.370	0.393	0.387	0.363	0.336	0.374	5.4
2,4-Dichlorophenol	0.346	0.353	0.339	0.346	0.366	0.348	0.318	0.345	4.2
1,2,4-Trichlorobenzene	0.374	0.381	0.369	0.391	0.390	0.373	0.345	0.375	4.1
Naphthalene	1.197	1.166	1.134	1.119	1.045	0.924		1.098	9.0
Benzoic acid		0.173	0.190	0.226	0.250	0.248	0.239	0.221	14.6
4-Chloroaniline	0.534	0.529	0.493	0.484	0.478	0.438	0.388	0.478	10.7
Hexachlorobutadiene	0.222	0.224	0.223	0.233	0.235	0.230	0.213	0.226	3.3
4-Chloro-3-methylphenol	0.274	0.279	0.274	0.284	0.297	0.279	0.256	0.278	4.4
2-Methylnaphthalene	0.711	0.703	0.659	0.662	0.656	0.598	0.534	0.646	9.5
Hexachlorocyclopentadiene		0.264	0.294	0.390	0.404	0.389	0.384	0.354	16.8
2,4,6-Trichlorophenol	0.384	0.407	0.397	0.409	0.433	0.425	0.399	0.408	4.1
2,4,5-Trichlorophenol	0.408	0.430	0.420	0.440	0.469	0.446	0.419	0.433	4.7
2-Chloronaphthalene	1.163	1.126	1.113	1.147	1.095	1.026	0.921	1.084	7.8
2-Nitroaniline	0.262	0.288	0.277	0.286	0.287	0.271	0.258	0.276	4.5
Acenaphthylene	1.927	1.897	1.850	1.825	1.701	1.509	1.321	1.718	13.1
Dimethylphthalate	1.196	1.138	1.136	1.150	1.122	1.045	0.956	1.106	7.2
2,6-Dinitrotoluene	0.254	0.263	0.273	0.290	0.291	0.280	0.265	0.274	5.2
Acenaphthene	1.232	1.197	1.166	1.176	1.135	1.057	0.951	1.130	8.5
3-Nitroaniline	0.342	0.366	0.345	0.318	0.297	0.259	0.223	0.307	16.6
2,4-Dinitrophenol		0.080	0.114	0.153	0.188	0.193	0.191	0.153	0.995
Dibenzofuran	1.938	1.863	1.729	1.667	1.609	1.452	1.301	1.651	13.5

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-1

US82:00038

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Calibration Date: 05/07/12

LAB FILE ID: RRF1 =05071202 RRF5 =05071203 RRF10 =05071204
RRF25 =05071201 RRF40 =05071205 RRF60 =05071206
RRF80 =05071207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	RRF	%RSD /R^2
4-Nitrophenol	0.069	0.100	0.105	0.119	0.128	0.126	0.119	0.109	18.7
2,4-Dinitrotoluene	0.311	0.344	0.349	0.372	0.372	0.358	0.337	0.349	6.2
Fluorene	1.459	1.405	1.371	1.380	1.331	1.216	1.084	1.321	9.7
4-Chlorophenyl-phenylether	0.669	0.655	0.641	0.664	0.664	0.627	0.580	0.643	4.8
Diethylphthalate	1.132	1.065	1.062	1.083	1.066	0.977	0.895	1.040	7.6
4-Nitroaniline	0.286	0.314	0.311	0.305	0.305	0.286	0.271	0.297	5.4
4,6-Dinitro-2-methylphenol		0.113	0.129	0.148	0.168	0.166	0.158	0.147	14.9
N-Nitrosodiphenylamine (1)	0.562	0.552	0.542	0.579	0.578	0.534	0.490	0.548	5.6
4-Bromophenyl-phenylether	0.269	0.264	0.262	0.286	0.284	0.266	0.246	0.268	5.2
Hexachlorobenzene	0.349	0.331	0.326	0.347	0.345	0.328	0.301	0.332	5.0
Pentachlorophenol		0.116	0.134	0.172	0.191	0.192	0.182	0.164	19.5
Phenanthrene	1.249	1.208	1.170	1.183	1.110	1.003	0.878	1.114	11.7
Anthracene	1.254	1.239	1.215	1.202	1.129	1.006	0.878	1.132	12.4
Carbazole	0.951	0.926	0.898	0.893	0.850	0.802	0.719	0.863	9.3
Di-n-butylphthalate	1.051	1.034	1.041	1.048	1.011	0.922	0.795	0.986	9.7
Fluoranthene	1.258	1.221	1.203	1.181	1.128	1.033	0.892	1.131	11.3
Pyrene	1.343	1.306	1.248	1.281	1.193	1.009	0.881	1.180	14.5
Butylbenzylphthalate	0.380	0.397	0.396	0.438	0.430	0.401	0.369	0.402	6.3
Benzo(a)anthracene	1.162	1.132	1.095	1.147	1.088	1.000	0.894	1.074	8.9
3,3'-Dichlorobenzidine	0.397	0.412	0.379	0.375	0.370	0.346	0.316	0.371	8.6
Chrysene	1.137	1.111	1.070	1.085	1.050	0.932	0.829	1.030	10.7
bis(2-Ethylhexyl)phthalate	0.616	0.597	0.589	0.640	0.634	0.583	0.540	0.600	5.7
Di-n-octylphthalate	1.106	1.044	1.026	1.055	1.028	0.940	0.838	1.005	8.8
Benzo(b)fluoranthene	1.167	1.187	1.136	1.228	1.161	1.028	0.930	1.120	9.3
Benzo(k)fluoranthene	1.229	1.176	1.208	1.225	1.200	0.986	0.836	1.123	13.6
Benzo(a)pyrene	1.003	1.005	1.005	1.067	1.045	0.933	0.832	0.984	8.1
Indeno(1,2,3-cd)pyrene	1.496	1.533	1.502	1.571	1.551	1.479	1.342	1.496	5.0
Dibenzo(a,h)anthracene	1.213	1.246	1.227	1.312	1.284	1.146	1.005	1.205	8.5
Benzo(g,h,i)perylene	1.322	1.319	1.296	1.375	1.350	1.269	1.147	1.297	5.7
N-Nitrosodimethylamine	0.730	0.713	0.718	0.772	0.776	0.731	0.698	0.734	4.0
Aniline	2.020	2.057	1.941	1.955	1.989	1.804	1.681	1.921	6.9
Benzidine	0.279	0.232	0.224	0.190	0.237	0.223	0.207	0.227	12.2
Pyridine	1.024	1.258	1.287	1.357	1.367	1.285	1.216	1.256	9.2
1-methylnaphthalene	0.541	0.521	0.490	0.499	0.503	0.466	0.426	0.492	7.6
Azobenzene (1,2-DP-Hydrazine	1.031	0.960	0.958	0.977	1.014	0.934	0.851	0.961	6.1
2,3,4,6-Tetrachlorophenol	0.275	0.317	0.322	0.343	0.368	0.353	0.338	0.331	9.1
1,2,4,5-Tetrachlorobenzene	0.589	0.572	0.551	0.580	0.571	0.550	0.517	0.561	4.3

(1) Cannot be seperated from Diphenylamine

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-2

US82 : 00039

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Calibration Date: 05/07/12

LAB FILE ID: RRF1 =05071202 RRF5 =05071203 RRF10 =05071204
RRF25 =05071201 RRF40 =05071205 RRF60 =05071206
RRF80 =05071207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	___ RRF	%RSD /R^2
Total Benzofluoranthenes	1.132	1.101	1.105	1.156	1.110	0.945	0.828	1.054	11.5
2-Fluorophenol	1.188	1.247	1.202	1.233	1.301	1.167		1.223	3.9
Phenol-d5	1.458	1.480	1.458	1.461	1.532	1.353		1.457	4.0
2-Chlorophenol-d4	1.405	1.392	1.360	1.375	1.444	1.293		1.378	3.7
1,2-Dichlorobenzene-d4	1.017	1.003	0.979	0.976	1.044	0.942		0.994	3.6
Nitrobenzene-d5	0.329	0.331	0.326	0.327	0.338	0.312		0.327	2.6
2-Fluorobiphenyl	1.379	1.338	1.286	1.220	1.216	1.099		1.256	8.0
2,4,6-Tribromophenol	0.273	0.271	0.277	0.278	0.300	0.275		0.279	3.8
Terphenyl-d14	0.820	0.775	0.760	0.762	0.768	0.654		0.756	7.2

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-3

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Cont. Calib. Date: 05/10/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1113

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Phenol	1.615	1.562	0.800	AVRG	-3.3
Bis(2-Chloroethyl)ether	1.181	1.221	0.700	AVRG	3.4
2-Chlorophenol	1.458	1.429	0.800	AVRG	-2.0
1,3-Dichlorobenzene	1.578	1.653	0.010	AVRG	4.8
1,4-Dichlorobenzene	1.580	1.651	0.010	AVRG	4.5
1,2-Dichlorobenzene	1.517	1.581	0.010	AVRG	4.2
Benzyl alcohol	0.981	0.978	0.010	AVRG	-0.3
2,2'-oxybis(1-Chloropropane)	1.281	1.312	0.010	AVRG	2.4
2-Methylphenol	1.240	1.203	0.700	AVRG	-3.0
Hexachloroethane	0.557	0.588	0.300	AVRG	5.6
N-Nitroso-di-n-propylamine	0.773	0.794	0.500	AVRG	2.7
4-Methylphenol	1.293	1.254	0.600	AVRG	-3.0
Nitrobenzene	0.331	0.349	0.200	AVRG	5.4
Isophorone	0.486	0.503	0.400	AVRG	3.5
2-Nitrophenol	0.221	0.222	0.100	AVRG	0.4
2,4-Dimethylphenol	0.338	0.334	0.200	AVRG	-1.2
Bis(2-Chloroethoxy)methane	0.374	0.383	0.300	AVRG	2.4
2,4-Dichlorophenol	0.345	0.341	0.200	AVRG	-1.2
1,2,4-Trichlorobenzene	0.375	0.394	0.010	AVRG	5.1
Naphthalene	1.098	1.146	0.700	AVRG	4.4
Benzoic acid	0.221	0.192	0.010	AVRG	-13.1
4-Chloroaniline	0.478	0.485	0.010	AVRG	1.5
Hexachlorobutadiene	0.226	0.243	0.010	AVRG	7.5
4-Chloro-3-methylphenol	0.278	0.273	0.200	AVRG	-1.8
2-Methylnaphthalene	0.646	0.664	0.400	AVRG	2.8
Hexachlorocyclopentadiene	0.354	0.383	0.050	AVRG	8.2
2,4,6-Trichlorophenol	0.408	0.407	0.200	AVRG	-0.2
2,4,5-Trichlorophenol	0.433	0.427	0.200	AVRG	-1.4
2-Chloronaphthalene	1.084	1.169	0.800	AVRG	7.8
2-Nitroaniline	0.276	0.277	0.010	AVRG	0.4
Acenaphthylene	1.718	1.870	0.900	AVRG	8.8
Dimethylphthalate	1.106	1.156	0.010	AVRG	4.5
2,6-Dinitrotoluene	0.274	0.285	0.200	AVRG	4.0
Acenaphthene	1.130	1.200	0.900	AVRG	6.2
3-Nitroaniline	0.307	0.323	0.010	AVRG	5.2
2,4-Dinitrophenol	50.00	40.42	0.010	2ORDR	-19.2
Dibenzofuran	1.651	1.694	0.800	AVRG	2.6

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-1

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Cont. Calib. Date: 05/10/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1113

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
4-Nitrophenol	0.109	0.102	0.010	AVRG	-6.4
2,4-Dinitrotoluene	0.349	0.366	0.200	AVRG	4.9
Fluorene	1.321	1.406	0.900	AVRG	6.4
4-Chlorophenyl-phenylether	0.643	0.666	0.400	AVRG	3.6
Diethylphthalate	1.040	1.090	0.010	AVRG	4.8
4-Nitroaniline	0.297	0.301	0.010	AVRG	1.3
4,6-Dinitro-2-methylphenol	0.147	0.154	0.010	AVRG	4.8
N-Nitrosodiphenylamine(1)	0.548	0.580	0.010	AVRG	5.8
4-Bromophenyl-phenylether	0.268	0.282	0.100	AVRG	5.2
Hexachlorobenzene	0.332	0.354	0.100	AVRG	6.6
Pentachlorophenol	0.164	0.154	0.050	AVRG	-6.1
Phenanthrene	1.114	1.193	0.700	AVRG	7.1
Anthracene	1.132	1.232	0.700	AVRG	8.8
Carbazole	0.863	0.897	0.010	AVRG	3.9
Di-n-butylphthalate	0.986	1.076	0.010	AVRG	9.1
Fluoranthene	1.131	1.260	0.600	AVRG	11.4
Pyrene	1.180	1.206	0.600	AVRG	2.2
Butylbenzylphthalate	0.402	0.416	0.010	AVRG	3.5
Benzo(a)anthracene	1.074	1.123	0.800	AVRG	4.6
3,3'-Dichlorobenzidine	0.371	0.400	0.010	AVRG	7.8
Chrysene	1.030	1.098	0.700	AVRG	6.6
bis(2-Ethylhexyl)phthalate	0.600	0.619	0.010	AVRG	3.2
Di-n-octylphthalate	1.005	1.063	0.010	AVRG	5.8
Benzo(b)fluoranthene	1.120	1.102	0.700	AVRG	-1.6
Benzo(k)fluoranthene	1.123	1.300	0.700	AVRG	15.8
Benzo(a)pyrene	0.984	1.073	0.700	AVRG	9.0
Indeno(1,2,3-cd)pyrene	1.496	1.586	0.500	AVRG	6.0
Dibenzo(a,h)anthracene	1.205	1.330	0.400	AVRG	10.4
Benzo(g,h,i)perylene	1.297	1.299	0.500	AVRG	0.2
N-Nitrosodimethylamine	0.734	0.756	0.010	AVRG	3.0
Aniline	1.921	1.875	0.010	AVRG	-2.4
Benzidine	0.227	0.246	0.010	AVRG	8.4
Pyridine	1.256	1.324	0.010	AVRG	5.4
1-methylnaphthalene	0.492	0.497	0.010	AVRG	1.0
Azobenzene (1,2-DP-Hydrazine	0.961	0.977	0.010	AVRG	1.7
2,3,4,6-Tetrachlorophenol	0.331	0.336	0.010	AVRG	1.5

(1) Cannot be separated from Diphenylamine

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-2

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Cont. Calib. Date: 05/10/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1113

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
4-Nitrophenol	0.109	0.102	0.010	AVRG	-6.4
2,4-Dinitrotoluene	0.349	0.366	0.200	AVRG	4.9
Fluorene	1.321	1.406	0.900	AVRG	6.4
4-Chlorophenyl-phenylether	0.643	0.666	0.400	AVRG	3.6
Diethylphthalate	1.040	1.090	0.010	AVRG	4.8
4-Nitroaniline	0.297	0.301	0.010	AVRG	1.3
4,6-Dinitro-2-methylphenol	0.147	0.154	0.010	AVRG	4.8
N-Nitrosodiphenylamine(1)	0.548	0.580	0.010	AVRG	5.8
4-Bromophenyl-phenylether	0.268	0.282	0.100	AVRG	5.2
Hexachlorobenzene	0.332	0.354	0.100	AVRG	6.6
Pentachlorophenol	0.164	0.154	0.050	AVRG	-6.1
Phenanthrene	1.114	1.193	0.700	AVRG	7.1
Anthracene	1.132	1.232	0.700	AVRG	8.8
Carbazole	0.863	0.897	0.010	AVRG	3.9
Di-n-butylphthalate	0.986	1.076	0.010	AVRG	9.1
Fluoranthene	1.131	1.260	0.600	AVRG	11.4
Pyrene	1.180	1.206	0.600	AVRG	2.2
Butylbenzylphthalate	0.402	0.416	0.010	AVRG	3.5
Benzo(a)anthracene	1.074	1.123	0.800	AVRG	4.6
3,3'-Dichlorobenzidine	0.371	0.400	0.010	AVRG	7.8
Chrysene	1.030	1.098	0.700	AVRG	6.6
bis(2-Ethylhexyl)phthalate	0.600	0.619	0.010	AVRG	3.2
Di-n-octylphthalate	1.005	1.063	0.010	AVRG	5.8
Benzo(b)fluoranthene	1.120	1.102	0.700	AVRG	-1.6
Benzo(k)fluoranthene	1.123	1.300	0.700	AVRG	15.8
Benzo(a)pyrene	0.984	1.073	0.700	AVRG	9.0
Indeno(1,2,3-cd)pyrene	1.496	1.586	0.500	AVRG	6.0
Dibenzo(a,h)anthracene	1.205	1.330	0.400	AVRG	10.4
Benzo(g,h,i)perylene	1.297	1.299	0.500	AVRG	0.2
N-Nitrosodimethylamine	0.734	0.756	0.010	AVRG	3.0
Aniline	1.921	1.875	0.010	AVRG	-2.4
Benzidine	0.227	0.246	0.010	AVRG	8.4
Pyridine	1.256	1.324	0.010	AVRG	5.4
1-methylnaphthalene	0.492	0.497	0.010	AVRG	1.0
Azobenzene (1,2-DP-Hydrazine	0.961	0.977	0.010	AVRG	1.7
2,3,4,6-Tetrachlorophenol	0.331	0.336	0.010	AVRG	1.5

(1) Cannot be separated from Diphenylamine

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-2

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Cont. Calib. Date: 05/10/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1113

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
1,2,4,5-Tetrachlorobenzene	0.561		0.010	AVRG	
Total Benzofluoranthenes	1.054	1.130	0.010	AVRG	7.2
2-Fluorophenol	1.223	1.174	0.010	AVRG	-4.0
Phenol-d5	1.457	1.404	0.010	AVRG	-3.6
2-Chlorophenol-d4	1.378	1.343	0.010	AVRG	-2.5
1,2-Dichlorobenzene-d4	0.994	0.969	0.010	AVRG	-2.5
Nitrobenzene-d5	0.327	0.321	0.010	AVRG	-1.8
2-Fluorobiphenyl	1.256	1.246	0.010	AVRG	-0.8
2,4,6-Tribromophenol	0.279	0.279	0.010	AVRG	0.0
Terphenyl-d14	0.756	0.709	0.010	AVRG	-6.2

<- Exceeds QC limit of 20% D
* RF less than minimum RF

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC | Client: ERM-WEST

ARI Job No: US61 | Project: RG SPRING GW

Ical Midpoint ID: 05071201 | Ical Date: 05/07/12

Instrument ID: NT6 | Cont. Cal Date: 05/10/12

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	ICAL MIDPT	809103	7.38	2911787	9.45	1818894	12.30
	UPPER LIMIT	1618206		5823574		3637788	
	LOWER LIMIT	404552		1455894		909447	
	CCAL	630981	7.38	2218708	9.44	1359459	12.30
	UPPER LIMIT		7.88		9.94		12.80
	LOWER LIMIT		6.88		8.94		11.80
01	US61MBW1	564487	7.38	2021697	9.44	1195448	12.29
02	US61LCSW1	601153	7.38	2153942	9.44	1286265	12.30
03	US61LCSDW1	597260	7.38	2168052	9.44	1318485	12.30
04	MW-30S-05021	620296	7.38	2232382	9.44	1347942	12.30
05	MW-29S-05021	596297	7.38	2096783	9.44	1255094	12.29
06	MW-31S-05021	582948	7.37	2074054	9.44	1248053	12.29
07	DUP-050212-1	611289	7.38	2207571	9.44	1354769	12.29
08	MW-34S-05031	620581	7.37	2194088	9.44	1332261	12.29
09	MW-35S-05031	621559	7.37	2225517	9.44	1384429	12.30
10	MW-33S-05021	602615	7.38	2183771	9.44	1322243	12.29
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25							

IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Ical Midpoint ID: 05071201 Ical Date: 05/07/12

Instrument ID: NT6 Cont. Cal Date: 05/10/12

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	ICAL MIDPT	2718644	14.66	2549674	18.95	2525537	21.09
	UPPER LIMIT	5437288		5099348		5051074	
	LOWER LIMIT	1359322		1274837		1262768	
	CCAL	2044384	14.65	2190635	18.95	2448298	21.09
	UPPER LIMIT		15.15		19.45		21.59
	LOWER LIMIT		14.15		18.45		20.59
01	US61MBW1	1815446	14.65	2272221	18.94	1609779	21.08
02	US61LCSW1	1928753	14.66	2148635	18.95	2494326	21.09
03	US61LCSDW1	2016171	14.66	2216379	18.94	2413696	21.09
04	MW-30S-05021	2060255	14.65	2262452	18.94	2105469	21.09
05	MW-29S-05021	1930172	14.65	2135196	18.94	2131396	21.09
06	MW-31S-05021	1891226	14.65	1971598	18.94	2012533	21.09
07	DUP-050212-1	2117659	14.65	2100897	18.94	2103716	21.09
08	MW-34S-05031	2056432	14.65	2084352	18.94	2131635	21.09
09	MW-35S-05031	2082112	14.65	2077661	18.94	2150307	21.09
10	MW-33S-05021	2029760	14.65	1973798	18.94	2114141	21.09
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IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

US82:00046

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Ical Midpoint ID: 05071201 Ical Date: 05/07/12

Instrument ID: NT6 Cont. Cal Date: 05/10/12

		IS7 AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	2275861	20.16				
	UPPER LIMIT	4551722					
	LOWER LIMIT	1137930					
	CCAL	1948231	20.16				
	UPPER LIMIT		20.66				
	LOWER LIMIT		19.66				
01	US61MBW1	1927676	20.16				
02	US61LCSW1	1914612	20.16				
03	US61LCSDW1	1950945	20.16				
04	MW-30S-05021	1949436	20.16				
05	MW-29S-05021	1881634	20.16				
06	MW-31S-05021	1762203	20.16				
07	DUP-050212-1	1943735	20.16				
08	MW-34S-05031	1874728	20.16				
09	MW-35S-05031	1882594	20.16				
10	MW-33S-05021	1853603	20.16				
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IS7 = Di-n-octylphthalate-d4

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

US82:00047

SIM PAH Analysis
Report and Summary QC Forms

ARI Job ID: US82

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: MW-34S-050312
SAMPLE

Lab Sample ID: US82A
LIMS ID: 12-8016
Matrix: Water
Data Release Authorized: VG
Reported: 05/12/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 20:24
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	59.0%
d14-Dibenzo(a,h)anthracene	81.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: MW-35S-050312
SAMPLE

Lab Sample ID: US82B
LIMS ID: 12-8017
Matrix: Water
Data Release Authorized: VG
Reported: 05/12/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 20:53
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.10**	**0.21**
91-57-6	**2-Methylnaphthalene**	**0.10**	**0.05 J**
90-12-0	**1-Methylnaphthalene**	**0.10**	**0.22**
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	**Dibenzofuran**	**0.10**	**1.0**
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	63.3%
d14-Dibenzo(a,h)anthracene	87.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: MW-33S-050212
SAMPLE

Lab Sample ID: US82E
LIMS ID: 12-8020
Matrix: Water
Data Release Authorized:
Reported: 05/12/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/03/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 21:22
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	60.0%
d14-Dibenzo(a,h)anthracene	69.7%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US82-ERM-West
Project: RC Spring GW Sampling
155129.09

Client ID	MNP	DBA	TOT OUT
MB-050812	63.0%	93.7%	0
LCS-050812	63.7%	96.7%	0
LCSD-050812	60.7%	86.3%	0
MW-34S-050312	59.0%	81.7%	0
MW-35S-050312	63.3%	87.3%	0
MW-33S-050212	60.0%	69.7%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(40-110)	(33-107)
(DBA) = d14-Dibenzo(a,h)anthracene	(33-140)	(10-142)

Prep Method: SW3520C
Log Number Range: 12-8016 to 12-8020

FORM-II SIM SW8270

US82:00052

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-050812
LAB CONTROL SAMPLE

Lab Sample ID: LCS-050812
LIMS ID: 12-8016
Matrix: Water
Data Release Authorized: VD
Reported: 05/12/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 05/08/12

Date Analyzed LCS: 05/10/12 17:28
LCSD: 05/10/12 17:57
Instrument/Analyst LCS: NT4/JZ
LCSD: NT4/JZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	1.58	3.00	52.7%	1.66	3.00	55.3%	4.9%
2-Methylnaphthalene	1.46	3.00	48.7%	1.52	3.00	50.7%	4.0%
1-Methylnaphthalene	1.61	3.00	53.7%	1.71	3.00	57.0%	6.0%
Acenaphthylene	1.58	3.00	52.7%	1.56	3.00	52.0%	1.3%
Acenaphthene	1.82	3.00	60.7%	1.72	3.00	57.3%	5.6%
Fluorene	1.88	3.00	62.7%	1.88	3.00	62.7%	0.0%
Phenanthrene	2.32	3.00	77.3%	2.15	3.00	71.7%	7.6%
Anthracene	1.78	3.00	59.3%	1.95	3.00	65.0%	9.1%
Fluoranthene	2.00	3.00	66.7%	2.02	3.00	67.3%	1.0%
Pyrene	2.13	3.00	71.0%	2.01	3.00	67.0%	5.8%
Benzo(a)anthracene	1.69 Q	3.00	56.3%	1.64 Q	3.00	54.7%	3.0%
Chrysene	2.32	3.00	77.3%	2.25	3.00	75.0%	3.1%
Benzo(a)pyrene	1.63	3.00	54.3%	1.58	3.00	52.7%	3.1%
Indeno(1,2,3-cd)pyrene	2.69	3.00	89.7%	2.55	3.00	85.0%	5.3%
Dibenz(a,h)anthracene	2.58	3.00	86.0%	2.37	3.00	79.0%	8.5%
Benzo(g,h,i)perylene	2.70	3.00	90.0%	2.54	3.00	84.7%	6.1%
Dibenzofuran	1.92	3.00	64.0%	1.90	3.00	63.3%	1.0%
Total Benzofluoranthenes	4.93	6.00	82.2%	4.94	6.00	82.3%	0.2%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	63.7%	60.7%
d14-Dibenzo(a,h)anthracene	96.7%	86.3%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

US61MBW1

Lab Name: ANALYTICAL RESOURCES INC — Client: ERM-WEST

ARI Job No: US61 — Project: RG SPRING GW SAMPLIN

Lab File ID: 05101203 — Date Extracted: 05/08/12

Instrument ID: NT4 — Date Analyzed: 05/10/12

Matrix: LIQUID — Time Analyzed: 1659

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	US61LCSW1	US61LCSW1	05101204	05/10/12
02	US61LCSDW1	US61LCSDW1	05101205	05/10/12
03	MW-30S-050212	US61A	05101206	05/10/12
04	MW-29S-050212	US61B	05101207	05/10/12
05	MW-31S-050212	US61C	05101208	05/10/12
06	DUP-050212-1	US61D	05101209	05/10/12
07	MW-34S-050312	US82A	05101210	05/10/12
08	MW-35S-050312	US82B	05101211	05/10/12
09	MW-33S-050212	US82E	05101212	05/10/12
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: MB-050812
METHOD BLANK

Lab Sample ID: MB-050812
LIMS ID: 12-8016
Matrix: Water
Data Release Authorized: VD
Reported: 05/12/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 16:59
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	63.0%
d14-Dibenzo(a,h)anthracene	93.7%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT4 Project: RG SPRING GW

DFTPP Injection Date: 03/16/12 DFTPP Injection Time: 1132

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	34.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	41.8
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	10.0 - 80.0% of mass 198	48.8
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.1
275	10.0 - 60.0% of mass 198	28.9
365	Greater than 1.0% of mass 198	3.31
441	0.0 - 24.0% of mass 442	14.6 (17.2)2
442	50.0 - 200.0% of mass 198	84.4
443	15.0 - 24.0% of mass 442	17.0 (20.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC010316	IC010316	03161202	03/16/12	1311
02	IC050316	IC050316	03161203	03/16/12	1340
03	IC100316	IC100316	03161204	03/16/12	1409
04	IC250316	IC250316	03161205	03/16/12	1438
05	IC50316	IC50316	03161206	03/16/12	1507
06	IC100316	IC100316	03161207	03/16/12	1536
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FORM V SV

USB2 : 00056

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT4 Project: RG SPRING GW

DFTPP Injection Date: 05/10/12 DFTPP Injection Time: 1511

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	36.8	
68	Less than 2.0% of mass 69	0.2	(0.5)1
69	Mass 69 relative abundance	41.1	
70	Less than 2.0% of mass 69	0.2	(0.6)1
127	10.0 - 80.0% of mass 198	46.0	
197	Less than 2.0% of mass 198	0.0	
198	Base Peak, 100% relative abundance	100.0	
199	5.0 to 9.0% of mass 198	6.6	
275	10.0 - 60.0% of mass 198	27.8	
365	Greater than 1.0% of mass 198	2.96	
441	0.0 - 24.0% of mass 442	13.4	(15.2)2
442	50.0 - 200.0% of mass 198	88.2	
443	15.0 - 24.0% of mass 442	15.1	(17.1)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0510	CC0510	05101202	05/10/12	1554
02	US61MBW1	US61MBW1	05101203	05/10/12	1659
03	US61LCSW1	US61LCSW1	05101204	05/10/12	1728
04	US61LCSDW1	US61LCSDW1	05101205	05/10/12	1757
05	MW-30S-050212	US61A	05101206	05/10/12	1827
06	MW-29S-050212	US61B	05101207	05/10/12	1856
07	MW-31S-050212	US61C	05101208	05/10/12	1925
08	DUP-050212-1	US61D	05101209	05/10/12	1954
09	MW-34S-050312	US82A	05101210	05/10/12	2024
10	MW-35S-050312	US82B	05101211	05/10/12	2053
11	MW-33S-050212	US82E	05101212	05/10/12	2122
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FORM V SV

US82:00057

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT4 Calibration Date: 03/16/12

LAB FILE ID: RRF0.1=03161202 RRF0.5=03161203 RRF1 =03161204
RRF2.5=03161205 RRF5 =03161206 RRF10 =03161207

COMPOUND	RRF 0.1	RRF 0.5	RRF 1	RRF 2.5	RRF 5	RRF 10	___ RRF	%RSD /R^2
Naphthalene	1.249	1.109	1.164	1.063	0.928	0.856	1.062	13.8
2-Methylnaphthalene	0.811	0.660	0.675	0.641	0.552	0.542	0.647	15.1
Acenaphthylene	1.608	1.650	1.669	1.658	1.466	1.543	1.599	5.0
Acenaphthene	1.263	1.194	1.228	1.155	1.025	1.070	1.156	8.0
Dibenzofuran	1.856	1.755	1.741	1.656	1.442	1.474	1.654	10.0
Fluorene	1.420	1.291	1.346	1.280	1.127	1.180	1.274	8.4
Phenanthrene	1.285	1.172	1.220	1.146	0.996	1.004	1.137	10.2
Anthracene	1.304	1.068	1.187	1.119	0.986	1.020	1.114	10.5
Fluoranthene	1.538	1.209	1.324	1.265	1.099	1.143	1.263	12.5
Pyrene	1.262	1.140	1.202	1.123	1.005	1.048	1.130	8.4
Benzo(a)anthracene	1.224	1.012	1.088	1.039	0.949	1.019	1.055	8.9
Chrysene	1.313	1.071	1.094	1.076	0.964	1.012	1.088	11.0
Benzo(b)fluoranthene	1.112	1.194	1.256	1.148	1.030	1.103	1.140	6.9
Benzo(k)fluoranthene	1.235	1.205	1.336	1.233	1.040	1.138	1.198	8.4
Benzo(j)fluoranthene	0.914	1.094	1.218	1.078	0.959	1.091	1.059	10.3
Benzo(a)pyrene		1.002	1.117	1.099	1.006	1.141	1.073	6.0
Indeno(1,2,3-cd)pyrene	1.256	1.245	1.363	1.322	1.209	1.364	1.293	5.1
Dibenzo(a,h)anthracene	1.176	1.014	1.110	1.079	1.017	1.147	1.090	6.1
Benzo(g,h,i)perylene	1.274	1.067	1.226	1.156	1.069	1.165	1.160	7.1
1-methylnaphthalene	0.742	0.607	0.639	0.602	0.525	0.516	0.605	13.7
Perylene	0.725	1.122	1.185	1.130	1.027	1.138	1.054	16.1
2-Methylnaphthalene-d10	0.803	0.619	0.705	0.649	0.553	0.546	0.646	15.1
Dibenzo(a,h)anthracene-d14	0.854	0.755	0.845	0.883	0.808	0.930	0.846	7.2

<- Outside QC limits: %RSD <20% or R^2 > 0.990

US82 : 00058

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT4 Cont. Calib. Date: 05/10/12

Init. Calib. Date: 03/16/12 Cont. Calib. Time: 1554

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Naphthalene	1.062	1.040	0.700	AVRG	-2.1	
2-Methylnaphthalene	0.647	0.626	0.400	AVRG	-3.2	
Acenaphthylene	1.599	1.441	0.900	AVRG	-9.9	
Acenaphthene	1.156	1.131	0.900	AVRG	-2.2	
Dibenzofuran	1.654	1.712	0.800	AVRG	3.5	
Fluorene	1.274	1.206	0.900	AVRG	-5.3	
Phenanthrene	1.137	1.123	0.700	AVRG	-1.2	
Anthracene	1.114	0.930	0.700	AVRG	-16.5	
Fluoranthene	1.263	1.092	0.600	AVRG	-13.5	
Pyrene	1.130	1.053	0.600	AVRG	-6.8	
Benzo(a)anthracene	1.055	0.803	0.800	AVRG	-23.9	<-
Chrysene	1.088	1.071	0.700	AVRG	-1.6	
Benzo(b)fluoranthene	1.140	1.002	0.700	AVRG	-12.1	
Benzo(k)fluoranthene	1.198	1.200	0.700	AVRG	0.2	
Benzo(j)fluoranthene	1.059	1.061	0.010	AVRG	0.2	
Benzo(a)pyrene	1.073	1.062	0.700	AVRG	-1.0	
Indeno(1,2,3-cd)pyrene	1.293	1.523	0.500	AVRG	17.8	
Dibenzo(a,h)anthracene	1.090	1.188	0.400	AVRG	9.0	
Benzo(g,h,i)perylene	1.160	1.387	0.500	AVRG	19.6	
1-methylnaphthalene	0.605	0.580	0.010	AVRG	-4.1	
Perylene	1.054	1.185	0.010	AVRG	12.4	
2-Methylnaphthalene-d10	0.646	0.616	0.010	AVRG	-4.6	
Dibenzo(a,h)anthracene-d14	0.846	0.891	0.010	AVRG	5.3	

<- Exceeds QC limit of 20% D
* RF less than minimum RF

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Ical Midpoint ID: 03161205 Ical Date: 03/16/12

Instrument ID: NT4 Cont. Cal Date: 05/10/12

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	ICAL MIDPT	364113	5.43	210739	7.72	347113	9.69
	UPPER LIMIT	728226		421478		694226	
	LOWER LIMIT	182056		105370		173556	
	CCAL	318480	4.44	185770	6.68	319995	8.60
	UPPER LIMIT		4.94		7.18		9.10
	LOWER LIMIT		3.94		6.18		8.10
01	US61MBW1	378251	4.44	214410	6.68	371702	8.61
02	US61LCSW1	353042	4.44	193944	6.67	338558	8.60
03	US61LCSDW1	418516	4.43	245447	6.67	421759	8.60
04	MW-30S-05021	404034	4.44	230451	6.67	423327	8.60
05	MW-29S-05021	394389	4.43	223755	6.67	397025	8.60
06	MW-31S-05021	336269	4.43	189687	6.67	351155	8.60
07	DUP-050212-1	334012	4.43	185700	6.67	332500	8.60
08	MW-34S-05031	335126	4.44	178433	6.67	314958	8.60
09	MW-35S-05031	372877	4.44	232072	6.67	409329	8.60
10	MW-33S-05021	390962	4.43	226158	6.67	410423	8.60
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IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

US82 : 00060

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Ical Midpoint ID: 03161205 Ical Date: 03/16/12

Instrument ID: NT4 Cont. Cal Date: 05/10/12

		IS4(CRY) AREA #	RT #	IS5(PRY) AREA #	RT #	AREA #	RT #
	ICAL MIDPT	412003	14.89	386633	18.72		
	UPPER LIMIT	824006		773266			
	LOWER LIMIT	206002		193316			
	CCAL	350031	12.98	288947	16.49		
	UPPER LIMIT		13.48		16.99		
	LOWER LIMIT		12.48		15.99		
01	US61MBW1	376195	12.98	247200	16.49		
02	US61LCSW1	367793	12.98	267972	16.49		
03	US61LCSDW1	468653	12.98	345357	16.48		
04	MW-30S-05021	445431	12.98	322985	16.48		
05	MW-29S-05021	428319	12.98	291770	16.49		
06	MW-31S-05021	354408	12.98	241048	16.49		
07	DUP-050212-1	355575	12.98	251048	16.49		
08	MW-34S-05031	329157	12.98	218241	16.49		
09	MW-35S-05031	417303	12.98	291965	16.49		
10	MW-33S-05021	421514	12.98	307966	16.49		
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

US62:00061

PCP/Chlorophenols Analysis
Report and Summary QC Forms

ARI Job ID: US82

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Page 1 of 1

Sample ID: MW-34S-050312
SAMPLE

Lab Sample ID: US82A
LIMS ID: 12-8016
Matrix: Water
Data Release Authorized:
Reported: 05/14/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Date Extracted: 05/08/12
Date Analyzed: 05/11/12 17:54
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	77.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Page 1 of 1

Sample ID: MW-35S-050312
SAMPLE

Lab Sample ID: US82B
LIMS ID: 12-8017
Matrix: Water
Data Release Authorized: MW
Reported: 05/14/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Date Extracted: 05/08/12
Date Analyzed: 05/11/12 18:30
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	80.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-33S-050212
SAMPLE

Lab Sample ID: US82E
LIMS ID: 12-8020
Matrix: Water
Data Release Authorized: MW
Reported: 05/14/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/03/12

Date Extracted: 05/08/12
Date Analyzed: 05/11/12 19:06
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	0.65

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	77.6%

ANALYTICAL RESOURCES INCORPORATED

SW8041 CHLOROPHENOLICS SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09

Client ID	TBP	TOT OUT
MB-050812	86.0%	0
LCS-050812	86.6%	0
LCSD-050812	88.0%	0
MW-34S-050312	77.6%	0
MW-35S-050312	80.4%	0
MW-33S-050212	77.6%	0

	LCS/MB LIMITS	QC LIMITS
(TBP) = 2,4,6-Tribromophenol	(41-98)	(26-113)

Prep Method: SW3510C
Log Number Range: 12-8016 to 12-8020

US82:00065

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Page 1 of 1

Sample ID: LCS-050812
LCS/LCSD

Lab Sample ID: LCS-050812
LIMS ID: 12-8016
Matrix: Water
Data Release Authorized:
Reported: 05/14/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Date Extracted LCS/LCSD: 05/08/12

Date Analyzed LCS: 05/11/12 13:06
LCSD: 05/11/12 13:42
Instrument/Analyst LCS: ECD1/AAR
LCSD: ECD1/AAR

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 50 mL
LCSD: 50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Pentachlorophenol	2.51	2.50	100%	2.60	2.50	104%	3.5%

Chlorophenols Surrogate Recovery

	LCS	LCSD
2,4,6-Tribromophenol	86.6%	88.0%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4

CHLOROPHENOL METHOD BLANK SUMMARY

SAMPLE NO.

US61MBW1

Lab Name: ANALYTICAL RESOURCES INC — Client: ERM-WEST

ARI Job No.: US61 — Project: RG SPRING GW SAMPLING

Lab Sample ID: US61MBW1 — Lab File ID: 05110008

Matrix (soil/water) LIQUID — Extraction:(SepF/Cont/Sonc) SW3510C

Sulfur Cleanup (Y/N) Y — Date Extracted: 05/08/12

Date Analyzed (1): 05/11/12 — Date Analyzed (2): 05/11/12

Time Analyzed (1): 1230 — Time Analyzed (2): 1230

Instrument ID (1): ECD1 — Instrument ID (2): ECD1

GC Column (1): STX CLP1 ID: 0.53(mm) — GC Column (2): STX CLP2 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	US61LCSW1	US61LCSW1	05/11/12	05/11/12
02	US61LCSDW1	US61LCSDW1	05/11/12	05/11/12
03	MW-30S-05021	US61A	05/11/12	05/11/12
04	MW-29S-05021	US61B	05/11/12	05/11/12
05	MW-31S-05021	US61C	05/11/12	05/11/12
06	DUP-050212-1	US61D	05/11/12	05/11/12
07	MW-34S-05031	US82A	05/11/12	05/11/12
08	MW-35S-05031	US82B	05/11/12	05/11/12
09	MW-33S-05021	US82E	05/11/12	05/11/12
10	BLAIR 5-4-12	UT05A	05/11/12	05/11/12

US82:00058

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Page 1 of 1

Sample ID: MB-050812
METHOD BLANK

Lab Sample ID: MB-050812
LIMS ID: 12-8016
Matrix: Water
Data Release Authorized:
Reported: 05/14/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/08/12
Date Analyzed: 05/11/12 12:30
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	86.0%

FORM I

6D
CHLOROPHENOL INITIAL CALIBRATION
RETENTION TIME WINDOWS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

	RT OF STANDARDS						MEAN	RT WINDOW	
COMPOUND	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	RT	FROM	TO
Pentachlorophenol	21.11	21.11	21.11	21.10	21.10	21.10	21.10	21.04	21.18
2,4,6-Trichloropheno	13.21	13.20	13.20	13.20	13.20	13.20	13.20	13.13	13.28
2,3,6-Trichloropheno	14.20	14.20	14.20	14.20	14.20	14.20	14.20	14.13	14.27
2,4,5-Trichloropheno	15.97	15.96	15.96	15.95	15.95	15.95	15.96	15.90	16.04
2,3,4-Trichloropheno	17.48	17.47	17.46	17.46	17.46	17.45	17.47	17.41	17.55
2,3,5,6-Tetrachlorop	17.27	17.26	17.26	17.26	17.26	17.25	17.26	17.20	17.34
2,3,4,5-Tetrachlorop	20.28	20.27	20.27	20.26	20.26	20.26	20.27	20.21	20.35
2,4-Dichlorophenol	12.66	12.66	12.66	12.66	12.65	12.65	12.66	12.59	12.73
2,4,6-Tribromophenol	18.72	18.71	18.71	18.71	18.70	18.70	18.71	18.65	18.79

6E
CHLOROPHENOL INITIAL CALIBRATION
CALIBRATION FACTORS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

COMPOUND	CALIBRATION FACTORS LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	R^2/ %RSD	CT
Pentachlorophenol	42831	39424	36711	32522	29273	25788	18.6	A
2,4,6-Trichlorophenol	30382	25103	23028	23892	19998	16464	0.9995	Q
2,3,6-Trichlorophenol	26568	24380	23061	20113	17782	14386	0.9998	Q
2,4,5-Trichlorophenol	14270	12029	12379	12236	10871	7648	19.1	A
2,3,4-Trichlorophenol	22416	19090	16404	15938	12846	9204	0.9966	Q
2,3,5,6-Tetrachloroph	33860	31358	29200	27814	25374	21354	15.7	A
2,3,4,5-Tetrachloroph	27646	25163	22972	20080	18218	15133	0.9998	Q
2,4-Dichlorophenol	1384	1147	1030	1060	879	691	0.9992	Q
2,4,6-Tribromophenol	35777	33525	30723	28406	27585	22686	15.6	A

AVE RSD	20.5

CT stands for Curve Types:
- A Indicates an Average Response Factor Curve
- L Indicates a Linear Curve
- Q Indicates a Quadratic Curve

CALIBRATION FILES

LVL 1: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A007.d
LVL 2: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A008.d
LVL 3: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A009.d
LVL 4: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A006.d
LVL 5: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A010.d
LVL 6: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A011.d

6E
CHLOROPHENOL INITIAL CALIBRATION
CALIBRATION FACTORS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

COMPOUND	CALIBRATION FACTORS LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	R^2/ %RSD	CT
Pentachlorophenol	71748	66396	59963	53589	48840	40802	0.9998	Q
2,4,6-Trichlorophenol	36826	37371	34059	30102	26170	22270	19.5	A
2,3,6-Trichlorophenol	35698	33430	35377	29468	25822	21477	18.9	A
2,4,5-Trichlorophenol	20232	21532	22437	19278	15518	12168	0.9998	Q
2,3,4-Trichlorophenol	30789	28670	26135	22318	19586	15750	0.9998	Q
2,3,5,6-Tetrachloroph	53340	50922	48164	43544	39008	33581	16.8	A
2,3,4,5-Tetrachloroph	46968	41050	38658	33500	31676	24932	0.9986	Q
2,4-Dichlorophenol	2598	2225	1924	1689	1428	1202	0.9997	Q
2,4,6-Tribromophenol	54635	51354	49292	43188	39839	33195	17.7	A
						AVE RSD	20.8	

CT stands for Curve Types:
- A Indicates an Average Response Factor Curve
- L Indicates a Linear Curve
- Q Indicates a Quadratic Curve

CALIBRATION FILES

LVL 1: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A007.d
LVL 2: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A008.d
LVL 3: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A009.d
LVL 4: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A006.d
LVL 5: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A010.d
LVL 6: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A011.d

6D
CHLOROPHENOL INITIAL CALIBRATION
RETENTION TIME WINDOWS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

	RT OF STANDARDS						MEAN	RT WINDOW	
COMPOUND	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	RT	FROM	TO
Pentachlorophenol___	22.85	22.84	22.84	22.84	22.83	22.83	22.84	22.77	22.91
2,4,6-Trichloropheno	14.22	14.21	14.21	14.21	14.21	14.21	14.21	14.14	14.28
2,3,6-Trichloropheno	15.46	15.46	15.46	15.45	15.45	15.45	15.46	15.38	15.53
2,4,5-Trichloropheno	17.38	17.38	17.37	17.37	17.37	17.36	17.37	17.30	17.44
2,3,4-Trichloropheno	18.93	18.92	18.92	18.91	18.91	18.91	18.92	18.84	18.98
2,3,5,6-Tetrachlorop	18.71	18.70	18.70	18.70	18.70	18.69	18.70	18.63	18.77
2,3,4,5-Tetrachlorop	21.97	21.97	21.96	21.96	21.96	21.95	21.96	21.89	22.03
2,4-Dichlorophenol__	13.73	13.73	13.73	13.73	13.72	13.72	13.73	13.66	13.80
2,4,6-Tribromophenol	20.82	20.82	20.82	20.81	20.81	20.81	20.82	20.75	20.89

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :0914

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.13	21.04	21.18	24.2	25.0	-3.2
2,4,6-Trichlorophenol	13.23	13.13	13.28	23.3	25.0	-6.8
2,3,6-Trichlorophenol	14.22	14.13	14.27	23.8	25.0	-4.8
2,4,5-Trichlorophenol	15.98	15.90	16.04	24.1	25.0	-3.6
2,3,4-Trichlorophenol	17.49	17.41	17.55	24.7	25.0	-1.2
2,3,5,6-Tetrachlorophenol	17.29	17.20	17.34	24.0	25.0	-4.0
2,3,4,5-Tetrachlorophenol	20.29	20.21	20.35	23.6	25.0	-5.6
2,4-Dichlorophenol	12.68	12.59	12.73	232	250	-7.2
2,4,6-Tribromophenol (surr	18.73	18.65	18.79	24.4	25.0	-2.4

AVERAGE %D = 4.3

FORM VII PCP

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :0914

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	22.86	22.77	22.91	23.2	25.0	-7.2
2,4,6-Trichlorophenol	14.24	14.14	14.28	24.5	25.0	-2.0
2,3,6-Trichlorophenol	15.48	15.38	15.53	22.8	25.0	-8.8
2,4,5-Trichlorophenol	17.39	17.30	17.44	25.2	25.0	0.8
2,3,4-Trichlorophenol	18.94	18.84	18.98	23.8	25.0	-4.8
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	22.9	25.0	-8.4
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	22.2	25.0	-11.2
2,4-Dichlorophenol	13.75	13.66	13.80	248	250	-0.8
2,4,6-Tribromophenol (surr	20.84	20.75	20.89	22.4	25.0	-10.4

AVERAGE %D = 6.0

US82:00075

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1718

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.12	21.04	21.18	24.8	25.0	-0.8
2,4,6-Trichlorophenol	13.22	13.13	13.28	24.5	25.0	-2.0
2,3,6-Trichlorophenol	14.22	14.13	14.27	24.9	25.0	-0.4
2,4,5-Trichlorophenol	15.97	15.90	16.04	24.8	25.0	-0.8
2,3,4-Trichlorophenol	17.48	17.41	17.55	25.8	25.0	3.2
2,3,5,6-Tetrachlorophenol	17.28	17.20	17.34	24.8	25.0	-0.8
2,3,4,5-Tetrachlorophenol	20.28	20.21	20.35	24.2	25.0	-3.2
2,4-Dichlorophenol	12.67	12.59	12.73	246	250	-1.6
2,4,6-Tribromophenol (surr	18.72	18.65	18.79	24.4	25.0	-2.4

AVERAGE %D = 1.7

FORM VII PCP

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1718

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	22.85	22.77	22.91	23.6	25.0	-5.6
2,4,6-Trichlorophenol	14.23	14.14	14.28	25.5	25.0	2.0
2,3,6-Trichlorophenol	15.47	15.38	15.53	23.6	25.0	-5.6
2,4,5-Trichlorophenol	17.39	17.30	17.44	25.5	25.0	2.0
2,3,4-Trichlorophenol	18.93	18.84	18.98	21.3	25.0	-14.8
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	23.3	25.0	-6.8
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	22.7	25.0	-9.2
2,4-Dichlorophenol	13.74	13.66	13.80	254	250	1.6
2,4,6-Tribromophenol (surr	20.83	20.75	20.89	23.0	25.0	-8.0

AVERAGE %D = 6.2

US82 000077

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1137

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	22.86	22.77	22.91	23.6	25.0	-5.6
2,4,6-Trichlorophenol	14.23	14.14	14.28	22.5	25.0	-10.0
2,3,6-Trichlorophenol	15.47	15.38	15.53	23.1	25.0	-7.6
2,4,5-Trichlorophenol	17.39	17.30	17.44	25.2	25.0	0.8
2,3,4-Trichlorophenol	18.93	18.84	18.98	21.7	25.0	-13.2
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	23.2	25.0	-7.2
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	22.6	25.0	-9.6
2,4-Dichlorophenol	13.74	13.66	13.80	208	250	-16.8
2,4,6-Tribromophenol (surr	20.83	20.75	20.89	22.8	25.0	-8.8

AVERAGE %D = 8.8

FORM VII PCP

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1137

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.12	21.04	21.18	24.6	25.0	-1.6
2,4,6-Trichlorophenol	13.22	13.13	13.28	24.0	25.0	-4.0
2,3,6-Trichlorophenol	14.22	14.13	14.27	25.9	25.0	3.6
2,4,5-Trichlorophenol	15.97	15.90	16.04	24.7	25.0	-1.2
2,3,4-Trichlorophenol	17.48	17.41	17.55	25.4	25.0	1.6
2,3,5,6-Tetrachlorophenol	17.28	17.20	17.34	24.4	25.0	-2.4
2,3,4,5-Tetrachlorophenol	20.28	20.21	20.35	23.9	25.0	-4.4
2,4-Dichlorophenol	12.68	12.59	12.73	236	250	-5.6
2,4,6-Tribromophenol (surr	18.73	18.65	18.79	24.0	25.0	-4.0

AVERAGE %D = 3.2

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :2054

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D	
Pentachlorophenol	22.85	22.77	22.91	23.8	25.0	-4.8	
2,4,6-Trichlorophenol	14.23	14.14	14.28	25.5	25.0	2.0	
2,3,6-Trichlorophenol	15.47	15.38	15.53	22.8	25.0	-8.8	
2,4,5-Trichlorophenol	17.39	17.30	17.44	22.5	25.0	-10.0	
2,3,4-Trichlorophenol	18.93	18.84	18.98	18.2	25.0	-27.2	<
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	22.8	25.0	-8.8	
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	22.8	25.0	-8.8	
2,4-Dichlorophenol	13.74	13.66	13.80	250	250	0.0	
2,4,6-Tribromophenol (surr	20.83	20.75	20.89	23.0	25.0	-8.0	

AVERAGE %D = 8.7

FORM VII PCP

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :2054

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.12	21.04	21.18	25.1	25.0	0.4
2,4,6-Trichlorophenol	13.22	13.13	13.28	24.7	25.0	-1.2
2,3,6-Trichlorophenol	14.22	14.13	14.27	25.1	25.0	0.4
2,4,5-Trichlorophenol	15.97	15.90	16.04	25.0	25.0	0.0
2,3,4-Trichlorophenol	17.48	17.41	17.55	26.0	25.0	4.0
2,3,5,6-Tetrachlorophenol	17.28	17.20	17.34	25.0	25.0	0.0
2,3,4,5-Tetrachlorophenol	20.28	20.21	20.35	24.3	25.0	-2.8
2,4-Dichlorophenol	12.68	12.59	12.73	249	250	-0.4
2,4,6-Tribromophenol (surr	18.72	18.65	18.79	24.6	25.0	-1.6

AVERAGE %D = 1.2

CHLOROPHENOL ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm) Instrument ID: ECD1

Init. Calib. Date(s): 03/23/12 03/23/12

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 20.82

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #
01		PCP D	03/23/12	1336	20.81
02		PCP A	03/23/12	1412	20.82
03		PCP B	03/23/12	1448	20.82
04		PCP C	03/23/12	1524	20.82
05		PCP E	03/23/12	1600	20.81
06		PCP F	03/23/12	1636	20.81
07	ZZZZZ	ZZZZZ	03/23/12	1712	20.82
08		PCP CCAL	05/11/12	0914	20.84
09	ZZZZZ	ZZZZZ	05/11/12	0949	20.86
10	ZZZZZ	ZZZZZ	05/11/12	1025	20.86
11	ZZZZZ	ZZZZZ	05/11/12	1101	20.83
12		PCP CCAL	05/11/12	1137	20.83
13	US61MBW1	US61MBW1	05/11/12	1230	20.85
14	US61LCSW1	US61LCSW1	05/11/12	1306	20.84
15	US61LCSDW1	US61LCSDW1	05/11/12	1342	20.84
16	MW-30S-05021	US61A	05/11/12	1418	20.84
17	MW-29S-05021	US61B	05/11/12	1454	20.84
18	MW-31S-05021	US61C	05/11/12	1530	20.84
19	DUP-050212-1	US61D	05/11/12	1606	20.84
20	ZZZZZ	ZZZZZ	05/11/12	1642	20.83
21		PCP CCAL	05/11/12	1718	20.83
22	MW-34S-05031	US82A	05/11/12	1754	20.85
23	MW-35S-05031	US82B	05/11/12	1830	20.84
24	MW-33S-05021	US82E	05/11/12	1906	20.84
25	ZZZZZ	ZZZZZ	05/11/12	1942	20.83
26	ZZZZZ	ZZZZZ	05/11/12	2018	20.83
27		PCP CCAL	05/11/12	2054	20.83

QC LIMITS

S1 = 2,4,6-Tribromophenol (+/- 0.07 MINUTES)

* Values outside of QC limits.

FORM VIII PCP

US82:00082

CHLOROPHENOL ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm) Instrument ID: ECD1

Init. Calib. Date(s): 03/23/12 03/23/12

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.72

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #
01		PCP D	03/23/12	1336	18.71
02		PCP A	03/23/12	1412	18.72
03		PCP B	03/23/12	1448	18.71
04		PCP C	03/23/12	1524	18.71
05		PCP E	03/23/12	1600	18.70
06		PCP F	03/23/12	1636	18.70
07	ZZZZZ	ZZZZZ	03/23/12	1712	18.71
08		PCP CCAL	05/11/12	0914	18.73
09	ZZZZZ	ZZZZZ	05/11/12	0949	18.76
10	ZZZZZ	ZZZZZ	05/11/12	1025	18.77
11	ZZZZZ	ZZZZZ	05/11/12	1101	18.72
12		PCP CCAL	05/11/12	1137	18.73
13	US61MBW1	US61MBW1	05/11/12	1230	18.75
14	US61LCSW1	US61LCSW1	05/11/12	1306	18.74
15	US61LCSDW1	US61LCSDW1	05/11/12	1342	18.74
16	MW-30S-05021	US61A	05/11/12	1418	18.73
17	MW-29S-05021	US61B	05/11/12	1454	18.74
18	MW-31S-05021	US61C	05/11/12	1530	18.74
19	DUP-050212-1	US61D	05/11/12	1606	18.74
20	ZZZZZ	ZZZZZ	05/11/12	1642	18.72
21		PCP CCAL	05/11/12	1718	18.72
22	MW-34S-05031	US82A	05/11/12	1754	18.74
23	MW-35S-05031	US82B	05/11/12	1830	18.74
24	MW-33S-05021	US82E	05/11/12	1906	18.73
25	ZZZZZ	ZZZZZ	05/11/12	1942	18.73
26	ZZZZZ	ZZZZZ	05/11/12	2018	18.72
27		PCP CCAL	05/11/12	2054	18.72

QC LIMITS

S1 = 2,4,6-Tribromophenol (+/- 0.07 MINUTES)

* Values outside of QC limits.

FORM VIII PCP

US82 : 00083

TPHD Analysis
Report and Summary QC Forms

ARI Job ID: US82

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS
NWTPHD by GC/FID
Page 1 of 1
Matrix: Water

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Received: 05/03/12

Data Release Authorized: MW
Reported: 05/10/12

ARI ID	Sample ID	Extraction Date	Analysis Date	EFV DL	Range/Surrogate	RL	Result
MB-050712	Method Blank	05/07/12	05/09/12	1.00	Diesel Range	0.10	< 0.10 U
12-8017	HC ID: ---		FID4A	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		85.6%
US82B	MW-35S-050312	05/07/12	05/09/12	1.00	**Diesel Range**	**0.10**	**3.2**
12-8017	HC ID: **DRO**		FID4A	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		94.1%

Reported in mg/L (ppm)

EFV-Effective Final Volume in mL.
DL-Dilution of extract prior to analysis.
RL-Reporting limit.

Diesel range quantitation on total peaks in the range from C12 to C24.
Motor Oil range quantitation on total peaks in the range from C24 to C38.
HC ID: DRO/RRO indicates results of organics or additional hydrocarbons in ranges are not identifiable.

MH 5/10/12

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20120509.b/0509a006.d
Method: /chem3/fid4a.i/20120509.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MH
Report Date: 05/10/2012
Macro: 08-MAY-2012
Calibration Dates: Gas:08-MAY-2012 Diesel:08-FEB-2012 M.Oil:19-APR-2012

ARI ID: US79MBW1
Client ID: US79MBW1
Injection: 09-MAY-2012 08:29
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.324	0.021	4277	4582	GAS (Tol-C12)	428588	31.20
C8	1.549	0.007	960	626	DIESEL (C12-C24)	74935	4.97
C10	3.106	-0.038	1005	4235	M.OIL (C24-C38)	139374	12.02
C12	4.155	-0.009	414	645	AK-102 (C10-C25)	109004	6.10
C14	4.920	0.004	270	642	AK-103 (C25-C36)	125277	16.15
C16	5.575	0.021	141	259			
C18	6.149	0.014	185	380			
C20	6.707	-0.010	2007	4282	MIN.OIL (C24-C38)	139374	10.40
C22	7.266	0.006	96	62			
C24	7.758	-0.012	1217	2335			
C25	8.021	0.005	632	597			
C26	8.263	0.008	216	454			
C28	8.716	0.011	1148	1552			
C32	9.634	-0.005	1724	1793			
C34	10.089	-0.029	1324	4617	CREOSOT (C12-C22)	70004	19.05
Filter Peak	10.532	0.007	433	572			
C36	10.587	-0.011	422	262			
C38	11.075	-0.010	911	2576			
C40	11.584	-0.005	416	490			
o-terph	6.307	-0.002	535965	759779	JET-A (C10-C18)	54607	3.68
Triacon Surr	9.164	-0.009	418715	646869			

M Indicates manual integration within range.
Range Times: NW Diesel(4.164 - 7.769) AK102(3.14 - 8.02) Jet A(3.14 - 6.13)
NW M.Oil(7.77 - 11.08) AK103(8.02 - 10.60) OR Diesel(3.14 - 8.71)

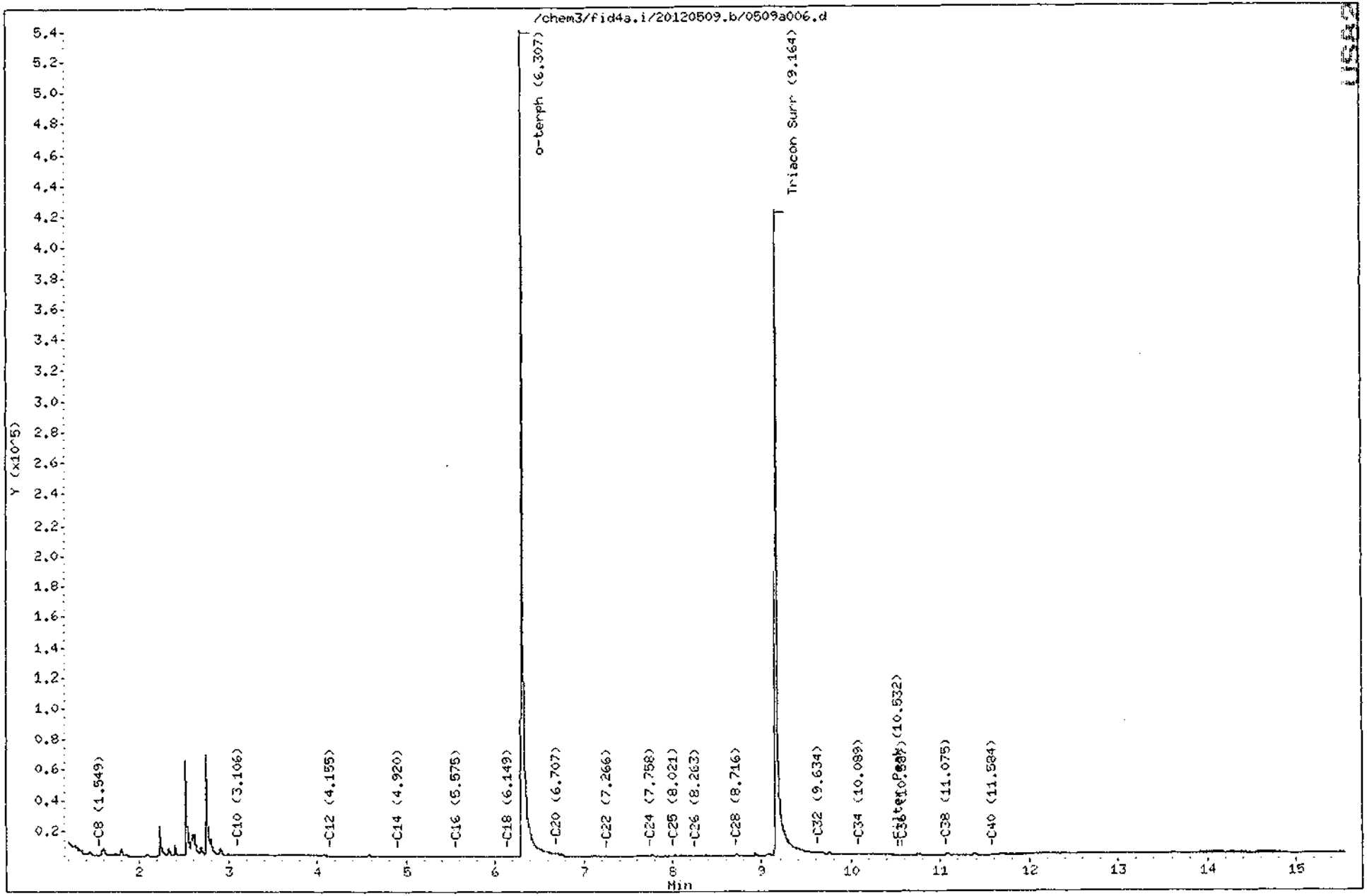
Surrogate	Area	Amount	%Rec
o-Terphenyl	759779	38.5	85.6
Triacontane	646869	44.1	98.0

Analyte	RF	Curve Date
o-Terph Surr	19726.1	08-FEB-2012
Triacon Surr	14664.8	19-APR-2012
Gas	13737.9	08-MAY-2012
Diesel	15079.0	08-FEB-2012
Motor Oil	11597.0	19-APR-2012
AK102	17873.0	08-FEB-2012
AK103	7759.3	29-DEC-2011
JetA	14842.0	13-APR-2011
Min Oil	13405.9	18-JAN-2011
Bunker C	7100.0	16-DEC-2011
Creosote	3674.2	15-AUG-2011

Data File: /chem3/fid4a.i/20120509.b/0509a006.d
Date : 09-MAY-2012 08:29
Client ID: US79MBW1
Sample Info: US79MBW1

Instrument: fid4a.i
Operator: MH
Column diameter: 0.25

Column phase: RTX-1



MH 5/10/12

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20120509.b/0509a021.d
Method: /chem3/fid4a.i/20120509.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MH
Report Date: 05/10/2012
Macro: 08-MAY-2012
Calibration Dates: Gas:08-MAY-2012 Diesel:08-FEB-2012 M.Oil:19-APR-2012

ARI ID: US82B
Client ID: MW-35S-050312
Injection: 09-MAY-2012 14:34
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.298	-0.005	4411	6111	GAS (Tol-C12)	346191	25.20
C8	1.554	0.012	1858	4827	DIESEL (C12-C24)	23726236	1573.46
C10	3.153	0.010	1899	5396	M.OIL (C24-C38)	187046	16.13
C12	4.180	0.017	552	715	AK-102 (C10-C25)	23787681	1330.93
C14	4.885	-0.031	6811697	18518195	AK-103 (C25-C36)	161845	20.86
C16	5.544	-0.010	4784	8060			
C18	6.121	-0.014	4663	7306			
C20	6.698	-0.019	5656	15568	MIN.OIL (C24-C38)	187046	13.95
C22	7.265	0.006	3564	6670			
C24	7.762	-0.007	2121	3662			
C25	8.018	0.001	2068	3054			
C26	8.251	-0.003	1375	1223			
C28	8.704	-0.002	1440	2217			
C32	9.631	-0.008	1417	2509			
C34	10.087	-0.031	1004	2795	CREOSOT (C12-C22)	23662472	6440.25
Filter Peak	10.520	-0.005	331	448			
C36	10.601	0.003	306	240			
C38	11.070	-0.015	577	1262			
C40	11.594	0.005	216	187			
o-terph	6.308	-0.001	658126	835054	JET-A (C10-C18)	23502597	1583.52
Triacon Surr	9.167	-0.007	510244	715236			

M Indicates manual integration within range.
Range Times: NW Diesel(4.164 - 7.769) AK102(3.14 - 8.02) Jet A(3.14 - 6.13)
NW M.Oil(7.77 - 11.08) AK103(8.02 - 10.60) OR Diesel(3.14 - 8.71)

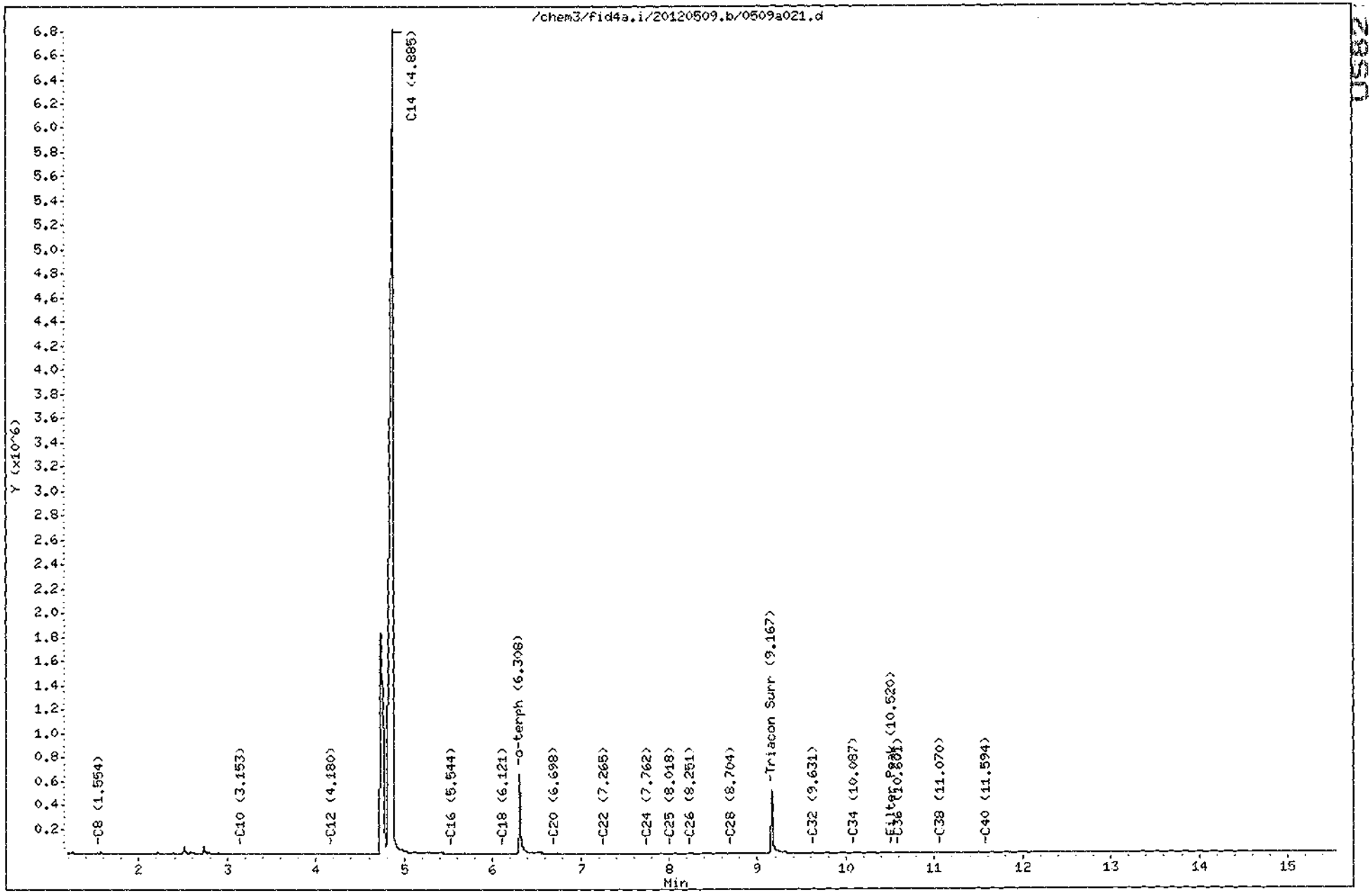
Surrogate	Area	Amount	%Rec
o-Terphenyl	835054	42.3	94.1
Triacontane	715236	48.8	108.4

Analyte	RF	Curve Date
o-Terph Surr	19726.1	08-FEB-2012
Triacon Surr	14664.8	19-APR-2012
Gas	13737.9	08-MAY-2012
Diesel	15079.0	08-FEB-2012
Motor Oil	11597.0	19-APR-2012
AK102	17873.0	08-FEB-2012
AK103	7759.3	29-DEC-2011
JetA	14842.0	13-APR-2011
Min Oil	13405.9	18-JAN-2011
Bunker C	7100.0	16-DEC-2011
Creosote	3674.2	15-AUG-2011

Data File: /chem3/fid4a.i/20120509.b/0509a021.d
Date : 09-MAY-2012 14:34
Client ID: MW-35S-050312
Sample Info: US82B

Instrument: fid4a.i

Operator: MH
Column phase: RTX-1
Column diameter: 0.25



US82 00089

ANALYTICAL RESOURCES INCORPORATED

TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09

Client ID	OTER	TOT OUT
MB-050712	85.6%	0
LCS-050712	87.9%	0
LCSD-050712	88.9%	0
MW-35S-050312	94.1%	0

	LCS/MB LIMITS	QC LIMITS
(OTER) = o-Terphenyl	(50-150)	(50-150)

Prep Method: SW3510C
Log Number Range: 12-8017 to 12-8017

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
NWTPHD by GC/FID

Sample ID: LCS-050712
LCS/LCSD

Lab Sample ID: LCS-050712
LIMS ID: 12-8017
Matrix: Water
Data Release Authorized: MW
Reported: 05/10/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 05/07/12

Date Analyzed LCS: 05/09/12 08:53
LCSD: 05/09/12 09:17
Instrument/Analyst LCS: FID4A/MH
LCSD: FID4A/MH

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 1.0 mL
LCSD: 1.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Range	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Diesel	2.49	3.00	83.0%	2.44	3.00	81.3%	2.0%

TPHD Surrogate Recovery

	LCS	LCSD
o-Terphenyl	87.9%	88.9%

Results reported in mg/L
RPD calculated using sample concentrations per SW846.

MH 5/10/12

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20120509.b/0509a007.d
Method: /chem3/fid4a.i/20120509.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MH
Report Date: 05/10/2012
Macro: 08-MAY-2012
Calibration Dates: Gas:08-MAY-2012 Diesel:08-FEB-2012 M.Oil:19-APR-2012

ARI ID: US79LCSW1
Client ID: US79LCSW1
Injection: 09-MAY-2012 08:53
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc	
Toluene	1.338	0.035	8291	13128	GAS (Tol-C12)	3926521	285.82	
C8	1.546	0.004	4763	9280	DIESEL (C12-C24)	18788289	1245.99	
C10	3.141	-0.002	68429	61230	M.OIL (C24-C38)	276869	23.87	
C12	4.167	0.003	38016	26155	AK-102 (C10-C25)	21390551	1196.81	M
C14	4.907	-0.009	115592	89876	AK-103 (C25-C36)	219579	28.30	
C16	5.559	0.005	123994	41726				
C18	6.137	0.002	465766	484817				
C20	6.708	-0.009	302727	356144	MIN.OIL (C24-C38)	276869	20.65	
C22	7.253	-0.007	129536	239060				
C24	7.780	0.011	23737	79985				
C25	8.028	0.012	14442	30620				
C26	8.260	0.005	6921	14012				
C28	8.705	-0.001	1728	3704				
C32	9.640	0.002	1271	1855				
C34	10.099	-0.019	636	1399	CREOSOT (C12-C22)	18189252	4950.60	M
Filter Peak	10.523	-0.002	92	107				
C36	10.606	0.008	73	70				
C38	11.084	0.000	298	498				
C40	11.599	0.010	43	40				
o-terph	6.313	0.003	911966	780009	JET-A (C10-C18)	15741192	1060.58	
Triacon Surr	9.166	-0.008	445216	649926				

M Indicates manual integration within range.
Range Times: NW Diesel(4.164 - 7.769) AK102(3.14 - 8.02) Jet A(3.14 - 6.13)
NW M.Oil(7.77 - 11.08) AK103(8.02 - 10.60) OR Diesel(3.14 - 8.71)

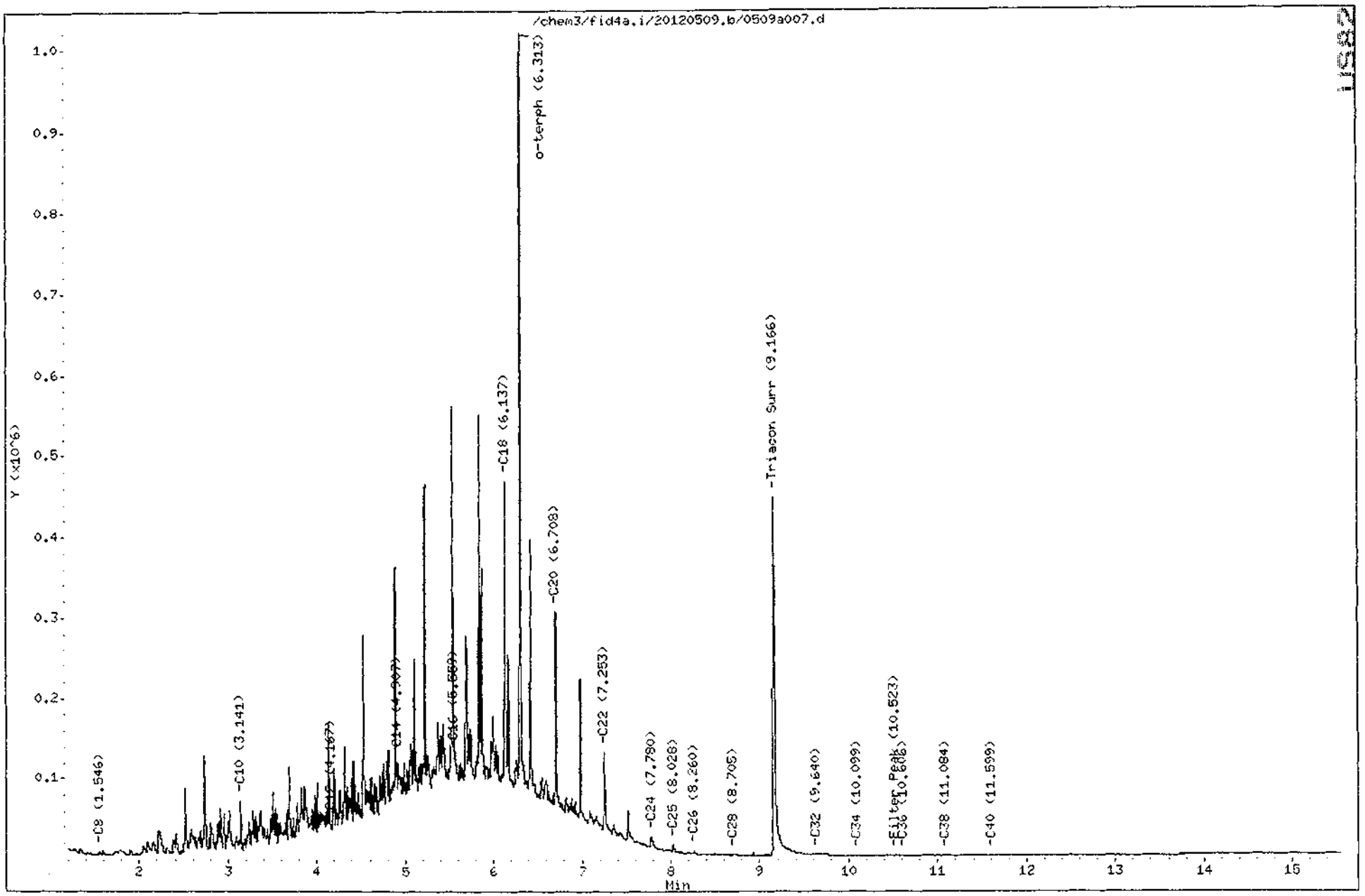
Surrogate	Area	Amount	%Rec
o-Terphenyl	780009	39.5	87.9
Triacontane	649926	44.3	98.5

Analyte	RF	Curve Date
o-Terph Surr	19726.1	08-FEB-2012
Triacon Surr	14664.8	19-APR-2012
Gas	13737.9	08-MAY-2012
Diesel	15079.0	08-FEB-2012
Motor Oil	11597.0	19-APR-2012
AK102	17873.0	08-FEB-2012
AK103	7759.3	29-DEC-2011
JetA	14842.0	13-APR-2011
Min Oil	13405.9	18-JAN-2011
Bunker C	7100.0	16-DEC-2011
Creosote	3674.2	15-AUG-2011

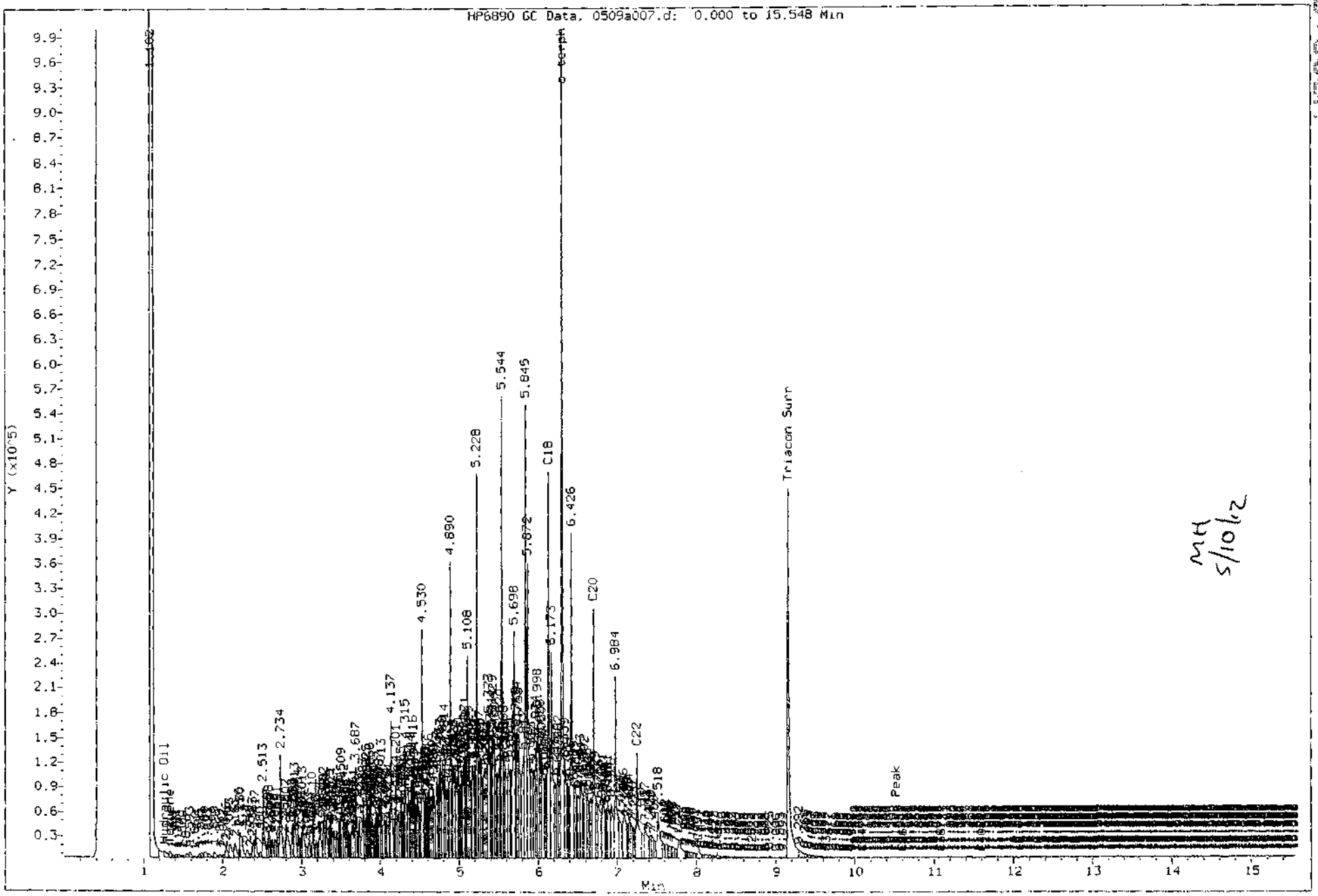
Data File: /chem3/fid4a.i/20120509.b/0509a007.d
Date : 09-MAY-2012 08:53
Client ID: US79LCSW1
Sample Info: US79LCSW1

Instrument: fid4a.i
Operator: MH
Column diameter: 0.25

Column phase: RTX-1



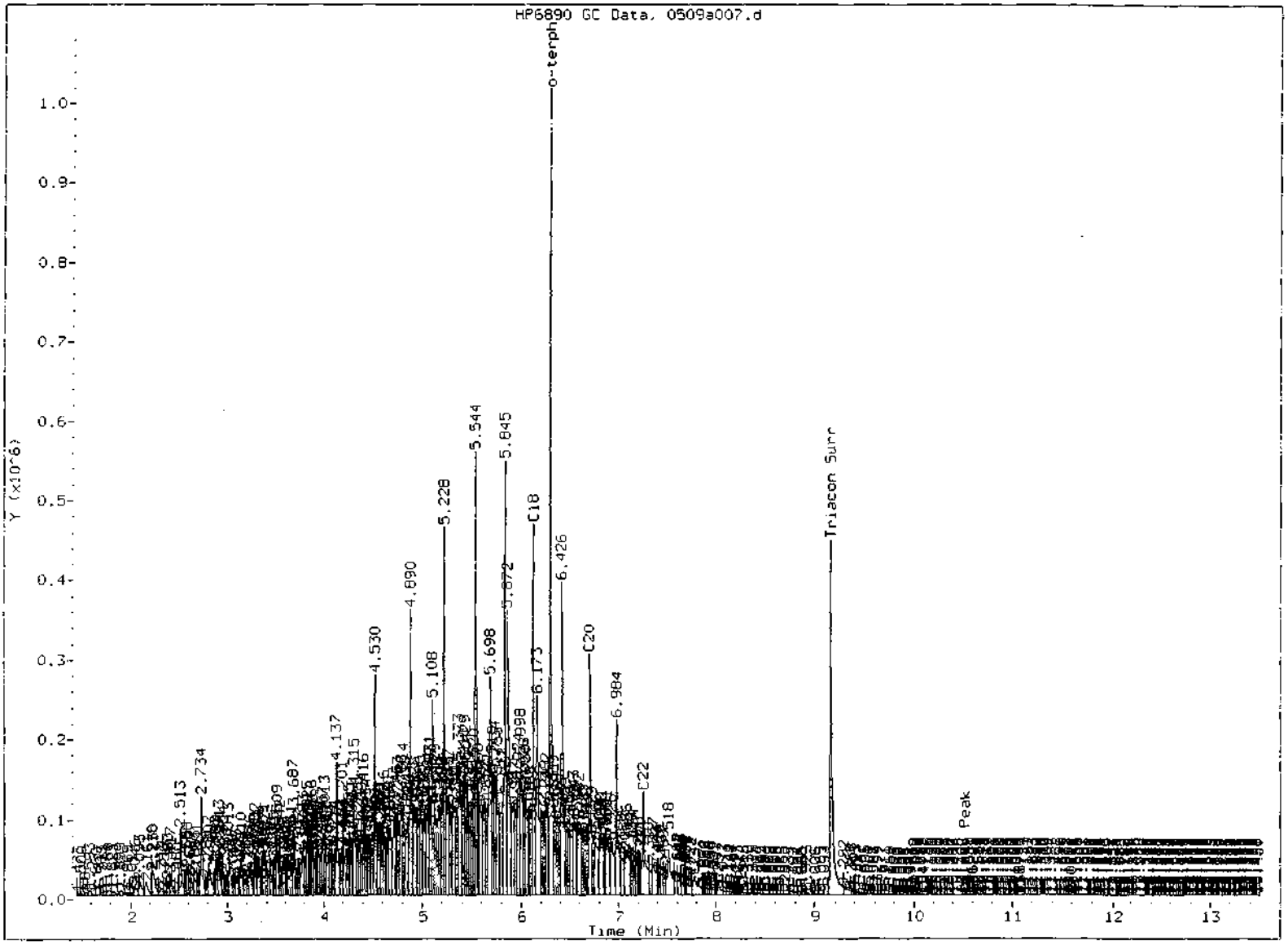
Data File: /chem3/fid4a.i/20120509.b/0509a007.d
Injection Date: 09-MAY-2012 08:53
Instrument: fid4a.i
Client Sample ID: US79LCSW1



MH 5/10/12

US82-000911

FID:4A-2C/RTX-1 US79LCSW1 FID:4A SIGNAL



MANUAL INTEGRATION

X 1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation

5. Other _____

Analyst: MH Date: 5/10/12

MH 5/10/12

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20120509.b/0509a008.d
Method: /chem3/fid4a.i/20120509.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MH
Report Date: 05/10/2012
Macro: 08-MAY-2012
Calibration Dates: Gas:08-MAY-2012 Diesel:08-FEB-2012 M.Oil:19-APR-2012

ARI ID: US79LCSDW1
Client ID: US79LCSDW1
Injection: 09-MAY-2012 09:17

Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc	
Toluene	1.322	0.020	7886	10504	GAS (Tol-C12)	3655087	266.06	
C8	1.540	-0.002	4444	8259	DIESEL (C12-C24)	18423752	1221.82	
C10	3.139	-0.004	69163	55934	M.OIL (C24-C38)	239485	20.65	
C12	4.168	0.005	35094	24186	AK-102 (C10-C25)	20921959	1170.59	M
C14	4.907	-0.009	114317	91958	AK-103 (C25-C36)	183818	23.69	
C16	5.544	-0.010	538559	464827				
C18	6.138	0.003	463887	465127				
C20	6.708	-0.008	316494	447962	MIN.OIL (C24-C38)	239485	17.86	
C22	7.254	-0.006	132481	225276				
C24	7.781	0.012	23490	80957				
C25	8.005	-0.011	5589	2432				
C26	8.260	0.006	6637	10767				
C28	8.704	-0.001	1645	2838				
C32	9.642	0.004	1290	1661				
C34	10.099	-0.019	640	1733	CREOSOT (C12-C22)	17838312	4855.08	M
Filter Peak	10.529	0.005	95	41				
C36	10.596	-0.002	81	96				
C38	11.085	0.001	307	498				
C40	11.580	-0.008	46	32				
o-terph	6.313	0.004	936937	788938	JET-A (C10-C18)	15312260	1031.68	
Triacon Surr	9.165	-0.008	428915	685895				

M Indicates manual integration within range.
Range Times: NW Diesel(4.164 - 7.769) AK102(3.14 - 8.02) Jet A(3.14 - 6.13)
NW M.Oil(7.77 - 11.08) AK103(8.02 - 10.60) OR Diesel(3.14 - 8.71)

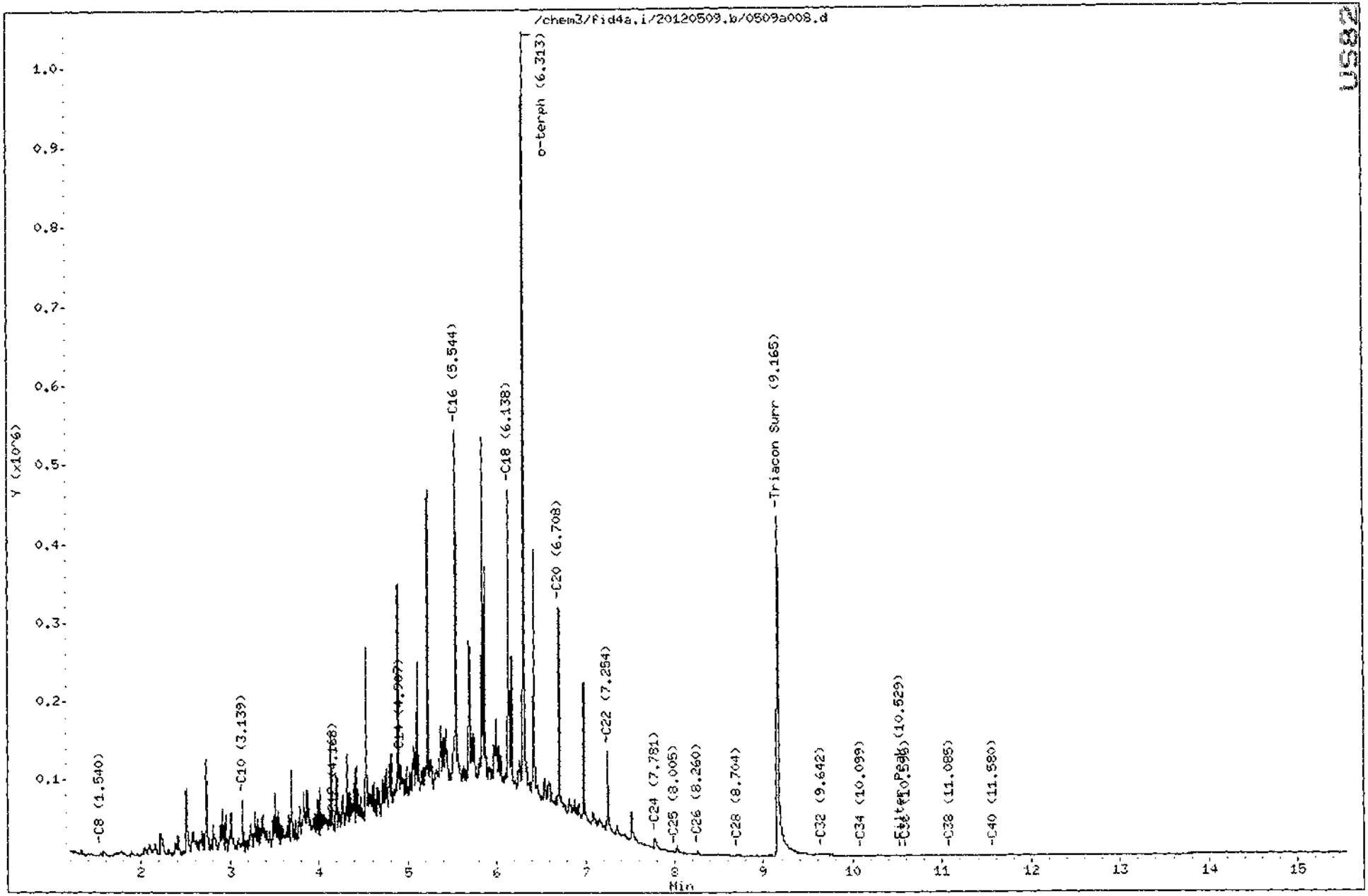
Surrogate	Area	Amount	%Rec
o-Terphenyl	788938	40.0	88.9
Triacontane	685895	46.8	103.9

Analyte	RF	Curve Date
o-Terph Surr	19726.1	08-FEB-2012
Triacon Surr	14664.8	19-APR-2012
Gas	13737.9	08-MAY-2012
Diesel	15079.0	08-FEB-2012
Motor Oil	11597.0	19-APR-2012
AK102	17873.0	08-FEB-2012
AK103	7759.3	29-DEC-2011
JetA	14842.0	13-APR-2011
Min Oil	13405.9	18-JAN-2011
Bunker C	7100.0	16-DEC-2011
Creosote	3674.2	15-AUG-2011

Data File: /chem3/fid4a.i/20120509.b/0509a008.d
Date : 09-MAY-2012 09:17
Client ID: US79LCSDW1
Sample Info: US79LCSDW1

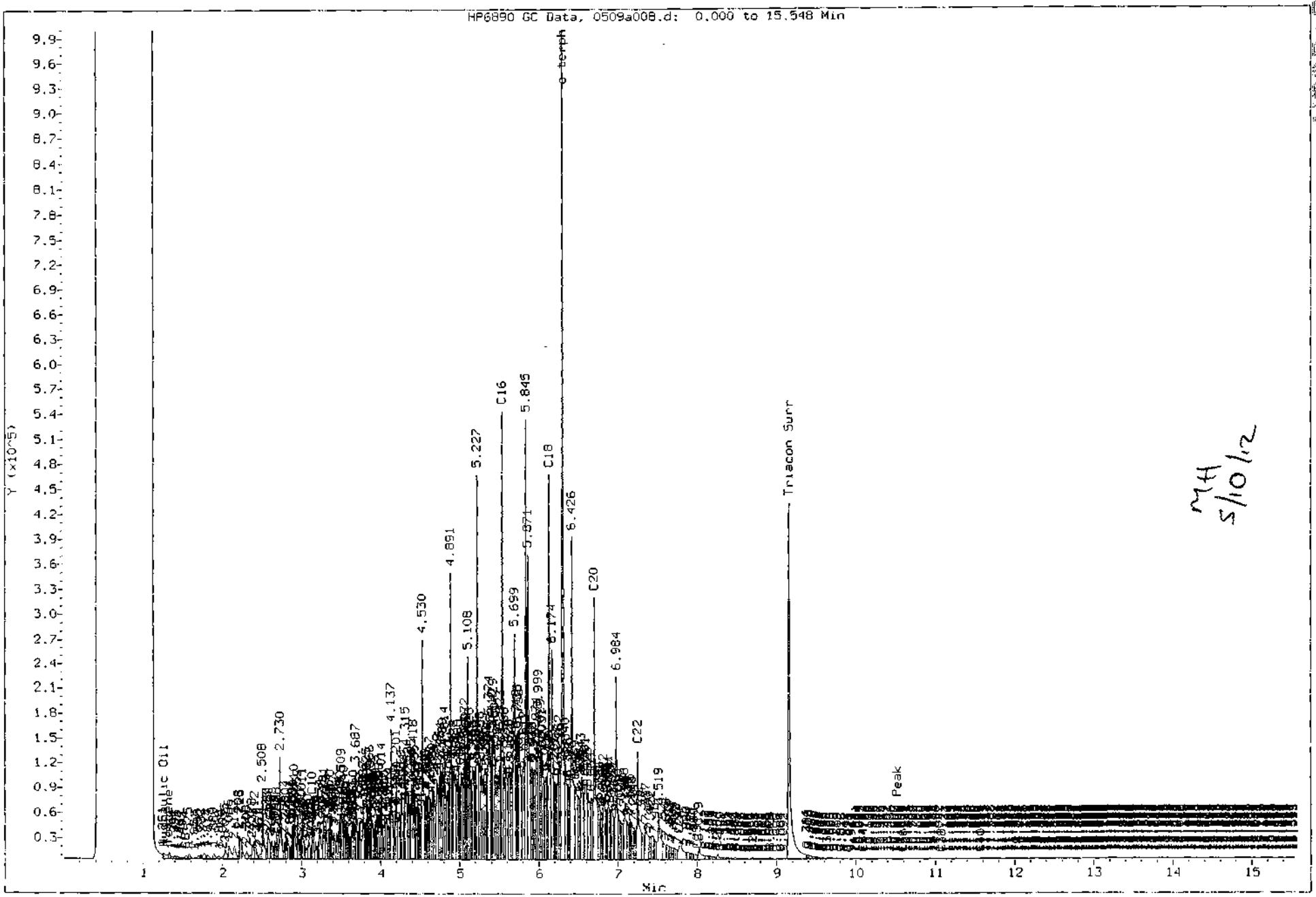
Instrument: fid4a.i
Operator: MH
Column diameter: 0.25

Column phase: RTX-1



US82: 000097

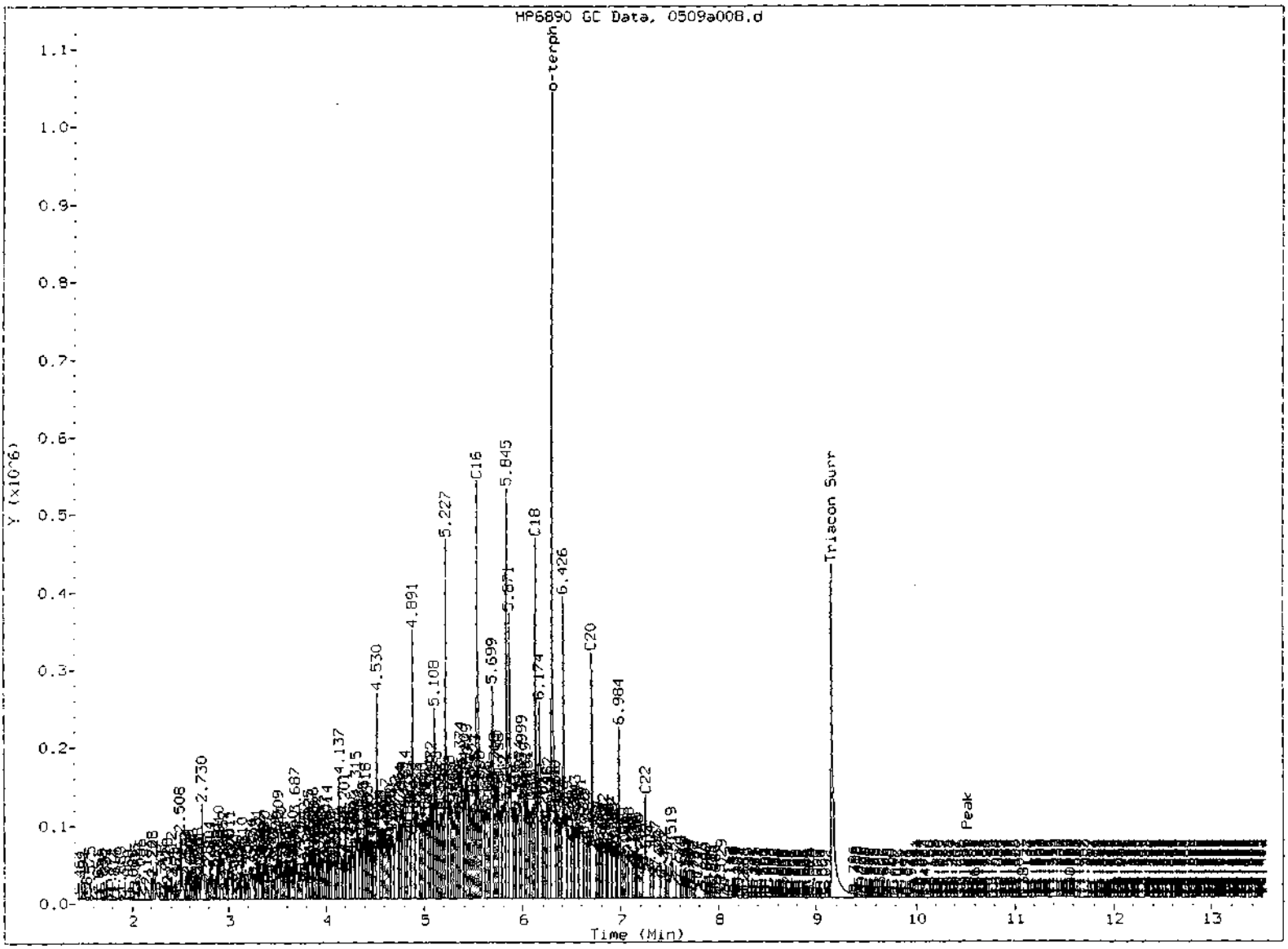
Data File: /chem3/fid4a.i/20120509.b/0509a008.d
Injection Date: 09-MAY-2012 09:17
Instrument: fid4a.i
Client Sample ID: US79LCSDWI



MH 5/10/12

US8227 : 60055

FID:4A-2C/RTX-1 US79LCSDW1 FID:4A SIGNAL



MANUAL INTEGRATION

X 1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation

5. Other _____

Analyst: MH Date: 5/10/12

ANALYTICAL RESOURCES INCORPORATED

TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

ARI Job: US82
Matrix: Water
Project: RG Spring GW Sampling
Date Received: 05/03/12
155129.09

ARI ID	Client ID	Samp Amt	Final Vol	Prep Date
12-8017-050712MB1	Method Blank	500 mL	1.00 mL	05/07/12
12-8017-050712LCS1	Lab Control	500 mL	1.00 mL	05/07/12
12-8017-050712LCSD1	Lab Control Dup	500 mL	1.00 mL	05/07/12
12-8017-US82B	MW-35S-050312	500 mL	1.00 mL	05/07/12

TPH METHOD BLANK SUMMARY

BLANK NO.

US79MBW1

Lab Name: ANALYTICAL RESOURCES INC Client: ERM

SDG No.: US82 Project No.: RG SPRING GW

Date Extracted: 05/07/12 Matrix: LIQUID

Date Analyzed : 05/09/12 Instrument ID : FID4A

Time Analyzed : 0829

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	US79LCSW1	US79LCSW1	05/09/12
02	US79LCSDW1	US79LCSDW1	05/09/12
03	MW-35S-05031	US82B	05/09/12
04			

FORM IV TPH

6a

DIESEL INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM

Instrument: FID4A.I Project: RG SPRING GW

Calibration Date: 08-FEB-2012 SDG No.: US82

Diesel Range	RF1 50	RF2 100	RF3 250	RF4 500	RF5 1000	RF6 2500	Ave RF	%RSD
WA Diesel	14949	15145	15065	15164	14702	15451	15079	1.6
AK Diesel	17627	17893	17841	17989	17500	18388	17873	1.7
OR Diesel	17897	18055	17928	18068	17586	18468	18000	1.6
Cal Diesel	17603	17864	17799	17951	17467	18344	17838	1.7
o-Terph	19594	19585	19531	19489	19354	20804	19726	2.7

<- Indicates %RSD outside limits
Surrogate areas are not included in Diesel RF calculation.

Quant Ranges : WA Diesel C12-C24 (4.212-7.837)
AK Diesel C10-C25 (3.212-8.084)
OR Diesel C10-C28 (3.212-8.776)
Cal Diesel C10-C24 (3.212-7.837)

Calibration Files	Analysis Time
0208a009.d	08-FEB-2012 08:33
0208a008.d	08-FEB-2012 08:09
0208a007.d	08-FEB-2012 07:46
0208a006.d	08-FEB-2012 07:22
0208a005.d	08-FEB-2012 06:59
0208a004.d	08-FEB-2012 06:35

6a

NW MOTOR OIL RANGE INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM

Instrument: FID4A.I Project: RG SPRING GW

Calibration Date: 19-APR-2012 SDG No.: US82

Product Range	RF1 100	RF2 250	RF3 500	RF4 1000	RF5 2500	RF6 5000	Ave RF	%RSD
WA M.Oil C24-C38	12890	11264	11615	11821	10866	11025	11580	6.3
Triac Surr	13307	14068	15103	15717	15129	*****	14665	6.57

<- Indicates %RSD outside limits
Surrogate areas are not included in Motor Oil RF calculation.

Calibration Files	Analysis Time
0419a037.d	19-APR-2012 21:02
0419a036.d	19-APR-2012 20:38
0419a035.d	19-APR-2012 20:14
0419a034.d	19-APR-2012 19:50
0419a033.d	19-APR-2012 19:26
0419a032.d	19-APR-2012 19:01

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: ERM

ICal Date: 08-FEB-2012
Project: RG SPRING GW

CCal Date: 09-MAY-2012
SDG No.: US82

Analysis Time: 07:42
Lab ID: DIESEL #1

Instrument: FID4A.I
Lab File Name: 0509a004.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	4029152	267.2	250	6.9
AK102 (C10-C25)	4748319	265.7	250	6.3
Terphenyl	906851	46.0	45	2.2

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

FORM VII-Diesel

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: ERM

ICal Date: 19-APR-2012
Project: RG SPRING GW

CCal Date: 09-MAY-2012
SDG No.: US82

Analysis Time: 08:05
Lab ID: MOIL #1

Instrument: FID4A.I
Lab File Name: 0509a005.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D	
WAMoil(C24-C38)	5780518	498.4	500	-0.3	
AK103 (C25-C36)	5096914	656.9	500	31.4	<-
CRUDE(Tol-C40)	6773685	896.8	500	79.4	
n-Triacontane	723311	49.3	45	9.6	

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: ERM

ICal Date: 08-FEB-2012
Project: RG SPRING GW

CCal Date: 09-MAY-2012
SDG No.: US82

Analysis Time: 12:31
Lab ID: DIESEL #2

Instrument: FID4A.I
Lab File Name: 0509a016.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	4069092	269.9	250	7.9
AK102 (C10-C25)	4784849	267.7	250	7.1
Terphenyl	899450	45.6	45	1.3

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

FORM VII-Diesel

US82 00105

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM

ICal Date: 19-APR-2012 Project: RG SPRING GW

CCal Date: 09-MAY-2012 SDG No.: US82

Analysis Time: 12:56 Lab ID: MOIL #2

Instrument: FID4A.I Lab File Name: 0509a017.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D
WAMoil(C24-C38)	5439499	469.0	500	-6.2
AK103 (C25-C36)	4842867	624.1	500	24.8
CRUDE(Tol-C40)	6396628	846.9	500	69.4
n-Triacontane	729211	49.7	45	10.5

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: ERM

ICal Date: 08-FEB-2012
Project: RG SPRING GW

CCal Date: 09-MAY-2012
SDG No.: US82

Analysis Time: 15:22
Lab ID: DIESEL #3

Instrument: FID4A.I
Lab File Name: 0509a023.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	4160555	275.9	250	10.4
AK102 (C10-C25)	4909090	274.7	250	9.9
Terphenyl	925403	46.9	45	4.3

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

FORM VII-Diesel

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM

ICal Date: 19-APR-2012 Project: RG SPRING GW

CCal Date: 09-MAY-2012 SDG No.: US82

Analysis Time: 15:46 Lab ID: MOIL #3

Instrument: FID4A.I Lab File Name: 0509a024.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D	
WAMoil(C24-C38)	5560799	479.5	500	-4.1	
AK103 (C25-C36)	4896741	631.1	500	26.2	<-
CRUDE(Tol-C40)	6578173	871.0	500	74.2	
n-Triacontane	727731	49.6	45	10.3	

* Surrogate areas are subtracted from range areas

<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM

SDG No.: US82 Project: RG SPRING GW

Instrument ID: FID4A GC Column: RTX-1

Run Date: 05/09/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.31 TRIAC: 9.17

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01	ZZZZZ	ZZZZZ	05/09/12	0631	6.31	9.18
02	RT	RT	05/09/12	0655	6.31	9.17
03	IB	IB	05/09/12	0718	6.31	9.17
04	RG SPRING GW	DIESEL #1	05/09/12	0742	6.31	9.19
05	RG SPRING GW	MOIL #1	05/09/12	0805	6.31	9.17
06	US82MBW1	US79MBW1	05/09/12	0829	6.31	9.16
07	US82LCSW1	US79LCSW1	05/09/12	0853	6.31	9.17
08	US82LCSDW1	US79LCSDW1	05/09/12	0917	6.31	9.17
09	ZZZZZ	ZZZZZ	05/09/12	0941	6.31	9.16
10	ZZZZZ	ZZZZZ	05/09/12	1005	6.31	9.16
11	ZZZZZ	ZZZZZ	05/09/12	1029	6.31	9.17
12	ZZZZZ	ZZZZZ	05/09/12	1053	6.31	9.18
13	ZZZZZ	ZZZZZ	05/09/12	1118	6.30	9.17
14	ZZZZZ	ZZZZZ	05/09/12	1142	6.31	9.17
15	ZZZZZ	ZZZZZ	05/09/12	1207	6.31	9.17
16	RG SPRING GW	DIESEL #2	05/09/12	1231	6.31	9.17
17	RG SPRING GW	MOIL #2	05/09/12	1256	6.31	9.17
18	ZZZZZ	ZZZZZ	05/09/12	1321	6.31	9.17
19	ZZZZZ	ZZZZZ	05/09/12	1346	6.31	9.17
20	ZZZZZ	ZZZZZ	05/09/12	1410	6.31	9.17
21	MW-35S-05031	US82B	05/09/12	1434	6.31	9.17
22	ZZZZZ	ZZZZZ	05/09/12	1458	6.31	9.16
23	RG SPRING GW	DIESEL #3	05/09/12	1522	6.31	9.17
24	RG SPRING GW	MOIL #3	05/09/12	1546	6.28	9.17

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

US82:00110

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM

SDG No.: US82 Project: RG SPRING GW

Instrument ID: FID4A GC Column: RTX-1

Run Date: 02/08/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.38 TRIAC: 9.25

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01		RINSE	02/08/12	0525	6.38	9.25
02		RT	02/08/12	0548	6.38	9.25
03		IB	02/08/12	0612	6.38	9.25
04		DIESEL 2500	02/08/12	0635	6.43*	9.24
05		DIESEL 1000	02/08/12	0659	6.40	9.25
06		DIESEL 500	02/08/12	0722	6.39	9.24
07		DIESEL 250	02/08/12	0746	6.38	9.26
08		DIESEL 100	02/08/12	0809	6.37	9.26
09		DIESEL 50	02/08/12	0833	6.38	9.27
10		DIESEL ICV	02/08/12	0857	6.38	9.25

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

FORM VIII TPH

8

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM

SDG No.: US82 Project:RG SPRING GW

Instrument ID: FID4A GC Column: RTX-1

Run Date: 04/19/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.32 TRIAC: 9.18

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01		RINSE	04/19/12	1724	6.32	9.18
02		RT	04/19/12	1748	6.32	9.18
03		IB	04/19/12	1813	6.32	9.18
04		DIESEL #1	04/19/12	1837	6.32	9.19
05		MOIL 5000	04/19/12	1901	6.32	9.27*
06		MOIL 2500	04/19/12	1926	6.32	9.23
07		MOIL 1000	04/19/12	1950	6.32	9.20
08		MOIL 500	04/19/12	2014	6.32	9.18
09		MOIL 250	04/19/12	2038	6.32	9.17
10		MOIL 100	04/19/12	2102	6.34	9.17
11		MOIL ICV	04/19/12	2126	6.33	9.18

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

FORM VIII TPH

TPHG Analysis
Report and Summary QC Forms

ARI Job ID: US82

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Matrix: Water

Data Release Authorized:
Reported: 05/24/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

ARI ID	Client ID	Analysis Date	DL	Range	Result
MB-050712	Method Blank	05/07/12	1.0	Gasoline	< 0.03 U
12-8017		PID2		HC ID	---
				Trifluorotoluene	94.6%
				Bromobenzene	90.1%
US82B	MW-35S-050312	05/07/12	1.0	Gasoline	< 0.03 U
12-8017		PID2		HC ID	---
				Trifluorotoluene	98.9%
				Bromobenzene	91.3%
US82J	TB-050312-1	05/07/12	1.0	Gasoline	< 0.03 U
12-8025		PID2		HC ID	---
				Trifluorotoluene	96.4%
				Bromobenzene	90.2%

Gasoline values reported in mg/L (ppm)

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ANALYTICAL RESOURCES INCORPORATED

TPHG WATER SURROGATE RECOVERY SUMMARY

ART Job: US82
Matrix: Water

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09

Client ID	TFT	BBZ	TOT OUT
MB-050712	94.6%	90.1%	0
LCS-050712	100%	89.8%	0
LCSD-050712	99.0%	89.8%	0
MW-35S-050312	98.9%	91.3%	0
TB-050312-1	96.4%	90.2%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-120)	(80-120)
(BBZ) = Bromobenzene	(80-120)	(80-120)

Log Number Range: 12-8017 to 12-8025

FORM II TPHG

US82:00115

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG

Sample ID: LCS-050712
LAB CONTROL SAMPLE

Lab Sample ID: LCS-050712
LIMS ID: 12-8017
Matrix: Water
Data Release Authorized: VB
Reported: 05/12/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 05/07/12 11:01
LCSD: 05/07/12 11:30
Instrument/Analyst LCS: PID2/JLW
LCSD: PID2/JLW

Purge Volume: 15. mL

Dilution Factor LCS: 1.0
LCSD: 1.0

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Gasoline Range Hydrocarbons	1.10	1.00	110%	1.10	1.00	110%	0.0%

Reported in mg/L (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	100%	99.0%
Bromobenzene	89.8%	89.8%

4

BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB0507

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

SDG No.: US82 Project No.: RG SPRING GW

Date Analyzed : 05/07/12 Matrix: WATER

Time Analyzed : 1158 Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	RT+BCAL1	RT+BCAL1	05/07/12
02	LCS0507	LCS0507	05/07/12
03	LCSD0507	LCSD0507	05/07/12
04	MW-35S-05031	US82B	05/07/12
05	TB-050312-1	US82J	05/07/12
06			
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6a
GAS INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM-West

Instrument/Det: PID2.I/RTX 502-2 FID Project: RG Spring GW

Calibration Date: 01-MAY-2012 SDG No.: US82

Gas Range	RF1 .03	RF2 0.10	RF3 0.25	RF4 1.0	RF5 2.5	RF6 5.0	Ave RF	%RSD
WA Gas	1007983	1044085	1022993	1177328	1128428	1152604	1088904	6.7
AK Gas	1899600	1909090	1877938	2056336	1948528	2008122	1949936	3.6
NW Gas	1020717	1168555	1114665	1232936	1175982	1192482	1150889	6.5
Cal Gas	2336983	2315800	2256735	2497025	2375199	2439706	2370241	3.7
8015Gas	2447150	2385070	2310928	2534321	2402639	2469214	2424887	3.2

Surrogates Rel. Rec.	RF1	RF2	RF3	RF4	RF5	RF6	Ave RF	%RSD
$TFT(Surr)	45.50000	51.68182	46.04478	43.33000	45.07519	4.10112		
	44.16000						45.69899	6.116
$BB(Surr)	25.31818	29.93182	26.58209	25.14000	26.40602	25.26404		
	24.68500						26.18959	6.828

<- Indicates %RSD outside limits
Surrogate areas are not included in RF calculation.

Quant Ranges : WA Gas Toluene - nC12
AK Gas nC6 - nC10
NW Gas Toluene - Naphthalene
Cal Gas nC6 - nC12
8015 Gas 2-Methylpentane - 1,2,4-Trimethylbenzene

Calibration Files	Analysis Time
0501a022.d	01-MAY-2012 21:15
0501a021.d	01-MAY-2012 20:47
0501a020.d	01-MAY-2012 20:19
0501a019.d	01-MAY-2012 19:50
0501a018.d	01-MAY-2012 19:22
0501a017.d	01-MAY-2012 18:54

Surr. Calibration Files	Analysis Time
0501a015.d	01-MAY-2012 17:58
0501a014.d	01-MAY-2012 17:30
0501a013.d	01-MAY-2012 17:01
0501a012.d	01-MAY-2012 16:33
0501a011.d	01-MAY-2012 16:05
0501a010.d	01-MAY-2012 15:37
0501a009.d	01-MAY-2012 15:09

7a
GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM-West

ICal Date: 01-MAY-2012 Project: RG Spring GW

CCal Date: 07-MAY-2012 SDG No.: US82

Lab File Name: 0507a012.d Inst/Det: PID2.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	1009536	0.93	1.00	-7.3
AKGas (C6-C10)	1805042	0.93	1.00	-7.4
NWGas (Tol-Nap)	1049434	0.91	1.00	-8.8
8015B (2MP-TMB)	2191792	0.90	1.00	-9.6

* Surrogate areas are subtracted from Total Area
<- Indicates an RPD outside QC limits

US82:00120

7a
GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM-West

ICal Date: 01-MAY-2012 Project: RG Spring GW

CCal Date: 07-MAY-2012 SDG No.: US82

Lab File Name: 0507a010.d Inst/Det: PID2.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	1174580	1.08	1.00	7.9
AKGas (C6-C10)	2100012	1.08	1.00	7.7
NWGas (Tol-Nap)	1226102	1.07	1.00	6.5
8015B (2MP-TMB)	2550786	1.05	1.00	5.2

* Surrogate areas are subtracted from Total Area
<- Indicates an RPD outside QC limits

US82:00121

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM-West

ICal Date: 01-MAY-2012 Project: RG Spring GW

CCal Date: 07-MAY-2012 SDG No.: US82

Lab File Name: 0507a010.d Inst/Det: PID2.I/RTX 502-2 FID

Surrogate	Area	CalcAmnt	NomAmnt	RPD
Trifluorotol	68290	101.9	100.0	1.9
Bromoflrbenz	25299	89.2	100.0	-10.8

US82 00122

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM-West

ICal Date: 01-MAY-2012 Project: RG Spring GW

CCal Date: 07-MAY-2012 SDG No.: US82

Lab File Name: 0507a012.d Inst/Det: PID2.I/RTX 502-2 FID

Surrogate	Area	CalcAmnt	NomAmnt	RPD
Trifluorotol	67212	104.0	100.0	4.0
Bromoflrbenz	25527	93.4	100.0	-6.6

US82 001233

7a
GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM-West

ICal Date: 01-MAY-2012 Project: RG Spring GW

CCal Date: 07-MAY-2012 SDG No.: US82

Lab File Name: 0507a003.d Inst/Det: PID2.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	1170738	1.08	1.00	7.5
AKGas (C6-C10)	2094722	1.07	1.00	7.4
NWGas (Tol-Nap)	1214266	1.06	1.00	5.5
8015B (2MP-TMB)	2546158	1.05	1.00	5.0

* Surrogate areas are subtracted from Total Area
<- Indicates an RPD outside QC limits

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: ERM-West

ICal Date: 01-MAY-2012
Project: RG Spring GW

CCal Date: 07-MAY-2012
SDG No.: US82

Lab File Name: 0507a003.d
Inst/Det: PID2.I/RTX 502-2 FID

Surrogate	Area	CalcAmnt	NomAmnt	RPD	
Trifluorotol	64079	95.1	100.0	-4.9	
Bromoflrbenz	23844	84.7	100.0	-15.3	<-

US82 00125

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

SDG No.: US82 Project: RG SPRING GW

Instrument ID: PID2 GC Detector: RTX 502-2 FID

Run Date: 05/07/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

METHOD SURROGATE RT
S1 : 7.23 S2 : 14.84

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	S1 #	S2 RT	S2 #
01	RT+BCAL1	RT+BCAL1	05/07/12	1005	7.24		14.85	
02	RG SPRING GW	GCAL1	05/07/12	1033	7.24		14.85	
03	LCS0507	LCS0507	05/07/12	1101	7.23		14.85	
04	LCSD0507	LCSD0507	05/07/12	1130	7.23		14.85	
05	MB0507	MB0507	05/07/12	1158	7.23		14.84	
06	MW-35S-05031	US82B	05/07/12	1313	7.22		14.84	
07	RG SPRING GW	GCAL3	05/07/12	1429	7.22		14.84	
08	TB-050312-1	US82J	05/07/12	1519	7.22		14.84	
09	RG SPRING GW	GCAL4	05/07/12	1547	7.23		14.84	

QC LIMITS

S1 = TFT(Surr) (+/- 0.07 MINUTES)
S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

8

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

SDG No.: US82 Project: RG SPRING GW

Instrument ID: PID2 GC Detector: RTX 502-2 FID

Run Date: 05/01/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

METHOD SURROGATE RT
S1 : 7.46 S2 : 15.08

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	S1 #	S2 RT	S2 #
01		RT+BCAL1	05/01/12	1441	7.47		15.09	
02		B100	05/01/12	1509	7.47		15.09	
03		B50	05/01/12	1537	7.46		15.08	
04		B25	05/01/12	1605	7.46		15.08	
05		B5	05/01/12	1633	7.46		15.08	
06		B1	05/01/12	1701	7.46		15.08	
07		B0.25	05/01/12	1730	7.46		15.08	
08		B0.08	05/01/12	1758	7.46		15.08	
09		BICV5	05/01/12	1826	7.46		15.08	
10		G5	05/01/12	1854	7.46		15.08	
11		G2.5	05/01/12	1922	7.46		15.08	
12		G1	05/01/12	1950	7.46		15.08	
13		G0.25	05/01/12	2019	7.46		15.08	
14		G0.10	05/01/12	2047	7.46		15.08	
15		G0.03	05/01/12	2115	7.46		15.08	
16		GICV1	05/01/12	2143	7.46		15.08	

QC LIMITS

S1 = TFT(Surr) (+/- 0.07 MINUTES)

S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

Metals Analysis
Report and Summary QC Forms

ARI Job ID: US82

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US82

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
MW-34S-050312	US82A	12-8016	
MW-34S-050312D	US82ADUP	12-8016	
MW-34S-050312S	US82ASPK	12-8016	
MW-35S-050312	US82B	12-8017	
PBW	US82MB1	12-8017	
LCSW	US82MB1SPK	12-8017	
MW-36S-050312	US82C	12-8018	
MW-33S-050212	US82E	12-8020	
MW-34S-050312	US82F	12-8021	
MW-34S-050312D	US82FDUP	12-8021	
MW-34S-050312S	US82FSPK	12-8021	
MW-35S-050312	US82G	12-8022	
PBW	US82MB2	12-8022	
LCSW	US82MB2SPK	12-8022	
MW-36S-050312	US82H	12-8023	
MW-33S-050212	US82I	12-8024	
DUP-050312-1	US82K	12-8044	
DUP-050312-1	US82L	12-8045	

Were ICP interelement corrections applied ?	Yes/No	YES
Were ICP background corrections applied ?	Yes/No	YES
If yes - were raw data generated before application of background corrections ?	Yes/No	NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: _____ Name: Jay Kuhn

Date: 5/21/12 Title: Inorganics Director

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-34S-050312
SAMPLE

Lab Sample ID: US82A
LIMS ID: 12-8016
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/08/12	6010C	05/10/12	7429-90-5	Aluminum	50	50	U
200.8	05/09/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	0.2	**2.0**	
3010A	05/08/12	6010C	05/10/12	**7440-70-2**	**Calcium**	50	**39,200**	
200.8	05/09/12	6020A	05/16/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/09/12	6020A	05/18/12	**7440-50-8**	**Copper**	0.5	**3.4**	
3010A	05/08/12	6010C	05/10/12	7439-89-6	Iron	50	50	U
3010A	05/08/12	6010C	05/10/12	**7439-95-4**	**Magnesium**	50	**1,640**	
3010A	05/08/12	6010C	05/10/12	**7439-96-5**	**Manganese**	1	**1**	
3010A	05/08/12	6010C	05/10/12	**7440-09-7**	**Potassium**	500	**1,610**	
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/08/12	6010C	05/10/12	**7440-23-5**	**Sodium**	500	**11,600**	
200.8	05/09/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

Calculated Hardness (mg-CaCO3/L): 100

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-35S-050312
SAMPLE

Lab Sample ID: US82B
LIMS ID: 12-8017
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/08/12	6010C	05/10/12	7429-90-5	Aluminum	50	50	U
200.8	05/09/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	0.2	**0.6**	
3010A	05/08/12	6010C	05/10/12	**7440-70-2**	**Calcium**	50	**33,700**	
200.8	05/09/12	6020A	05/16/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/09/12	6020A	05/16/12	**7440-50-8**	**Copper**	0.5	**67.7**	
3010A	05/08/12	6010C	05/10/12	**7439-89-6**	**Iron**	50	**1,860**	
3010A	05/08/12	6010C	05/10/12	**7439-95-4**	**Magnesium**	50	**2,070**	
3010A	05/08/12	6010C	05/10/12	**7439-96-5**	**Manganese**	1	**49**	
3010A	05/08/12	6010C	05/10/12	**7440-09-7**	**Potassium**	500	**2,130**	
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/08/12	6010C	05/10/12	**7440-23-5**	**Sodium**	500	**4,770**	
200.8	05/09/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

Calculated Hardness (mg-CaCO3/L): 93

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-36S-050312
SAMPLE

Lab Sample ID: US82C
LIMS ID: 12-8018
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/08/12	6010C	05/10/12	7429-90-5	Aluminum	50	50	U
200.8	05/09/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	0.2	**0.5**	
3010A	05/08/12	6010C	05/10/12	**7440-70-2**	**Calcium**	50	**47,900**	
200.8	05/09/12	6020A	05/16/12	7440-47-3	Chromium	1	1	U
200.8	05/09/12	6020A	05/16/12	**7440-50-8**	**Copper**	0.5	**0.7**	
3010A	05/08/12	6010C	05/10/12	**7439-89-6**	**Iron**	50	**8,030**	
3010A	05/08/12	6010C	05/10/12	**7439-95-4**	**Magnesium**	50	**20,000**	
3010A	05/08/12	6010C	05/10/12	**7439-96-5**	**Manganese**	1	**329**	
3010A	05/08/12	6010C	05/10/12	**7440-09-7**	**Potassium**	500	**6,840**	
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/08/12	6010C	05/10/12	**7440-23-5**	**Sodium**	500	**22,700**	
200.8	05/09/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

Calculated Hardness (mg-CaCO3/L): 200

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-33S-050212
SAMPLE

Lab Sample ID: US82E
LIMS ID: 12-8020
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/03/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/08/12	6010C	05/10/12	**7429-90-5**	**Aluminum**	50	**750**	
200.8	05/09/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	0.5	**245**	
3010A	05/08/12	6010C	05/10/12	**7440-70-2**	**Calcium**	50	**59,800**	
200.8	05/09/12	6020A	05/16/12	**7440-47-3**	**Chromium**	0.5	**2.4**	
200.8	05/09/12	6020A	05/16/12	**7440-50-8**	**Copper**	0.5	**75.1**	
3010A	05/08/12	6010C	05/10/12	**7439-89-6**	**Iron**	50	**12,500**	
3010A	05/08/12	6010C	05/10/12	**7439-95-4**	**Magnesium**	50	**5,110**	
3010A	05/08/12	6010C	05/10/12	**7439-96-5**	**Manganese**	1	**357**	
3010A	05/08/12	6010C	05/10/12	**7440-09-7**	**Potassium**	500	**21,200**	
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/08/12	6010C	05/10/12	**7440-23-5**	**Sodium**	500	**34,700**	
200.8	05/09/12	6020A	05/16/12	**7440-66-6**	**Zinc**	4	**5**	

Calculated Hardness (mg-CaCO3/L): 170

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: DUP-050312-1
SAMPLE

Lab Sample ID: US82K
LIMS ID: 12-8044
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/09/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	0.2	**0.5**	
200.8	05/09/12	6020A	05/16/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/09/12	6020A	05/16/12	**7440-50-8**	**Copper**	0.5	**0.8**	
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/09/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-34S-050312
MATRIX SPIKE

Lab Sample ID: US82A
LIMS ID: 12-8016
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample		Spike	Spike Added	% Recovery	Q
Aluminum	6010C	50.0	U	1,940	2,000	97.0%	
Arsenic	6020A	2.02		26.7	25.0	98.7%	
Calcium	6010C	39,200		48,900	10,000	97.0%	
Chromium	6020A	0.500	U	23.0	25.0	92.0%	
Copper	6020A	3.44		28.1	25.0	98.6%	
Iron	6010C	50.0	U	1,940	2,000	97.0%	
Magnesium	6010C	1,640		11,500	10,000	98.6%	
Manganese	6010C	1.01		501	500	100%	
Potassium	6010C	1,610		11,300	10,000	96.9%	
Silver	6020A	0.200	U	23.9	25.0	95.6%	
Sodium	6010C	11,600		21,800	10,000	102%	
Zinc	6020A	4.00	U	68.4	80.0	85.5%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked
NR-Not Recovered

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-34S-050312
DUPLICATE

Lab Sample ID: US82A
LIMS ID: 12-8016
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Aluminum	6010C	50 U	50 U	0.0%	+/- 50	L
Arsenic	6020A	2.0	2.0	0.0%	+/- 20%	
Calcium	6010C	39,200	39,100	0.3%	+/- 20%	
Chromium	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	6020A	3.4	3.6	5.7%	+/- 20%	
Iron	6010C	50 U	50 U	0.0%	+/- 50	L
Magnesium	6010C	1,640	1,640	0.0%	+/- 20%	
Manganese	6010C	1	1	0.0%	+/- 1	L
Potassium	6010C	1,610	1,590	1.2%	+/- 500	L
Silver	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Sodium	6010C	11,600	11,600	0.0%	+/- 20%	
Zinc	6020A	4 U	4 U	0.0%	+/- 4	L

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

US82 00136

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: LAB CONTROL**

Lab Sample ID: US82LCS
LIMS ID: 12-8017
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Aluminum	6010C	1940	2000	97.0%	
Arsenic	6020A	24.0	25.0	96.0%	
Calcium	6010C	9680	10000	96.8%	
Chromium	6020A	24.0	25.0	96.0%	
Copper	6020A	25.7	25.0	103%	
Iron	6010C	1950	2000	97.5%	
Magnesium	6010C	9940	10000	99.4%	
Manganese	6010C	507	500	101%	
Potassium	6010C	9770	10000	97.7%	
Silver	6020A	25.2	25.0	101%	
Sodium	6010C	10200	10000	102%	
Zinc	6020A	75.4	80.0	94.2%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**
Page 1 of 1

Lab Sample ID: US82MB
LIMS ID: 12-8017
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/08/12	6010C	05/10/12	7429-90-5	Aluminum	50	50	U
200.8	05/09/12	6020A	05/16/12	7440-38-2	Arsenic	0.2	0.2	U
3010A	05/08/12	6010C	05/10/12	7440-70-2	Calcium	50	50	U
200.8	05/09/12	6020A	05/16/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/09/12	6020A	05/16/12	7440-50-8	Copper	0.5	0.5	U
3010A	05/08/12	6010C	05/10/12	7439-89-6	Iron	50	50	U
3010A	05/08/12	6010C	05/10/12	7439-95-4	Magnesium	50	50	U
3010A	05/08/12	6010C	05/10/12	7439-96-5	Manganese	1	1	U
3010A	05/08/12	6010C	05/10/12	7440-09-7	Potassium	500	500	U
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/08/12	6010C	05/10/12	7440-23-5	Sodium	500	500	U
200.8	05/09/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-34S-050312
SAMPLE

Lab Sample ID: US82F
LIMS ID: 12-8021
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/09/12	6010C	05/10/12	7429-90-5	Aluminum	50	50	U
200.8	05/09/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	0.2	**2.0**	
200.8	05/09/12	6020A	05/16/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/09/12	6020A	05/16/12	**7440-50-8**	**Copper**	0.5	**3.5**	
6010C	05/09/12	6010C	05/10/12	7439-89-6	Iron	50	50	U
6010C	05/09/12	6010C	05/10/12	7439-96-5	Manganese	1	1	U
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/09/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-35S-050312
SAMPLE

Lab Sample ID: US82G
LIMS ID: 12-8022
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/09/12	6010C	05/10/12	7429-90-5	Aluminum	50	50	U
200.8	05/09/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	0.2	**0.9**	
200.8	05/09/12	6020A	05/16/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/09/12	6020A	05/16/12	**7440-50-8**	**Copper**	0.5	**2.7**	
6010C	05/09/12	6010C	05/10/12	**7439-89-6**	**Iron**	50	**1,980**	
6010C	05/09/12	6010C	05/10/12	**7439-96-5**	**Manganese**	1	**48**	
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/09/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-36S-050312
SAMPLE

Lab Sample ID: US82H
LIMS ID: 12-8023
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/09/12	6010C	05/10/12	7429-90-5	Aluminum	50	50	U
200.8	05/09/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	0.2	**0.5**	
200.8	05/09/12	6020A	05/16/12	7440-47-3	Chromium	1	1	U
200.8	05/09/12	6020A	05/16/12	**7440-50-8**	**Copper**	0.5	**0.5**	
6010C	05/09/12	6010C	05/10/12	**7439-89-6**	**Iron**	50	**8,320**	
6010C	05/09/12	6010C	05/10/12	**7439-96-5**	**Manganese**	1	**315**	
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/09/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
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Sample ID: MW-33S-050212
SAMPLE

Lab Sample ID: US82I
LIMS ID: 12-8024
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/03/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/09/12	6010C	05/10/12	**7429-90-5**	**Aluminum**	50	**440**	
200.8	05/09/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	0.2	**204**	
200.8	05/09/12	6020A	05/16/12	7440-47-3	Chromium	1	1	U
200.8	05/09/12	6020A	05/16/12	**7440-50-8**	**Copper**	0.5	**3.8**	
6010C	05/09/12	6010C	05/10/12	**7439-89-6**	**Iron**	50	**9,780**	
6010C	05/09/12	6010C	05/10/12	**7439-96-5**	**Manganese**	1	**312**	
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/09/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
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Sample ID: DUP-050312-1
SAMPLE

Lab Sample ID: US82L
LIMS ID: 12-8045
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/09/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	0.2	**0.5**	
200.8	05/09/12	6020A	05/16/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/09/12	6020A	05/16/12	**7440-50-8**	**Copper**	0.5	**0.5**	
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/09/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

US82:00143

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
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Sample ID: MW-34S-050312
MATRIX SPIKE

Lab Sample ID: US82F
LIMS ID: 12-8021
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Aluminum	6010C	50.0 U	2,050	2,000	102%	
Arsenic	6020A	2.02	26.6	25.0	98.3%	
Chromium	6020A	0.500 U	22.9	25.0	91.6%	
Copper	6020A	3.54	27.9	25.0	97.4%	
Iron	6010C	50.0 U	2,020	2,000	101%	
Manganese	6010C	1.00 U	507	500	101%	
Silver	6020A	0.200 U	23.7	25.0	94.8%	
Zinc	6020A	4.00 U	68.4	80.0	85.5%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

US82 : 001 44

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-34S-050312
DUPLICATE

Lab Sample ID: US82F
LIMS ID: 12-8021
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Aluminum	6010C	50 U	50 U	0.0%	+/- 50	L
Arsenic	6020A	2.0	2.0	0.0%	+/- 20%	
Chromium	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	6020A	3.5	3.5	0.0%	+/- 20%	
Iron	6010C	50 U	50 U	0.0%	+/- 50	L
Manganese	6010C	1 U	1 U	0.0%	+/- 1	L
Silver	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	6020A	4 U	4 U	0.0%	+/- 4	L

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

US82:001145

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: US82LCS
LIMS ID: 12-8022
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Aluminum	6010C	2030	2000	102%	
Arsenic	6020A	24.8	25.0	99.2%	
Chromium	6020A	24.4	25.0	97.6%	
Copper	6020A	26.4	25.0	106%	
Iron	6010C	2030	2000	102%	
Manganese	6010C	497	500	99.4%	
Silver	6020A	24.8	25.0	99.2%	
Zinc	6020A	76	80	95.0%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: US82MB
LIMS ID: 12-8022
Matrix: Water
Data Release Authorized:
Reported: 05/21/12

QC Report No: US82-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/09/12	6010C	05/10/12	7429-90-5	Aluminum	50	50	U
200.8	05/09/12	6020A	05/16/12	7440-38-2	Arsenic	0.2	0.2	U
200.8	05/09/12	6020A	05/16/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/09/12	6020A	05/16/12	7440-50-8	Copper	0.5	0.5	U
6010C	05/09/12	6010C	05/10/12	7439-89-6	Iron	50	50	U
6010C	05/09/12	6010C	05/10/12	7439-96-5	Manganese	1	1	U
200.8	05/09/12	6020A	05/16/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/09/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US82

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Aluminum	AL	ICP	IP051072	2000.0	2000.93	100.0	2000.0	1982.42	99.1	1984.90	99.2	1892.02	94.6	1875.45	93.8	1909.47	95.5
Arsenic	AS	PMS	MS051681	50.0	49.11	98.2	50.0	50.50	101.0	50.33	100.7	50.12	100.2	50.26	100.5	50.29	100.6
Calcium	CA	ICP	IP051072	2000.0	2063.65	103.2	2000.0	1962.64	98.1	1950.65	97.5	1874.74	93.7	1860.87	93.0	1891.82	94.6
Chromium	CR	PMS	MS051681	50.0	50.03	100.1	50.0	50.11	100.2	49.97	99.9	50.71	101.4	50.31	100.6	50.49	101.0
Copper	CU	PMS	MS051681	50.0	49.98	100.0	50.0	51.13	102.3	50.12	100.2	50.27	100.5	49.87	99.7	50.97	101.9
Iron	FE	ICP	IP051072	2000.0	2051.07	102.6	2000.0	2055.47	102.8	2034.99	101.7	1936.50	96.8	1914.26	95.7	1936.49	96.8
Magnesium	MG	ICP	IP051072	2000.0	2024.58	101.2	2000.0	2021.55	101.1	2013.65	100.7	1925.11	96.3	1912.85	95.6	1940.19	97.0
Manganese	MN	ICP	IP051072	1000.0	959.62	96.0	1000.0	955.63	95.6	942.57	94.3	893.33	89.3	964.15	96.4	977.97	97.8
Potassium	K	ICP	IP051072	20000.0	20330.87	101.7	20000.0	20174.02	100.9	20204.40	101.0	19124.68	95.6	19181.39	95.9	19338.99	96.7
Silver	AG	PMS	MS051681	50.0	50.11	100.2	50.0	51.06	102.1	50.73	101.5	51.17	102.3	51.00	102.0	50.40	100.8
Sodium	NA	ICP	IP051072	50000.0	49039.48	98.1	50000.0	47732.33	95.5	47103.80	94.2	44719.77	89.4	49878.11	99.8	50253.28	100.5
Zinc	ZN	PMS	MS051681	50.0	49.14	98.3	50.0	50.69	101.4	50.38	100.8	50.20	100.4	49.95	99.9	50.97	101.9

Control Limits: Mercury 80-120; Other Metals 90-110

9in1999 : 2551 US82

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

UNITS:ug/L

SDG: US82

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Aluminum	AL	ICP	IP051072	2000.0	1926.73	96.3										
Arsenic	AS	PMS	MS051681	50.0	50.81	101.6	51.06	102.1	50.67	101.3						
Calcium	CA	ICP	IP051072	2000.0	1995.15	99.8										
Chromium	CR	PMS	MS051681	50.0	50.54	101.1	50.11	100.2	50.05	100.1						
Copper	CU	PMS	MS051681	50.0	50.50	101.0	50.40	100.8	50.01	100.0						
Iron	FE	ICP	IP051072	2000.0	1946.45	97.3										
Magnesium	MG	ICP	IP051072	2000.0	1948.35	97.4										
Manganese	MN	ICP	IP051072	1000.0	973.55	97.4										
Potassium	K	ICP	IP051072	20000.0	19366.51	96.8										
Silver	AG	PMS	MS051681	50.0	51.71	103.4	51.87	103.7	51.28	102.6						
Sodium	NA	ICP	IP051072	50000.0	50293.96	100.6										
Zinc	ZN	PMS	MS051681	50.0	50.65	101.3	50.43	100.9	50.41	100.8						

Control Limits: Mercury 80-120; Other Metals 90-110

US82-2551

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US82

UNITS:ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Copper	CU	PMS	MS051881	50.0	50.00	100.0	50.0	51.04	102.1	49.97	99.9	50.57	101.1	48.94	97.9	49.16	98.3

Control Limits: Mercury 80-120; Other Metals 90-110

US82.2551

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US82

UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Aluminum	AL	ICP	IP051072	50.0	55.95	111.9	44.92	89.8								
Arsenic	AS	PMS	MS051681	0.2	0.24	120.0										
Calcium	CA	ICP	IP051072	50.0	49.29	98.6	45.38	90.8								
Chromium	CR	PMS	MS051681	0.5	0.49	98.0										
Copper	CU	PMS	MS051681	0.5	0.56	112.0										
Iron	FE	ICP	IP051072	50.0	50.54	101.1	49.46	98.9								
Magnesium	MG	ICP	IP051072	50.0	56.79	113.6	60.37	120.7								
Manganese	MN	ICP	IP051072	1.0	1.05	105.0	1.00	100.0								
Potassium	K	ICP	IP051072	500.0	498.29	99.7	504.49	100.9								
Silver	AG	PMS	MS051681	0.2	0.19	95.0										
Sodium	NA	ICP	IP051072	500.0	455.72	91.1	427.29	85.5								
Zinc	ZN	PMS	MS051681	4.0	4.23	105.8										
Copper	CU	PMS	MS051881	0.5	0.55	110.0										

Control Limits: no control limits have been established by the EPA at this time.

US82-2850

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US82

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Aluminum	AL	ICP	IP051072	200.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	AS	PMS	MS051681	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Calcium	CA	ICP	IP051072	5000.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Chromium	CR	PMS	MS051681	10.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Copper	CU	PMS	MS051681	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Iron	FE	ICP	IP051072	100.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Magnesium	MG	ICP	IP051072	5000.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Manganese	MN	ICP	IP051072	15.0	1.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Potassium	K	ICP	IP051072	5000.0	500.0	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U
Silver	AG	PMS	MS051681	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Sodium	NA	ICP	IP051072	5000.0	500.0	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U
Zinc	ZN	PMS	MS051681	20.0	4.0	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U

US82-2851

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

UNITS: ug/L

SDG: US82

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	C	CCB7	C	CCB8	C	CCB9	C	CCB10	C	CCB11	C
Aluminum	AL	ICP	IP051072	200.0	50.0	50.0	U										
Arsenic	AS	PMS	MS051681	10.0	0.2	0.2	U	0.2	U	0.2	U						
Calcium	CA	ICP	IP051072	5000.0	50.0	50.0	U										
Chromium	CR	PMS	MS051681	10.0	0.5	0.5	U	0.5	U	0.5	U						
Copper	CU	PMS	MS051681	25.0	0.5	0.5	U	0.5	U	0.5	U						
Iron	FE	ICP	IP051072	100.0	50.0	50.0	U										
Magnesium	MG	ICP	IP051072	5000.0	50.0	50.0	U										
Manganese	MN	ICP	IP051072	15.0	1.0	1.0	U										
Potassium	K	ICP	IP051072	5000.0	500.0	500.0	U										
Silver	AG	PMS	MS051681	10.0	0.2	0.2	U	0.2	U	0.2	U						
Sodium	NA	ICP	IP051072	5000.0	500.0	500.0	U										
Zinc	ZN	PMS	MS051681	20.0	4.0	4.0	U	4.0	U	4.0	U						

US82-2SSN

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US82

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Copper	CU	PMS	MS051881	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

US82-2851

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: IP051072

SDG: US82

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	199262.5	201344.1	100.7	191212.0	193476.6	96.7			
Antimony		1000	16.5	999.5	100.0	7.6	946.6	94.7			
Arsenic		1000	-15.9	1003.4	100.3	-13.0	1011.9	101.2			
Barium		1000	3.2	1016.2	101.6	3.2	1030.8	103.1			
Beryllium		1000	0.0	977.3	97.7	-0.1	994.7	99.5			
Boron			3.3	1.2		1.1	-1.2				
Cadmium		1000	0.3	1047.2	104.7	0.2	1060.6	106.1			
Calcium	100000	100000	100907.8	101706.9	101.7	96961.4	97422.7	97.4			
Chromium		1000	-0.9	1031.9	103.2	-0.4	1037.6	103.8			
Cobalt		1000	2.4	964.1	96.4	2.2	974.0	97.4			
Copper		1000	-2.4	1056.7	105.7	-2.3	1063.0	106.3			
Iron	200000	200000	198723.5	201679.0	100.8	187391.8	190502.8	95.3			
Lead		1000	-6.7	993.6	99.4	-10.2	1009.4	100.9			
Magnesium	100000	100000	98046.6	98831.4	98.8	93542.7	94303.4	94.3			
Manganese		1000	0.1	963.9	96.4	0.0	980.4	98.0			
Molybdenum			4.3	4.0		3.5	3.3				
Nickel		1000	-1.4	956.9	95.7	-0.2	965.1	96.5			
Potassium			32.3	14.9		41.7	19.7				
Selenium		1000	10.5	1045.0	104.5	13.5	1045.7	104.6			
Silicon			-18.3	-21.2		-5.4	-12.9				
Silver		1000	-1.5	1037.8	103.8	-1.3	1071.0	107.1			
Sodium			27.8	21.9		-26.2	-39.8				
Strontium			9.9	10.0		10.2	10.3				
Thallium		1000	13.6	969.1	96.9	13.4	983.3	98.3			
Tin			-12.0	-12.9		-12.8	-13.9				
Titanium			-0.6	-0.8		-0.2	-0.5				
Vanadium		1000	6.4	1006.9	100.7	5.3	1002.2	100.2			
Zinc		1000	-5.1	941.3	94.1	-4.5	944.7	94.5			

SS198-2851

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: MS051681

SDG: US82

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	20000	20000	20178.4	20038.5	100.2						
Antimony			0.1	0.1							
Arsenic		20	0.0	19.8	99.0						
Cadmium		20	0.0	19.5	97.5						
Calcium	20000	20000	19515.2	19320.9	96.6						
Chromium		20	0.9	21.0	105.0						
Cobalt		20	0.1	20.1	100.5						
Copper		20	0.7	20.2	101.0						
Iron	20000	20000	20453.0	20271.9	101.4						
Magnesium	20000	20000	20553.3	20641.1	103.2						
Manganese		20	0.2	19.7	98.5						
Molybdenum	400	400	422.1	425.1	106.3						
Nickel		20	0.8	19.9	99.5						
Potassium	20000	20000	23998.1	23967.5	119.8						
Silver		20	0.0	19.5	97.5						
Sodium	20000	20000	21078.9	21018.5	105.1						
Thorium			0.3	0.1							
Vanadium			0.0	-0.4							
Zinc		20	1.7	19.8	99.0						

US82:99159

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: MS051881

SDG: US82

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Arsenic		20	0.0	19.7	98.5						
Cadmium		20	0.0	19.6	98.0						
Chromium		20	0.9	20.9	104.5						
Cobalt		20	0.0	19.9	99.5						
Copper		20	0.6	19.8	99.0						
Manganese		20	0.1	20.3	101.5						
Molybdenum	400	400	415.5	423.2	105.8						
Nickel		20	0.7	19.2	96.0						
Silver		20	0.0	19.7	98.5						
Vanadium			0.1	-0.3							
Zinc		20	1.5	19.5	97.5						

US82 2951

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: ICP

SDG: US82

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFERENCE	Q
Aluminum	MW-34S-050312L	US82A-L	Water	IP051072	17.40	U	250.00	U		
Calcium	MW-34S-050312L	US82A-L	Water	IP051072	39167.68		38047.25		2.9	
Iron	MW-34S-050312L	US82A-L	Water	IP051072	15.22	U	250.00	U		
Magnesium	MW-34S-050312L	US82A-L	Water	IP051072	1641.93	B	1731.90	B	5.5	
Manganese	MW-34S-050312L	US82A-L	Water	IP051072	1.01	B	5.00	U	100.0	
Potassium	MW-34S-050312L	US82A-L	Water	IP051072	1614.57	B	2500.00	U	100.0	
Sodium	MW-34S-050312L	US82A-L	Water	IP051072	11649.39		11174.50	B	4.1	

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: ICP

SDG: US82

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFERENCE	Q
Aluminum	MW-34S-050312L	US82F-L	Water	IP051072	-1.35	U	250.00	U		
Iron	MW-34S-050312L	US82F-L	Water	IP051072	3.93	U	250.00	U		
Manganese	MW-34S-050312L	US82F-L	Water	IP051072	0.85	U	5.00	U		

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: PMS

SDG: US82

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFERENCE	Q
Arsenic	MW-34S-050312L	US82A-L	Water	MS051681	2.02	B	2.00	B	1.0	
Chromium	MW-34S-050312L	US82A-L	Water	MS051681	0.46	U	0.15	B		
Copper	MW-34S-050312L	US82A-L	Water	MS051681	3.44	B	3.55	B	3.2	
Silver	MW-34S-050312L	US82A-L	Water	MS051681	-0.01	U	-0.05	B		
Zinc	MW-34S-050312L	US82A-L	Water	MS051681	1.07	U	0.59	B		
Arsenic	MW-34S-050312L	US82F-L	Water	MS051681	2.02	B	2.00	B	1.0	
Chromium	MW-34S-050312L	US82F-L	Water	MS051681	0.43	U	0.25	B		
Copper	MW-34S-050312L	US82F-L	Water	MS051681	3.54	B	3.65	B	3.1	
Silver	MW-34S-050312L	US82F-L	Water	MS051681	-0.01	U	-0.10	B		
Zinc	MW-34S-050312L	US82F-L	Water	MS051681	1.36	U	1.25	B		

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US82

UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Aluminum	AL	ICP	OPTIMA ICP 2	308.22		200	50.0	4/1/2011	250000.0	3/19/2012
Arsenic	AS	PMS	PE ELAN 6000 MS	0.00		10	0.2	4/1/2011		
Calcium	CA	ICP	OPTIMA ICP 2	317.93		5000	50.0	4/1/2011	500000.0	3/19/2012
Chromium	CR	PMS	PE ELAN 6000 MS	0.00		10	0.5	4/1/2011		
Copper	CU	PMS	PE ELAN 6000 MS	0.00		25	0.5	4/1/2011		
Iron	FE	ICP	OPTIMA ICP 2	259.94		100	50.0	4/1/2011	250000.0	3/19/2012
Magnesium	MG	ICP	OPTIMA ICP 2	279.08		5000	50.0	4/1/2011	500000.0	3/19/2012
Manganese	MN	ICP	OPTIMA ICP 2	257.61		15	1.0	4/1/2011	30000.0	3/19/2012
Potassium	K	ICP	OPTIMA ICP 2	766.49		5000	500.0	4/1/2011	500000.0	3/19/2012
Silver	AG	PMS	PE ELAN 6000 MS	0.00		10	0.2	4/1/2011		
Sodium	NA	ICP	OPTIMA ICP 2	589.00		5000	500.0	4/1/2011	5000000.0	3/19/2012
Zinc	ZN	PMS	PE ELAN 6000 MS	0.00		20	4.0	4/1/2011		

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

IEC DATE: 3/19/2012

SDG: US82

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.3219720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	10.2020000	0.0000000	0.1202730
Arsenic	188.98	0.0676681	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.9907570	1.0929900	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1617070	0.0000000	0.0000000	0.0509863
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	3.4090200	0.0000000	0.0000000	0.0000000	0.0000000	0.1642300	0.0000000	0.0000000	0.0094737
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0229989	0.0000000	-0.0409619	0.0000000	0.0000000	-0.0447283
Cobalt	228.62	0.0000000	0.0000000	0.2151410	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2203550	-0.0248240	0.0000000	-0.0717630
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7214060	0.0000000	0.0000000
Lead	220.35	-0.1395300	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-2.0199800	1.2549900	0.0665058
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.7927700	-1.2197100	0.0000000	0.5858900
Manganese	257.61	0.0071452	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.0059831
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0169987	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1147630
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.7375200	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0067168	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	6.5303700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.5520300	0.3828500	0.0000000	-0.1317480
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0292008	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0348510	0.0000000	0.0000000	0.2207060	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.2513600	0.0000000	0.1207740
Zinc	206.20	-0.0433063	0.0000000	0.0000000	0.0000000	0.0131448	0.0000000	0.0000000	-0.4942180	0.0000000	0.0000000

IS82 0512

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

IEC DATE: 3/19/2012

SDG: US82

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	8.7251100	0.0000000	0.0000000	0.0000000	1.2350800	0.0000000	19.6337000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.6262000	0.0000000	-2.0479800	0.0000000
Arsenic	188.98	0.0231456	0.0000000	1.4466600	0.0000000	0.0000000	0.0000000	-6.9568100	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0777109	0.0000000	0.0000000	0.0000000	0.0000000	0.4101220	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0114175	0.0000000	0.6735850	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0576937	-0.6515750	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0373272	0.0000000	0.1461890	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.2854520	0.0267072
Cobalt	228.62	0.0000000	0.0000000	-0.2518640	0.1618730	0.0000000	0.0000000	1.6854600	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0046107	0.0000000	0.1890580	0.0000000	0.0000000	0.0000000	0.2839350	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	5.2682800	0.0000000
Lead	220.35	0.0000000	0.0000000	-0.3516970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-3.2487800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0062324	0.0000000	0.0000000	0.0000000	-0.3367650	0.0000000	0.0000000	0.0000000	-0.0331334	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.9494270	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.9119740	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.2105810	0.1262930	0.0000000	0.0000000	0.0000000	-0.0406459	0.0000000	-0.2398130	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	271.7310000	0.0000000	0.0000000	373.0000000
Thallium	190.80	0.0000000	0.0000000	-3.8706100	0.0000000	0.0917790	0.0000000	0.5514110	0.0000000	1.6549500	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0344764	-0.7123520	-0.4958940	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	1.3260700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1562030	-0.7955440	0.0000000	0.0000000	0.0000000	0.6246810	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2669400	0.0000000	-0.1628880	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

US82 0951 69

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US82

ANALYSIS METHOD: ICP

ARI PREP CODE: TWC

PREPDATE: 5/8/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW-34S-050312	US82A	0.000	50.0	50.0
MW-34S-050312D	US82ADUP	0.000	50.0	50.0
MW-34S-050312S	US82ASPK	0.000	50.0	50.0
MW-35S-050312	US82B	0.000	50.0	50.0
MW-36S-050312	US82C	0.000	50.0	50.0
MW-33S-050212	US82E	0.000	50.0	50.0
PBW	US82MB1	0.000	50.0	50.0
LCSW	US82MB1SPK	0.000	50.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US82

ANALYSIS METHOD: ICP

ARI PREP CODE: WMN

PREPDATE: 5/9/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW-34S-050312	US82F	0.000	50.0	50.0
MW-34S-050312D	US82FDUP	0.000	50.0	50.0
MW-34S-050312S	US82FSPK	0.000	50.0	50.0
MW-35S-050312	US82G	0.000	50.0	50.0
MW-36S-050312	US82H	0.000	50.0	50.0
MW-33S-050212	US82I	0.000	50.0	50.0
PBW	US82MB2	0.000	50.0	50.0
LCSW	US82MB2SPK	0.000	50.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US82

ANALYSIS METHOD: PMS

ARI PREP CODE: REN

PREPDATE: 5/9/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW-34S-050312	US82A	0.000	50.0	25.0
MW-34S-050312D	US82ADUP	0.000	50.0	25.0
MW-34S-050312S	US82ASPK	0.000	50.0	25.0
MW-35S-050312	US82B	0.000	50.0	25.0
MW-36S-050312	US82C	0.000	50.0	25.0
MW-33S-050212	US82E	0.000	50.0	25.0
MW-34S-050312	US82F	0.000	50.0	25.0
MW-34S-050312D	US82FDUP	0.000	50.0	25.0
MW-34S-050312S	US82FSPK	0.000	50.0	25.0
MW-35S-050312	US82G	0.000	50.0	25.0
MW-36S-050312	US82H	0.000	50.0	25.0
MW-33S-050212	US82I	0.000	50.0	25.0
DUP-050312-1	US82K	0.000	50.0	25.0
DUP-050312-1	US82L	0.000	50.0	25.0
PBW	US82MB1	0.000	50.0	25.0
LCSW	US82MB1SPK	0.000	50.0	25.0
PBW	US82MB2	0.000	50.0	25.0
LCSW	US82MB2SPK	0.000	50.0	25.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin INSTRUMENT ID: OPTIMA ICP 2 START DATE: 5/10/2012

SDG: US82 RUNID: IP051072 METHOD: ICP END DATE: 5/10/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	08542			X					X					X		X	X	X		X											
S2	S2	1.00	08583																	X													
S3	S3	1.00	09002																														
S4	S4	1.00	09023																														
S5	S5	1.00	09045			X					X					X		X	X			X											
ICV	ICV	1.00	09074			X					X					X		X	X	X		X											
ICB	ICB	1.00	09114			X					X					X		X	X	X		X											
CRI	CRII	1.00	09155			X					X					X		X	X	X		X											
ICSA	ICSAI	1.00	09201			X					X					X		X	X	X		X											
ICSAB	ICSABI	1.00	09242			X					X					X		X	X	X		X											
CCV	CCV1	1.00	09291			X					X					X		X	X	X		X											
CCB	CCB1	1.00	09332			X					X					X		X	X	X		X											
PBW	US82MB2	1.00	09373			X										X				X													
MW-34S-050312L	US82F-L	5.00	09415			X										X				X													
MW-34S-050312	US82F	1.00	09460			X										X				X													
MW-34S-050312D	US82FDUP	1.00	09501			X										X				X													
MW-34S-050312S	US82FSPK	1.00	09543			X										X				X													
MW-35S-050312	US82G	1.00	09583			X										X				X													
MW-36S-050312	US82H	1.00	10024			X										X				X													
MW-33S-050212	US82I	1.00	10070			X										X				X													
LCSW	US82MB2SPK	1.00	10111			X										X				X													
CCV	CCV2	1.00	10151			X					X					X		X	X	X		X											
CCB	CCB2	1.00	10191			X					X					X		X	X	X		X											
PBW	US82MB1	1.00	10233																														
ZZZZZZ	ZZZZZZ	5.00	10275																														
MW-34S-050312	US82A	1.00	10320																														
MW-34S-050312D	US82ADUP	1.00	10361																														
MW-34S-050312S	US82ASPK	1.00	10403																														
ZZZZZZ	ZZZZZZ	1.00	10443																														
MW-35S-050312	US82B	1.00	10483																														
MW-36S-050312	US82C	1.00	10524																														
MW-33S-050212	US82E	1.00	10570																														
LCSW	US82MB1SPK	1.00	11011																														
CCV	CCV3	1.00	11051			X					X					X		X	X	X		X											
CCB	CCB3	1.00	11091			X					X					X		X	X	X		X											

FORM XIV

US82-0515

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 5/10/2012

SDG: US82 | RUNID: IP051072 | METHOD: ICP | END DATE: 5/10/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S2	S2	1.00	11135																	X													
S3	S3	1.00	11160																														
CCV	CCV4	1.00	11183			X					X					X		X	X	X		X										
CCB	CCB4	1.00	11224			X					X					X		X	X	X		X										
PBW	US82MB1	1.00	11265			X					X					X		X	X	X		X										
MW-34S-050312L	US82A-L	5.00	11311			X					X					X		X	X	X		X										
MW-34S-050312	US82A	1.00	11352			X					X					X		X	X	X		X										
MW-34S-050312D	US82ADUP	1.00	11394			X					X					X		X	X	X		X										
MW-34S-050312S	US82ASPK	1.00	11435			X					X					X		X	X	X		X										
MW-35S-050312	US82B	1.00	11475			X					X					X		X	X	X		X										
MW-36S-050312	US82C	1.00	11520			X					X					X		X	X	X		X										
MW-33S-050212	US82E	1.00	11562			X					X					X		X	X	X		X										
LCSW	US82MB1SPK	1.00	12003			X					X					X		X	X	X		X										
CCV	CCV5	1.00	12043			X					X					X		X	X	X		X										
CCB	CCB5	1.00	12084			X					X					X		X	X	X		X										
CRI	CRIF	1.00	12125			X					X					X		X	X	X		X										
ICSA	ICSAF	1.00	12171			X					X					X		X	X	X		X										
ICSAB	ICSABF	1.00	12212			X					X					X		X	X	X		X										
CCV	CCV6	1.00	12261			X					X					X		X	X	X		X										
CCB	CCB6	1.00	12301			X					X					X		X	X	X		X										

US82 0168

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 5/16/2012

SDG: US82 | RUNID: MS051681 METHOD: PMS | END DATE: 5/16/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	08510		X		X							X	X																		X
S1	S1	1.00	08570		X		X							X	X																		X
S2	S2	1.00	09040		X		X							X	X																		X
S3	S3	1.00	09110		X		X							X	X																		X
S4	S4	1.00	09170		X		X							X	X																		X
ZZZZZZ	Rinse Sampl	1.00	09250																														
ICV	MICV	1.00	09330		X		X							X	X																		X
ICB	ICB	1.00	09400		X		X							X	X																		X
CCV	MCCV1	1.00	09470		X		X							X	X																		X
CCB	CCB1	1.00	09540		X		X							X	X																		X
ZZZZZZ	ZZZZZZ	1.00	10000																														
ICSA	ICSAI	1.00	10060		X		X							X	X																		X
ICSAB	ICSABI	1.00	10130		X		X							X	X																		X
ZZZZZZ	LR200	1.00	10190																														
ZZZZZZ	LR300	1.00	10260																														
ZZZZZZ	B1	1.00	10380																														
CCV	MCCV2	1.00	10450		X		X							X	X																		X
CCB	CCB2	1.00	10520		X		X							X	X																		X
S0	S0	1.00	10580		X		X							X	X																		X
CCV	MCCV3	1.00	11060		X		X							X	X																		X
CCB	CCB3	1.00	11130		X		X							X	X																		X
CRI	CRII	1.00	11200																														
ZZZZZZ	UT23MB1	2.00	11260																														
ZZZZZZ	UU34MB	2.00	11330																														
ZZZZZZ	US34MB	20.00	11400																														
ZZZZZZ	US34MB	20.00	11460																														
ZZZZZZ	UU34MBSPK	2.00	11530																														
ZZZZZZ	US34A	100.00	12000																														
ZZZZZZ	US34A	20.00	12060																														
ZZZZZZ	US34A	100.00	12130																														
ZZZZZZ	UU34A	2.00	12200																														
CCV	MCCV4	1.00	12260		X		X							X	X																		X
CCB	CCB4	1.00	12330		X		X							X	X																		X
MW-34S-050312L	US82A-L	10.00	12410		X		X							X	X																		X
MW-34S-050312	US82A	2.00	12470		X		X							X																			X

FORM XIV

US82.2851

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 5/16/2012

SDG: US82 | RUNID: MS051681 | METHOD: PMS | END DATE: 5/16/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
MW-34S-050312D	US82ADUP	2.00	12540		X		X							X	X																		X
MW-34S-050312S	US82ASPK	2.00	13010																														
ZZZZZZ	ZZZZZZ	2.00	13070																														
ZZZZZZ	ZZZZZZ	10.00	13140																														
MW-34S-050312	US82F	2.00	13230		X		X							X	X																		X
MW-34S-050312D	US82FDUP	2.00	13300		X		X							X	X																		X
MW-34S-050312S	US82FSPK	2.00	13370		X		X							X	X																		X
ZZZZZZ	ZZZZZZ	2.00	13430																														
CCV	MCCV5	1.00	13500		X		X							X	X																		X
CCB	CCB5	1.00	13570		X		X							X	X																		X
PBW	US82MB1	2.00	14050		X		X							X	X																		X
PBW	US82MB2	2.00	14110		X		X							X	X																		X
LCSW	US82MB2SPK	2.00	14180		X		X							X	X																		X
LCSW	US82MB1SPK	2.00	14250		X		X							X	X																		X
MW-35S-050312	US82B	2.00	14310		X		X							X	X																		X
MW-36S-050312	US82C	2.00	14380		X		X								X																		X
MW-33S-050212	US82E	2.00	14450																														
MW-35S-050312	US82G	2.00	14510																														
MW-36S-050312	US82H	2.00	14580		X		X								X																		X
MW-33S-050212	US82I	2.00	15050		X		X								X																		X
CCV	MCCV6	1.00	15110		X		X							X	X																		X
CCB	CCB6	1.00	15180		X		X							X	X																		X
MW-34S-050312L	US82F-L	10.00	15370		X		X							X	X																		X
MW-34S-050312S	US82ASPK	2.00	15440		X		X							X	X																		X
ZZZZZZ	ZZZZZZ	2.00	15500																														
MW-33S-050212	US82E	2.00	15570		X									X	X																		X
MW-35S-050312	US82G	2.00	16040		X		X							X	X																		X
DUP-050312-1	US82K	2.00	16100		X		X							X	X																		X
DUP-050312-1	US82L	2.00	16170		X		X							X	X																		X
ZZZZZZ	US34A	500.00	16240																														
CCV	MCCV7	1.00	16300		X		X							X	X																		X
CCB	CCB7	1.00	16370		X		X							X	X																		X
MW-36S-050312	US82C	5.00	16430											X																			
MW-33S-050212	US82E	5.00	16500				X																										
MW-35S-050312	US82G	5.00	16570																														

FORM XIV

05/15/2012

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 5/16/2012

SDG: US82 | RUNID: MS051681 | METHOD: PMS | END DATE: 5/16/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
MW-36S-050312	US82H	5.00	17030											X																			
MW-33S-050212	US82I	5.00	17100											X																			
DUP-050312-1	US82K	5.00	17170																														
DUP-050312-1	US82L	5.00	17230																														
CCV	MCCV8	1.00	17300		X		X							X	X																		X
CCB	CCB8	1.00	17370		X		X							X	X																		X

US82 SDG: 7 of 21

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 5/18/2012

SDG: US82 | RUNID: MS051881 METHOD: PMS | END DATE: 5/18/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	09280												X																		
S1	S1	1.00	09340												X																		
S2	S2	1.00	09410												X																		
S3	S3	1.00	09470												X																		
S4	S4	1.00	09530												X																		
ZZZZZZ	Rinse Sampl	1.00	10000																														
S0	S0	1.00	10070												X																		
ICV	MICV	1.00	10130												X																		
ICB	ICB	1.00	10200												X																		
CCV	MCCV1	1.00	10260												X																		
CCB	CCB1	1.00	10320												X																		
CRI	MCRI	1.00	10380												X																		
ICSA	ICSAI	1.00	10440												X																		
ZZZZZZ	ZZZZZZ	1.00	10500																														
ICSAB	ICSABI	1.00	10580												X																		
ZZZZZZ	LR200	1.00	11050																														
ZZZZZZ	LR300	1.00	11110																														
CCV	MCCV2	1.00	11180												X																		
CCB	CCB2	1.00	11240												X																		
S0	S0	1.00	11320												X																		
CCV	MCCV3	1.00	11380												X																		
CCB	CCB3	1.00	11450												X																		
ZZZZZZ	UU21MB1	2.00	11500																														
ZZZZZZ	UU21MB2	2.00	11570																														
ZZZZZZ	UU23MB2	1.00	12030																														
ZZZZZZ	UU23MB2SPK	20.00	12090																														
ZZZZZZ	UU21MB2SPK	2.00	12160																														
ZZZZZZ	UU21MB2SPD	2.00	12220																														
ZZZZZZ	UU21MB1SPK	2.00	12280																														
ZZZZZZ	UU21MB1SPD	2.00	12350																														
ZZZZZZ	UU21B	2.00	12410																														
ZZZZZZ	UU21C	2.00	12470																														
CCV	MCCV4	1.00	12530												X																		
CCB	CCB4	1.00	13000												X																		
ZZZZZZ	UU23MB2	1.00	13080																														

FORM XIV

US82-120512

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 5/18/2012

SDG: US82 | RUNID: MS051881 | METHOD: PMS | END DATE: 5/18/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
MW-34S-050312	US82A	2.00	13140												X																		
CCV	MCCV5	1.00	13200												X																		
CCB	CCB5	1.00	13270												X																		

US82 : 8051 75

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: MJ **Final Volume** 50 **Sample ID** US82 ASPK, MBSPK

Date: 05.09.12 **Final Volume (Hg):** _____

		Prepcode:	TWC		
		Spike Solution:	ICP Routine	ICP No GFA	GFA
		Standard No.:	2902-1		
		Vol Added (mL):	0.5		
	Ag		50		2.0
S	Al		200 ✓	200	
T	As		200		10
O	Ba		200	200	
C	Be		50	50	
K	Ca		1000 ✓	1000	
	Cd		50		2.0
	Co		50	50	
C	Cr		50	50	
O	Cu		50	50	
N	Fe		200 ✓	200	
C	K		1000 ✓	1000	
E	Mg		1000 ✓	1000	
N	Mn		50 ✓	50	
T	Na		1000 ✓	1000	
R	Ni		50	50	
A	Pb		200		10
T	Se		200		10
I	Sr		50	50	
O	Tl		200		10
N	V		50	50	
	Zn		50	50	

	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

US82 : 2950714

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MJ Date: 05.08.12 Time: 1215

Matrix: Water Block ID: #5 Block Temp: 93°C Thermometer: MP7

ARI Sample ID	Btl #	pH<2	Prep Code: TWC Initial ~~Wt (g)~~ Vol (mL)	Prep Code: TWC Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
US82 A	5	✓	50.0	50.0			
US82 ADUP	5	✓	50.0	50.0			
US82 ASPK	5	✓	50.0	50.0			
US82 B	2	✓	50.0	50.0			
US82 C	2	✓	50.0	50.0			
US82 E	2	✓	50.0	50.0			
US82 MB1	—	✓	50.0	50.0			
US82 MBSPK	—	✓	50.0	50.0			
UTJ4 A	7	—	50.0	50.0			Preserved in lab
UTJ4 ADUP	7	—	50.0	50.0			
UTJ4 ASPK	7	—	50.0	50.0			
UTJ4 B	7	✓	50.0	50.0			
UTJ4 C	7	—	50.0	50.0			Preserved in lab
UTJ4 D	6	—	50.0	50.0			
UTJ4 E	6	—	50.0	50.0			
UTJ4 F	6	—	50.0	50.0			
UTJ4 G	6	✓	50.0	50.0			
UTJ4 MB	—	✓	50.0	50.0			
UTJ4 MBSPK	—	✓	50.0	50.0			

05.08.12 MJ

Chemical/Reagent ID:

HNO_3: I7466 HCl: MP2295 H_2O_2: —— Tube Lot #: 111173

US82:00175

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: MJ

Date: 05.09.12

Final Volume 25

Final Volume (Hg):

Sample ID USS2 ASPK, MBSPK, ESPK, LMBSPK

		Prepcode:		
		Spike Solution:	ICP Routine	ICP No GFA	GFA
		Standard No.:			
		Vol Added (mL):			
STOCK CONCENTRATION	Ag	50		2.0
	Al	200	200	
	As	200		10
	Ba	200	200	
	Be	50	50	
	Ca	1000	1000	
	Cd	50		2.0
	Co	50	50	
	Cr	50	50	
	Cu	50	50	
	Fe	200	200	
	K	1000	1000	
	Mg	1000	1000	
	Mn	50	50	
	Na	1000	1000	
	Ni	50	50	
	Pb	200		10
	Se	200		10
	Sr	50	50	
	Tl	200		10
	V	50	50	
	Zn	50	50	

	REN		
	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
	2927-9		
	0.05		
Ag	25 ✓		
Al			500
As	25 ✓		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25 ✓		
Cu	25 ✓		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80 ✓		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

94199 : 29SC

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MJ Date: 05.09.12 Time: 0855

Matrix: water Block ID: #12 Block Temp: 91°C Thermometer: MP39

ARI Sample ID	Btl #	pH<2	Prep Code: REN Initial ~~Wt (g)~~ Vol (mL)	Prep Code: REN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
US82 A	5	✓	50.0	25.0			
US82 ADUP	5	✓	50.0	25.0			
US82 ASPK	5	✓	50.0	25.0			
US82 B	2	✓	50.0	25.0			
US82 C	2	✓	50.0	25.0			
US82 E	2	✓	50.0	25.0			
US82 K	1	✓	50.0	25.0			
US82 MB1	—	✓	50.0	25.0			
US82 MBKSPK	—	✓	50.0	25.0			
US82 F	1	✓	50.0	25.0			
US82 FDUP	1	✓	50.0	25.0			
US82 FSPK	1	✓	50.0	25.0			
US82 G	1	✓	50.0	25.0			
US82 H	1	✓	50.0	25.0			
US82 I	1	✓	50.0	25.0			
US82 L	1	✓	50.0	25.0			
US82 MB2	—	✓	50.0	25.0			
US82MB2SPK	—	✓	50.0	25.0			

05.09.12 MJ

Chemical/Reagent ID:

HNO_3: MP2293 HCl: — H_2O_2: J7403 Tube Lot #: 111173

US82 : 80177

Digestion Log

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analyst: MJ Date: 05.09.12 Time: 1235

Matrix: Water Block ID: — Block Temp: — Thermometer: —

ARI Sample ID	Btl #	pH<2	Prep Code: NMN Initial Wt (g) Vol (mL)	Prep Code: NMN Final Vol (mL)	Prep Code: DMN Initial Wt (g) Vol (mL)	Prep Code: DMN Final Vol (mL)	Comments
US82 F	1	✓	—	—			
US82 FDUP	1	✓	—	—			
US82 FSPK	1	✓	—	—			
US82 G	1	✓	—	—			
US82 H	1	✓	—	—			
US82 I	1	✓	—	—			
UT34 B	8	✓	—	—			
UT34 BDUP	8	✓	—	—			
UT34 BSPK	8	✓	—	—			
UT34 C	8	✓	—	—			
UT34 D	8	✓	—	—			
UT63 B	3	✓	—	—			
UT63 C	3	✓	—	—			
UT63 D	3	✓	—	—			
UT47 A	4	—			—	—	
UT47 ADUP	4	—			—	—	
UT47 ASPK	4	—			—	—	Filtered in lab.
UT47 B	4	—			—	—	
UT47 C	4	—			—	—	
UT47 MB	—	—			—	—	
UT47 MBSPK	—	—			—	—	

05.09.12 MJ

05.09.12 MJ

05.09.12 MJ

Chemical/Reagent ID:

HNO_3: — HCl: — H_2O_2: — Tube Lot #: 111173

US82 00178

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Sciex ELAN 6000 Serial No. Z13960660

Analysis Date: 516-12 **Analyst:** [illegible] **Page:** 1 **of** 56 (+517)

All corrections made by analyst unless otherwise noted. +M 5-16-12

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		STD 0			2933-2
		1			2935-1
		2			" -2
		3			2936 -3
		4			2935-4
		Rinse Sample			80 C.O.
		ICV			2925-2
		ICB			
		CCV1			
		CCB1			
		ZZZZZZ			RR ^{53}Cr low (baseline)
		ICSA			
		ICSAB			
		LR200			
		LR300			
		B Lot# 1			
		CCV2			
		CCB2			
		STD 0			
		CCV3			
		CCB3			
Low check		~~ORT~~ Low check			
		LLT3 MB1	RSN	2	
		LL34 MB	"	"	

US82 : 00179

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Sciex ELAN 6000 Serial No. Z13960660

Analysis Date: 5-16-12 **Analyst:** JK **Page:** 2 of 6

All corrections made by analyst unless otherwise noted. #5 5-16-12 #4 5-17

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
	✓	US34 MB	SWC	20	PE Ag Sb
	✓	" MB	SWN	20	"
		US34MBdl	REN	2	
US	✓	US34 A	SWN	100	RR 1/500 Mn Ni Zn Ba
|	✓	A	"	20	Ag ok
|	✓	A	SWC	100	Ag Sb
		US34 A	REN	2	
		CCV4			
		CCB4			
		US82 A-L	REN	10 ✓	
		A	|	2	
		ADup	|		✓
	✓	Aspk	|		tubing disconnected probe stuck up
zzz		~~zzzzz APost~~	|	↓	tubing disconnected ↓
zzz		~~zzzzz FPost~~	|	10	
		F	|	2	
		FDup	|		✓
		Fspk	|		✓
zzz		~~zzzzz FPost~~	↓	↓	
		CCV5			
		CCB5			
		US82 MB1	REN	2	
		MB2	|	|	
		MB2spk	↓	↓	✓

US82:00180

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Sciex ELAN 6000 Serial No. Z13960660

Analysis Date: 5-16-12 **Analyst:** ~~5-16-12~~ **Page:** 3 **of** ~~5~~ 6

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		US82MBLSPL	REN	~~10~~ 2	
		B			
		C			RRCV (SC)
	✓	E			tubing disconnected
	✓	G			
		H			RRCV (SC)
		I			
		CCV 6			
		CCB6			
		US82 F-L	REN	10	✓
~~xxx~~		~~ASOLN~~		2	
~~xxx~~		~~APOOL~~			
		E			RRAS
		G			
		K			
		L			
		US34 A	SWN	500	mn PB
		CCV7			
		CCB7			
		US82 C	REN	5	CV
		RE			AS
	✓	G7			use 24
	X	H			CV
		I			CV

US82 : 00181

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Sciex ELAN 6000 Serial No. Z13960660

Analysis Date: 5/16-17 **Analyst:** KT **Page:** 4 of 6

All corrections made by analyst unless otherwise noted. #1 5-17

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
	✓	WS82 K	REN	2	use 2X
	✓	↓ L	↓	↓	↓
		CCV8			
		CCB8			end alog
		WT57 MB2	REN	2	
		MB1	SUN	20	
		MBlspk	↓	↓ ✓	
		WT57 MB2spk	REN	2 ✓	
		WS79 D	↓	100	
		↓ E	↓	↓	
		WT57 D	REN	2	
		A	SUN	20	
		B	↓	↓	
		↓ C	↓	↓	
		CCV9			
		CCB9			
		WT95 MB2	REN	2	
		MB2spk	↓	↓ ✓	
		KDup		✓	RE As. Se (CBout)
		K		↓	
		Kspk		✓	
		L			
		M			
		↓ N	↓	↓	

#5-17-12

US82 : 00182

ANALYTICAL RESOURCES INCORPORATED

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA **Analysis Date:** 5/16-17

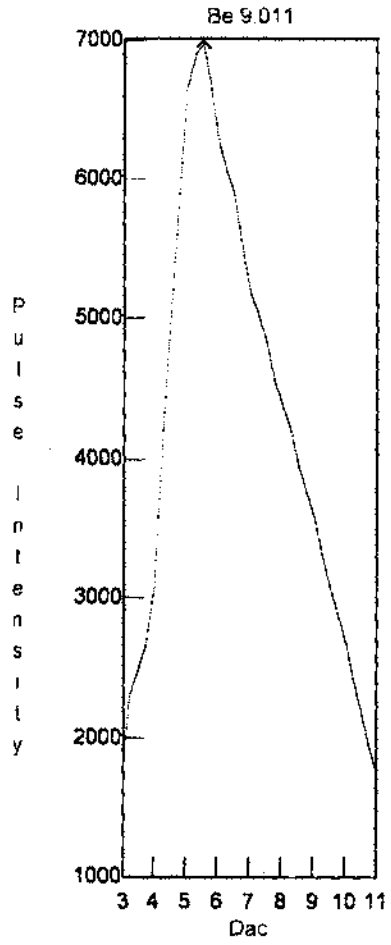
M1 BLAN	Analyst M 5/17	Peer 5.17	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration verification:			
ICV/CCV	✓	✓	
ICB/CCB	✓	✓	see Log
Samples:			
RSD's & SD's	✓	✓	
Internal Standards	✓	✓	
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	
Post Spikes/Serial Dilutions	✓	✓	US82
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	UT95
Matrix Duplicates	✓	✓	
Method Blanks	✓	✓	
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysis Notes and CAF's	✓	✓	UT95

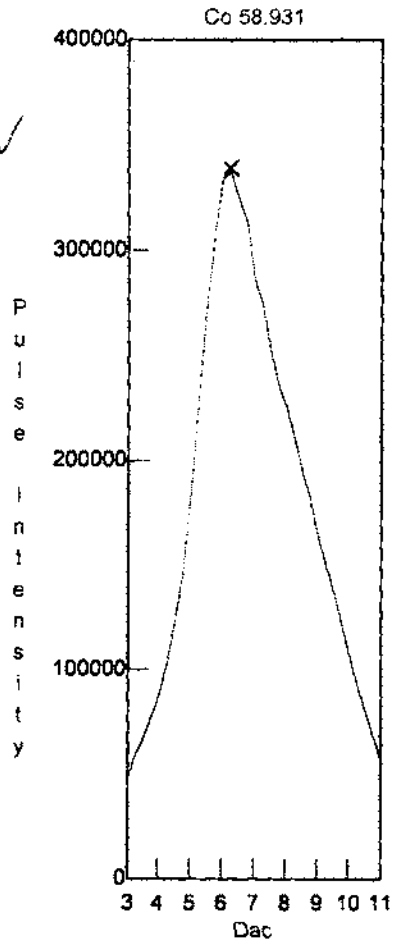
Instrument Tuning Report

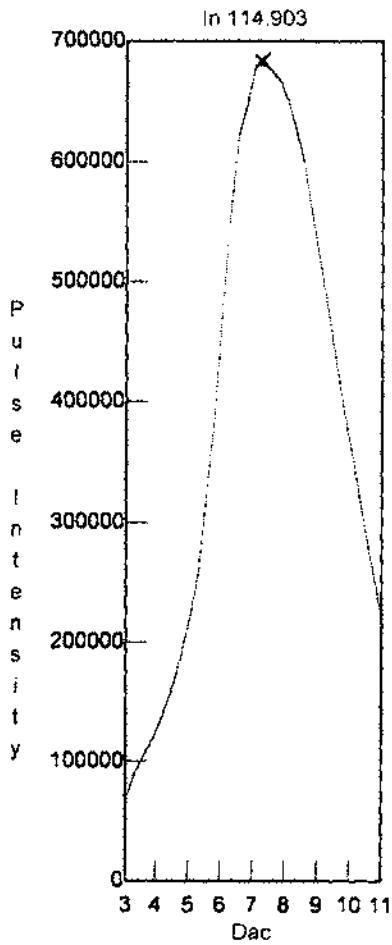
File Name: Default.tun
File Path: C:\Elandata\Tuning\Default.tun

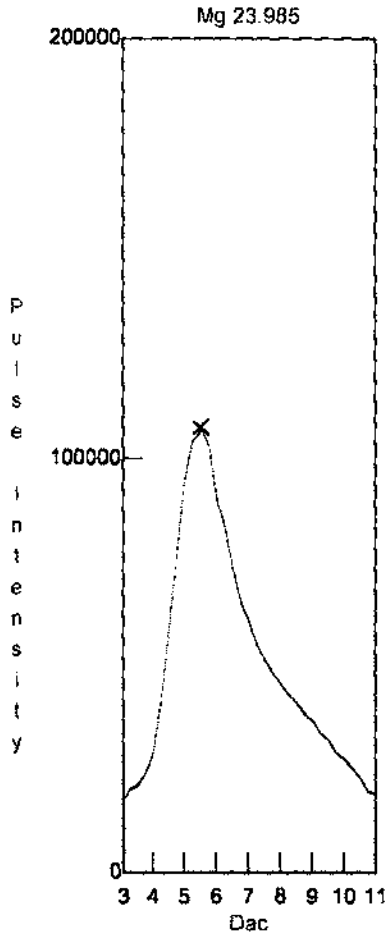
Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Be	9.012	9.028	2028	2147	0.713	
Mg	23.985	23.979	5664	2262	0.692	
Co	58.933	58.929	14158	2530	0.685	
In	114.904	114.928	27789	2983	0.680	
Pb	207.977	207.976	50439	3738	0.695	

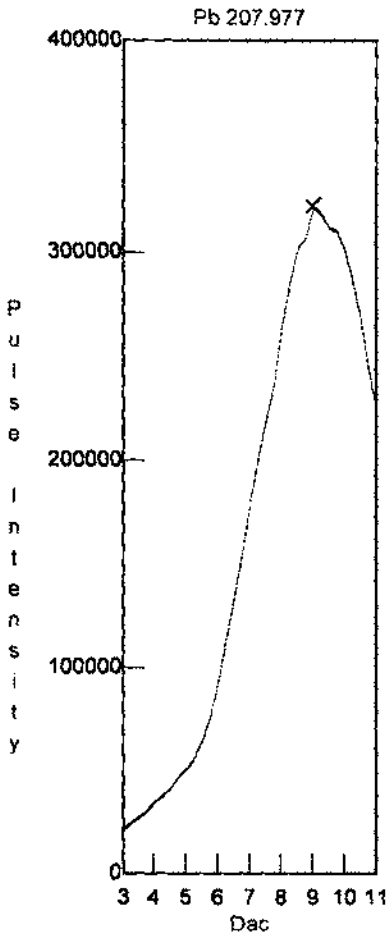
US82 : 00184

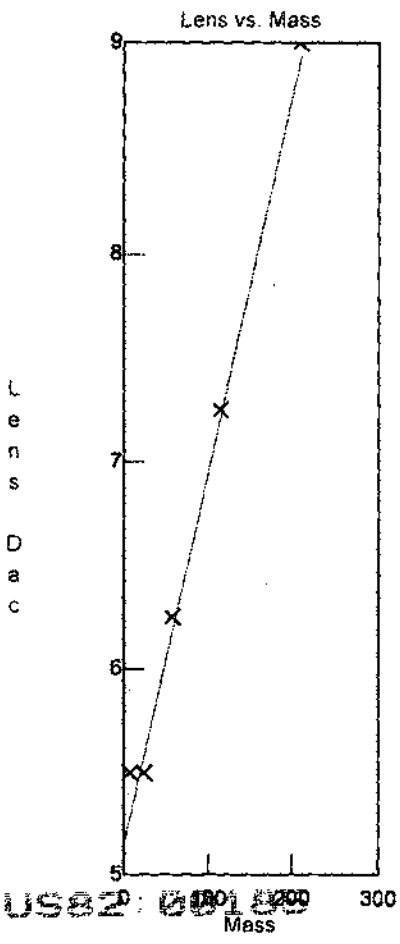

Be 9.011
Pulse Intensity
7000
6000
5000
4000
3000
2000
1000
3 4 5 6 7 8 9 10 11
Dac


Co 58.931
Pulse Intensity
400000
300000
200000
100000
0
3 4 5 6 7 8 9 10 11
Dac


In 114.903
Pulse Intensity
700000
600000
500000
400000
300000
200000
100000
0
3 4 5 6 7 8 9 10 11
Dac


Mg 23.985
Pulse Intensity
200000
100000
0
3 4 5 6 7 8 9 10 11
Dac


Pb 207.977
Pulse Intensity
400000
300000
200000
100000
0
3 4 5 6 7 8 9 10 11
Dac


Lens vs. Mass
Lens Dac
9
8
7
6
5
200
300
Mass

US82: 60196

Daily Performance Report

Sample ID: Sample
Sample Date/Time: Wednesday, May 16, 2012 08:22:34
Sample Description:
Sample File: 1120.sam
Method File: C:\Elandata\Method\aridailyperf.mth
Dataset File: C:\Elandata\Dataset\daily performance\Sample.722
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\Default.dac
Number of Replicates: 5
Dual Detector Mode: Dual

0-90

Summary

	Analyte	Mass	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Mg	24	60716.037	1119.222	1.843
	In	115	459736.386	2412.036	0.525
	Pb	208	215298.872	3389.150	1.574
>	Ba	138	320798.252	3505.263	1.093
	Ba++	69	0.018	0.000	2.269
>	Ce	140	383507.316	4345.952	1.133
	CeO	156	0.028	0.000	1.802
	Bkgd	220	5.251	2.562	48.795

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 08:51:47
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L				387365	1
	Be	9		ug/L				4	62
	C	13		mg/L				8210	1
	Cl	37		mg/L				3382902	1
>	Sc	45		ug/L				404975	0
	Na	23		ug/L				49325	33
	Mg	24		ug/L				4603	4
	Al	27		ug/L				7354	2
	K	39		ug/L				732618	1
	Ca	43		ug/L				330	6
	V	51		ug/L				4442	2
	V-1	51		ug/L				8768	4
	Cr	52		ug/L				13650	1
	Cr	53		ug/L				2925	4
	Fe	54		ug/L				48550	2
	Fe	57		ug/L				24843	56
	Mn	55		ug/L				504	3
	Co	59		ug/L				118	22
>	Ge	72		ug/L				477346	0
	Ni	60		ug/L				62	20
	Ni	62		ug/L				71	20
	Cu	63		ug/L				227	6
	Cu	65		ug/L				118	19
	Zn	66		ug/L				434	11
	Zn	67		ug/L				229	4
	Zn	68		ug/L				14541	2
	As	75		ug/L				846	29
	As-1	75		ug/L				16227	0
	Se	82		ug/L				2	91
	Se	78		ug/L				16621	0
	Mo	98		ug/L				1089	15
	Y	89		ug/L				401065	0
	Kr	83		ug/L				508	17
>	In	115		ug/L				452762	1
	Ag	107		ug/L				40	8
	Cd	111		ug/L				206	7
	Cd	114		ug/L				19	31
	Sb	121		ug/L				25	5
	Sb	123		ug/L				19	24
	Ba	135		ug/L				20	40
	Ba	137		ug/L				35	2
>	Tb	159		ug/L				402009	2
	Tl	205		ug/L				55	20
	Pb	208		ug/L				407	7
	Bi	209		ug/L				337848	2
	Th	232		ug/L				124	4
	U	238		ug/L				21	40

US82 : 00187

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 08:57:57
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			387365	400148	1
⌊	Be	9	10.000	ug/L	0.119	1	4	5236	0
	C	13		mg/L			8210	6749	1
	Cl	37		mg/L			3382902	3409383	0
⌈>	Sc	45		ug/L			404975	409743	0
|	Na	23	1000.000	ug/L	16.122	1	49325	10744281	0
|	Mg	24	1000.000	ug/L	14.538	1	4603	7402945	0
|	Al	27	1000.000	ug/L	6.617	0	7354	11364563	0
|	K	39	1000.000	ug/L	7.727	0	732618	15666931	0
|	Ca	43	1000.000	ug/L	3.913	0	330	33026	0
|	V	51	10.000	ug/L	0.131	1	4442	185017	1
|	V-1	51	10.000	ug/L	0.091	0	8768	193758	0
|	Cr	52	10.000	ug/L	0.066	0	13650	169424	0
|	Cr	53	10.000	ug/L	0.058	0	2925	21940	1
|	Fe	54	1000.000	ug/L	7.713	0	48550	1340731	0
|	Fe	57	1000.000	ug/L	14.514	1	24843	574274	0
|	Mn	55	10.000	ug/L	0.087	0	504	266848	0
⌊	Co	59	10.000	ug/L	0.115	1	118	204884	0
⌈>	Ge	72		ug/L			477346	484416	0
|	Ni	60	10.000	ug/L	0.088	0	62	44121	1
|	Ni	62	10.000	ug/L	0.045	0	71	6598	0
|	Cu	63	10.000	ug/L	0.099	0	227	98038	0
|	Cu	65	10.000	ug/L	0.091	0	118	46771	0
|	Zn	66	10.000	ug/L	0.178	1	434	28919	1
|	Zn	67	10.000	ug/L	0.251	2	229	5135	2
|	Zn	68	10.000	ug/L	0.166	1	14541	34488	1
|	As	75	10.000	ug/L	0.075	0	846	27168	0
|	As-1	75	10.000	ug/L	0.055	0	16227	42605	0
|	Se	82	10.000	ug/L	0.016	0	2	2793	0
|	Se	78	10.000	ug/L	0.089	0	16621	23861	0
⌊	Mo	98	10.000	ug/L	0.077	0	1089	90205	0
	Y	89		ug/L			401065	405051	0
	Kr	83		ug/L			508	545	3
⌈>	In	115		ug/L			452762	461529	0
|	Ag	107	10.000	ug/L	0.040	0	40	157833	0
|	Cd	111	10.000	ug/L	0.062	0	206	37925	0
|	Cd	114	10.000	ug/L	0.082	0	19	87589	0
|	Sb	121	10.000	ug/L	0.053	0	25	117097	0
|	Sb	123	10.000	ug/L	0.092	0	19	87719	1
|	Ba	135	10.000	ug/L	0.126	1	20	26987	1
⌊	Ba	137	10.000	ug/L	0.185	1	35	46140	1
⌈>	Tb	159		ug/L			402009	406236	0
|	Tl	205	10.000	ug/L	0.092	0	55	292314	1
|	Pb	208	10.000	ug/L	0.033	0	407	408701	0
|	Bi	209		ug/L			337848	342339	1
|	Th	232	10.000	ug/L	0.120	1	124	459521	0
⌊	U	238	10.000	ug/L	0.187	1	21	521331	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 09:04:37
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	393973	0
[	Be	9	20.117	ug/L	0.070	0	4	10616	0
	C	13		mg/L			8210	6373	1
	Cl	37		mg/L			3382902	3495007	0
[>	Sc	45		ug/L			404975	411235	0
[	Na	23	2002.729	ug/L	17.560	0	49325	21666133	1
[	Mg	24	2002.458	ug/L	2.954	0	4603	14947799	0
[	Al	27	2002.809	ug/L	13.613	0	7354	22966782	1
[	K	39	2010.134	ug/L	21.470	1	732618	31481483	1
[	Ca	43	1988.620	ug/L	27.208	1	330	64137	2
[	V	51	19.970	ug/L	0.094	0	4442	364163	0
[	V-1	51	19.962	ug/L	0.117	0	8768	376551	0
[	Cr	52	20.001	ug/L	0.127	0	13650	326322	1
[	Cr	53	19.976	ug/L	0.211	1	2925	40836	0
[	Fe	54	1999.166	ug/L	7.919	0	48550	2636569	0
[	Fe	57	1992.354	ug/L	29.017	1	24843	1106734	0
[	Mn	55	19.998	ug/L	0.382	1	504	534858	1
[	Co	59	19.984	ug/L	0.273	1	118	409450	0
[>	Ge	72		ug/L			477346	479446	1
[	Ni	60	19.982	ug/L	0.501	2	62	86864	0
[	Ni	62	20.065	ug/L	0.421	2	71	13198	0
[	Cu	63	20.007	ug/L	0.288	1	227	194126	0
[	Cu	65	20.006	ug/L	0.334	1	118	92584	0
[	Zn	66	20.073	ug/L	0.072	0	434	57858	1
[	Zn	67	20.019	ug/L	0.478	2	229	9979	1
[	Zn	68	20.111	ug/L	0.309	1	14541	54762	0
[	As	75	20.034	ug/L	0.219	1	846	53374	0
[	As-1	75	20.057	ug/L	0.399	1	16227	68766	0
[	Se	82	20.024	ug/L	0.176	0	2	5560	0
[	Se	78	20.073	ug/L	0.863	4	16621	30788	0
[	Mo	98	19.991	ug/L	0.443	2	1089	177032	0
	Y	89		ug/L			401065	396896	0
	Kr	83		ug/L			508	524	3
[>	In	115		ug/L			452762	452712	0
[	Ag	107	20.044	ug/L	0.169	0	40	313024	0
[	Cd	111	20.081	ug/L	0.132	0	206	75720	0
[	Cd	114	20.054	ug/L	0.294	1	19	174133	0
[	Sb	121	20.098	ug/L	0.167	0	25	235448	0
[	Sb	123	20.047	ug/L	0.152	0	19	174098	0
[	Ba	135	20.107	ug/L	0.287	1	20	54365	0
[	Ba	137	20.055	ug/L	0.168	0	35	91735	0
[>	Tb	159		ug/L			402009	401771	0
[	Tl	205	20.001	ug/L	0.203	1	55	578244	0
[	Pb	208	19.924	ug/L	0.135	0	407	792909	0
[	Bi	209		ug/L			337848	333203	0
[	Th	232	19.947	ug/L	0.100	0	124	897024	0
[	U	238	19.925	ug/L	0.346	1	21	1012041	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 3
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 09:11:17
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	391557	2
[	Be	9	50.136	ug/L	0.718	1	4	26650	1
	C	13		mg/L			8210	3031	0
	Cl	37		mg/L			3382902	3544181	0
[>	Sc	45		ug/L			404975	408088	0
[	Na	23	5016.116	ug/L	77.263	1	49325	54654410	1
[	Mg	24	5016.392	ug/L	27.371	0	4603	37771358	0
[	Al	27	5018.204	ug/L	40.437	0	7354	58150399	0
[	K	39	5017.617	ug/L	31.386	0	732618	78237113	0
[	Ca	43	4976.600	ug/L	34.561	0	330	155147	0
[	V	51	50.030	ug/L	0.046	0	4442	901306	0
[	V-1	51	50.060	ug/L	0.094	0	8768	929257	0
[	Cr	52	49.978	ug/L	0.131	0	13650	786875	0
[	Cr	53	50.075	ug/L	0.362	0	2925	97855	0
[	Fe	54	5021.646	ug/L	38.501	0	48550	6640870	0
[	Fe	57	5024.591	ug/L	33.648	0	24843	2800066	0
[	Mn	55	49.886	ug/L	0.375	0	504	1308456	0
[	Co	59	49.926	ug/L	0.426	0	118	1007526	0
[>	Ge	72		ug/L			477346	473846	0
[	Ni	60	50.073	ug/L	0.607	1	62	216668	0
[	Ni	62	50.019	ug/L	0.358	0	71	32480	0
[	Cu	63	49.908	ug/L	0.717	1	227	473941	1
[	Cu	65	49.984	ug/L	0.486	0	118	228105	0
[	Zn	66	49.937	ug/L	0.335	0	434	140727	1
[	Zn	67	49.889	ug/L	0.353	0	229	23979	0
[	Zn	68	49.905	ug/L	0.180	0	14541	112010	0
[	As	75	50.123	ug/L	0.583	1	846	132339	0
[	As-1	75	50.104	ug/L	0.699	1	16227	147032	0
[	Se	82	50.016	ug/L	0.523	1	2	13745	0
[	Se	78	49.951	ug/L	0.919	1	16621	51008	0
[	Mo	98	50.151	ug/L	0.124	0	1089	444092	0
	Y	89		ug/L			401065	395890	0
	Kr	83		ug/L			508	575	1
[>	In	115		ug/L			452762	448496	1
[	Ag	107	49.977	ug/L	0.735	1	40	771344	0
[	Cd	111	50.142	ug/L	0.832	1	206	189683	1
[	Cd	114	50.101	ug/L	0.687	1	19	435346	0
[	Sb	121	50.046	ug/L	1.120	2	25	583393	1
[	Sb	123	50.054	ug/L	0.752	1	19	432895	0
[	Ba	135	50.028	ug/L	1.095	2	20	134330	0
[	Ba	137	50.026	ug/L	0.718	1	35	227208	0
[>	Tb	159		ug/L			402009	393588	0
[	Tl	205	49.958	ug/L	0.400	0	55	1408889	0
[	Pb	208	50.084	ug/L	0.645	1	407	1968567	0
[	Bi	209		ug/L			337848	328189	0
[	Th	232	50.410	ug/L	0.514	1	124	2315389	0
[	U	238	50.410	ug/L	0.358	0	21	2615692	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 4
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 09:17:57
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			387365	380822	0
	Be	9	100.156	ug/L	0.564	0	4	52053	0
	C	13		mg/L			8210	8375	2
	Cl	37		mg/L			3382902	3585785	0
>	Sc	45		ug/L			404975	406391	0
	Na	23	10042.831	ug/L	68.025	0	49325	110498803	1
	Mg	24	10013.466	ug/L	27.440	0	4603	75416944	0
	Al	27	10025.126	ug/L	122.996	1	7354	116652897	0
	K	39	10024.936	ug/L	81.656	0	732618	156220296	0
	Ca	43	9979.549	ug/L	92.382	0	330	307388	0
	V	51	99.996	ug/L	0.944	0	4442	1789235	0
	V-1	51	99.923	ug/L	0.925	0	8768	1833627	0
	Cr	52	100.024	ug/L	0.317	0	13650	1555811	0
	Cr	53	99.794	ug/L	0.848	0	2925	190003	0
	Fe	54	10027.654	ug/L	165.047	1	48550	13278516	1
	Fe	57	10064.268	ug/L	66.097	0	24843	5681404	0
	Mn	55	100.769	ug/L	0.920	0	504	2700694	0
	Co	59	99.635	ug/L	0.415	0	118	1978194	0
>	Ge	72		ug/L			477346	475439	0
	Ni	60	99.483	ug/L	0.476	0	62	424554	0
	Ni	62	99.574	ug/L	0.745	0	71	63899	0
	Cu	63	99.519	ug/L	1.230	1	227	933088	1
	Cu	65	99.237	ug/L	1.058	1	118	443028	0
	Zn	66	99.493	ug/L	0.189	0	434	276233	0
	Zn	67	99.848	ug/L	0.458	0	229	47686	0
	Zn	68	99.751	ug/L	0.781	0	14541	208564	0
	As	75	99.770	ug/L	0.755	0	846	261481	0
	As-1	75	99.804	ug/L	0.718	0	16227	276145	0
	Se	82	99.944	ug/L	0.511	0	2	27506	0
	Se	78	99.997	ug/L	0.220	0	16621	85869	0
	Mo	98	100.190	ug/L	0.470	0	1089	894762	0
	Y	89		ug/L			401065	395230	1
	Kr	83		ug/L			508	552	2
>	In	115		ug/L			452762	455287	0
	Ag	107	99.085	ug/L	0.497	0	40	1506612	0
	Cd	111	99.504	ug/L	0.505	0	206	375723	0
	Cd	114	99.354	ug/L	0.408	0	19	857990	0
	Sb	121	99.558	ug/L	0.800	0	25	1161211	1
	Sb	123	99.805	ug/L	0.199	0	19	870668	0
	Ba	135	99.664	ug/L	0.984	0	20	268670	0
	Ba	137	99.773	ug/L	0.822	0	35	456587	1
>	Tb	159		ug/L			402009	392740	0
	Tl	205	100.967	ug/L	0.998	0	55	2935856	0
	Pb	208	100.123	ug/L	0.601	0	407	3942965	1
	Bi	209		ug/L			337848	325667	0
	Th	232	100.509	ug/L	0.788	0	124	4686336	1
	U	238	100.388	ug/L	1.093	1	21	5266241	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Rinse Sample
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 09:25:37
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	399704	0
[	Be	9	0.004	ug/L	0.006	133	4	6	47
	C	13		mg/L			8210	8375	0
	Cl	37		mg/L			3382902	3594998	0
[>	Sc	45		ug/L			404975	417203	0
[	Na	23	3.477	ug/L	2.217	63	49325	90052	27
[	Mg	24	0.788	ug/L	0.255	32	4603	10835	18
[	Al	27	0.973	ug/L	0.315	32	7354	19200	19
[	K	39	1.787	ug/L	0.415	23	732618	783200	1
[	Ca	43	0.291	ug/L	0.912	313	330	349	8
[	V	51	0.018	ug/L	0.022	122	4442	4912	8
[	V-1	51	-0.028	ug/L	0.019	67	8768	8507	4
[	Cr	52	0.011	ug/L	0.015	135	13650	14236	1
[	Cr	53	-0.133	ug/L	0.005	4	2925	2758	0
[	Fe	54	0.200	ug/L	0.573	286	48550	50289	1
[	Fe	57	-15.698	ug/L	0.314	1	24843	16536	0
[	Mn	55	0.011	ug/L	0.002	22	504	813	8
[	Co	59	0.011	ug/L	0.002	21	118	352	14
[>	Ge	72		ug/L			477346	487768	0
[	Ni	60	0.012	ug/L	0.006	51	62	117	24
[	Ni	62	0.029	ug/L	0.008	27	71	92	5
[	Cu	63	0.016	ug/L	0.005	30	227	390	13
[	Cu	65	0.016	ug/L	0.005	30	118	192	11
[	Zn	66	0.034	ug/L	0.002	6	434	540	0
[	Zn	67	-0.020	ug/L	0.051	249	229	224	10
[	Zn	68	-0.063	ug/L	0.058	91	14541	14733	0
[	As	75	-0.012	ug/L	0.012	101	846	832	3
[	As-1	75	0.035	ug/L	0.055	159	16227	16673	0
[	Se	82	-0.156	ug/L	0.041	26	2	-41	28
[	Se	78	0.117	ug/L	0.226	193	16621	17066	0
[	Mo	98	-0.059	ug/L	0.009	14	1089	571	14
	Y	89		ug/L			401065	408731	0
	Kr	83		ug/L			508	546	0
[>	In	115		ug/L			452762	461310	0
[	Ag	107	0.046	ug/L	0.007	16	40	743	15
[	Cd	111	0.020	ug/L	0.007	35	206	285	8
[	Cd	114	0.010	ug/L	0.003	29	19	107	23
[	Sb	121	0.203	ug/L	0.039	19	25	2418	18
[	Sb	123	0.200	ug/L	0.041	20	19	1789	19
[	Ba	135	0.021	ug/L	0.005	22	20	79	16
[	Ba	137	0.020	ug/L	0.005	24	35	130	17
[>	Tb	159		ug/L			402009	400634	1
[	Tl	205	0.021	ug/L	0.006	29	55	665	27
[	Pb	208	0.024	ug/L	0.005	20	407	1364	15
[	Bi	209		ug/L			337848	333219	0
[	Th	232	0.089	ug/L	0.012	13	124	4385	14
[	U	238	0.014	ug/L	0.004	25	21	779	26

Quantitative Analysis - Calibration Report

Sample Date/Time: Wednesday, May 16, 2012 09:17:57
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

Analyte	Mass	r Corr Coeff	Slope	Std 1 Conc	Std 2 Conc	Std 3 Conc	Std 4 Conc	Std 5 Conc
Li	6							
Be	9	1.0000	0.0014	10	20	50	100	
C	13							
Cl	37							
Sc	45							
Na	23	1.0000	0.0271	1000	2000	5000	10000	
Mg	24	1.0000	0.0185	1000	2000	5000	10000	
Al	27	1.0000	0.0286	1000	2000	5000	10000	
K	39	1.0000	0.0382	1000	2000	5000	10000	
Ca	43	1.0000	0.0001	1000	2000	5000	10000	
V	51	1.0000	0.0439	10	20	50	100	
V-1	51	1.0000	0.0449	10	20	50	100	
Cr	52	1.0000	0.0379	10	20	50	100	
Cr	53	1.0000	0.0046	10	20	50	100	
Fe	54	1.0000	0.0032	1000	2000	5000	10000	
Fe	57	0.9999	0.0014	1000	2000	5000	10000	
Mn	55	0.9999	0.0659	10	20	50	100	
Co	59	1.0000	0.0489	10	20	50	100	
Ge	72							
Ni	60	1.0000	0.0090	10	20	50	100	
Ni	62	1.0000	0.0013	10	20	50	100	
Cu	63	1.0000	0.0197	10	20	50	100	
Cu	65	0.9999	0.0094	10	20	50	100	
Zn	66	1.0000	0.0058	10	20	50	100	
Zn	67	1.0000	0.0010	10	20	50	100	
Zn	68	1.0000	0.0041	10	20	50	100	
As	75	1.0000	0.0055	10	20	50	100	
As-1	75	1.0000	0.0055	10	20	50	100	
Se	82	1.0000	0.0006	10	20	50	100	
Se	78	1.0000	0.0015	10	20	50	100	
Mo	98	1.0000	0.0188	10	20	50	100	
Y	89							
Kr	83							
In	115							
Ag	107	0.9999	0.0334	10	20	50	100	
Cd	111	1.0000	0.0083	10	20	50	100	
Cd	114	0.9999	0.0190	10	20	50	100	
Sb	121	1.0000	0.0256	10	20	50	100	
Sb	123	1.0000	0.0192	10	20	50	100	
Ba	135	1.0000	0.0059	10	20	50	100	
Ba	137	1.0000	0.0101	10	20	50	100	
Tb	159							
Tl	205	0.9998	0.0740	10	20	50	100	
Pb	208	1.0000	0.1003	10	20	50	100	
Bi	209							
Th	232	0.9999	0.1187	10	20	50	100	
U	238	0.9999	0.1336	10	20	50	100	

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICV
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 09:33:57
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	414208	0
[	Be	9	48.257	ug/L	0.550	1	4	27279	0
	C	13		mg/L			8210	8518	1
	Cl	37		mg/L			3382902	3508290	0
[>	Sc	45		ug/L			404975	417866	0
[	Na	23	4962.122	ug/L	22.086	0	49325	56163918	0
[	Mg	24	4990.709	ug/L	38.081	0	4603	38650810	0
[	Al	27	4935.144	ug/L	4.683	0	7354	59052571	0
[	K	39	4888.692	ug/L	21.656	0	732618	78722224	0
[	Ca	43	4928.565	ug/L	25.158	0	330	156273	1
[	V	51	49.613	ug/L	0.378	0	4442	915112	0
[	V-1	51	49.632	ug/L	0.526	1	8768	941028	0
[	Cr	52	50.025	ug/L	0.178	0	13650	807114	0
[	Cr	53	50.053	ug/L	0.494	0	2925	99491	0
[	Fe	54	4992.036	ug/L	48.375	0	48550	6822666	1
[	Fe	57	4947.863	ug/L	49.465	0	24843	2885019	0
[	Mn	55	48.652	ug/L	0.345	0	504	1341022	0
[	Co	59	51.086	ug/L	0.597	1	118	1042969	1
[>	Ge	72		ug/L			477346	484940	0
[	Ni	60	50.685	ug/L	0.982	1	62	220635	1
[	Ni	62	50.938	ug/L	1.521	2	71	33373	2
[	Cu	63	49.984	ug/L	0.288	0	227	478123	0
[	Cu	65	50.508	ug/L	0.437	0	118	230053	1
[	Zn	66	49.138	ug/L	0.833	1	434	139375	1
[	Zn	67	49.192	ug/L	0.794	1	229	24081	1
[	Zn	68	49.258	ug/L	0.100	0	14541	112526	0
[	As	75	49.108	ug/L	0.535	1	846	131706	0
[	As-1	75	49.095	ug/L	0.440	0	16227	146924	0
[	Se	82	78.947	ug/L	0.782	0	2	22161	0
[	Se	78	79.038	ug/L	0.571	0	16621	72765	0
[	Mo	98	50.232	ug/L	0.361	0	1089	458099	0
	Y	89		ug/L			401065	412645	0
	Kr	83		ug/L			508	520	2
[>	In	115		ug/L			452762	468918	0
[	Ag	107	50.113	ug/L	0.933	1	40	784778	1
[	Cd	111	48.707	ug/L	0.682	1	206	189522	0
[	Cd	114	49.239	ug/L	0.646	1	19	437942	0
[	Sb	121	49.495	ug/L	0.372	0	25	594574	0
[	Sb	123	49.601	ug/L	0.358	0	19	445659	0
[	Ba	135	49.531	ug/L	0.387	0	20	137532	0
[	Ba	137	49.506	ug/L	0.162	0	35	233355	0
[>	Tb	159		ug/L			402009	415737	0
[	Tl	205	48.202	ug/L	0.697	1	55	1483681	0
[	Pb	208	48.721	ug/L	0.681	1	407	2031174	1
[	Bi	209		ug/L			337848	347244	0
[	Th	232	49.535	ug/L	0.797	1	124	2444803	1
[	U	238	50.005	ug/L	0.233	0	21	2776664	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICB
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 09:40:57
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	411171	0
[	Be	9	-0.002	ug/L	0.003	131	4	3	43
	C	13		mg/L			8210	8297	0
	Cl	37		mg/L			3382902	3519998	0
[>	Sc	45		ug/L			404975	417850	0
[	Na	23	-1.283	ug/L	0.202	15	49325	36389	6
[	Mg	24	0.403	ug/L	0.161	39	4603	7871	16
[	Al	27	0.539	ug/L	0.186	34	7354	14043	16
[	K	39	0.169	ug/L	0.175	103	732618	758601	0
[	Ca	43	-0.488	ug/L	0.698	143	330	325	6
[	V	51	0.010	ug/L	0.009	95	4442	4760	2
[	V-1	51	-0.078	ug/L	0.016	20	8768	7575	3
[	Cr	52	0.021	ug/L	0.006	30	13650	14412	0
[	Cr	53	-0.254	ug/L	0.050	19	2925	2528	3
[	Fe	54	0.040	ug/L	0.293	728	48550	50148	1
[	Fe	57	-15.087	ug/L	0.175	1	24843	16914	0
[	Mn	55	0.007	ug/L	0.000	5	504	708	2
[	Co	59	0.008	ug/L	0.003	30	118	295	17
[>	Ge	72		ug/L			477346	484851	0
[	Ni	60	0.005	ug/L	0.002	32	62	86	8
[	Ni	62	0.029	ug/L	0.022	77	71	91	15
[	Cu	63	0.010	ug/L	0.004	42	227	330	12
[	Cu	65	0.006	ug/L	0.002	41	118	146	7
[	Zn	66	0.037	ug/L	0.002	5	434	545	1
[	Zn	67	-0.007	ug/L	0.040	599	229	230	8
[	Zn	68	-0.144	ug/L	0.030	21	14541	14485	0
[	As	75	-0.006	ug/L	0.006	106	846	843	1
[	As-1	75	0.117	ug/L	0.063	53	16227	16792	1
[	Se	82	-0.072	ug/L	0.029	39	2	-17	46
[	Se	78	0.507	ug/L	0.278	54	16621	17240	1
[	Mo	98	-0.080	ug/L	0.010	12	1089	381	22
	Y	89		ug/L			401065	415181	0
	Kr	83		ug/L			508	549	1
[>	In	115		ug/L			452762	464299	0
[	Ag	107	0.031	ug/L	0.006	18	40	519	16
[	Cd	111	0.014	ug/L	0.005	31	206	267	6
[	Cd	114	0.006	ug/L	0.002	33	19	69	23
[	Sb	121	0.069	ug/L	0.009	13	25	848	12
[	Sb	123	0.069	ug/L	0.015	21	19	637	20
[	Ba	135	0.015	ug/L	0.004	26	20	62	17
[	Ba	137	0.016	ug/L	0.004	26	35	110	17
[>	Tb	159		ug/L			402009	406809	1
[	Tl	205	0.013	ug/L	0.002	17	55	435	14
[	Pb	208	0.016	ug/L	0.003	20	407	1058	11
[	Bi	209		ug/L			337848	344306	0
[	Th	232	0.067	ug/L	0.010	15	124	3351	14
[	U	238	0.009	ug/L	0.002	25	21	501	23

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 09:47:07
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	404279	0
[	Be	9	49.463	ug/L	0.447	0	4	27292	0
	C	13		mg/L			8210	3273	3
	Cl	37		mg/L			3382902	3512341	0
[>	Sc	45		ug/L			404975	408579	1
|	Na	23	5002.699	ug/L	88.543	1	49325	55354453	0
|	Mg	24	5069.225	ug/L	64.067	1	4603	38382637	0
|	Al	27	4980.963	ug/L	16.369	0	7354	58274863	1
|	K	39	4994.453	ug/L	20.227	0	732618	78623298	1
|	Ca	43	4994.778	ug/L	12.105	0	330	154842	1
|	V	51	49.952	ug/L	0.866	1	4442	900741	0
|	V-1	51	50.125	ug/L	0.778	1	8768	929073	0
|	Cr	52	50.113	ug/L	0.861	1	13650	790399	0
|	Cr	53	50.639	ug/L	0.800	1	2925	98375	0
|	Fe	54	5018.200	ug/L	149.933	2	48550	6703797	1
|	Fe	57	5046.977	ug/L	141.401	2	24843	2876241	1
|	Mn	55	49.361	ug/L	0.708	1	504	1330149	0
[	Co	59	50.967	ug/L	0.609	1	118	1017295	0
[>	Ge	72		ug/L			477346	472460	0
|	Ni	60	51.458	ug/L	0.868	1	62	218234	0
|	Ni	62	51.314	ug/L	0.570	1	71	32756	0
|	Cu	63	51.131	ug/L	0.372	0	227	476506	0
|	Cu	65	51.106	ug/L	0.596	1	118	226780	1
|	Zn	66	50.687	ug/L	0.561	1	434	140047	0
|	Zn	67	51.199	ug/L	0.943	1	229	24407	1
|	Zn	68	50.973	ug/L	0.419	0	14541	112948	1
|	As	75	50.496	ug/L	0.221	0	846	131930	1
|	As-1	75	50.420	ug/L	0.353	0	16227	146584	1
|	Se	82	51.181	ug/L	0.776	1	2	13997	0
|	Se	78	51.041	ug/L	0.256	0	16621	51608	0
[	Mo	98	51.084	ug/L	0.611	1	1089	453851	0
	Y	89		ug/L			401065	402857	0
	Kr	83		ug/L			508	574	1
[>	In	115		ug/L			452762	455154	1
|	Ag	107	51.058	ug/L	0.498	0	40	776096	0
|	Cd	111	50.075	ug/L	0.177	0	206	189126	1
|	Cd	114	50.836	ug/L	0.419	0	19	438862	0
|	Sb	121	50.346	ug/L	0.934	1	25	586967	0
|	Sb	123	50.034	ug/L	0.672	1	19	436314	0
|	Ba	135	50.430	ug/L	0.479	0	20	135912	0
[	Ba	137	50.322	ug/L	1.033	2	35	230196	0
[>	Tb	159		ug/L			402009	401838	0
|	Tl	205	48.776	ug/L	0.500	1	55	1451185	0
|	Pb	208	49.818	ug/L	0.226	0	407	2007481	0
|	Bi	209		ug/L			337848	335592	0
|	Th	232	50.503	ug/L	0.490	0	124	2409195	0
[	U	238	50.434	ug/L	0.408	0	21	2706823	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 09:54:07
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			387365	407878	2
⌊	Be	9	-0.001	ug/L	0.006	554	4	3	88
	C	13		mg/L			8210	8064	1
	Cl	37		mg/L			3382902	3518271	0
⌈>	Sc	45		ug/L			404975	413363	0
|	Na	23	0.947	ug/L	2.084	220	49325	60980	38
|	Mg	24	0.385	ug/L	0.174	45	4603	7650	17
|	Al	27	0.604	ug/L	0.181	29	7354	14662	14
|	K	39	0.532	ug/L	0.458	86	732618	756182	0
|	Ca	43	-0.538	ug/L	1.067	198	330	320	10
|	V	51	0.015	ug/L	0.005	34	4442	4810	2
|	V-1	51	-0.092	ug/L	0.010	11	8768	7244	2
|	Cr	52	0.035	ug/L	0.017	47	13650	14475	1
|	Cr	53	-0.300	ug/L	0.035	11	2925	2414	2
|	Fe	54	0.541	ug/L	0.360	66	48550	50282	0
|	Fe	57	-14.721	ug/L	0.351	2	24843	16942	0
|	Mn	55	0.006	ug/L	0.001	15	504	689	3
⌊	Co	59	0.008	ug/L	0.002	24	118	282	14
⌈>	Ge	72		ug/L			477346	482454	0
|	Ni	60	0.007	ug/L	0.001	15	62	91	4
|	Ni	62	0.022	ug/L	0.023	104	71	86	17
|	Cu	63	0.011	ug/L	0.005	39	227	339	12
|	Cu	65	0.004	ug/L	0.002	43	118	138	5
|	Zn	66	0.036	ug/L	0.010	28	434	541	5
|	Zn	67	-0.028	ug/L	0.039	142	229	218	8
|	Zn	68	-0.270	ug/L	0.051	18	14541	14164	0
|	As	75	0.042	ug/L	0.012	29	846	966	3
|	As-1	75	0.138	ug/L	0.044	32	16227	16764	0
|	Se	82	-0.064	ug/L	0.022	34	2	-15	40
|	Se	78	0.507	ug/L	0.110	21	16621	17155	0
⌊	Mo	98	-0.081	ug/L	0.009	10	1089	364	21
	Y	89		ug/L			401065	410466	1
	Kr	83		ug/L			508	572	2
⌈>	In	115		ug/L			452762	461064	1
|	Ag	107	0.034	ug/L	0.008	22	40	570	21
|	Cd	111	0.015	ug/L	0.006	38	206	268	7
|	Cd	114	0.005	ug/L	0.002	44	19	67	31
|	Sb	121	0.144	ug/L	0.035	24	25	1734	24
|	Sb	123	0.147	ug/L	0.035	23	19	1320	24
|	Ba	135	0.018	ug/L	0.005	24	20	71	18
⌊	Ba	137	0.018	ug/L	0.005	28	35	118	21
⌈>	Tb	159		ug/L			402009	406265	0
|	Tl	205	0.014	ug/L	0.005	34	55	491	31
|	Pb	208	0.018	ug/L	0.003	19	407	1146	12
|	Bi	209		ug/L			337848	338658	1
|	Th	232	0.069	ug/L	0.011	16	124	3455	16
⌊	U	238	0.010	ug/L	0.003	30	21	555	29

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~LOW CHECK~~ 222222
Sample Dil Factor: 5-16-12
Comments:
Sample Date/Time: Wednesday, May 16, 2012 10:00:17
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			387365	416630	0
	Be	9	0.187	ug/L	0.033	17	4	110	16
	C	13		mg/L			8210	5975	0
	Cl	37		mg/L			3382902	3484107	1
>	Sc	45		ug/L			404975	412172	0
	Na	23	102.666	ug/L	0.286	0	49325	1195320	0
	Mg	24	20.428	ug/L	0.039	0	4603	160717	0
	Al	27	20.253	ug/L	0.059	0	7354	246500	0
	K	39	20.738	ug/L	0.322	1	732618	1071855	0
	Ca	43	51.014	ug/L	1.626	3	330	1927	2
	V	51	0.202	ug/L	0.008	3	4442	8184	2
	V-1	51	0.107	ug/L	0.013	12	8768	10914	2
	Cr	52	0.520	ug/L	0.010	1	13650	22019	0
	Cr	53	0.202	ug/L	0.032	15	2925	3361	1
	Fe	54	19.587	ug/L	0.383	1	48550	75622	0
	Fe	57	5.956	ug/L	0.834	14	24843	28678	1
	Mn	55	0.522	ug/L	0.011	2	504	14690	1
	Co	59	0.218	ug/L	0.003	1	118	4513	0
>	Ge	72		ug/L			477346	481362	0
	Ni	60	0.565	ug/L	0.031	5	62	2505	5
	Ni	62	0.571	ug/L	0.023	4	71	442	3
	Cu	63	0.584	ug/L	0.019	3	227	5775	2
	Cu	65	0.566	ug/L	0.012	2	118	2678	1
	Zn	66	4.315	ug/L	0.024	0	434	12548	0
	Zn	67	3.628	ug/L	0.126	3	229	1977	2
	Zn	68	3.966	ug/L	0.126	3	14541	22477	1
	As	75	0.223	ug/L	0.032	14	846	1443	5
	As-1	75	0.372	ug/L	0.059	15	16227	17343	0
	Se	82	0.446	ug/L	0.028	6	2	127	5
	Se	78	1.207	ug/L	0.204	16	16621	17607	0
	Mo	98	0.107	ug/L	0.006	5	1089	2064	2
	Y	89		ug/L			401065	410579	0
	Kr	83		ug/L			508	568	0
>	In	115		ug/L			452762	457703	0
	Ag	107	0.212	ug/L	0.002	1	40	3286	1
	Cd	111	0.120	ug/L	0.005	3	206	664	3
	Cd	114	0.108	ug/L	0.005	4	19	959	4
	Sb	121	0.264	ug/L	0.014	5	25	3114	4
	Sb	123	0.264	ug/L	0.009	3	19	2331	3
	Ba	135	0.529	ug/L	0.011	2	20	1453	1
	Ba	137	0.516	ug/L	0.004	0	35	2408	1
>	Tb	159		ug/L			402009	407688	1
	Tl	205	0.215	ug/L	0.006	2	55	6535	1
	Pb	208	0.117	ug/L	0.003	2	407	5181	1
	Bi	209		ug/L			337848	342350	1
	Th	232	0.236	ug/L	0.007	2	124	11545	1
	U	238	0.203	ug/L	0.005	2	21	11057	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICSA
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 10:06:27
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	425759	0
[	Be	9	-0.002	ug/L	0.005	234	4	3	86
	C	13		mg/L			8210	24393	0
	Cl	37		mg/L			3382902	5553926	1
[>	Sc	45		ug/L			404975	389777	2
[	Na	23	21078.921	ug/L	125.229	0	49325	222371008	1
[	Mg	24	20553.270	ug/L	91.548	0	4603	148457682	1
[	Al	27	20178.436	ug/L	77.051	0	7354	225200444	2
[	K	39	23998.087	ug/L	81.893	0	732618	357689307	1
[	Ca	43	19515.166	ug/L	136.486	0	330	576189	1
[	V	51	0.006	ug/L	0.021	358	4442	4372	6
[	V-1	51	0.696	ug/L	0.048	6	8768	20614	2
[	Cr	52	0.858	ug/L	0.015	1	13650	25820	1
[	Cr	53	2.947	ug/L	0.100	3	2925	8112	0
[	Fe	54	20453.001	ug/L	361.010	1	48550	25923429	0
[	Fe	57	20479.608	ug/L	225.353	1	24843	11062091	0
[	Mn	55	0.151	ug/L	0.005	3	504	4371	0
[	Co	59	0.127	ug/L	0.010	7	118	2524	5
[>	Ge	72		ug/L			477346	455472	1
[	Ni	60	0.811	ug/L	0.027	3	62	3375	2
[	Ni	62	4.130	ug/L	0.093	2	71	2605	3
[	Cu	63	0.652	ug/L	0.005	0	227	6069	1
[	Cu	65	0.627	ug/L	0.019	2	118	2793	1
[	Zn	66	1.721	ug/L	0.200	11	434	4981	9
[	Zn	67	3.317	ug/L	0.247	7	229	1728	5
[	Zn	68	0.472	ug/L	0.164	34	14541	14753	0
[	As	75	0.017	ug/L	0.022	129	846	849	7
[	As-1	75	0.151	ug/L	0.018	11	16227	15858	1
[	Se	82	-0.034	ug/L	0.076	226	2	-6	327
[	Se	78	0.745	ug/L	0.124	16	16621	16353	0
[	Mo	98	422.095	ug/L	3.857	0	1089	3608060	1
	Y	89		ug/L			401065	390105	0
	Kr	83		ug/L			508	557	5
[>	In	115		ug/L			452762	435699	0
[	Ag	107	0.045	ug/L	0.006	13	40	696	13
[	Cd	111	0.043	ug/L	0.027	62	206	352	27
[	Cd	114	0.706	ug/L	0.023	3	19	5852	3
[	Sb	121	0.089	ug/L	0.007	8	25	1019	8
[	Sb	123	0.092	ug/L	0.004	4	19	789	4
[	Ba	135	0.055	ug/L	0.011	20	20	161	18
[	Ba	137	0.048	ug/L	0.008	17	35	245	15
[>	Tb	159		ug/L			402009	399145	0
[	Tl	205	0.004	ug/L	0.001	20	55	174	14
[	Pb	208	0.044	ug/L	0.003	6	407	2150	5
[	Bi	209		ug/L			337848	323309	0
[	Th	232	0.255	ug/L	0.033	12	124	12203	12
[	U	238	0.002	ug/L	0.000	11	21	150	10

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICSAB
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 10:13:06
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			387365	435062	1
⌊	Be	9	-0.002	ug/L	0.004	281	4	3	66
	C	13		mg/L			8210	24190	0
	Cl	37		mg/L			3382902	5310482	1
⌈>	Sc	45		ug/L			404975	379159	2
⌈	Na	23	21018.540	ug/L	171.152	0	49325	215684059	1
⌈	Mg	24	20641.091	ug/L	113.533	0	4603	145026375	1
⌈	Al	27	20038.474	ug/L	271.116	1	7354	217499919	1
⌈	K	39	23967.467	ug/L	374.631	1	732618	347439534	1
⌈	Ca	43	19320.859	ug/L	174.925	0	330	554882	1
⌈	V	51	-0.428	ug/L	0.018	4	4442	-2968	9
⌈	V-1	51	0.717	ug/L	0.030	4	8768	20426	1
⌈	Cr	52	21.043	ug/L	0.265	1	13650	315399	1
⌈	Cr	53	23.095	ug/L	0.341	1	2925	43121	1
⌈	Fe	54	20271.917	ug/L	340.501	1	48550	24993859	0
⌈	Fe	57	20313.812	ug/L	460.253	2	24843	10671609	0
⌈	Mn	55	19.668	ug/L	0.315	1	504	492074	0
⌊	Co	59	20.059	ug/L	0.565	2	118	371493	0
⌈>	Ge	72		ug/L			477346	441493	1
⌈	Ni	60	19.871	ug/L	0.062	0	62	78790	1
⌈	Ni	62	23.020	ug/L	0.287	1	71	13767	0
⌈	Cu	63	20.232	ug/L	0.492	2	227	176281	1
⌈	Cu	65	20.270	ug/L	0.126	0	118	84114	0
⌈	Zn	66	19.840	ug/L	0.177	0	434	51476	2
⌈	Zn	67	18.764	ug/L	0.238	1	229	8493	0
⌈	Zn	68	18.246	ug/L	0.009	0	14541	46415	1
⌈	As	75	19.822	ug/L	0.067	0	846	48867	1
⌈	As-1	75	20.010	ug/L	0.122	0	16227	63409	0
⌈	Se	82	-0.009	ug/L	0.070	739	2	0	6474
⌈	Se	78	0.723	ug/L	0.205	28	16621	15836	0
⌊	Mo	98	425.132	ug/L	4.894	1	1089	3521964	0
	Y	89		ug/L			401065	377845	0
	Kr	83		ug/L			508	531	0
⌈>	In	115		ug/L			452762	419123	1
⌈	Ag	107	19.476	ug/L	0.286	1	40	272612	0
⌈	Cd	111	19.505	ug/L	0.171	0	206	67948	0
⌈	Cd	114	20.422	ug/L	0.158	0	19	162351	0
⌈	Sb	121	0.086	ug/L	0.006	6	25	950	7
⌈	Sb	123	0.092	ug/L	0.006	6	19	754	8
⌈	Ba	135	0.046	ug/L	0.010	22	20	132	20
⌊	Ba	137	0.040	ug/L	0.001	3	35	200	4
⌈>	Tb	159		ug/L			402009	394313	1
⌈	Tl	205	0.003	ug/L	0.000	14	55	138	10
⌈	Pb	208	0.041	ug/L	0.001	3	407	2008	3
⌈	Bi	209		ug/L			337848	320234	0
⌈	Th	232	0.140	ug/L	0.002	1	124	6656	3
⌊	U	238	0.002	ug/L	0.000	6	21	128	4

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LR200
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 10:19:45
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	415719	1
[	Be	9	187.057	ug/L	1.416	0	4	106115	0
	C	13		mg/L			8210	7360	0
	Cl	37		mg/L			3382902	3234077	0
[>	Sc	45		ug/L			404975	385185	0
[	Na	23	20316.615	ug/L	303.756	1	49325	211807368	0
[	Mg	24	20070.933	ug/L	122.488	0	4603	143270123	0
[	Al	27	19988.496	ug/L	265.801	1	7354	220450798	1
[	K	39	19945.404	ug/L	146.076	0	732618	293899745	0
[	Ca	43	19576.480	ug/L	282.582	1	330	571185	0
[	V	51	208.668	ug/L	2.060	0	4442	3534249	0
[	V-1	51	206.788	ug/L	1.830	0	8768	3587692	0
[	Cr	52	204.680	ug/L	0.859	0	13650	3003892	0
[	Cr	53	199.106	ug/L	1.145	0	2925	356530	0
[	Fe	54	19963.550	ug/L	140.195	0	48550	25010801	0
[	Fe	57	19962.344	ug/L	66.738	0	24843	10657611	0
[	Mn	55	199.219	ug/L	2.639	1	504	5059927	0
[	Co	59	204.730	ug/L	3.526	1	118	3852125	0
[>	Ge	72		ug/L			477346	450894	0
[	Ni	60	193.249	ug/L	3.055	1	62	782034	1
[	Ni	62	194.368	ug/L	2.487	1	71	118223	0
[	Cu	63	187.498	ug/L	1.258	0	227	1667029	0
[	Cu	65	188.889	ug/L	1.986	1	118	799620	0
[	Zn	66	190.252	ug/L	2.760	1	434	500545	0
[	Zn	67	190.770	ug/L	1.783	0	229	86206	0
[	Zn	68	189.542	ug/L	1.713	0	14541	363480	1
[	As	75	195.967	ug/L	1.238	0	846	486307	0
[	As-1	75	195.851	ug/L	1.682	0	16227	499160	0
[	Se	82	199.294	ug/L	0.716	0	2	52013	0
[	Se	78	198.755	ug/L	2.281	1	16621	146352	0
[	Mo	98	212.504	ug/L	2.544	1	1089	1798591	0
	Y	89		ug/L			401065	382208	0
	Kr	83		ug/L			508	569	2
[>	In	115		ug/L			452762	428619	0
[	Ag	107	201.657	ug/L	2.314	1	40	2886473	0
[	Cd	111	196.146	ug/L	2.624	1	206	697026	0
[	Cd	114	193.726	ug/L	0.817	0	19	1574927	0
[	Sb	121	218.191	ug/L	4.085	1	25	2395566	1
[	Sb	123	207.869	ug/L	3.096	1	19	1707052	0
[	Ba	135	201.470	ug/L	3.201	1	20	511271	1
[	Ba	137	198.770	ug/L	0.826	0	35	856283	0
[>	Tb	159		ug/L			402009	390223	0
[	Tl	205	201.220	ug/L	2.218	1	55	5813687	1
[	Pb	208	199.660	ug/L	1.422	0	407	7811906	1
[	Bi	209		ug/L			337848	312692	1
[	Th	232	205.772	ug/L	1.018	0	124	9532262	0
[	U	238	209.078	ug/L	2.356	1	21	10897256	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LR300
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 10:26:44
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	417720	1
[	Be	9	274.937	ug/L	1.095	0	4	156726	0
	C	13		mg/L			8210	7148	0
	Cl	37		mg/L			3382902	3243839	0
[>	Sc	45		ug/L			404975	381330	1
[	Na	23	30707.120	ug/L	138.584	0	49325	316917282	0
[	Mg	24	30520.570	ug/L	448.331	1	4603	215661754	0
[	Al	27	30452.962	ug/L	306.048	1	7354	332476739	0
[	K	39	30393.074	ug/L	56.183	0	732618	443028785	1
[	Ca	43	29270.433	ug/L	145.882	0	330	845373	0
[	V	51	318.181	ug/L	0.134	0	4442	5333143	1
[	V-1	51	314.026	ug/L	0.944	0	8768	5389614	1
[	Cr	52	309.618	ug/L	3.613	1	13650	4491582	0
[	Cr	53	297.277	ug/L	3.681	1	2925	525608	0
[	Fe	54	30372.853	ug/L	501.415	1	48550	37645029	0
[	Fe	57	30071.859	ug/L	259.375	0	24843	15882349	1
[	Mn	55	298.755	ug/L	0.879	0	504	7512457	1
[	Co	59	308.428	ug/L	0.632	0	118	5745840	1
[>	Ge	72		ug/L			477346	443017	0
[	Ni	60	286.719	ug/L	1.890	0	62	1140016	0
[	Ni	62	291.527	ug/L	1.949	0	71	174194	1
[	Cu	63	293.118	ug/L	1.963	0	227	2560493	1
[	Cu	65	278.378	ug/L	1.667	0	118	1157836	1
[	Zn	66	276.941	ug/L	1.499	0	434	715723	0
[	Zn	67	280.771	ug/L	2.703	0	229	124555	0
[	Zn	68	277.496	ug/L	1.420	0	14541	516605	1
[	As	75	289.398	ug/L	1.138	0	846	705269	1
[	As-1	75	289.526	ug/L	1.215	0	16227	717843	1
[	Se	82	295.590	ug/L	0.631	0	2	75798	1
[	Se	78	295.886	ug/L	0.850	0	16621	206538	1
[	Mo	98	337.704	ug/L	5.810	1	1089	2807661	1
	Y	89		ug/L			401065	378446	1
	Kr	83		ug/L			508	592	2
[>	In	115		ug/L			452762	417980	0
[	Ag	107	303.974	ug/L	0.898	0	40	4243215	0
[	Cd	111	289.447	ug/L	4.052	1	206	1003055	1
[	Cd	114	306.490	ug/L	0.921	0	19	2429862	0
[	Sb	121	328.883	ug/L	4.522	1	25	3521498	1
[	Sb	123	328.896	ug/L	1.638	0	19	2634059	0
[	Ba	135	299.959	ug/L	2.675	0	20	742360	1
[	Ba	137	298.435	ug/L	6.285	2	35	1253741	2
[>	Tb	159		ug/L			402009	382098	1
[	Tl	205	305.526	ug/L	2.043	0	55	8642908	1
[	Pb	208	309.645	ug/L	1.585	0	407	11861943	1
[	Bi	209		ug/L			337848	291753	0
[	Th	232	312.426	ug/L	2.601	0	124	14170675	1
[	U	238	318.625	ug/L	5.516	1	21	16258423	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: B1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 10:38:14
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	427092	0
[	Be	9	0.004	ug/L	0.003	90	4	6	28
	C	13		mg/L			8210	3735	3
	Cl	37		mg/L			3382902	3244439	0
[>	Sc	45		ug/L			404975	393473	0
[	Na	23	7.299	ug/L	1.362	18	49325	125694	11
[	Mg	24	1.037	ug/L	0.230	22	4603	12041	14
[	Al	27	1.622	ug/L	0.213	13	7354	25420	9
[	K	39	3.785	ug/L	0.341	9	732618	768656	0
[	Ca	43	1.264	ug/L	0.586	46	330	358	5
[	V	51	-0.021	ug/L	0.018	87	4442	3961	7
[	V-1	51	-0.061	ug/L	0.012	20	8768	7439	3
[	Cr	52	-0.057	ug/L	0.004	6	13650	12414	0
[	Cr	53	-0.181	ug/L	0.083	45	2925	2515	6
[	Fe	54	-0.009	ug/L	0.337	3742	48550	47159	0
[	Fe	57	-14.951	ug/L	0.564	3	24843	16001	1
[	Mn	55	0.023	ug/L	0.003	14	504	1088	8
[	Co	59	0.080	ug/L	0.002	2	118	1659	2
[>	Ge	72		ug/L			477346	453328	0
[	Ni	60	0.033	ug/L	0.003	9	62	192	6
[	Ni	62	0.041	ug/L	0.022	53	71	93	14
[	Cu	63	0.029	ug/L	0.002	7	227	475	3
[	Cu	65	0.030	ug/L	0.001	4	118	239	2
[	Zn	66	0.224	ug/L	0.032	14	434	1005	8
[	Zn	67	0.198	ug/L	0.036	18	229	307	5
[	Zn	68	-0.259	ug/L	0.060	23	14541	13329	0
[	As	75	0.038	ug/L	0.026	69	846	897	7
[	As-1	75	0.178	ug/L	0.024	13	16227	15852	0
[	Se	82	0.010	ug/L	0.157	1563	2	5	775
[	Se	78	0.702	ug/L	0.124	17	16621	16249	0
[	Mo	98	-0.057	ug/L	0.011	19	1089	552	16
	Y	89		ug/L			401065	390800	0
	Kr	83		ug/L			508	526	4
[>	In	115		ug/L			452762	430261	1
[	Ag	107	0.065	ug/L	0.012	18	40	977	16
[	Cd	111	0.014	ug/L	0.004	30	206	248	7
[	Cd	114	0.013	ug/L	0.004	33	19	122	27
[	Sb	121	0.119	ug/L	0.022	18	25	1339	16
[	Sb	123	0.119	ug/L	0.017	14	19	1000	12
[	Ba	135	0.031	ug/L	0.006	18	20	99	15
[	Ba	137	0.031	ug/L	0.002	5	35	166	4
[>	Tb	159		ug/L			402009	389497	1
[	Tl	205	0.025	ug/L	0.003	12	55	765	13
[	Pb	208	0.030	ug/L	0.005	15	407	1548	12
[	Bi	209		ug/L			337848	327571	0
[	Th	232	0.095	ug/L	0.013	14	124	4525	14
[	U	238	0.014	ug/L	0.002	16	21	771	17

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 10:45:14
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	426611	1
[	Be	9	46.322	ug/L	0.739	1	4	26968	0
	C	13		mg/L			8210	3498	3
	Cl	37		mg/L			3382902	3238176	0
[>	Sc	45		ug/L			404975	384249	1
[	Na	23	5091.713	ug/L	53.330	1	49325	52988839	0
[	Mg	24	5123.311	ug/L	42.650	0	4603	36484709	0
[	Al	27	4996.748	ug/L	30.741	0	7354	54977969	0
[	K	39	4991.572	ug/L	61.465	1	732618	73892267	0
[	Ca	43	4992.730	ug/L	72.019	1	330	145551	0
[	V	51	50.090	ug/L	0.504	1	4442	849517	0
[	V-1	51	50.026	ug/L	0.566	1	8768	872113	0
[	Cr	52	49.973	ug/L	0.386	0	13650	741380	0
[	Cr	53	49.780	ug/L	0.573	1	2925	91002	0
[	Fe	54	5019.263	ug/L	46.465	0	48550	6307411	0
[	Fe	57	4972.114	ug/L	64.867	1	24843	2665734	1
[	Mn	55	48.506	ug/L	0.370	0	504	1229395	0
[	Co	59	50.373	ug/L	0.887	1	118	945606	1
[>	Ge	72		ug/L			477346	443265	1
[	Ni	60	50.845	ug/L	0.214	0	62	202325	0
[	Ni	62	49.980	ug/L	0.653	1	71	29934	0
[	Cu	63	50.117	ug/L	0.087	0	227	438200	0
[	Cu	65	50.197	ug/L	0.764	1	118	208983	1
[	Zn	66	50.383	ug/L	0.142	0	434	130612	0
[	Zn	67	49.867	ug/L	0.458	0	229	22310	0
[	Zn	68	50.232	ug/L	0.191	0	14541	104622	0
[	As	75	50.326	ug/L	0.465	0	846	123352	0
[	As-1	75	50.418	ug/L	0.420	0	16227	137509	0
[	Se	82	52.073	ug/L	0.448	0	2	13361	0
[	Se	78	52.529	ug/L	0.211	0	16621	49381	0
[	Mo	98	50.530	ug/L	0.593	1	1089	421190	0
	Y	89		ug/L			401065	381191	0
	Kr	83		ug/L			508	528	1
[>	In	115		ug/L			452762	421302	0
[	Ag	107	50.729	ug/L	0.242	0	40	713778	0
[	Cd	111	50.293	ug/L	0.837	1	206	175814	1
[	Cd	114	50.661	ug/L	0.344	0	19	404841	0
[	Sb	121	49.955	ug/L	0.163	0	25	539161	0
[	Sb	123	49.733	ug/L	0.384	0	19	401474	0
[	Ba	135	51.060	ug/L	0.560	1	20	127381	0
[	Ba	137	51.044	ug/L	0.507	0	35	216162	0
[>	Tb	159		ug/L			402009	389446	1
[	Tl	205	48.757	ug/L	1.126	2	55	1405658	1
[	Pb	208	49.863	ug/L	0.335	0	407	1947212	0
[	Bi	209		ug/L			337848	326543	0
[	Th	232	50.606	ug/L	0.548	1	124	2339567	0
[	U	238	51.184	ug/L	0.751	1	21	2662119	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 10:52:14
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			387365	429286	0
[	Be	9	0.005	ug/L	0.004	76	4	7	28
	C	13		mg/L			8210	7610	1
	Cl	37		mg/L			3382902	3279595	0
[>	Sc	45		ug/L			404975	390497	0
[	Na	23	-0.413	ug/L	0.630	152	49325	43208	15
[	Mg	24	0.575	ug/L	0.177	30	4603	8603	15
[	Al	27	0.729	ug/L	0.184	25	7354	15245	13
[	K	39	0.749	ug/L	0.602	80	732618	717576	1
[	Ca	43	-1.293	ug/L	0.811	62	330	280	8
[	V	51	0.010	ug/L	0.011	105	4442	4462	3
[	V-1	51	-0.101	ug/L	0.009	9	8768	6689	2
[	Cr	52	0.017	ug/L	0.009	55	13650	13414	0
[	Cr	53	-0.329	ug/L	0.039	11	2925	2227	3
[	Fe	54	-0.382	ug/L	0.281	73	48550	46331	1
[	Fe	57	-14.819	ug/L	0.632	4	24843	15952	2
[	Mn	55	0.009	ug/L	0.002	17	504	727	5
[	Co	59	0.008	ug/L	0.001	13	118	258	7
[>	Ge	72		ug/L			477346	453999	1
[	Ni	60	0.007	ug/L	0.004	54	62	88	18
[	Ni	62	0.038	ug/L	0.015	40	71	91	9
[	Cu	63	0.013	ug/L	0.001	8	227	332	4
[	Cu	65	0.008	ug/L	0.003	32	118	146	6
[	Zn	66	0.040	ug/L	0.010	23	434	520	4
[	Zn	67	-0.001	ug/L	0.053	4011	229	217	12
[	Zn	68	-0.476	ug/L	0.037	7	14541	12946	1
[	As	75	0.040	ug/L	0.017	43	846	903	3
[	As-1	75	0.185	ug/L	0.110	59	16227	15891	0
[	Se	82	-0.031	ug/L	0.069	226	2	-5	346
[	Se	78	0.708	ug/L	0.382	53	16621	16275	0
[	Mo	98	-0.078	ug/L	0.008	10	1089	369	19
	Y	89		ug/L			401065	391108	0
	Kr	83		ug/L			508	534	1
[>	In	115		ug/L			452762	426671	1
[	Ag	107	0.042	ug/L	0.008	19	40	642	18
[	Cd	111	0.020	ug/L	0.002	11	206	265	2
[	Cd	114	0.006	ug/L	0.002	34	19	65	24
[	Sb	121	0.159	ug/L	0.041	25	25	1765	24
[	Sb	123	0.157	ug/L	0.039	24	19	1304	23
[	Ba	135	0.019	ug/L	0.005	23	20	67	17
[	Ba	137	0.018	ug/L	0.002	10	35	110	6
[>	Tb	159		ug/L			402009	387432	0
[	Tl	205	0.015	ug/L	0.002	16	55	486	14
[	Pb	208	0.019	ug/L	0.004	20	407	1134	13
[	Bi	209		ug/L			337848	328263	1
[	Th	232	0.084	ug/L	0.010	11	124	3983	11
[	U	238	0.010	ug/L	0.002	22	21	549	21

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 10:58:23
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L				424774	1
[	Be	9		ug/L				2	91
	C	13		mg/L				7617	1
	Cl	37		mg/L				3295164	1
[>	Sc	45		ug/L				388584	0
|	Na	23		ug/L				72120	49
|	Mg	24		ug/L				5681	2
|	Al	27		ug/L				9828	4
|	K	39		ug/L				711387	0
|	Ca	43		ug/L				298	10
|	V	51		ug/L				4518	3
|	V-1	51		ug/L				6696	1
|	Cr	52		ug/L				13277	1
|	Cr	53		ug/L				2196	2
|	Fe	54		ug/L				45192	1
|	Fe	57		ug/L				15928	1
|	Mn	55		ug/L				602	6
[	Co	59		ug/L				189	12
[>	Ge	72		ug/L				454129	0
|	Ni	60		ug/L				79	16
|	Ni	62		ug/L				83	7
|	Cu	63		ug/L				277	4
|	Cu	65		ug/L				117	13
|	Zn	66		ug/L				483	3
|	Zn	67		ug/L				217	7
|	Zn	68		ug/L				12918	1
|	As	75		ug/L				816	4
|	As-1	75		ug/L				15845	0
|	Se	82		ug/L				-7	172
|	Se	78		ug/L				16279	0
[	Mo	98		ug/L				221	11
	Y	89		ug/L				387865	0
	Kr	83		ug/L				522	0
[>	In	115		ug/L				421444	1
|	Ag	107		ug/L				348	12
|	Cd	111		ug/L				222	2
|	Cd	114		ug/L				48	15
|	Sb	121		ug/L				752	8
|	Sb	123		ug/L				552	6
|	Ba	135		ug/L				43	22
[	Ba	137		ug/L				68	11
[>	Tb	159		ug/L				385669	0
|	Tl	205		ug/L				244	9
|	Pb	208		ug/L				751	4
|	Bi	209		ug/L				324071	1
|	Th	232		ug/L				2390	7
[	U	238		ug/L				241	7

US82 : 66265

Quantitative Analysis - Calibration Report

Sample Date/Time: Wednesday, May 16, 2012 10:58:23
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

Analyte	Mass	r Corr Coeff	Slope	Std 1 Conc	Std 2 Conc	Std 3 Conc	Std 4 Conc	Std 5 Conc
Li	6							
Be	9	1.0000	0.0014	10	20	50	100	
C	13							
Cl	37							
Sc	45							
Na	23	1.0000	0.0271	1000	2000	5000	10000	
Mg	24	1.0000	0.0185	1000	2000	5000	10000	
Al	27	1.0000	0.0286	1000	2000	5000	10000	
K	39	1.0000	0.0382	1000	2000	5000	10000	
Ca	43	1.0000	0.0001	1000	2000	5000	10000	
V	51	1.0000	0.0439	10	20	50	100	
V-1	51	1.0000	0.0449	10	20	50	100	
Cr	52	1.0000	0.0379	10	20	50	100	
Cr	53	1.0000	0.0046	10	20	50	100	
Fe	54	1.0000	0.0032	1000	2000	5000	10000	
Fe	57	0.9999	0.0014	1000	2000	5000	10000	
Mn	55	0.9999	0.0659	10	20	50	100	
Co	59	1.0000	0.0489	10	20	50	100	
Ge	72							
Ni	60	1.0000	0.0090	10	20	50	100	
Ni	62	1.0000	0.0013	10	20	50	100	
Cu	63	1.0000	0.0197	10	20	50	100	
Cu	65	0.9999	0.0094	10	20	50	100	
Zn	66	1.0000	0.0058	10	20	50	100	
Zn	67	1.0000	0.0010	10	20	50	100	
Zn	68	1.0000	0.0041	10	20	50	100	
As	75	1.0000	0.0055	10	20	50	100	
As-1	75	1.0000	0.0055	10	20	50	100	
Se	82	1.0000	0.0006	10	20	50	100	
Se	78	1.0000	0.0015	10	20	50	100	
Mo	98	1.0000	0.0188	10	20	50	100	
Y	89							
Kr	83							
In	115							
Ag	107	0.9999	0.0334	10	20	50	100	
Cd	111	1.0000	0.0083	10	20	50	100	
Cd	114	0.9999	0.0190	10	20	50	100	
Sb	121	1.0000	0.0256	10	20	50	100	
Sb	123	1.0000	0.0192	10	20	50	100	
Ba	135	1.0000	0.0059	10	20	50	100	
Ba	137	1.0000	0.0101	10	20	50	100	
Tb	159							
Tl	205	0.9998	0.0740	10	20	50	100	
Pb	208	1.0000	0.1003	10	20	50	100	
Bi	209							
Th	232	0.9999	0.1187	10	20	50	100	
U	238	0.9999	0.1336	10	20	50	100	

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV3
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 11:06:57
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	423635	0
[	Be	9	46.734	ug/L	0.327	0	2	27020	1
	C	13		mg/L			7617	3640	1
	Cl	37		mg/L			3295164	3276562	0
[>	Sc	45		ug/L			388584	380170	0
[	Na	23	5134.478	ug/L	53.141	1	72120	52894439	1
[	Mg	24	5174.238	ug/L	52.510	1	5681	36459409	1
[	Al	27	5045.351	ug/L	48.774	0	9828	54928539	1
[	K	39	4996.193	ug/L	4.634	0	711387	73188141	0
[	Ca	43	5041.194	ug/L	35.038	0	298	145397	0
[	V	51	50.476	ug/L	0.240	0	4518	847228	0
[	V-1	51	50.333	ug/L	0.104	0	6696	866466	0
[	Cr	52	50.708	ug/L	0.352	0	13277	744319	0
[	Cr	53	50.246	ug/L	0.756	1	2196	90260	1
[	Fe	54	5080.352	ug/L	44.628	0	45192	6314751	0
[	Fe	57	4988.448	ug/L	58.920	1	15928	2638432	1
[	Mn	55	49.023	ug/L	0.583	1	602	1229490	1
[	Co	59	50.337	ug/L	0.149	0	189	935053	0
[>	Ge	72		ug/L			454129	443443	1
[	Ni	60	50.273	ug/L	0.222	0	79	200149	0
[	Ni	62	49.807	ug/L	0.969	1	83	29856	1
[	Cu	63	50.265	ug/L	0.507	1	277	439706	0
[	Cu	65	50.670	ug/L	0.590	1	117	211031	0
[	Zn	66	50.204	ug/L	0.603	1	483	130262	0
[	Zn	67	50.322	ug/L	0.363	0	217	22520	0
[	Zn	68	49.707	ug/L	0.672	1	12918	102813	1
[	As	75	50.118	ug/L	0.361	0	816	122910	0
[	As-1	75	49.951	ug/L	0.374	0	15845	136831	0
[	Se	82	51.821	ug/L	0.948	1	-7	13291	0
[	Se	78	51.206	ug/L	0.906	1	16279	48997	0
[	Mo	98	50.373	ug/L	0.521	1	221	419261	0
	Y	89		ug/L			387865	382491	0
	Kr	83		ug/L			522	540	2
[>	In	115		ug/L			421444	421344	0
[	Ag	107	51.166	ug/L	0.105	0	348	720330	0
[	Cd	111	49.952	ug/L	0.640	1	222	174682	1
[	Cd	114	50.203	ug/L	0.522	1	48	401242	0
[	Sb	121	49.306	ug/L	0.922	1	752	532894	1
[	Sb	123	49.354	ug/L	0.602	1	552	398973	0
[	Ba	135	51.043	ug/L	0.182	0	43	127376	0
[	Ba	137	50.278	ug/L	0.208	0	68	212983	1
[>	Tb	159		ug/L			385669	387699	1
[	Tl	205	48.786	ug/L	0.613	1	244	1400473	0
[	Pb	208	49.438	ug/L	0.575	1	751	1922257	0
[	Bi	209		ug/L			324071	321966	1
[	Th	232	50.633	ug/L	0.817	1	2390	2332390	0
[	U	238	51.442	ug/L	0.557	1	241	2663847	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB3
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 11:13:57
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	424756	1
[	Be	9	0.004	ug/L	0.006	152	2	4	75
	C	13		mg/L			7617	7461	0
	Cl	37		mg/L			3295164	3312035	0
[>	Sc	45		ug/L			388584	389221	1
[	Na	23	-3.125	ug/L	0.274	8	72120	39344	8
[	Mg	24	0.273	ug/L	0.150	54	5681	7666	15
[	Al	27	0.357	ug/L	0.159	44	9828	13836	14
[	K	39	0.409	ug/L	0.449	109	711387	718574	0
[	Ca	43	-0.346	ug/L	0.742	214	298	289	8
[	V	51	0.004	ug/L	0.003	76	4518	4586	1
[	V-1	51	-0.021	ug/L	0.002	8	6696	6336	1
[	Cr	52	0.010	ug/L	0.015	145	13277	13447	0
[	Cr	53	-0.067	ug/L	0.016	23	2196	2079	1
[	Fe	54	0.593	ug/L	0.464	78	45192	46012	1
[	Fe	57	-0.044	ug/L	0.147	331	15928	15930	0
[	Mn	55	0.003	ug/L	0.001	20	602	682	3
[	Co	59	0.003	ug/L	0.002	53	189	245	13
[>	Ge	72		ug/L			454129	448768	0
[	Ni	60	0.001	ug/L	0.003	235	79	83	14
[	Ni	62	-0.013	ug/L	0.012	94	83	75	8
[	Cu	63	0.006	ug/L	0.001	21	277	324	2
[	Cu	65	0.008	ug/L	0.005	63	117	149	13
[	Zn	66	-0.001	ug/L	0.006	680	483	475	3
[	Zn	67	-0.037	ug/L	0.016	43	217	198	4
[	Zn	68	0.041	ug/L	0.053	129	12918	12841	1
[	As	75	0.032	ug/L	0.021	66	816	885	6
[	As-1	75	0.095	ug/L	0.016	16	15845	15891	0
[	Se	82	0.043	ug/L	0.025	57	-7	3	193
[	Se	78	0.326	ug/L	0.120	36	16279	16299	0
[	Mo	98	0.009	ug/L	0.009	99	221	295	26
	Y	89		ug/L			387865	387225	0
	Kr	83		ug/L			522	528	0
[>	In	115		ug/L			421444	425159	0
[	Ag	107	0.012	ug/L	0.006	51	348	525	17
[	Cd	111	0.004	ug/L	0.004	100	222	237	5
[	Cd	114	0.002	ug/L	0.002	88	48	64	22
[	Sb	121	0.074	ug/L	0.035	47	752	1567	25
[	Sb	123	0.081	ug/L	0.029	35	552	1216	20
[	Ba	135	0.011	ug/L	0.000	4	43	71	1
[	Ba	137	0.008	ug/L	0.004	53	68	103	18
[>	Tb	159		ug/L			385669	387601	0
[	Tl	205	0.008	ug/L	0.005	59	244	478	29
[	Pb	208	0.008	ug/L	0.004	46	751	1053	13
[	Bi	209		ug/L			324071	324092	0
[	Th	232	0.024	ug/L	0.011	46	2390	3511	14
[	U	238	0.005	ug/L	0.003	51	241	508	26

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~CRI~~ Low Check
Sample Dil Factor: 051612
Comments:
Sample Date/Time: Wednesday, May 16, 2012 11:20:06
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	422245	0
[	Be	9	0.182	ug/L	0.024	13	2	106	12
	C	13		mg/L			7617	5488	1
	Cl	37		mg/L			3295164	3310557	0
[>	Sc	45		ug/L			388584	387513	0
[	Na	23	101.227	ug/L	0.725	0	72120	1133479	0
[	Mg	24	20.673	ug/L	0.022	0	5681	154123	0
[	Al	27	19.574	ug/L	0.095	0	9828	226976	0
[	K	39	20.829	ug/L	0.326	1	711387	1017489	0
[	Ca	43	49.431	ug/L	1.028	2	298	1748	1
[	V	51	0.192	ug/L	0.012	6	4518	7774	2
[	V-1	51	0.185	ug/L	0.004	1	6696	9893	0
[	Cr	52	0.488	ug/L	0.021	4	13277	20413	1
[	Cr	53	0.444	ug/L	0.038	8	2196	2984	2
[	Fe	54	19.449	ug/L	0.478	2	45192	69538	1
[	Fe	57	20.142	ug/L	0.355	1	15928	26679	0
[	Mn	55	0.513	ug/L	0.008	1	602	13721	1
[	Co	59	0.205	ug/L	0.004	1	189	4071	1
[>	Ge	72		ug/L			454129	448213	0
[	Ni	60	0.546	ug/L	0.023	4	79	2273	4
[	Ni	62	0.513	ug/L	0.032	6	83	392	4
[	Cu	63	0.562	ug/L	0.004	0	277	5237	0
[	Cu	65	0.566	ug/L	0.015	2	117	2499	2
[	Zn	66	4.226	ug/L	0.058	1	483	11520	1
[	Zn	67	3.716	ug/L	0.176	4	217	1879	4
[	Zn	68	4.167	ug/L	0.076	1	12918	20392	0
[	As	75	0.239	ug/L	0.026	11	816	1395	5
[	As-1	75	0.290	ug/L	0.028	9	15845	16352	0
[	Se	82	0.526	ug/L	0.051	9	-7	128	9
[	Se	78	0.799	ug/L	0.032	4	16279	16589	0
[	Mo	98	0.194	ug/L	0.004	1	221	1853	1
	Y	89		ug/L			387865	387960	0
	Kr	83		ug/L			522	535	1
[>	In	115		ug/L			421444	420803	0
[	Ag	107	0.194	ug/L	0.004	2	348	3081	1
[	Cd	111	0.111	ug/L	0.013	11	222	607	7
[	Cd	114	0.107	ug/L	0.004	3	48	903	3
[	Sb	121	0.198	ug/L	0.001	0	752	2884	0
[	Sb	123	0.205	ug/L	0.014	6	552	2206	5
[	Ba	135	0.510	ug/L	0.008	1	43	1315	1
[	Ba	137	0.536	ug/L	0.023	4	68	2333	3
[>	Tb	159		ug/L			385669	377945	0
[	Tl	205	0.209	ug/L	0.004	1	244	6098	1
[	Pb	208	0.108	ug/L	0.002	1	751	4826	0
[	Bi	209		ug/L			324071	318826	0
[	Th	232	0.190	ug/L	0.002	1	2390	10884	1
[	U	238	0.205	ug/L	0.003	1	241	10584	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UT23 MB1 REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 11:26:45
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			424774	447313	1
⌊	Be	9	-0.001	ug/L	0.002	274	2	1	86
	C	13		mg/L			7617	7238	2
	Cl	37		mg/L			3295164	3304513	0
⌈>	Sc	45		ug/L			388584	408502	0
|	Na	23	0.458	ug/L	1.317	287	72120	80951	18
|	Mg	24	-0.032	ug/L	0.041	127	5681	5728	4
|	Al	27	0.268	ug/L	0.035	13	9828	13459	2
|	K	39	-1.790	ug/L	0.391	21	711387	719911	0
|	Ca	43	4.442	ug/L	1.079	24	298	451	6
|	V	51	-0.007	ug/L	0.006	86	4518	4628	3
|	V-1	51	-0.042	ug/L	0.012	28	6696	6271	2
|	Cr	52	-0.026	ug/L	0.002	8	13277	13557	0
|	Cr	53	-0.133	ug/L	0.056	42	2196	2057	4
|	Fe	54	9.610	ug/L	0.568	5	45192	60250	0
|	Fe	57	-0.061	ug/L	0.162	266	15928	16710	0
|	Mn	55	0.064	ug/L	0.004	5	602	2352	4
⌊	Co	59	-0.005	ug/L	0.001	16	189	94	19
⌈>	Ge	72		ug/L			454129	473267	0
|	Ni	60	-0.003	ug/L	0.002	72	79	68	15
|	Ni	62	-0.008	ug/L	0.023	285	83	82	18
|	Cu	63	0.099	ug/L	0.004	3	277	1213	2
|	Cu	65	0.095	ug/L	0.004	4	117	544	2
|	Zn	66	0.123	ug/L	0.007	5	483	843	2
|	Zn	67	0.049	ug/L	0.055	112	217	249	9
|	Zn	68	-0.096	ug/L	0.057	59	12918	13276	0
|	As	75	0.018	ug/L	0.010	56	816	898	3
|	As-1	75	-0.215	ug/L	0.078	36	15845	15956	0
|	Se	82	0.022	ug/L	0.034	154	-7	-2	424
|	Se	78	-0.830	ug/L	0.299	35	16279	16391	0
⌊	Mo	98	0.019	ug/L	0.011	59	221	396	24
	Y	89		ug/L			387865	407313	0
	Kr	83		ug/L			522	549	0
⌈>	In	115		ug/L			421444	441514	0
|	Ag	107	-0.006	ug/L	0.002	33	348	272	11
|	Cd	111	-0.005	ug/L	0.001	15	222	213	1
|	Cd	114	-0.003	ug/L	0.000	12	48	26	11
|	Sb	121	-0.025	ug/L	0.004	16	752	507	9
|	Sb	123	-0.026	ug/L	0.003	13	552	357	8
|	Ba	135	0.002	ug/L	0.006	248	43	52	29
⌊	Ba	137	0.003	ug/L	0.003	117	68	84	17
⌈>	Tb	159		ug/L			385669	406236	1
|	Tl	205	-0.002	ug/L	0.000	15	244	182	7
|	Pb	208	-0.002	ug/L	0.001	48	751	716	5
|	Bi	209		ug/L			324071	334675	1
|	Th	232	0.018	ug/L	0.006	31	2390	3380	9
⌊	U	238	-0.002	ug/L	0.000	3	241	131	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU34 MB REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 11:33:24
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	451302	0
[	Be	9	-0.002	ug/L	0.004	226	2	1	173
	C	13		mg/L			7617	7266	1
	Cl	37		mg/L			3295164	3283707	0
[>	Sc	45		ug/L			388584	410161	0
[	Na	23	1.406	ug/L	2.088	148	72120	91683	24
[	Mg	24	0.507	ug/L	0.011	2	5681	9851	0
[	Al	27	0.211	ug/L	0.033	15	9828	12847	2
[	K	39	-2.001	ug/L	0.383	19	711387	719548	0
[	Ca	43	5.317	ug/L	0.919	17	298	480	5
[	V	51	-0.022	ug/L	0.013	59	4518	4375	5
[	V-1	51	-0.045	ug/L	0.003	7	6696	6234	0
[	Cr	52	-0.034	ug/L	0.009	27	13277	13484	1
[	Cr	53	-0.106	ug/L	0.041	38	2196	2118	3
[	Fe	54	9.339	ug/L	0.797	8	45192	60136	1
[	Fe	57	0.735	ug/L	0.405	55	15928	17230	1
[	Mn	55	0.024	ug/L	0.002	9	602	1280	4
[	Co	59	-0.006	ug/L	0.000	5	189	82	8
[>	Ge	72		ug/L			454129	473705	0
[	Ni	60	-0.005	ug/L	0.002	36	79	62	11
[	Ni	62	0.003	ug/L	0.005	169	83	89	3
[	Cu	63	0.106	ug/L	0.008	7	277	1278	5
[	Cu	65	0.108	ug/L	0.007	6	117	602	4
[	Zn	66	0.183	ug/L	0.026	14	483	1010	6
[	Zn	67	0.129	ug/L	0.063	48	217	287	9
[	Zn	68	-0.117	ug/L	0.093	79	12918	13246	0
[	As	75	0.026	ug/L	0.014	54	816	919	3
[	As-1	75	-0.167	ug/L	0.042	25	15845	16095	0
[	Se	82	-0.001	ug/L	0.012	789	-7	-8	37
[	Se	78	-0.708	ug/L	0.160	22	16279	16491	0
[	Mo	98	-0.004	ug/L	0.002	52	221	191	11
	Y	89		ug/L			387865	410643	0
	Kr	83		ug/L			522	549	3
[>	In	115		ug/L			421444	442533	0
[	Ag	107	-0.012	ug/L	0.001	9	348	195	8
[	Cd	111	-0.004	ug/L	0.001	20	222	219	1
[	Cd	114	-0.004	ug/L	0.001	24	48	20	35
[	Sb	121	-0.040	ug/L	0.002	3	752	341	4
[	Sb	123	-0.038	ug/L	0.001	3	552	255	4
[	Ba	135	-0.003	ug/L	0.004	145	43	38	26
[	Ba	137	-0.001	ug/L	0.001	109	68	66	8
[>	Tb	159		ug/L			385669	408188	0
[	Tl	205	-0.004	ug/L	0.000	4	244	142	3
[	Pb	208	-0.004	ug/L	0.000	9	751	632	2
[	Bi	209		ug/L			324071	335985	0
[	Th	232	-0.002	ug/L	0.003	116	2390	2424	5
[	U	238	-0.003	ug/L	0.000	6	241	97	10

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US34 MB SWC
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 16, 2012 11:40:03
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	454514	1
[	Be	9	-0.002	ug/L	0.001	51	2	0	86
	C	13		mg/L			7617	6758	4
	Cl	37		mg/L			3295164	12569749	0
[>	Sc	45		ug/L			388584	395845	0
[	Na	23	-0.607	ug/L	1.699	279	72120	66907	26
[	Mg	24	-0.507	ug/L	0.002	0	5681	2067	1
[	Al	27	-0.209	ug/L	0.013	6	9828	7644	2
[	K	39	1.037	ug/L	0.638	61	711387	740379	1
[	Ca	43	1.137	ug/L	0.414	36	298	338	2
[	V	51	-0.424	ug/L	0.055	12	4518	-2768	34
[	V-1	51	4.963	ug/L	0.130	2	6696	95094	1
[	Cr	52	0.384	ug/L	0.014	3	13277	19289	1
[	Cr	53	17.111	ug/L	0.502	2	2196	33475	2
[	Fe	54	3.550	ug/L	0.510	14	45192	50597	1
[	Fe	57	1.341	ug/L	0.744	55	15928	16958	1
[	Mn	55	0.003	ug/L	0.000	6	602	700	1
[	Co	59	-0.006	ug/L	0.000	3	189	79	5
[>	Ge	72		ug/L			454129	462628	1
[	Ni	60	-0.001	ug/L	0.001	81	79	75	6
[	Ni	62	-0.016	ug/L	0.005	32	83	75	5
[	Cu	63	0.012	ug/L	0.004	32	277	390	8
[	Cu	65	0.009	ug/L	0.002	24	117	160	6
[	Zn	66	0.020	ug/L	0.011	54	483	547	5
[	Zn	67	0.513	ug/L	0.094	18	217	458	9
[	Zn	68	-0.288	ug/L	0.166	57	12918	12612	1
[	As	75	-0.085	ug/L	0.102	119	816	614	41
[	As-1	75	-0.279	ug/L	0.184	66	15845	15433	2
[	Se	82	-0.025	ug/L	0.044	176	-7	-14	80
[	Se	78	-0.709	ug/L	0.383	54	16279	16104	0
[	Mo	98	-0.016	ug/L	0.002	9	221	86	16
	Y	89		ug/L			387865	403386	0
	Kr	83		ug/L			522	542	3
[>	In	115		ug/L			421444	430047	0
[	Ag	107	0.003	ug/L	0.003	82	348	404	10
[	Cd	111	-0.005	ug/L	0.005	91	222	208	7
[	Cd	114	-0.003	ug/L	0.000	13	48	25	12
[	Sb	121	-0.046	ug/L	0.004	8	752	264	15
[	Sb	123	-0.043	ug/L	0.001	2	552	212	4
[	Ba	135	0.061	ug/L	0.003	5	43	200	3
[	Ba	137	0.065	ug/L	0.004	5	68	349	4
[>	Tb	159		ug/L			385669	406201	1
[	Tl	205	-0.004	ug/L	0.001	12	244	129	11
[	Pb	208	-0.002	ug/L	0.001	53	751	693	7
[	Bi	209		ug/L			324071	343435	1
[	Th	232	-0.023	ug/L	0.001	5	2390	1422	4
[	U	238	-0.003	ug/L	0.000	5	241	80	11

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US34 MB SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 16, 2012 11:46:44
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	446229	1
[	Be	9	0.001	ug/L	0.004	758	2	2	100
	C	13		mg/L			7617	6792	0
	Cl	37		mg/L			3295164	3299108	0
[>	Sc	45		ug/L			388584	403257	0
[	Na	23	-1.252	ug/L	1.257	100	72120	61212	22
[	Mg	24	-0.453	ug/L	0.007	1	5681	2512	2
[	Al	27	-0.072	ug/L	0.007	9	9828	9363	0
[	K	39	-0.398	ug/L	0.205	51	711387	732111	0
[	Ca	43	1.159	ug/L	0.265	22	298	345	2
[	V	51	-0.009	ug/L	0.011	124	4518	4532	3
[	V-1	51	0.257	ug/L	0.041	15	6696	11605	6
[	Cr	52	-0.023	ug/L	0.014	62	13277	13432	1
[	Cr	53	0.806	ug/L	0.147	18	2196	3779	7
[	Fe	54	3.411	ug/L	0.468	13	45192	51366	1
[	Fe	57	1.558	ug/L	1.199	76	15928	17397	3
[	Mn	55	0.001	ug/L	0.001	60	602	665	3
[	Co	59	-0.006	ug/L	0.000	6	189	87	7
[>	Ge	72		ug/L			454129	472712	0
[	Ni	60	-0.002	ug/L	0.001	65	79	76	5
[	Ni	62	-0.018	ug/L	0.009	46	83	75	6
[	Cu	63	0.013	ug/L	0.001	10	277	414	2
[	Cu	65	0.021	ug/L	0.004	18	117	216	7
[	Zn	66	0.027	ug/L	0.008	27	483	578	3
[	Zn	67	0.131	ug/L	0.047	35	217	288	7
[	Zn	68	-0.357	ug/L	0.090	25	12918	12756	1
[	As	75	0.008	ug/L	0.018	239	816	870	5
[	As-1	75	-0.258	ug/L	0.047	18	15845	15826	0
[	Se	82	-0.030	ug/L	0.020	67	-7	-16	33
[	Se	78	-1.021	ug/L	0.125	12	16279	16241	0
[	Mo	98	-0.018	ug/L	0.001	6	221	74	14
	Y	88		ug/L			387865	405350	0
	Kr	83		ug/L			522	544	1
[>	In	115		ug/L			421444	435158	0
[	Ag	107	-0.016	ug/L	0.000	2	348	130	4
[	Cd	111	-0.007	ug/L	0.001	18	222	205	2
[	Cd	114	-0.002	ug/L	0.001	23	48	29	15
[	Sb	121	-0.063	ug/L	0.002	3	752	186	11
[	Sb	123	-0.049	ug/L	0.003	6	552	158	16
[	Ba	135	0.190	ug/L	0.007	3	43	534	3
[	Ba	137	0.192	ug/L	0.010	5	68	911	5
[>	Tb	159		ug/L			385669	407675	1
[	Tl	205	-0.002	ug/L	0.000	24	244	211	6
[	Pb	208	-0.001	ug/L	0.000	14	751	747	2
[	Bi	209		ug/L			324071	343527	0
[	Th	232	-0.029	ug/L	0.002	6	2390	1129	9
[	U	238	-0.003	ug/L	0.000	5	241	69	15

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU34 MBSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 11:53:24
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	438821	0
[	Be	9	22.134	ug/L	0.363	1	2	13255	0
	C	13		mg/L			7617	7614	1
	Cl	37		mg/L			3295164	3310110	0
[>	Sc	45		ug/L			388584	402954	1
[	Na	23	13.231	ug/L	3.553	26	72120	219010	17
[	Mg	24	-0.039	ug/L	0.026	67	5681	5596	2
[	Al	27	0.088	ug/L	0.013	14	9828	11210	2
[	K	39	2.396	ug/L	0.500	20	711387	774481	0
[	Ca	43	7.228	ug/L	0.853	11	298	530	5
[	V	51	24.480	ug/L	0.239	0	4518	437899	0
[	V-1	51	24.621	ug/L	0.193	0	6696	452764	0
[	Cr	52	24.671	ug/L	0.133	0	13277	390910	1
[	Cr	53	25.096	ug/L	0.156	0	2196	48926	1
[	Fe	54	9.918	ug/L	0.495	4	45192	59833	0
[	Fe	57	0.252	ug/L	1.002	397	15928	16662	4
[	Mn	55	24.145	ug/L	0.046	0	602	642146	1
[	Co	59	25.122	ug/L	0.225	0	189	494723	1
[>	Ge	72		ug/L			454129	466043	0
[	Ni	60	25.285	ug/L	0.339	1	79	105845	1
[	Ni	62	25.284	ug/L	0.151	0	83	15972	0
[	Cu	63	26.215	ug/L	0.194	0	277	241158	0
[	Cu	65	26.055	ug/L	0.136	0	117	114115	1
[	Zn	66	77.308	ug/L	0.242	0	483	210563	0
[	Zn	67	69.718	ug/L	0.448	0	217	32704	0
[	Zn	68	74.962	ug/L	0.837	1	12918	156221	0
[	As	75	24.915	ug/L	0.144	0	816	64639	0
[	As-1	75	24.233	ug/L	0.143	0	15845	78142	1
[	Se	82	78.125	ug/L	0.358	0	-7	21065	0
[	Se	78	76.025	ug/L	0.487	0	16279	68363	1
[	Mo	98	-0.003	ug/L	0.002	64	221	202	8
	Y	89		ug/L			387865	404698	0
	Kr	83		ug/L			522	555	0
[>	In	115		ug/L			421444	435461	0
[	Ag	107	25.984	ug/L	0.243	0	348	378253	1
[	Cd	111	24.509	ug/L	0.356	1	222	88693	1
[	Cd	114	24.627	ug/L	0.125	0	48	203460	0
[	Sb	121	-0.050	ug/L	0.003	5	752	214	14
[	Sb	123	-0.048	ug/L	0.002	4	552	170	9
[	Ba	135	25.121	ug/L	0.509	2	43	64810	1
[	Ba	137	25.099	ug/L	0.258	1	68	109916	0
[>	Tb	159		ug/L			385669	403814	0
[	Tl	205	24.363	ug/L	0.177	0	244	728690	1
[	Pb	208	25.141	ug/L	0.002	0	751	1018655	0
[	Bi	209		ug/L			324071	342723	0
[	Th	232	23.280	ug/L	0.410	1	2390	1118452	1
[	U	238	23.497	ug/L	0.358	1	241	1267597	2

S ## Site

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU34 A SWN
Sample Dil Factor: 100
Comments:
Sample Date/Time: Wednesday, May 16, 2012 12:00:04
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

PE

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	446112	1
[	Be	9	33.162	ug/L	0.987	2	2	20184	1
	C	13		mg/L			7617	6330	1
	Cl	37		mg/L			3295164	3287035	1
[>	Sc	45		ug/L			388584	409765	1
[	Na	23	126.893	ug/L	2.694	2	72120	1483018	1
[	Mg	24	361.176	ug/L	3.824	1	5681	2748564	1
[	Al	27	2075.466	ug/L	24.958	1	9828	24358535	0
[	K	39	755.489	ug/L	3.651	0	711387	12565010	0
[	Ca	43	727.198	ug/L	13.800	1	298	22874	1
[	V	51	54.411	ug/L	0.201	0	4518	983989	0
[	V-1	51	54.268	ug/L	0.055	0	6696	1006370	0
[	Cr	52	45.885	ug/L	0.657	1	13277	727264	1
[	Cr	53	46.041	ug/L	0.099	0	2196	89338	0
[	Fe	54	972.856	ug/L	13.962	1	45192	1341841	1
[	Fe	57	974.205	ug/L	2.502	0	15928	568882	0
[	Mn	55	307.132	ug/L	3.140	1	602	8298571	0
[	Co	59	37.121	ug/L	0.312	0	189	743270	1
[>	Ge	72		ug/L			454129	464053	0
[	Ni	60	89.291	ug/L	1.002	1	79	371955	1
[	Ni	62	89.372	ug/L	1.156	1	83	56003	1
[	Cu	63	57.569	ug/L	0.216	0	277	527008	0
[	Cu	65	57.624	ug/L	0.346	0	117	251153	1
[	Zn	66	185.138	ug/L	1.015	0	483	501425	1
[	Zn	67	171.002	ug/L	0.491	0	217	79552	0
[	Zn	68	186.420	ug/L	0.520	0	12918	367227	0
[	As	75	22.470	ug/L	0.112	0	816	58129	0
[	As-1	75	21.949	ug/L	0.146	0	15845	71997	0
[	Se	82	37.910	ug/L	0.183	0	-7	10174	0
[	Se	78	36.087	ug/L	0.224	0	16279	41049	0
[	Mo	98	5.426	ug/L	0.019	0	221	47462	0
	Y	89		ug/L			387865	440994	1
	Kr	83		ug/L			522	548	2
[>	In	115		ug/L			421444	439207	0
[	Ag	107	7.225	ug/L	0.100	1	348	106345	1
[	Cd	111	19.435	ug/L	0.117	0	222	70987	0
[	Cd	114	19.640	ug/L	0.259	1	48	163666	1
[	Sb	121	0.362	ug/L	0.011	2	752	4853	2
[	Sb	123	0.356	ug/L	0.010	2	552	3567	2
[	Ba	135	175.967	ug/L	0.621	0	43	457638	0
[	Ba	137	174.692	ug/L	2.893	1	68	771195	1
[>	Tb	159		ug/L			385669	407709	0
[	Tl	205	11.336	ug/L	0.029	0	244	342437	0
[	Pb	208	15.953	ug/L	0.011	0	751	652903	0
[	Bi	209		ug/L			324071	343644	0
[	Th	232	0.757	ug/L	0.007	0	2390	39181	0
[	U	238	0.300	ug/L	0.003	0	241	16586	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UN34 A SWN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 16, 2012 12:06:44
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	466914	0
[	Be	9	152.212	ug/L	2.802	1	2	96982	1
	C	13		mg/L			7617	10054	0
	Cl	37		mg/L			3295164	3191763	0
[>	Sc	45		ug/L			388584	429523	1
[	Na	23	592.765	ug/L	4.699	0	72120	6969337	0
[	Mg	24	1638.908	ug/L	7.648	0	5681	13052220	1
[	Al	27	9496.023	ug/L	166.504	1	9828	116779388	1
[	K	39	3413.738	ug/L	24.637	0	711387	56746711	1
[	Ca	43	3011.655	ug/L	23.599	0	298	98275	1
[	V	51	251.901	ug/L	3.468	1	4518	4756558	0
[	V-1	51	249.176	ug/L	2.717	1	6696	4816716	0
[	Cr	52	210.452	ug/L	3.909	1	13277	3443393	0
[	Cr	53	204.888	ug/L	1.345	0	2196	408341	0
[	Fe	54	4488.635	ug/L	90.912	2	45192	6308346	0
[	Fe	57	4464.465	ug/L	81.221	1	15928	2669231	0
[	Mn	55	1392.390	ug/L	28.117	2	602	39429219	0
[	Co	59	170.990	ug/L	2.545	1	189	3587829	1
[>	Ge	72		ug/L			454129	446723	0
[	Ni	60	422.276	ug/L	3.792	0	79	1693019	0
[	Ni	62	430.349	ug/L	5.660	1	83	259265	0
[	Cu	63	285.421	ug/L	4.330	1	277	2514005	0
[	Cu	65	272.712	ug/L	2.067	0	117	1143753	0
[	Zn	66	925.714	ug/L	6.369	0	483	2411534	0
[	Zn	67	820.952	ug/L	4.721	0	217	366847	1
[	Zn	68	864.969	ug/L	1.023	0	12918	1594005	0
[	As	75	110.173	ug/L	0.694	0	816	271228	0
[	As-1	75	108.627	ug/L	0.471	0	15845	281460	0
[	Se	82	184.905	ug/L	1.165	0	-7	47801	0
[	Se	78	179.661	ug/L	0.543	0	16279	133027	0
[	Mo	98	27.104	ug/L	0.340	1	221	227387	1
	Y	89		ug/L			387865	568969	1
	Kr	83		ug/L			522	563	2
[>	In	115		ug/L			421444	423552	1
[	Ag	107	35.151	ug/L	0.812	2	348	497479	1
[	Cd	111	94.402	ug/L	2.135	2	222	331591	1
[	Cd	114	93.552	ug/L	0.762	0	48	751569	1
[	Sb	121	1.957	ug/L	0.053	2	752	21989	1
[	Sb	123	1.964	ug/L	0.062	3	552	16493	1
[	Ba	135	908.338	ug/L	13.118	1	43	2277636	0
[	Ba	137	914.925	ug/L	17.877	1	68	3894123	0
[>	Tb	159		ug/L			385669	403004	0
[	Tl	205	53.629	ug/L	0.664	1	244	1600449	1
[	Pb	208	76.811	ug/L	0.607	0	751	3104304	0
[	Bi	209		ug/L			324071	338018	0
[	Th	232	3.755	ug/L	0.058	1	2390	182167	1
[	U	238	1.508	ug/L	0.012	0	241	81415	1

S MS4

ICP-MS Quantitative Analysis - Summary Report

Sample ID: U034 A SWC
Sample Dil Factor: 100
Comments:
Sample Date/Time: Wednesday, May 16, 2012 12:13:24
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

PS

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	453718	1
[	Be	9	33.194	ug/L	0.379	1	2	20553	1
	C	13		mg/L			7617	6009	1
	Cl	37		mg/L			3295164	4951658	1
[>	Sc	45		ug/L			388584	395034	1
[	Na	23	129.831	ug/L	5.726	4	72120	1461240	4
[	Mg	24	373.657	ug/L	5.612	1	5681	2740959	1
[	Al	27	2245.667	ug/L	42.600	1	9828	25410289	2
[	K	39	790.448	ug/L	10.656	1	711387	12640003	1
[	Ca	43	742.713	ug/L	4.149	0	298	22517	1
[	V	51	56.253	ug/L	0.577	1	4518	980534	0
[	V-1	51	56.745	ug/L	0.598	1	6696	1014119	1
[	Cr	52	47.322	ug/L	0.534	1	13277	722620	0
[	Cr	53	49.485	ug/L	0.455	0	2196	92396	0
[	Fe	54	1045.628	ug/L	15.400	1	45192	1386856	0
[	Fe	57	1054.472	ug/L	20.300	1	15928	592199	0
[	Mn	55	281.419	ug/L	4.538	1	602	7330178	1
[	Co	59	38.187	ug/L	0.530	1	189	737055	0
[>	Ge	72		ug/L			454129	446985	0
[	Ni	60	91.479	ug/L	0.721	0	79	367046	0
[	Ni	62	90.754	ug/L	1.044	1	83	54771	0
[	Cu	63	58.779	ug/L	0.964	1	277	518257	1
[	Cu	65	58.518	ug/L	0.526	0	117	245657	0
[	Zn	66	190.414	ug/L	0.864	0	483	496726	1
[	Zn	67	177.004	ug/L	3.068	1	217	79302	1
[	Zn	68	189.994	ug/L	2.591	1	12918	360233	0
[	As	75	23.335	ug/L	0.313	1	816	58113	0
[	As-1	75	22.698	ug/L	0.299	1	15845	71181	0
[	Se	82	39.857	ug/L	0.582	1	-7	10303	1
[	Se	78	37.615	ug/L	0.528	1	16279	40533	0
[	Mo	98	7.109	ug/L	0.110	1	221	59830	1
	Y	89		ug/L			387865	425082	0
	Kr	83		ug/L			522	530	2
[>	In	115		ug/L			421444	423755	0
[	Ag	107	7.538	ug/L	0.074	0	348	107017	0
[	Cd	111	20.177	ug/L	0.108	0	222	71092	0
[	Cd	114	19.862	ug/L	0.294	1	48	159674	0
[	Sb	121	2.889	ug/L	0.041	1	752	32119	0
[	Sb	123	2.868	ug/L	0.017	0	552	23839	0
[	Ba	135	183.270	ug/L	2.317	1	43	459827	0
[	Ba	137	181.868	ug/L	2.601	1	68	774571	0
[>	Tb	159		ug/L			385669	402330	1
[	Tl	205	11.577	ug/L	0.123	1	244	345121	1
[	Pb	208	16.652	ug/L	0.226	1	751	672410	0
[	Bi	209		ug/L			324071	335993	0
[	Th	232	0.783	ug/L	0.009	1	2390	39904	0
[	U	238	0.322	ug/L	0.007	2	241	17530	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU34 A REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 12:20:04
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	461264	0
[	Be	9	0.039	ug/L	0.011	27	2	26	25
	C	13		mg/L			7617	10537	0
	Cl	37		mg/L			3295164	2986283	1
[>	Sc	45		ug/L			388584	441611	1
[	Na	23	10822.018	ug/L	244.668	2	72120	129381554	0
[	Mg	24	8277.600	ug/L	79.019	0	5681	67741862	0
[	Al	27	667.865	ug/L	8.003	1	9828	8454979	1
[	K	39	1831.827	ug/L	7.870	0	711387	31681717	1
[	Ca	43	14047.143	ug/L	143.458	1	298	469967	0
[	V	51	7.941	ug/L	0.137	1	4518	159129	0
[	V-1	51	7.864	ug/L	0.122	1	6696	163642	0
[	Cr	52	1.574	ug/L	0.032	2	13277	41444	0
[	Cr	53	1.782	ug/L	0.018	1	2196	6126	2
[	Fe	54	3819.350	ug/L	64.434	1	45192	5526473	0
[	Fe	57	3781.705	ug/L	28.287	0	15928	2327600	1
[	Mn	55	195.110	ug/L	1.732	0	602	5681657	1
[	Co	59	0.477	ug/L	0.005	1	189	10516	2
[>	Ge	72		ug/L			454129	437616	0
[	Ni	60	1.659	ug/L	0.050	2	79	6591	2
[	Ni	62	1.349	ug/L	0.058	4	83	876	4
[	Cu	63	6.097	ug/L	0.123	2	277	52869	2
[	Cu	65	5.971	ug/L	0.039	0	117	24642	1
[	Zn	66	16.290	ug/L	0.186	1	483	42028	0
[	Zn	67	15.046	ug/L	0.315	2	217	6791	1
[	Zn	68	16.750	ug/L	0.244	1	12918	42446	1
[	As	75	1.898	ug/L	0.015	0	816	5352	1
[	As-1	75	1.395	ug/L	0.093	6	15845	18613	1
[	Se	82	0.272	ug/L	0.067	24	-7	61	28
[	Se	78	-1.595	ug/L	0.255	16	16279	14669	1
[	Mo	98	1.074	ug/L	0.020	1	221	9031	2
	Y	89		ug/L			387865	461143	0
	Kr	83		ug/L			522	512	2
[>	In	115		ug/L			421444	416455	0
[	Ag	107	0.003	ug/L	0.002	66	348	387	8
[	Cd	111	0.060	ug/L	0.005	8	222	427	4
[	Cd	114	0.030	ug/L	0.002	8	48	284	7
[	Sb	121	0.162	ug/L	0.010	6	752	2467	4
[	Sb	123	0.169	ug/L	0.004	2	552	1893	1
[	Ba	135	5.665	ug/L	0.106	1	43	14012	2
[	Ba	137	5.606	ug/L	0.127	2	68	23533	2
[>	Tb	159		ug/L			385669	400818	0
[	Tl	205	0.055	ug/L	0.016	29	244	1880	25
[	Pb	208	4.072	ug/L	0.019	0	751	164413	0
[	Bi	209		ug/L			324071	337996	0
[	Th	232	0.149	ug/L	0.005	3	2390	9555	3
[	U	238	0.065	ug/L	0.002	3	241	3745	3

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV4
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 12:26:43
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	426196	1
[	Be	9	45.836	ug/L	0.439	0	2	26657	0
	C	13		mg/L			7617	4094	2
	Cl	37		mg/L			3295164	3093155	0
[>	Sc	45		ug/L			388584	365702	0
[	Na	23	5212.297	ug/L	37.437	0	72120	51650642	0
[	Mg	24	5154.277	ug/L	38.569	0	5681	34936151	0
[	Al	27	5003.836	ug/L	35.453	0	9828	52402255	0
[	K	39	5027.563	ug/L	51.333	1	711387	70841405	1
[	Ca	43	5023.455	ug/L	25.689	0	298	139373	0
[	V	51	50.170	ug/L	0.336	0	4518	810092	1
[	V-1	51	50.117	ug/L	0.407	0	6696	829974	1
[	Cr	52	50.306	ug/L	0.209	0	13277	710425	0
[	Cr	53	50.133	ug/L	0.242	0	2196	86636	0
[	Fe	54	5041.530	ug/L	23.997	0	45192	6028305	0
[	Fe	57	4987.155	ug/L	55.401	1	15928	2537321	1
[	Mn	55	48.743	ug/L	0.165	0	602	1175940	0
[	Co	59	50.188	ug/L	0.467	0	189	896775	0
[>	Ge	72		ug/L			454129	427579	1
[	Ni	60	50.213	ug/L	0.196	0	79	192761	0
[	Ni	62	49.491	ug/L	0.643	1	83	28607	0
[	Cu	63	49.874	ug/L	0.513	1	277	420687	0
[	Cu	65	49.517	ug/L	0.714	1	117	198855	1
[	Zn	66	49.947	ug/L	0.472	0	483	124964	0
[	Zn	67	49.418	ug/L	0.102	0	217	21328	1
[	Zn	68	49.505	ug/L	0.375	0	12918	98784	1
[	As	75	50.260	ug/L	0.238	0	816	118856	1
[	As-1	75	49.907	ug/L	0.182	0	15845	131840	1
[	Se	82	52.040	ug/L	0.366	0	-7	12871	0
[	Se	78	50.762	ug/L	0.509	1	16279	46969	0
[	Mo	98	50.285	ug/L	1.130	2	221	403521	1
	Y	89		ug/L			387865	366607	0
	Kr	83		ug/L			522	529	2
[>	In	115		ug/L			421444	406777	0
[	Ag	107	50.999	ug/L	0.721	1	348	693105	0
[	Cd	111	50.719	ug/L	0.678	1	222	171216	0
[	Cd	114	50.927	ug/L	0.468	0	48	392957	0
[	Sb	121	49.890	ug/L	0.267	0	752	520591	0
[	Sb	123	49.789	ug/L	0.184	0	552	388583	0
[	Ba	135	51.359	ug/L	0.917	1	43	123732	1
[	Ba	137	51.068	ug/L	0.805	1	68	208836	1
[>	Tb	159		ug/L			385669	381994	1
[	Tl	205	48.362	ug/L	0.199	0	244	1368087	1
[	Pb	208	49.736	ug/L	0.562	1	751	1905419	0
[	Bi	209		ug/L			324071	317632	0
[	Th	232	51.785	ug/L	0.500	0	2390	2350501	0
[	U	238	52.383	ug/L	1.022	1	241	2672572	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB4
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 12:33:43
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	436920	0
[	Be	9	0.002	ug/L	0.003	161	2	3	57
	C	13		mg/L			7617	6809	1
	Cl	37		mg/L			3295164	3063231	0
[>	Sc	45		ug/L			388584	364316	1
[	Na	23	-3.364	ug/L	0.217	6	72120	34467	7
[	Mg	24	0.467	ug/L	0.230	49	5681	8490	19
[	Al	27	0.381	ug/L	0.187	49	9828	13204	15
[	K	39	-1.106	ug/L	0.149	13	711387	651571	1
[	Ca	43	0.571	ug/L	0.447	78	298	295	4
[	V	51	-0.022	ug/L	0.004	17	4518	3888	0
[	V-1	51	0.043	ug/L	0.012	26	6696	6983	3
[	Cr	52	-0.025	ug/L	0.022	89	13277	12105	1
[	Cr	53	0.177	ug/L	0.028	15	2196	2357	3
[	Fe	54	0.282	ug/L	0.203	72	45192	42702	0
[	Fe	57	1.666	ug/L	0.965	57	15928	15769	2
[	Mn	55	0.011	ug/L	0.003	28	602	827	10
[	Co	59	0.003	ug/L	0.003	85	189	230	20
[>	Ge	72		ug/L			454129	425159	0
[	Ni	60	0.000	ug/L	0.002	8785	79	74	10
[	Ni	62	-0.044	ug/L	0.010	22	83	52	10
[	Cu	63	0.004	ug/L	0.005	126	277	292	14
[	Cu	65	0.008	ug/L	0.004	52	117	142	11
[	Zn	66	0.015	ug/L	0.005	32	483	489	2
[	Zn	67	0.040	ug/L	0.043	105	217	220	8
[	Zn	68	-0.345	ug/L	0.181	52	12918	11493	2
[	As	75	0.030	ug/L	0.022	74	816	834	5
[	As-1	75	-0.197	ug/L	0.040	20	15845	14377	0
[	Se	82	-0.063	ug/L	0.038	60	-7	-22	40
[	Se	78	-0.795	ug/L	0.121	15	16279	14747	0
[	Mo	98	0.003	ug/L	0.007	247	221	229	24
	Y	89		ug/L			387865	369317	1
	Kr	83		ug/L			522	517	2
[>	In	115		ug/L			421444	400548	0
[	Ag	107	0.008	ug/L	0.008	102	348	434	24
[	Cd	111	-0.001	ug/L	0.009	1137	222	208	13
[	Cd	114	0.002	ug/L	0.003	149	48	60	36
[	Sb	121	0.064	ug/L	0.035	54	752	1376	26
[	Sb	123	0.062	ug/L	0.039	62	552	1000	29
[	Ba	135	0.017	ug/L	0.005	29	43	81	14
[	Ba	137	0.020	ug/L	0.006	31	68	145	17
[>	Tb	159		ug/L			385669	379876	0
[	Tl	205	0.013	ug/L	0.004	33	244	606	21
[	Pb	208	0.008	ug/L	0.004	46	751	1050	14
[	Bi	209		ug/L			324071	321507	0
[	Th	232	0.008	ug/L	0.009	101	2390	2733	14
[	U	238	0.004	ug/L	0.003	58	241	465	29

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 A-L REN
Sample Dil Factor: 10
Comments:
Sample Date/Time: Wednesday, May 16, 2012 12:41:08
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	438993	1
[	Be	9	0.003	ug/L	0.004	135	2	3	57
	C	13		mg/L			7617	6102	3
	Cl	37		mg/L			3295164	3051257	0
[>	Sc	45		ug/L			388584	377155	0
[	Na	23	2181.095	ug/L	26.353	1	72120	22331269	1
[	Mg	24	328.557	ug/L	0.603	0	5681	2301919	0
[	Al	27	3.465	ug/L	0.044	1	9828	46959	1
[	K	39	304.100	ug/L	3.769	1	711387	5067818	1
[	Ca	43	7392.470	ug/L	11.287	0	298	211387	0
[	V	51	0.500	ug/L	0.021	4	4518	12674	2
[	V-1	51	0.536	ug/L	0.007	1	6696	15575	0
[	Cr	52	0.031	ug/L	0.020	62	13277	13332	2
[	Cr	53	0.174	ug/L	0.045	25	2196	2434	3
[	Fe	54	2.955	ug/L	0.781	26	45192	47481	2
[	Fe	57	18.077	ug/L	1.523	8	15928	24889	3
[	Mn	55	0.166	ug/L	0.002	1	602	4718	1
[	Co	59	0.039	ug/L	0.002	5	189	894	4
[>	Ge	72		ug/L			454129	438921	0
[	Ni	60	0.601	ug/L	0.024	3	79	2445	3
[	Ni	62	0.359	ug/L	0.027	7	83	293	5
[	Cu	63	0.709	ug/L	0.010	1	277	6404	1
[	Cu	65	0.690	ug/L	0.004	0	117	2956	0
[	Zn	66	0.132	ug/L	0.021	16	483	804	6
[	Zn	67	0.118	ug/L	0.071	60	217	262	11
[	Zn	68	-0.343	ug/L	0.003	0	12918	11869	0
[	As	75	0.395	ug/L	0.023	5	816	1743	3
[	As-1	75	0.014	ug/L	0.059	405	15845	15349	0
[	Se	82	-0.013	ug/L	0.074	565	-7	-10	171
[	Se	78	-1.459	ug/L	0.160	10	16279	14800	0
[	Mo	98	1.098	ug/L	0.012	1	221	9255	0
	Y	89		ug/L			387865	380260	0
	Kr	83		ug/L			522	501	0
[>	In	115		ug/L			421444	415928	0
[	Ag	107	-0.008	ug/L	0.002	24	348	228	12
[	Cd	111	-0.005	ug/L	0.003	70	222	203	5
[	Cd	114	0.002	ug/L	0.002	106	48	61	24
[	Sb	121	0.306	ug/L	0.004	1	752	3997	1
[	Sb	123	0.309	ug/L	0.012	3	552	3003	2
[	Ba	135	1.235	ug/L	0.025	2	43	3084	1
[	Ba	137	1.213	ug/L	0.020	1	68	5138	0
[>	Tb	159		ug/L			385669	397772	1
[	Tl	205	0.004	ug/L	0.001	18	244	370	7
[	Pb	208	0.007	ug/L	0.001	15	751	1046	5
[	Bi	209		ug/L			324071	333313	1
[	Th	232	-0.011	ug/L	0.002	23	2390	1967	7
[	U	238	0.043	ug/L	0.002	3	241	2523	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 A REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 12:47:47
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			424774	435835	1
	Be	9	0.001	ug/L	0.002	344	2	2	50
	C	13		mg/L			7617	8004	3
	Cl	37		mg/L			3295164	3119284	0
>	Sc	45		ug/L			388584	399497	1
	Na	23	10469.783	ug/L	186.220	1	72120	113255696	1
	Mg	24	1552.173	ug/L	11.079	0	5681	11496671	0
	Al	27	17.904	ug/L	0.157	0	9828	214887	0
	K	39	1451.264	ug/L	25.066	1	711387	22856105	0
	Ca	43	35116.101	ug/L	446.676	1	298	1062373	0
	V	51	2.607	ug/L	0.025	0	4518	50379	0
	V-1	51	2.603	ug/L	0.037	1	6696	53614	0
	Cr	52	0.455	ug/L	0.019	4	13277	20538	0
	Cr	53	0.596	ug/L	0.061	10	2196	3355	2
	Fe	54	21.385	ug/L	1.027	4	45192	74189	0
	Fe	57	88.635	ug/L	6.450	7	15928	65345	5
	Mn	55	0.795	ug/L	0.011	1	602	21565	0
	Co	59	0.207	ug/L	0.001	0	189	4229	1
>	Ge	72		ug/L			454129	430036	0
	Ni	60	2.997	ug/L	0.045	1	79	11644	1
	Ni	62	1.936	ug/L	0.117	6	83	1201	5
	Cu	63	3.530	ug/L	0.048	1	277	30193	1
	Cu	65	3.338	ug/L	0.047	1	117	13587	1
	Zn	66	0.726	ug/L	0.005	0	483	2277	0
	Zn	67	1.073	ug/L	0.086	8	217	667	5
	Zn	68	0.683	ug/L	0.070	10	12918	13434	0
	As	75	2.016	ug/L	0.039	1	816	5538	1
	As-1	75	1.787	ug/L	0.019	1	15845	19214	0
	Se	82	0.127	ug/L	0.071	55	-7	24	72
	Se	78	-0.676	ug/L	0.105	15	16279	14991	0
	Mo	98	5.750	ug/L	0.064	1	221	46602	1
	Y	89		ug/L			387865	384791	0
	Kr	83		ug/L			522	513	0
>	In	115		ug/L			421444	416850	0
	Ag	107	-0.010	ug/L	0.001	11	348	211	7
	Cd	111	0.013	ug/L	0.005	42	222	263	6
	Cd	114	0.021	ug/L	0.002	10	48	209	8
	Sb	121	1.646	ug/L	0.013	0	752	18318	0
	Sb	123	1.627	ug/L	0.024	1	552	13542	0
	Ba	135	6.130	ug/L	0.069	1	43	15171	1
	Ba	137	6.112	ug/L	0.029	0	68	25675	0
>	Tb	159		ug/L			385669	393042	0
	Tl	205	0.003	ug/L	0.001	29	244	337	7
	Pb	208	0.018	ug/L	0.002	9	751	1481	4
	Bi	209		ug/L			324071	321410	0
	Th	232	0.040	ug/L	0.005	13	2390	4293	6
	U	238	0.223	ug/L	0.001	0	241	11940	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 ADUP REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 12:54:25
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			424774	442316	0
	Be	9	0.013	ug/L	0.004	27	2	10	21
	C	13		mg/L			7617	7958	1
	Cl	37		mg/L			3295164	3178418	0
>	Sc	45		ug/L			388584	405659	0
	Na	23	10644.510	ug/L	56.805	0	72120	116927217	0
	Mg	24	1576.071	ug/L	8.279	0	5681	11854031	0
	Al	27	18.342	ug/L	0.994	5	9828	223328	5
	K	39	1459.808	ug/L	17.700	1	711387	23343663	1
	Ca	43	35125.051	ug/L	555.665	1	298	1079088	1
	V	51	2.572	ug/L	0.034	1	4518	50540	0
	V-1	51	2.574	ug/L	0.040	1	6696	53904	0
	Cr	52	0.430	ug/L	0.019	4	13277	20475	0
	Cr	53	0.586	ug/L	0.044	7	2196	3389	2
	Fe	54	21.107	ug/L	1.254	5	45192	74973	1
	Fe	57	92.128	ug/L	2.569	2	15928	68319	2
	Mn	55	0.794	ug/L	0.025	3	602	21876	2
	Co	59	0.213	ug/L	0.005	2	189	4421	2
>	Ge	72		ug/L			454129	436017	0
	Ni	60	2.830	ug/L	0.035	1	79	11151	1
	Ni	62	1.796	ug/L	0.048	2	83	1136	2
	Cu	63	3.647	ug/L	0.062	1	277	31617	1
	Cu	65	3.472	ug/L	0.030	0	117	14326	0
	Zn	66	0.636	ug/L	0.021	3	483	2080	2
	Zn	67	1.027	ug/L	0.023	2	217	656	1
	Zn	68	0.666	ug/L	0.109	16	12918	13591	1
	As	75	2.038	ug/L	0.019	0	816	5666	1
	As-1	75	1.730	ug/L	0.082	4	15845	19347	1
	Se	82	0.131	ug/L	0.021	16	-7	25	21
	Se	78	-1.002	ug/L	0.277	27	16279	14992	1
	Mo	98	5.740	ug/L	0.083	1	221	47163	1
	Y	89		ug/L			387865	389615	0
	Kr	83		ug/L			522	511	3
>	In	115		ug/L			421444	416487	0
	Ag	107	-0.013	ug/L	0.002	18	348	159	21
	Cd	111	0.014	ug/L	0.002	14	222	266	1
	Cd	114	0.018	ug/L	0.001	6	48	187	3
	Sb	121	1.663	ug/L	0.038	2	752	18480	1
	Sb	123	1.677	ug/L	0.011	0	552	13924	1
	Ba	135	6.294	ug/L	0.163	2	43	15561	1
	Ba	137	6.193	ug/L	0.092	1	68	25987	0
>	Tb	159		ug/L			385669	395478	1
	Tl	205	0.001	ug/L	0.001	74	244	276	6
	Pb	208	0.013	ug/L	0.000	2	751	1288	1
	Bi	209		ug/L			324071	324913	0
	Th	232	0.015	ug/L	0.001	7	2390	3141	2
	U	238	0.227	ug/L	0.001	0	241	12221	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 ASPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 13:01:04
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

Del Probe not completely in tubing disconnected
N 5-17-12

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	415	15
[	Be	9	7.310	ug/L	2.310	31	2	4	34
	C	13		mg/L			7617	6269	1
	Cl	37		mg/L			3295164	1492498	3
[>	Sc	45		ug/L			388584	2955	1
[	Na	23	186.172	ug/L	159.277	85	72120	15365	81
[	Mg	24	19.714	ug/L	24.239	122	5681	1115	117
[	Al	27	1.509	ug/L	0.541	35	9828	202	21
[	K	39	2793.802	ug/L	134.396	4	711387	320433	3
[	Ca	43	1193.654	ug/L	550.303	46	298	268	44
[	V	51	21.709	ug/L	1.415	6	4518	2852	6
[	V-1	51	39.585	ug/L	0.850	2	6696	5308	3
[	Cr	52	73.786	ug/L	1.523	2	13277	8372	1
[	Cr	53	126.802	ug/L	4.159	3	2196	1731	3
[	Fe	54	60722.695	ug/L	605.664	0	45192	582999	1
[	Fe	57	1029.423	ug/L	45.537	4	15928	4327	3
[	Mn	55	16.754	ug/L	0.419	2	602	3269	3
[	Co	59	0.297	ug/L	0.265	88	189	44	85
[>	Ge	72		ug/L			454129	255	18
[	Ni	60	6.928	ug/L	4.124	59	79	17	78
[	Ni	62	35.236	ug/L	10.848	30	83	12	45
[	Cu	63	8.440	ug/L	3.200	37	277	43	50
[	Cu	65	11.820	ug/L	2.399	20	117	29	39
[	Zn	66	18.975	ug/L	5.057	26	483	29	41
[	Zn	67	295.769	ug/L	25.944	8	217	75	10
[	Zn	68	13915.860	ug/L	2386.100	17	12918	14268	1
[	As	75	2744.107	ug/L	485.518	17	816	3773	0
[	As-1	75	13218.610	ug/L	2338.159	17	15845	18134	1
[	Se	82	-476.935	ug/L	87.691	18	-7	-69	14
[	Se	78	49934.355	ug/L	8817.720	17	16279	18229	1
[	Mo	98	1.019	ug/L	1.022	100	221	5	113
	Y	89		ug/L			387865	35	116
	Kr	83		ug/L			522	1617	0
[>	In	115		ug/L			421444	34	123
[	Ag	107	32.918	ug/L	20.212	61	348	23	69
[	Cd	111	59.782	ug/L	75.897	126	222	8	81
[	Cd	114	46.775	ug/L	14.805	31	48	24	101
[	Sb	121	23.845	ug/L	21.713	91	752	7	26
[	Sb	123	40.888	ug/L	44.167	108	552	9	35
[	Ba	135	109.425	ug/L	51.141	46	43	13	72
[	Ba	137	72.333	ug/L	39.648	54	68	16	88
[>	Tb	159		ug/L			385669	33	114
[	Tl	205	255.478	ug/L	245.992	96	244	270	54
[	Pb	208	165.468	ug/L	122.639	74	751	294	68
[	Bi	209		ug/L			324071	92	33
[	Th	232	26.691	ug/L	6.295	24	2390	85	93
[	U	238	26.155	ug/L	9.856	37	241	98	113

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~US82 APOST REN~~ ZZZZZZ
Sample Dil Factor: 2 ~~as~~ 1642 tubing disconnect
Comments:
Sample Date/Time: Wednesday, May 16, 2012 13:07:42
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	306	12
[	Be	9	5.054	ug/L	1.965	38	2	2	34
	C	13		mg/L			7617	6209	1
	Cl	37		mg/L			3295164	1355493	1
[>	Sc	45		ug/L			388584	2822	0
[	Na	23	54.370	ug/L	18.233	33	72120	4673	29
[	Mg	24	1.202	ug/L	2.915	242	5681	103	146
[	Al	27	1.494	ug/L	0.105	7	9828	192	4
[	K	39	2627.065	ug/L	49.434	1	711387	288131	1
[	Ca	43	774.048	ug/L	109.436	14	298	167	13
[	V	51	22.284	ug/L	1.149	5	4518	2795	5
[	V-1	51	42.592	ug/L	0.296	0	6696	5450	0
[	Cr	52	78.815	ug/L	0.915	1	13277	8534	1
[	Cr	53	138.095	ug/L	3.719	2	2196	1813	2
[	Fe	54	67387.246	ug/L	474.132	0	45192	617795	0
[	Fe	57	1045.796	ug/L	42.768	4	15928	4197	3
[	Mn	55	18.111	ug/L	0.447	2	602	3374	2
[	Co	59	0.141	ug/L	0.058	41	189	20	38
[>	Ge	72		ug/L			454129	230	11
[	Ni	60	2.497	ug/L	2.110	84	79	5	75
[	Ni	62	23.958	ug/L	1.205	5	83	7	16
[	Cu	63	4.376	ug/L	1.405	32	277	20	34
[	Cu	65	8.087	ug/L	1.590	19	117	17	21
[	Zn	66	25.982	ug/L	2.710	10	483	35	12
[	Zn	67	338.950	ug/L	80.325	23	217	76	12
[	Zn	68	16087.828	ug/L	1798.472	11	12918	15015	1
[	As	75	3033.617	ug/L	364.262	12	816	3799	2
[	As-1	75	15223.687	ug/L	1911.635	12	15845	19003	0
[	Se	82	-189.689	ug/L	174.567	92	-7	-24	92
[	Se	78	57550.785	ug/L	7202.814	12	16279	19116	0
[	Mo	98	1.624	ug/L	0.799	49	221	6	41
	Y	89		ug/L			387865	6	21
	Kr	83		ug/L			522	1591	0
[>	In	115		ug/L			421444	7	94
[	Ag	107	146.319	ug/L	213.465	145	348	9	56
[	Cd	111	278.901	ug/L	269.794	96	222	7	35
[	Cd	114	35.677	ug/L	14.734	41	48	4	114
[	Sb	121	75.008	ug/L	82.760	110	752	6	34
[	Sb	123	92.714	ug/L	141.383	152	552	3	69
[	Ba	135	358.610	ug/L	488.067	136	43	5	48
[	Ba	137	278.521	ug/L	327.193	117	68	7	16
[>	Tb	159		ug/L			385669	6	72
[	Tl	205	242.733	ug/L	134.700	55	244	84	15
[	Pb	208	158.274	ug/L	108.166	68	751	70	12
[	Bi	209		ug/L			324071	20	31
[	Th	232	13.987	ug/L	4.863	34	2390	10	93
[	U	238	16.911	ug/L	12.369	73	241	17	129

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~US82 F-L REN~~ zzzzzz

Sample Dil Factor: 10

Comments: 45-16-12

Sample Date/Time: Wednesday, May 16, 2012 13:14:21

Number of Replicates: 3

Method File: C:\Elandata\Method\2008LoNoRh.mth

Tuning File: C:\Elandata\Tuning\default.tun

Optimization File: C:\Elandata\Optimize\default.dac

Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			424774	245	3
⌊	Be	9	6.317	ug/L	4.600	72	2	2	69
	C	13		mg/L			7617	6832	0
	Cl	37		mg/L			3295164	1244815	2
⌈>	Sc	45		ug/L			388584	2735	1
|	Na	23	38.487	ug/L	4.614	11	72120	3355	9
|	Mg	24	-0.435	ug/L	0.065	14	5681	17	17
|	Al	27	1.308	ug/L	0.237	18	9828	171	11
|	K	39	2465.654	ug/L	40.790	1	711387	262418	2
|	Ca	43	770.475	ug/L	16.472	2	298	161	3
|	V	51	24.486	ug/L	1.366	5	4518	2972	5
|	V-1	51	41.965	ug/L	0.435	1	6696	5205	1
|	Cr	52	81.660	ug/L	1.469	1	13277	8565	0
|	Cr	53	132.082	ug/L	5.171	3	2196	1681	4
|	Fe	54	73647.660	ug/L	1280.933	1	45192	654252	0
|	Fe	57	994.184	ug/L	13.555	1	15928	3873	2
|	Mn	55	18.832	ug/L	0.527	2	602	3400	1
⌊	Co	59	0.121	ug/L	0.032	26	189	17	25
⌈>	Ge	72		ug/L			454129	222	5
|	Ni	60	2.890	ug/L	1.288	44	79	5	44
|	Ni	62	20.295	ug/L	14.709	72	83	6	72
|	Cu	63	3.004	ug/L	0.411	13	277	13	14
|	Cu	65	6.277	ug/L	2.469	39	117	13	44
|	Zn	66	21.044	ug/L	3.112	14	483	27	12
|	Zn	67	328.358	ug/L	42.653	12	217	72	7
|	Zn	68	17403.448	ug/L	902.423	5	12918	15852	0
|	As	75	3091.734	ug/L	216.463	7	816	3777	1
|	As-1	75	16271.083	ug/L	831.664	5	15845	19843	0
|	Se	82	-454.960	ug/L	244.451	53	-7	-58	52
|	Se	78	61431.467	ug/L	3106.505	5	16279	19936	1
⌊	Mo	98	1.083	ug/L	0.241	22	221	4	27
	Y	89		ug/L			387865	2	50
	Kr	83		ug/L			522	1608	1
⌈>	In	115		ug/L			421444	6	41
|	Ag	107	51.167	ug/L	17.780	34	348	9	15
|	Cd	111	80.137	ug/L	207.290	258	222	3	284
|	Cd	114	40.670	ug/L	9.183	22	48	4	44
|	Sb	121	43.776	ug/L	34.502	78	752	5	48
|	Sb	123	31.264	ug/L	14.546	46	552	3	7
|	Ba	135	178.957	ug/L	146.798	82	43	5	48
⌊	Ba	137	146.605	ug/L	68.038	46	68	7	24
⌈>	Tb	159		ug/L			385669	5	50
|	Tl	205	192.459	ug/L	114.656	59	244	58	10
|	Pb	208	152.086	ug/L	87.487	57	751	62	3
|	Bi	209		ug/L			324071	19	16
|	Th	232	9.074	ug/L	4.384	48	2390	4	31
⌊	U	238	17.257	ug/L	12.484	72	241	8	37

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 F REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 13:23:56
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	446321	1
[	Be	9	0.007	ug/L	0.002	32	2	6	20
	C	13		mg/L			7617	8226	1
	Cl	37		mg/L			3295164	3202950	0
[>	Sc	45		ug/L			388584	414574	0
[	Na	23	10648.767	ug/L	186.878	1	72120	119535894	1
[	Mg	24	1588.179	ug/L	18.472	1	5681	12207220	0
[	Al	27	3.184	ug/L	0.098	3	9828	48279	2
[	K	39	1474.851	ug/L	29.225	1	711387	24093596	1
[	Ca	43	35765.440	ug/L	540.325	1	298	1122895	1
[	V	51	2.599	ug/L	0.022	0	4518	52148	1
[	V-1	51	2.583	ug/L	0.018	0	6696	55272	1
[	Cr	52	0.427	ug/L	0.024	5	13277	20871	1
[	Cr	53	0.530	ug/L	0.112	21	2196	3357	6
[	Fe	54	9.862	ug/L	0.204	2	45192	61487	0
[	Fe	57	85.308	ug/L	2.280	2	15928	65912	2
[	Mn	55	0.699	ug/L	0.006	0	602	19743	0
[	Co	59	0.212	ug/L	0.009	4	189	4505	4
[>	Ge	72		ug/L			454129	441643	2
[	Ni	60	1.861	ug/L	0.102	5	79	7447	3
[	Ni	62	0.768	ug/L	0.052	6	83	538	7
[	Cu	63	3.541	ug/L	0.030	0	277	31097	1
[	Cu	65	3.383	ug/L	0.081	2	117	14137	1
[	Zn	66	1.018	ug/L	0.023	2	483	3089	1
[	Zn	67	1.358	ug/L	0.026	1	217	810	1
[	Zn	68	1.101	ug/L	0.077	6	12918	14553	2
[	As	75	2.022	ug/L	0.029	1	816	5701	1
[	As-1	75	1.717	ug/L	0.089	5	15845	19561	1
[	Se	82	0.149	ug/L	0.034	22	-7	30	30
[	Se	78	-1.006	ug/L	0.265	26	16279	15181	0
[	Mo	98	5.929	ug/L	0.096	1	221	49332	0
	Y	89		ug/L			387865	397037	0
	Kr	83		ug/L			522	510	0
[>	In	115		ug/L			421444	430169	0
[	Ag	107	-0.005	ug/L	0.004	79	348	285	20
[	Cd	111	0.017	ug/L	0.004	22	222	287	5
[	Cd	114	0.021	ug/L	0.001	3	48	220	3
[	Sb	121	1.681	ug/L	0.018	1	752	19295	1
[	Sb	123	1.709	ug/L	0.082	4	552	14648	3
[	Ba	135	6.098	ug/L	0.078	1	43	15576	2
[	Ba	137	6.084	ug/L	0.043	0	68	26373	1
[>	Tb	159		ug/L			385669	401107	0
[	Tl	205	0.003	ug/L	0.001	32	244	332	6
[	Pb	208	0.002	ug/L	0.002	105	751	868	9
[	Bi	209		ug/L			324071	332547	0
[	Th	232	0.079	ug/L	0.022	28	2390	6233	16
[	U	238	0.230	ug/L	0.001	0	241	12554	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 FDUP REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 13:30:37
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	444403	1
[	Be	9	0.003	ug/L	0.005	157	2	4	75
	C	13		mg/L			7617	8323	1
	Cl	37		mg/L			3295164	3206332	0
[>	Sc	45		ug/L			388584	411896	1
[	Na	23	10534.413	ug/L	125.710	1	72120	117498776	1
[	Mg	24	1558.354	ug/L	18.285	1	5681	11900044	0
[	Al	27	2.508	ug/L	0.007	0	9828	39990	1
[	K	39	1450.138	ug/L	3.430	0	711387	23550523	1
[	Ca	43	35243.268	ug/L	260.168	0	298	1099415	1
[	V	51	2.531	ug/L	0.053	2	4518	50575	1
[	V-1	51	2.491	ug/L	0.053	2	6696	53199	1
[	Cr	52	0.401	ug/L	0.017	4	13277	20330	0
[	Cr	53	0.426	ug/L	0.024	5	2196	3136	0
[	Fe	54	9.321	ug/L	1.279	13	45192	60354	1
[	Fe	57	84.727	ug/L	3.696	4	15928	65144	3
[	Mn	55	0.690	ug/L	0.010	1	602	19387	1
[	Co	59	0.203	ug/L	0.010	4	189	4284	3
[>	Ge	72		ug/L			454129	439785	0
[	Ni	60	1.866	ug/L	0.019	1	79	7442	0
[	Ni	62	0.766	ug/L	0.012	1	83	535	0
[	Cu	63	3.461	ug/L	0.040	1	277	30278	1
[	Cu	65	3.313	ug/L	0.027	0	117	13792	1
[	Zn	66	0.494	ug/L	0.008	1	483	1735	1
[	Zn	67	0.852	ug/L	0.063	7	217	585	4
[	Zn	68	0.394	ug/L	0.025	6	12918	13220	0
[	As	75	2.018	ug/L	0.021	1	816	5667	0
[	As-1	75	1.597	ug/L	0.078	4	15845	19193	0
[	Se	82	0.163	ug/L	0.078	48	-7	33	59
[	Se	78	-1.477	ug/L	0.243	16	16279	14817	1
[	Mo	98	5.776	ug/L	0.096	1	221	47867	1
	Y	89		ug/L			387865	392730	0
	Kr	83		ug/L			522	494	1
[>	In	115		ug/L			421444	430183	0
[	Ag	107	-0.014	ug/L	0.000	2	348	152	2
[	Cd	111	0.021	ug/L	0.009	41	222	301	10
[	Cd	114	0.017	ug/L	0.003	15	48	188	11
[	Sb	121	1.652	ug/L	0.018	1	752	18975	0
[	Sb	123	1.658	ug/L	0.017	1	552	14227	0
[	Ba	135	6.080	ug/L	0.150	2	43	15530	1
[	Ba	137	5.936	ug/L	0.042	0	68	25734	0
[>	Tb	159		ug/L			385669	405909	0
[	Tl	205	-0.000	ug/L	0.001	202	244	248	7
[	Pb	208	-0.001	ug/L	0.001	92	751	759	3
[	Bi	209		ug/L			324071	335137	0
[	Th	232	0.017	ug/L	0.002	13	2390	3326	3
[	U	238	0.225	ug/L	0.004	1	241	12463	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 FSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 13:37:18
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	449874	1
[	Be	9	21.731	ug/L	0.251	1	2	13341	0
	C	13		mg/L			7617	8773	1
	Cl	37		mg/L			3295164	3231738	0
[>	Sc	45		ug/L			388584	419207	0
[	Na	23	10411.613	ug/L	169.007	1	72120	118179759	0
[	Mg	24	1536.433	ug/L	18.270	1	5681	11941329	0
[	Al	27	2.782	ug/L	0.034	1	9828	43998	1
[	K	39	1436.979	ug/L	11.496	0	711387	23757072	0
[	Ca	43	34721.679	ug/L	225.519	0	298	1102348	0
[	V	51	25.210	ug/L	0.210	0	4518	469022	0
[	V-1	51	25.102	ug/L	0.218	0	6696	480102	0
[	Cr	52	22.916	ug/L	0.133	0	13277	378771	1
[	Cr	53	22.742	ug/L	0.076	0	2196	46344	0
[	Fe	54	13.070	ug/L	0.737	5	45192	66537	0
[	Fe	57	85.471	ug/L	2.350	2	15928	66732	1
[	Mn	55	22.653	ug/L	0.338	1	602	626769	0
[	Co	59	22.832	ug/L	0.503	2	189	467722	1
[>	Ge	72		ug/L			454129	441593	0
[	Ni	60	26.317	ug/L	0.350	1	79	104375	1
[	Ni	62	25.094	ug/L	0.611	2	83	15022	2
[	Cu	63	27.928	ug/L	0.269	0	277	243417	0
[	Cu	65	27.841	ug/L	0.083	0	117	115528	0
[	Zn	66	74.557	ug/L	0.450	0	483	192435	1
[	Zn	67	68.415	ug/L	0.868	1	217	30413	1
[	Zn	68	71.912	ug/L	0.169	0	12918	142516	0
[	As	75	26.624	ug/L	0.168	0	816	65393	0
[	As-1	75	25.577	ug/L	0.135	0	15845	77291	0
[	Se	82	77.558	ug/L	0.513	0	-7	19815	0
[	Se	78	74.036	ug/L	0.506	0	16279	63494	0
[	Mo	98	5.798	ug/L	0.008	0	221	48250	0
	Y	89		ug/L			387865	397318	0
	Kr	83		ug/L			522	518	2
[>	In	115		ug/L			421444	438321	0
[	Ag	107	23.689	ug/L	0.183	0	348	347123	0
[	Cd	111	23.690	ug/L	0.285	1	222	86302	1
[	Cd	114	23.846	ug/L	0.332	1	48	198286	0
[	Sb	121	1.623	ug/L	0.007	0	752	19003	0
[	Sb	123	1.604	ug/L	0.009	0	552	14042	1
[	Ba	135	30.371	ug/L	0.063	0	43	78863	0
[	Ba	137	30.034	ug/L	0.350	1	68	132372	0
[>	Tb	159		ug/L			385669	409432	0
[	Tl	205	23.816	ug/L	0.356	1	244	722149	0
[	Pb	208	24.420	ug/L	0.070	0	751	1003209	0
[	Bi	209		ug/L			324071	339472	0
[	Th	232	23.774	ug/L	0.348	1	2390	1157991	0
[	U	238	24.202	ug/L	0.125	0	241	1323778	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~US82 FPOST REN~~ ZZZZZZ
Sample Dil Factor: 2
Comments: 5-16-12
Sample Date/Time: Wednesday, May 16, 2012 13:43:58
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			424774	443222	0
	Be	9	23.389	ug/L	0.258	1	2	14147	0
	C	13		mg/L			7617	8323	0
	Cl	37		mg/L			3295164	3249326	0
>	Sc	45		ug/L			388584	415862	0
	Na	23	10466.715	ug/L	53.285	0	72120	117867184	0
	Mg	24	1552.580	ug/L	10.220	0	5681	11971153	0
	Al	27	3.247	ug/L	0.014	0	9828	49177	0
	K	39	1445.579	ug/L	4.408	0	711387	23704927	0
	Ca	43	34936.595	ug/L	243.880	0	298	1100322	0
	V	51	26.788	ug/L	0.162	0	4518	494119	0
	V-1	51	26.747	ug/L	0.052	0	6696	507029	0
	Cr	52	24.502	ug/L	0.150	0	13277	400766	0
	Cr	53	24.536	ug/L	0.336	1	2196	49414	0
	Fe	54	10.202	ug/L	0.237	2	45192	62140	0
	Fe	57	83.793	ug/L	2.085	2	15928	65242	2
	Mn	55	24.157	ug/L	0.103	0	602	663055	0
	Co	59	24.469	ug/L	0.171	0	189	497302	0
>	Ge	72		ug/L			454129	439960	0
	Ni	60	28.030	ug/L	0.473	1	79	110754	1
	Ni	62	26.734	ug/L	0.344	1	83	15938	0
	Cu	63	29.803	ug/L	0.091	0	277	258789	0
	Cu	65	29.514	ug/L	0.257	0	117	122014	1
	Zn	66	79.707	ug/L	0.513	0	483	204930	0
	Zn	67	72.316	ug/L	0.714	0	217	32019	1
	Zn	68	78.001	ug/L	0.342	0	12918	152955	1
	As	75	28.544	ug/L	0.153	0	816	69797	1
	As-1	75	27.479	ug/L	0.144	0	15845	81591	0
	Se	82	83.026	ug/L	0.144	0	-7	21135	0
	Se	78	79.459	ug/L	0.615	0	16279	66737	0
	Mo	98	5.941	ug/L	0.063	1	221	49255	1
	Y	89		ug/L			387865	396841	0
	Kr	83		ug/L			522	516	2
>	In	115		ug/L			421444	438572	0
	Ag	107	25.255	ug/L	0.386	1	348	370244	1
	Cd	111	25.082	ug/L	0.044	0	222	91412	0
	Cd	114	25.079	ug/L	0.137	0	48	208670	0
	Sb	121	1.645	ug/L	0.025	1	752	19264	1
	Sb	123	1.630	ug/L	0.015	0	552	14271	0
	Ba	135	31.740	ug/L	0.149	0	43	82462	0
	Ba	137	31.712	ug/L	0.308	0	68	139852	0
>	Tb	159		ug/L			385669	405851	0
	Tl	205	25.807	ug/L	0.273	1	244	775756	1
	Pb	208	25.674	ug/L	0.186	0	751	1045478	0
	Bi	209		ug/L			324071	338743	1
	Th	232	24.932	ug/L	0.261	1	2390	1203696	1
	U	238	25.741	ug/L	0.244	0	241	1395558	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV5
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 13:50:39
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			424774	410505	1
	Be	9	48.415	ug/L	0.753	1	2	27120	0
	C	13		mg/L			7617	4630	0
	Cl	37		mg/L			3295164	3499275	0
>	Sc	45		ug/L			388584	387614	0
	Na	23	5154.924	ug/L	53.080	1	72120	54144290	1
	Mg	24	5150.975	ug/L	38.166	0	5681	37006115	0
	Al	27	5055.655	ug/L	28.891	0	9828	56118168	0
	K	39	4955.392	ug/L	24.808	0	711387	74017645	0
	Ca	43	5043.932	ug/L	81.626	1	298	148325	1
	V	51	50.499	ug/L	0.211	0	4518	864215	0
	V-1	51	50.433	ug/L	0.120	0	6696	885177	0
	Cr	52	50.493	ug/L	0.132	0	13277	755740	0
	Cr	53	50.287	ug/L	0.218	0	2196	92102	0
	Fe	54	5118.119	ug/L	84.426	1	45192	6486000	1
	Fe	57	5070.018	ug/L	69.805	1	15928	2733762	1
	Mn	55	49.428	ug/L	0.741	1	602	1263889	1
	Co	59	50.981	ug/L	0.685	1	189	965525	1
>	Ge	72		ug/L			454129	448589	0
	Ni	60	51.170	ug/L	0.521	1	79	206083	0
	Ni	62	51.223	ug/L	0.176	0	83	31062	0
	Cu	63	50.967	ug/L	0.412	0	277	451040	0
	Cu	65	50.698	ug/L	0.235	0	117	213612	0
	Zn	66	50.970	ug/L	0.128	0	483	133788	0
	Zn	67	51.911	ug/L	0.529	1	217	23494	0
	Zn	68	50.416	ug/L	0.279	0	12918	105312	0
	As	75	50.291	ug/L	0.298	0	816	124768	0
	As-1	75	49.916	ug/L	0.126	0	15845	138339	0
	Se	82	51.829	ug/L	0.681	1	-7	13449	1
	Se	78	50.383	ug/L	0.359	0	16279	49030	0
	Mo	98	51.524	ug/L	0.477	0	221	433849	1
	Y	89		ug/L			387865	390498	0
	Kr	83		ug/L			522	533	2
>	In	115		ug/L			421444	436404	0
	Ag	107	50.401	ug/L	0.521	1	348	734880	0
	Cd	111	50.595	ug/L	0.588	1	222	183241	0
	Cd	114	50.121	ug/L	0.593	1	48	414903	0
	Sb	121	49.575	ug/L	0.756	1	752	554976	1
	Sb	123	49.493	ug/L	1.030	2	552	414367	1
	Ba	135	50.199	ug/L	0.438	0	43	129745	0
	Ba	137	49.733	ug/L	0.774	1	68	218184	0
>	Tb	159		ug/L			385669	392504	0
	Tl	205	48.977	ug/L	0.641	1	244	1423520	1
	Pb	208	50.258	ug/L	0.278	0	751	1978522	0
	Bi	209		ug/L			324071	328286	0
	Th	232	52.080	ug/L	0.444	0	2390	2429155	1
	U	238	52.822	ug/L	0.726	1	241	2769313	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB5
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 13:57:40
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			424774	411299	0
⌊	Be	9	0.005	ug/L	0.002	42	2	5	25
	C	13		mg/L			7617	7773	2
	Cl	37		mg/L			3295164	3576736	0
⌈>	Sc	45		ug/L			388584	394400	0
|	Na	23	-1.557	ug/L	2.134	137	72120	56625	40
|	Mg	24	0.320	ug/L	0.213	66	5681	8110	19
|	Al	27	0.418	ug/L	0.236	56	9828	14698	18
|	K	39	2.716	ug/L	0.189	6	711387	762920	0
|	Ca	43	3.548	ug/L	0.374	10	298	409	3
|	V	51	-0.001	ug/L	0.012	1571	4518	4572	4
|	V-1	51	-0.034	ug/L	0.013	39	6696	6199	3
|	Cr	52	-0.002	ug/L	0.014	584	13277	13440	1
|	Cr	53	-0.105	ug/L	0.026	25	2196	2039	2
|	Fe	54	0.775	ug/L	0.585	75	45192	46863	2
|	Fe	57	-2.074	ug/L	1.100	53	15928	15037	4
|	Mn	55	0.006	ug/L	0.002	35	602	775	7
⌊	Co	59	0.002	ug/L	0.003	123	189	232	21
⌈>	Ge	72		ug/L			454129	452815	0
|	Ni	60	0.007	ug/L	0.004	50	79	109	13
|	Ni	62	0.031	ug/L	0.009	29	83	102	5
|	Cu	63	0.018	ug/L	0.004	24	277	437	9
|	Cu	65	0.020	ug/L	0.003	17	117	200	7
|	Zn	66	0.283	ug/L	0.010	3	483	1228	1
|	Zn	67	0.187	ug/L	0.036	19	217	301	5
|	Zn	68	-0.018	ug/L	0.061	346	12918	12848	1
|	As	75	0.041	ug/L	0.003	6	816	917	1
|	As-1	75	-0.204	ug/L	0.044	21	15845	15293	0
|	Se	82	0.043	ug/L	0.079	181	-7	3	590
|	Se	78	-0.834	ug/L	0.153	18	16279	15680	0
⌊	Mo	98	-0.001	ug/L	0.007	1277	221	215	29
	Y	89		ug/L			387865	393612	0
	Kr	83		ug/L			522	531	2
⌈>	In	115		ug/L			421444	439558	1
|	Ag	107	0.011	ug/L	0.008	70	348	524	21
|	Cd	111	0.019	ug/L	0.010	52	222	300	11
|	Cd	114	0.003	ug/L	0.002	83	48	72	25
|	Sb	121	0.058	ug/L	0.034	58	752	1443	26
|	Sb	123	0.059	ug/L	0.037	62	552	1071	29
|	Ba	135	0.014	ug/L	0.006	43	43	82	19
⌊	Ba	137	0.012	ug/L	0.003	25	68	125	11
⌈>	Tb	159		ug/L			385669	391013	0
|	Tl	205	0.008	ug/L	0.003	38	244	488	18
|	Pb	208	0.020	ug/L	0.003	16	751	1547	7
|	Bi	209		ug/L			324071	333429	1
|	Th	232	0.029	ug/L	0.012	43	2390	3745	14
⌊	U	238	0.006	ug/L	0.004	65	241	567	36

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 MB1 REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 14:05:18
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	432988	1
[	Be	9	0.001	ug/L	0.003	242	2	2	65
	C	13		mg/L			7617	7224	2
	Cl	37		mg/L			3295164	3527594	0
[>	Sc	45		ug/L			388584	414098	0
[	Na	23	35.888	ug/L	0.651	1	72120	479048	2
[	Mg	24	0.176	ug/L	0.019	11	5681	7407	2
[	Al	27	0.018	ug/L	0.026	148	9828	10683	3
[	K	39	2.221	ug/L	0.204	9	711387	793204	0
[	Ca	43	4.426	ug/L	0.499	11	298	457	3
[	V	51	-0.013	ug/L	0.012	92	4518	4587	5
[	V-1	51	-0.069	ug/L	0.009	13	6696	5852	3
[	Cr	52	-0.032	ug/L	0.008	26	13277	13645	1
[	Cr	53	-0.206	ug/L	0.012	5	2196	1946	1
[	Fe	54	9.591	ug/L	0.554	5	45192	61053	1
[	Fe	57	-3.805	ug/L	0.250	6	15928	14795	1
[	Mn	55	0.024	ug/L	0.000	1	602	1293	0
[	Co	59	-0.005	ug/L	0.001	14	189	95	16
[>	Ge	72		ug/L			454129	468335	0
[	Ni	60	-0.004	ug/L	0.003	96	79	67	22
[	Ni	62	0.037	ug/L	0.015	41	83	109	8
[	Cu	63	0.132	ug/L	0.005	3	277	1508	3
[	Cu	65	0.134	ug/L	0.004	3	117	711	2
[	Zn	66	0.269	ug/L	0.013	4	483	1233	2
[	Zn	67	0.204	ug/L	0.015	7	217	320	2
[	Zn	68	-0.314	ug/L	0.042	13	12918	12719	0
[	As	75	0.017	ug/L	0.012	73	816	885	4
[	As-1	75	-0.357	ug/L	0.022	6	15845	15425	0
[	Se	82	-0.006	ug/L	0.074	1247	-7	-9	205
[	Se	78	-1.411	ug/L	0.112	7	16279	15824	0
[	Mo	98	-0.008	ug/L	0.005	60	221	154	29
	Y	89		ug/L			387865	411357	0
	Kr	83		ug/L			522	537	2
[>	In	115		ug/L			421444	455734	0
[	Ag	107	-0.007	ug/L	0.002	27	348	265	11
[	Cd	111	0.012	ug/L	0.003	24	222	284	3
[	Cd	114	-0.002	ug/L	0.001	33	48	30	23
[	Sb	121	-0.026	ug/L	0.006	21	752	505	12
[	Sb	123	-0.029	ug/L	0.007	25	552	345	18
[	Ba	135	0.000	ug/L	0.004	1865	43	47	22
[	Ba	137	0.001	ug/L	0.003	388	68	77	16
[>	Tb	159		ug/L			385669	410575	0
[	Tl	205	-0.003	ug/L	0.001	40	244	182	17
[	Pb	208	-0.000	ug/L	0.001	280	751	782	6
[	Bi	209		ug/L			324071	348314	1
[	Th	232	0.023	ug/L	0.009	37	2390	3665	11
[	U	238	-0.002	ug/L	0.000	25	241	172	12

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 MB2 REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 14:11:58
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			424774	437840	0
	Be	9	0.002	ug/L	0.004	219	2	3	78
	C	13		mg/L			7617	7215	1
	Cl	37		mg/L			3295164	3519453	0
>	Sc	45		ug/L			388584	412928	0
	Na	23	3.374	ug/L	0.170	5	72120	114335	1
	Mg	24	2.939	ug/L	0.057	1	5681	28529	1
	Al	27	-0.057	ug/L	0.017	29	9828	9772	2
	K	39	2.946	ug/L	0.406	13	711387	802360	0
	Ca	43	10.557	ug/L	0.848	8	298	647	4
	V	51	-0.020	ug/L	0.011	54	4518	4445	3
	V-1	51	-0.070	ug/L	0.012	17	6696	5819	3
	Cr	52	-0.036	ug/L	0.011	30	13277	13545	1
	Cr	53	-0.191	ug/L	0.013	6	2196	1969	1
	Fe	54	9.766	ug/L	0.253	2	45192	61115	0
	Fe	57	-2.583	ug/L	0.632	24	15928	15452	2
	Mn	55	0.052	ug/L	0.002	4	602	2055	2
	Co	59	-0.006	ug/L	0.001	9	189	85	12
>	Ge	72		ug/L			454129	474579	0
	Ni	60	-0.004	ug/L	0.004	100	79	66	25
	Ni	62	0.021	ug/L	0.016	78	83	100	10
	Cu	63	0.217	ug/L	0.001	0	277	2319	0
	Cu	65	0.219	ug/L	0.012	5	117	1100	5
	Zn	66	0.257	ug/L	0.014	5	483	1216	3
	Zn	67	0.153	ug/L	0.050	32	217	300	8
	Zn	68	-0.386	ug/L	0.149	38	12918	12750	2
	As	75	-0.001	ug/L	0.015	1438	816	851	5
	As-1	75	-0.474	ug/L	0.037	7	15845	15327	0
	Se	82	0.029	ug/L	0.059	206	-7	0	4806
	Se	78	-1.842	ug/L	0.157	8	16279	15737	0
	Mo	98	-0.017	ug/L	0.001	8	221	79	16
	Y	89		ug/L			387865	413439	0
	Kr	83		ug/L			522	518	2
>	In	115		ug/L			421444	459602	0
	Ag	107	-0.012	ug/L	0.002	18	348	189	18
	Cd	111	0.018	ug/L	0.004	23	222	310	5
	Cd	114	-0.004	ug/L	0.001	14	48	21	20
	Sb	121	-0.047	ug/L	0.004	7	752	267	15
	Sb	123	-0.047	ug/L	0.001	1	552	185	3
	Ba	135	-0.001	ug/L	0.003	225	43	44	18
	Ba	137	-0.002	ug/L	0.001	65	68	67	6
>	Tb	159		ug/L			385669	413332	0
	Tl	205	-0.005	ug/L	0.000	8	244	119	9
	Pb	208	-0.005	ug/L	0.001	16	751	593	6
	Bi	209		ug/L			324071	353402	1
	Th	232	-0.006	ug/L	0.005	84	2390	2265	10
	U	238	-0.003	ug/L	0.000	7	241	107	11

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 MB2SPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 14:18:37
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			424774	440639	0
	Be	9	22.086	ug/L	0.350	1	2	13282	1
	C	13		mg/L			7617	7972	1
	Cl	37		mg/L			3295164	3504080	0
>	Sc	45		ug/L			388584	408773	0
	Na	23	4.818	ug/L	0.173	3	72120	129153	0
	Mg	24	0.167	ug/L	0.010	5	5681	7237	1
	Al	27	0.336	ug/L	0.016	4	9828	14275	2
	K	39	2.835	ug/L	0.353	12	711387	792557	0
	Ca	43	5.090	ug/L	0.706	13	298	471	3
	V	51	24.318	ug/L	0.553	2	4518	441312	1
	V-1	51	24.209	ug/L	0.456	1	6696	451731	1
	Cr	52	24.349	ug/L	0.292	1	13277	391542	0
	Cr	53	24.006	ug/L	0.066	0	2196	47576	1
	Fe	54	10.187	ug/L	0.325	3	45192	61062	1
	Fe	57	-3.664	ug/L	0.386	10	15928	14684	1
	Mn	55	23.966	ug/L	0.153	0	602	646589	0
	Co	59	24.643	ug/L	0.212	0	189	492285	0
>	Ge	72		ug/L			454129	463413	0
	Ni	60	25.438	ug/L	0.344	1	79	105881	1
	Ni	62	25.224	ug/L	0.055	0	83	15845	0
	Cu	63	26.345	ug/L	0.186	0	277	240983	0
	Cu	65	26.158	ug/L	0.484	1	117	113911	1
	Zn	66	76.391	ug/L	0.770	1	483	206897	1
	Zn	67	69.994	ug/L	0.902	1	217	32649	1
	Zn	68	75.145	ug/L	0.612	0	12918	155688	0
	As	75	24.751	ug/L	0.097	0	816	63857	0
	As-1	75	23.831	ug/L	0.217	0	15845	76678	0
	Se	82	78.217	ug/L	0.442	0	-7	20971	0
	Se	78	75.143	ug/L	0.917	1	16279	67379	0
	Mo	98	-0.014	ug/L	0.000	3	221	105	4
	Y	89		ug/L			387865	413538	1
	Kr	83		ug/L			522	529	1
>	In	115		ug/L			421444	457741	1
	Ag	107	24.836	ug/L	0.147	0	348	380034	0
	Cd	111	23.905	ug/L	0.227	0	222	90936	0
	Cd	114	23.795	ug/L	0.399	1	48	206618	0
	Sb	121	-0.052	ug/L	0.001	2	752	207	7
	Sb	123	-0.050	ug/L	0.001	1	552	159	3
	Ba	135	24.192	ug/L	0.438	1	43	65602	0
	Ba	137	24.173	ug/L	0.593	2	68	111267	1
>	Tb	159		ug/L			385669	413537	0
	Tl	205	24.116	ug/L	0.480	1	244	738646	2
	Pb	208	24.780	ug/L	0.217	0	751	1028209	0
	Bi	209		ug/L			324071	352271	0
	Th	232	23.305	ug/L	0.240	1	2390	1146643	0
	U	238	23.211	ug/L	0.182	0	241	1282277	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 MB1SPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 14:25:16
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	435078	0
[	Be	9	22.003	ug/L	0.218	0	2	13066	1
	C	13		mg/L			7617	7813	1
	Cl	37		mg/L			3295164	3520425	0
[>	Sc	45		ug/L			388584	403903	0
[	Na	23	2.522	ug/L	1.912	75	72120	102506	20
[	Mg	24	-0.254	ug/L	0.008	3	5681	4001	1
[	Al	27	0.113	ug/L	0.016	14	9828	11527	1
[	K	39	3.110	ug/L	0.175	5	711387	787376	0
[	Ca	43	4.112	ug/L	0.090	2	298	436	0
[	V	51	23.773	ug/L	0.101	0	4518	426419	0
[	V-1	51	23.712	ug/L	0.013	0	6696	437352	0
[	Cr	52	24.015	ug/L	0.199	0	13277	381778	0
[	Cr	53	23.807	ug/L	0.368	1	2196	46637	1
[	Fe	54	10.458	ug/L	0.385	3	45192	60688	0
[	Fe	57	-3.560	ug/L	0.442	12	15928	14567	1
[	Mn	55	23.634	ug/L	0.239	1	602	630055	1
[	Co	59	24.593	ug/L	0.084	0	189	485448	0
[>	Ge	72		ug/L			454129	462540	0
[	Ni	60	25.096	ug/L	0.221	0	79	104255	0
[	Ni	62	24.900	ug/L	0.086	0	83	15613	0
[	Cu	63	25.720	ug/L	0.278	1	277	234834	1
[	Cu	65	25.681	ug/L	0.197	0	117	111630	1
[	Zn	66	75.410	ug/L	0.476	0	483	203855	0
[	Zn	67	68.621	ug/L	0.460	0	217	31951	0
[	Zn	68	73.398	ug/L	0.372	0	12918	152088	0
[	As	75	24.004	ug/L	0.214	0	816	61837	0
[	As-1	75	23.201	ug/L	0.051	0	15845	74938	0
[	Se	82	76.157	ug/L	0.736	0	-7	20380	0
[	Se	78	73.512	ug/L	0.173	0	16279	66153	0
[	Mo	98	-0.015	ug/L	0.000	2	221	95	4
	Y	89		ug/L			387865	409449	0
	Kr	83		ug/L			522	528	0
[>	In	115		ug/L			421444	446570	0
[	Ag	107	25.179	ug/L	0.164	0	348	375886	0
[	Cd	111	23.578	ug/L	0.218	0	222	87510	0
[	Cd	114	23.764	ug/L	0.405	1	48	201334	1
[	Sb	121	-0.055	ug/L	0.001	1	752	167	5
[	Sb	123	-0.054	ug/L	0.002	3	552	120	14
[	Ba	135	24.125	ug/L	0.130	0	43	63832	0
[	Ba	137	24.046	ug/L	0.210	0	68	107993	0
[>	Tb	159		ug/L			385669	409139	0
[	Tl	205	23.722	ug/L	0.207	0	244	718837	0
[	Pb	208	24.166	ug/L	0.109	0	751	992080	0
[	Bi	209		ug/L			324071	346412	0
[	Th	232	22.937	ug/L	0.250	1	2390	1116568	1
[	U	238	23.044	ug/L	0.231	1	241	1259548	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 B REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 14:31:55
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	444481	1
[	Be	9	0.013	ug/L	0.004	29	2	10	21
	C	13		mg/L			7617	8536	3
	Cl	37		mg/L			3295164	3303031	1
[>	Sc	45		ug/L			388584	446068	1
[	Na	23	4056.288	ug/L	18.264	0	72120	49044880	1
[	Mg	24	1868.726	ug/L	27.871	1	5681	15451372	0
[	Al	27	7.003	ug/L	0.009	0	9828	100725	1
[	K	39	1837.144	ug/L	3.481	0	711387	32093031	1
[	Ca	43	28231.188	ug/L	205.911	0	298	953800	2
[	V	51	0.657	ug/L	0.016	2	4518	18058	0
[	V-1	51	0.602	ug/L	0.003	0	6696	19764	2
[	Cr	52	0.067	ug/L	0.005	7	13277	16370	2
[	Cr	53	-0.062	ug/L	0.063	100	2196	2395	7
[	Fe	54	1683.050	ug/L	2.845	0	45192	2489326	1
[	Fe	57	1666.660	ug/L	16.819	1	15928	1046574	2
[	Mn	55	39.276	ug/L	0.701	1	602	1155825	2
[	Co	59	0.209	ug/L	0.002	1	189	4778	2
[>	Ge	72		ug/L			454129	443013	0
[	Ni	60	1.424	ug/L	0.082	5	79	5740	6
[	Ni	62	0.429	ug/L	0.022	5	83	337	3
[	Cu	63	67.679	ug/L	0.257	0	277	591408	0
[	Cu	65	67.575	ug/L	0.555	0	117	281153	1
[	Zn	66	1.955	ug/L	0.024	1	483	5521	1
[	Zn	67	1.742	ug/L	0.073	4	217	983	4
[	Zn	68	1.833	ug/L	0.060	3	12918	15926	1
[	As	75	0.589	ug/L	0.017	2	816	2231	1
[	As-1	75	0.140	ug/L	0.081	57	15845	15798	2
[	Se	82	0.080	ug/L	0.038	47	-7	12	75
[	Se	78	-1.628	ug/L	0.319	19	16279	14830	2
[	Mo	98	24.922	ug/L	0.217	0	221	207363	1
	Y	89		ug/L			387865	395811	0
	Kr	83		ug/L			522	504	1
[>	In	115		ug/L			421444	432541	1
[	Ag	107	0.010	ug/L	0.007	72	348	497	21
[	Cd	111	0.017	ug/L	0.008	46	222	288	10
[	Cd	114	0.060	ug/L	0.001	1	48	544	2
[	Sb	121	0.028	ug/L	0.005	18	752	1084	4
[	Sb	123	0.031	ug/L	0.003	8	552	820	1
[	Ba	135	2.960	ug/L	0.019	0	43	7625	1
[	Ba	137	2.965	ug/L	0.070	2	68	12958	1
[>	Tb	159		ug/L			385669	400148	0
[	Tl	205	0.009	ug/L	0.005	52	244	523	27
[	Pb	208	0.029	ug/L	0.011	37	751	1961	23
[	Bi	209		ug/L			324071	337875	0
[	Th	232	0.192	ug/L	0.052	26	2390	11603	21
[	U	238	0.031	ug/L	0.005	14	241	1913	13

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 C REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 14:38:33
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

RECV

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	446975	1
[	Be	9	0.023	ug/L	0.005	22	2	16	20
	C	13		mg/L			7617	9025	1
	Cl	37		mg/L			3295164	3319840	1
[>	Sc	45		ug/L			388584	472182	0
[	Na	23	17409.851	ug/L	187.366	1	72120	222536713	0
[	Mg	24	15931.665	ug/L	353.082	2	5681	139396922	1
[	Al	27	8.658	ug/L	0.174	2	9828	128980	1
[	K	39	5309.467	ug/L	65.545	1	711387	96540959	0
[	Ca	43	35410.997	ug/L	464.348	1	298	1266221	0
[	V	51	0.278	ug/L	0.024	8	4518	11257	3
[	V-1	51	0.220	ug/L	0.019	8	6696	12812	2
[	Cr	52	-0.073	ug/L	0.019	25	13277	14825	1
[	Cr	53	-0.228	ug/L	0.009	3	2196	2172	1
[	Fe	54	6331.380	ug/L	70.137	1	45192	9760567	0
[	Fe	57	6404.793	ug/L	37.270	0	15928	4201829	0
[	Mn	55	251.226	ug/L	3.179	1	602	7823083	2
[	Co	59	0.396	ug/L	0.010	2	189	9370	1
[>	Ge	72		ug/L			454129	439273	0
[	Ni	60	3.327	ug/L	0.090	2	79	13194	2
[	Ni	62	2.090	ug/L	0.045	2	83	1318	2
[	Cu	63	0.692	ug/L	0.001	0	277	6260	0
[	Cu	65	0.461	ug/L	0.002	0	117	2016	0
[	Zn	66	2.601	ug/L	0.037	1	483	7130	0
[	Zn	67	2.677	ug/L	0.091	3	217	1386	2
[	Zn	68	2.918	ug/L	0.199	6	12918	17741	1
[	As	75	0.489	ug/L	0.023	4	816	1970	2
[	As-1	75	-0.016	ug/L	0.027	167	15845	15288	0
[	Se	82	0.178	ug/L	0.099	55	-7	37	66
[	Se	78	-1.722	ug/L	0.071	4	16279	14643	0
[	Mo	98	1.726	ug/L	0.020	1	221	14441	1
	Y	89		ug/L			387865	400200	1
	Kr	83		ug/L			522	504	4
[>	In	115		ug/L			421444	420074	1
[	Ag	107	-0.007	ug/L	0.001	18	348	255	5
[	Cd	111	0.036	ug/L	0.007	19	222	347	7
[	Cd	114	0.029	ug/L	0.001	4	48	278	4
[	Sb	121	-0.030	ug/L	0.002	5	752	426	3
[	Sb	123	-0.024	ug/L	0.001	3	552	357	1
[	Ba	135	13.366	ug/L	0.234	1	43	33283	0
[	Ba	137	13.297	ug/L	0.211	1	68	56199	0
[>	Tb	159		ug/L			385669	396582	0
[	Tl	205	0.000	ug/L	0.001	288	244	261	11
[	Pb	208	0.019	ug/L	0.002	8	751	1510	4
[	Bi	209		ug/L			324071	328065	0
[	Th	232	0.101	ug/L	0.003	3	2390	7190	2
[	U	238	0.200	ug/L	0.003	1	241	10849	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 E REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 14:45:10
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

tubing disconnected

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	328	5
[	Be	9	8.280	ug/L	2.332	28	2	3	33
	C	13		mg/L			7617	6800	0
	Cl	37		mg/L			3295164	1587016	1
[>	Sc	45		ug/L			388584	2858	5
[	Na	23	99.614	ug/L	19.399	19	72120	8199	14
[	Mg	24	-0.614	ug/L	0.045	7	5681	9	20
[	Al	27	1.022	ug/L	0.175	17	9828	155	4
[	K	39	3090.686	ug/L	200.647	6	711387	341643	1
[	Ca	43	757.198	ug/L	59.113	7	298	166	11
[	V	51	23.545	ug/L	0.779	3	4518	2987	4
[	V-1	51	32.568	ug/L	0.879	2	6696	4227	2
[	Cr	52	83.109	ug/L	3.611	4	13277	9095	1
[	Cr	53	106.982	ug/L	5.497	5	2196	1424	2
[	Fe	54	65648.218	ug/L	2710.331	4	45192	608642	1
[	Fe	57	1200.678	ug/L	61.241	5	15928	4854	0
[	Mn	55	18.780	ug/L	1.138	6	602	3536	1
[	Co	59	0.111	ug/L	0.033	30	189	16	22
[>	Ge	72		ug/L			454129	228	7
[	Ni	60	2.678	ug/L	1.127	42	79	5	35
[	Ni	62	32.187	ug/L	6.471	20	83	10	25
[	Cu	63	2.624	ug/L	0.572	21	277	12	29
[	Cu	65	6.555	ug/L	0.852	13	117	14	18
[	Zn	66	23.210	ug/L	10.269	44	483	30	38
[	Zn	67	291.645	ug/L	14.959	5	217	66	8
[	Zn	68	16218.810	ug/L	930.172	6	12918	14182	1
[	As	75	3077.962	ug/L	201.154	6	816	3849	1
[	As-1	75	14783.514	ug/L	858.963	5	15845	18447	2
[	Se	82	-532.667	ug/L	272.962	51	-7	-68	46
[	Se	78	55952.759	ug/L	3263.499	5	16279	18578	2
[	Mo	98	0.645	ug/L	0.694	107	221	2	98
	Y	89		ug/L			387865	4	31
	Kr	83		ug/L			522	1660	0
[>	In	115		ug/L			421444	2	66
[	Ag	107	75.118	ug/L	48.187	64	348	5	35
[	Cd	111	95.544	ug/L	75.014	78	222	2	92
[	Cd	114	155.423	ug/L	206.823	133	48	4	80
[	Sb	121	73.383	ug/L	49.564	67	752	3	0
[	Sb	123	81.522	ug/L	17.505	21	552	4	78
[	Ba	135	847.462	ug/L	571.862	67	43	10	0
[	Ba	137	310.810	ug/L	107.918	34	68	7	44
[>	Tb	159		ug/L			385669	3	21
[	Tl	205	486.980	ug/L	108.995	21	244	122	34
[	Pb	208	306.963	ug/L	55.268	18	751	102	30
[	Bi	209		ug/L			324071	34	46
[	Th	232	13.051	ug/L	10.631	81	2390	4	56
[	U	238	16.633	ug/L	5.195	31	241	7	10

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 G REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 14:51:49
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

Dil Tubing disconnected

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	291	8
[	Be	9	9.249	ug/L	6.055	65	2	3	66
	C	13		mg/L			7617	6786	1
	Cl	37		mg/L			3295164	1482472	1
[>	Sc	45		ug/L			388584	2800	0
[	Na	23	54.357	ug/L	4.562	8	72120	4639	7
[	Mg	24	-0.669	ug/L	0.087	12	5681	6	72
[	Al	27	1.300	ug/L	0.194	14	9828	175	8
[	K	39	2926.297	ug/L	34.414	1	711387	317871	1
[	Ca	43	791.717	ug/L	61.331	7	298	170	7
[	V	51	26.734	ug/L	1.377	5	4518	3320	4
[	V-1	51	35.581	ug/L	0.992	2	6696	4525	2
[	Cr	52	88.044	ug/L	0.899	1	13277	9448	1
[	Cr	53	111.276	ug/L	1.587	1	2196	1453	1
[	Fe	54	72285.943	ug/L	972.878	1	45192	657490	1
[	Fe	57	1182.090	ug/L	4.915	0	15928	4692	0
[	Mn	55	19.756	ug/L	0.609	3	602	3652	3
[	Co	59	0.167	ug/L	0.052	30	189	24	29
[>	Ge	72		ug/L			454129	239	10
[	Ni	60	2.295	ug/L	0.478	20	79	5	25
[	Ni	62	24.595	ug/L	6.440	26	83	7	24
[	Cu	63	2.571	ug/L	0.661	25	277	12	15
[	Cu	65	7.065	ug/L	0.871	12	117	15	4
[	Zn	66	20.847	ug/L	7.002	33	483	28	22
[	Zn	67	284.401	ug/L	27.123	9	217	67	7
[	Zn	68	15560.536	ug/L	1484.783	9	12918	15167	0
[	As	75	2940.425	ug/L	275.473	9	816	3847	0
[	As-1	75	15059.834	ug/L	1445.543	9	15845	19652	0
[	Se	82	-546.522	ug/L	183.785	33	-7	-74	31
[	Se	78	56928.477	ug/L	5482.298	9	16279	19767	0
[	Mo	98	0.300	ug/L	0.307	102	221	1	95
	Y	89		ug/L			387865	4	17
	Kr	83		ug/L			522	1662	0
[>	In	115		ug/L			421444	4	18
[	Ag	107	41.611	ug/L	16.409	39	348	5	26
[	Cd	111	65.993	ug/L	65.395	99	222	1	100
[	Cd	114	66.482	ug/L	29.400	44	48	5	50
[	Sb	121	23.246	ug/L	20.897	89	752	2	86
[	Sb	123	44.421	ug/L	12.326	27	552	3	44
[	Ba	135	244.818	ug/L	175.108	71	43	5	66
[	Ba	137	151.827	ug/L	49.489	32	68	6	34
[>	Tb	159		ug/L			385669	4	56
[	Tl	205	219.096	ug/L	129.595	59	244	59	10
[	Pb	208	154.026	ug/L	54.866	35	751	61	19
[	Bi	209		ug/L			324071	20	19
[	Th	232	8.372	ug/L	2.808	33	2390	4	34
[	U	238	8.730	ug/L	5.439	62	241	4	41

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 H REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 14:58:30
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	452057	1
[	Be	9	0.021	ug/L	0.007	32	2	15	28
	C	13		mg/L			7617	10097	1
	Cl	37		mg/L			3295164	3359256	0
[>	Sc	45		ug/L			388584	479314	0
[	Na	23	18698.147	ug/L	45.156	0	72120	242624694	0
[	Mg	24	17004.635	ug/L	80.047	0	5681	151053389	0
[	Al	27	3.227	ug/L	0.064	1	9828	56405	1
[	K	39	5657.203	ug/L	76.574	1	711387	104370728	1
[	Ca	43	38056.173	ug/L	513.997	1	298	1381492	1
[	V	51	0.291	ug/L	0.014	4	4518	11691	2
[	V-1	51	0.247	ug/L	0.019	7	6696	13573	3
[	Cr	52	-0.049	ug/L	0.020	41	13277	15490	2
[	Cr	53	-0.162	ug/L	0.062	38	2196	2352	6
[	Fe	54	6751.767	ug/L	111.306	1	45192	10563088	2
[	Fe	57	6839.911	ug/L	61.547	0	15928	4553887	1
[	Mn	55	268.796	ug/L	3.095	1	602	8496213	1
[	Co	59	0.414	ug/L	0.007	1	189	9931	1
[>	Ge	72		ug/L			454129	456347	1
[	Ni	60	2.189	ug/L	0.085	3	79	9041	2
[	Ni	62	0.801	ug/L	0.039	4	83	576	3
[	Cu	63	0.534	ug/L	0.004	0	277	5082	1
[	Cu	65	0.293	ug/L	0.003	1	117	1375	2
[	Zn	66	1.789	ug/L	0.044	2	483	5245	2
[	Zn	67	1.929	ug/L	0.024	1	217	1098	2
[	Zn	68	2.159	ug/L	0.136	6	12918	17013	2
[	As	75	0.527	ug/L	0.019	3	816	2141	1
[	As-1	75	-0.026	ug/L	0.039	151	15845	15859	2
[	Se	82	0.192	ug/L	0.064	33	-7	42	39
[	Se	78	-1.863	ug/L	0.174	9	16279	15120	2
[	Mo	98	1.773	ug/L	0.030	1	221	15403	0
	Y	89		ug/L			387865	413148	1
	Kr	83		ug/L			522	529	2
[>	In	115		ug/L			421444	429419	0
[	Ag	107	-0.008	ug/L	0.002	24	348	239	12
[	Cd	111	-0.020	ug/L	0.006	28	222	295	6
[	Cd	114	0.004	ug/L	0.001	26	48	82	10
[	Sb	121	-0.030	ug/L	0.001	4	752	441	3
[	Sb	123	-0.028	ug/L	0.005	17	552	331	12
[	Ba	135	13.660	ug/L	0.304	2	43	34777	2
[	Ba	137	13.672	ug/L	0.097	0	68	59076	1
[>	Tb	159		ug/L			385669	398719	1
[	Tl	205	-0.000	ug/L	0.001	2043	244	251	8
[	Pb	208	-0.001	ug/L	0.001	84	751	740	5
[	Bi	209		ug/L			324071	328089	2
[	Th	232	0.174	ug/L	0.033	19	2390	10738	15
[	U	238	0.204	ug/L	0.003	1	241	11099	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 I REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 15:05:11
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

RRV

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	449904	0
[	Be	9	0.000	ug/L	0.002	422	2	2	50
	C	13		mg/L			7617	10383	0
	Cl	37		mg/L			3295164	3368424	0
[>	Sc	45		ug/L			388584	524860	1
[	Na	23	S	ug/L	S	S	72120	S	S
[	Mg	24	3790.118	ug/L	52.630	1	5681	36868294	0
[	Al	27	315.667	ug/L	4.613	1	9828	4756533	0
[	K	39	15948.008	ug/L	181.273	1	711387	320395739	0
[	Ca	43	40362.544	ug/L	446.465	1	298	1604226	0
[	V	51	7.054	ug/L	0.061	0	4518	168711	0
[	V-1	51	6.829	ug/L	0.061	0	6696	170103	0
[	Cr	52	0.598	ug/L	0.020	3	13277	29833	0
[	Cr	53	0.351	ug/L	0.023	6	2196	3816	0
[	Fe	54	7154.566	ug/L	83.750	1	45192	12251473	0
[	Fe	57	7141.153	ug/L	113.508	1	15928	5204692	1
[	Mn	55	235.564	ug/L	3.443	1	602	8152437	0
[	Co	59	0.294	ug/L	0.003	1	189	7783	1
[>	Ge	72		ug/L			454129	450326	0
[	Ni	60	2.571	ug/L	0.059	2	79	10470	2
[	Ni	62	1.134	ug/L	0.024	2	83	771	1
[	Cu	63	3.845	ug/L	0.038	0	277	34412	1
[	Cu	65	3.388	ug/L	0.024	0	117	14440	0
[	Zn	66	0.663	ug/L	0.042	6	483	2219	5
[	Zn	67	3.775	ug/L	0.132	3	217	1914	2
[	Zn	68	3.144	ug/L	0.163	5	12918	18604	1
[	As	75	203.863	ug/L	1.212	0	816	505252	0
[	As-1	75	203.995	ug/L	1.191	0	15845	519042	0
[	Se	82	0.189	ug/L	0.037	19	-7	41	22
[	Se	78	-1.447	ug/L	0.056	3	16279	15192	0
[	Mo	98	26.359	ug/L	0.326	1	221	222921	1
	Y	89		ug/L			387865	393370	0
	Kr	83		ug/L			522	531	0
[>	In	115		ug/L			421444	424960	2
[	Ag	107	-0.010	ug/L	0.002	17	348	204	14
[	Cd	111	0.032	ug/L	0.013	39	222	336	11
[	Cd	114	0.046	ug/L	0.002	4	48	416	4
[	Sb	121	1.117	ug/L	0.027	2	752	12914	1
[	Sb	123	1.124	ug/L	0.020	1	552	9709	1
[	Ba	135	71.242	ug/L	1.262	1	43	179255	0
[	Ba	137	71.292	ug/L	1.240	1	68	304492	0
[>	Tb	159		ug/L			385669	392741	1
[	Tl	205	-0.005	ug/L	0.000	8	244	94	13
[	Pb	208	0.019	ug/L	0.003	14	751	1520	6
[	Bi	209		ug/L			324071	319228	1
[	Th	232	0.076	ug/L	0.006	7	2390	5993	4
[	U	238	0.241	ug/L	0.003	1	241	12861	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV6
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 15:11:53
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	430091	2
[	Be	9	48.160	ug/L	0.676	1	2	28262	0
	C	13		mg/L			7617	4924	1
	Cl	37		mg/L			3295164	3609434	0
[>	Sc	45		ug/L			388584	396362	0
[	Na	23	5177.087	ug/L	8.902	0	72120	55604468	0
[	Mg	24	5230.151	ug/L	33.673	0	5681	38422393	0
[	Al	27	5062.011	ug/L	5.170	0	9828	57456343	0
[	K	39	5008.107	ug/L	42.300	0	711387	76484203	0
[	Ca	43	5038.140	ug/L	43.470	0	298	151500	1
[	V	51	50.421	ug/L	0.116	0	4518	882357	0
[	V-1	51	50.384	ug/L	0.133	0	6696	904274	0
[	Cr	52	50.540	ug/L	0.112	0	13277	773491	0
[	Cr	53	50.415	ug/L	0.184	0	2196	94413	0
[	Fe	54	5055.963	ug/L	43.079	0	45192	6552252	0
[	Fe	57	5057.393	ug/L	12.491	0	15928	2788577	0
[	Mn	55	49.124	ug/L	0.485	0	602	1284459	0
[	Co	59	50.405	ug/L	0.198	0	189	976191	0
[>	Ge	72		ug/L			454129	459990	0
[	Ni	60	50.920	ug/L	0.237	0	79	210293	0
[	Ni	62	50.656	ug/L	0.378	0	83	31500	0
[	Cu	63	50.495	ug/L	0.601	1	277	458234	1
[	Cu	65	50.743	ug/L	0.484	0	117	219233	0
[	Zn	66	50.647	ug/L	0.322	0	483	136322	0
[	Zn	67	51.008	ug/L	0.339	0	217	23676	0
[	Zn	68	49.640	ug/L	0.195	0	12918	106529	0
[	As	75	50.808	ug/L	0.561	1	816	129249	1
[	As-1	75	50.335	ug/L	0.475	0	15845	142911	1
[	Se	82	52.332	ug/L	0.216	0	-7	13925	0
[	Se	78	50.570	ug/L	0.189	0	16279	50403	0
[	Mo	98	50.421	ug/L	0.266	0	221	435354	0
	Y	89		ug/L			387865	392450	1
	Kr	83		ug/L			522	561	1
[>	In	115		ug/L			421444	427701	0
[	Ag	107	51.709	ug/L	0.221	0	348	738928	0
[	Cd	111	51.403	ug/L	0.160	0	222	182462	1
[	Cd	114	51.703	ug/L	0.431	0	48	419467	0
[	Sb	121	50.166	ug/L	0.535	1	752	550387	0
[	Sb	123	49.973	ug/L	0.408	0	552	410081	0
[	Ba	135	50.689	ug/L	0.181	0	43	128404	0
[	Ba	137	50.547	ug/L	0.179	0	68	217357	1
[>	Tb	159		ug/L			385669	387635	1
[	Tl	205	48.826	ug/L	0.418	0	244	1401450	0
[	Pb	208	50.126	ug/L	0.422	0	751	1948731	0
[	Bi	209		ug/L			324071	322349	0
[	Th	232	52.110	ug/L	0.314	0	2390	2400244	0
[	U	238	52.045	ug/L	0.370	0	241	2694886	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB6
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 15:18:53
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	422750	1
[	Be	9	0.004	ug/L	0.004	102	2	4	56
	C	13		mg/L			7617	7889	0
	Cl	37		mg/L			3295164	3698764	0
[>	Sc	45		ug/L			388584	398424	0
|	Na	23	-0.993	ug/L	0.906	91	72120	63250	15
|	Mg	24	0.640	ug/L	0.244	38	5681	10548	17
|	Al	27	0.559	ug/L	0.234	41	9828	16455	16
|	K	39	5.004	ug/L	0.511	10	711387	805490	0
|	Ca	43	9.599	ug/L	0.563	5	298	595	2
|	V	51	-0.012	ug/L	0.012	102	4518	4426	4
|	V-1	51	-0.076	ug/L	0.008	10	6696	5504	2
|	Cr	52	0.028	ug/L	0.010	36	13277	14029	1
|	Cr	53	-0.175	ug/L	0.018	10	2196	1930	1
|	Fe	54	2.556	ug/L	0.362	14	45192	49642	0
|	Fe	57	1.584	ug/L	0.685	43	15928	17205	2
|	Mn	55	0.025	ug/L	0.004	15	602	1277	8
[	Co	59	0.002	ug/L	0.002	111	189	233	18
[>	Ge	72		ug/L			454129	462184	0
|	Ni	60	0.009	ug/L	0.004	43	79	119	14
|	Ni	62	0.037	ug/L	0.019	51	83	108	11
|	Cu	63	0.021	ug/L	0.004	20	277	474	8
|	Cu	65	0.030	ug/L	0.000	1	117	250	0
|	Zn	66	0.354	ug/L	0.016	4	483	1446	3
|	Zn	67	0.242	ug/L	0.036	14	217	332	4
|	Zn	68	-0.052	ug/L	0.088	171	12918	13048	0
|	As	75	0.013	ug/L	0.014	108	816	863	4
|	As-1	75	-0.217	ug/L	0.044	20	15845	15577	0
|	Se	82	0.001	ug/L	0.020	1416	-7	-7	69
|	Se	78	-0.827	ug/L	0.186	22	16279	16009	0
[	Mo	98	0.006	ug/L	0.008	147	221	273	26
	Y	89		ug/L			387865	400097	0
	Kr	83		ug/L			522	539	1
[>	In	115		ug/L			421444	433730	0
|	Ag	107	0.008	ug/L	0.007	92	348	472	22
|	Cd	111	0.026	ug/L	0.003	9	222	322	3
|	Cd	114	0.002	ug/L	0.002	121	48	63	26
|	Sb	121	0.058	ug/L	0.031	53	752	1414	24
|	Sb	123	0.052	ug/L	0.027	51	552	998	22
|	Ba	135	0.013	ug/L	0.004	33	43	78	14
[	Ba	137	0.019	ug/L	0.004	19	68	153	10
[>	Tb	159		ug/L			385669	386124	0
|	Tl	205	0.008	ug/L	0.005	68	244	462	32
|	Pb	208	0.020	ug/L	0.002	11	751	1527	6
|	Bi	209		ug/L			324071	325956	0
|	Th	232	0.008	ug/L	0.009	108	2390	2754	14
[	U	238	0.005	ug/L	0.003	72	241	477	36

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 F-L REN
Sample Dil Factor: 10
Comments:
Sample Date/Time: Wednesday, May 16, 2012 15:37:30
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	438326	0
[	Be	9	0.002	ug/L	0.002	122	2	3	43
	C	13		mg/L			7617	5561	0
	Cl	37		mg/L			3295164	3552020	2
[>	Sc	45		ug/L			388584	412547	1
[	Na	23	2162.207	ug/L	22.068	1	72120	24217601	2
[	Mg	24	330.080	ug/L	1.052	0	5681	2529556	1
[	Al	27	1.415	ug/L	0.008	0	9828	27152	1
[	K	39	306.487	ug/L	1.701	0	711387	5581154	1
[	Ca	43	7395.264	ug/L	78.542	1	298	231318	1
[	V	51	0.513	ug/L	0.019	3	4518	14088	2
[	V-1	51	0.429	ug/L	0.011	2	6696	15055	2
[	Cr	52	0.048	ug/L	0.032	66	13277	14848	4
[	Cr	53	-0.182	ug/L	0.049	26	2196	1987	5
[	Fe	54	1.492	ug/L	0.438	29	45192	49981	2
[	Fe	57	18.518	ug/L	1.836	9	15928	27477	4
[	Mn	55	0.169	ug/L	0.004	2	602	5231	2
[	Co	59	0.039	ug/L	0.001	3	189	986	4
[>	Ge	72		ug/L			454129	470229	1
[	Ni	60	0.388	ug/L	0.015	3	79	1720	4
[	Ni	62	0.177	ug/L	0.017	9	83	198	6
[	Cu	63	0.725	ug/L	0.011	1	277	7006	2
[	Cu	65	0.706	ug/L	0.009	1	117	3237	1
[	Zn	66	0.286	ug/L	0.020	6	483	1283	5
[	Zn	67	0.250	ug/L	0.007	2	217	342	1
[	Zn	68	-0.493	ug/L	0.066	13	12918	12428	2
[	As	75	0.399	ug/L	0.020	5	816	1877	3
[	As-1	75	-0.110	ug/L	0.077	70	15845	16125	2
[	Se	82	-0.023	ug/L	0.095	418	-7	-14	180
[	Se	78	-1.966	ug/L	0.266	13	16279	15510	2
[	Mo	98	1.080	ug/L	0.010	0	221	9753	0
	Y	89		ug/L			387865	405453	1
	Kr	83		ug/L			522	532	1
[>	In	115		ug/L			421444	450935	1
[	Ag	107	-0.017	ug/L	0.001	4	348	121	7
[	Cd	111	0.012	ug/L	0.006	55	222	281	7
[	Cd	114	0.000	ug/L	0.001	338	48	53	13
[	Sb	121	0.282	ug/L	0.006	2	752	4061	1
[	Sb	123	0.278	ug/L	0.011	3	552	2990	1
[	Ba	135	1.162	ug/L	0.022	1	43	3148	0
[	Ba	137	1.186	ug/L	0.038	3	68	5446	2
[>	Tb	159		ug/L			385669	405250	0
[	Tl	205	-0.004	ug/L	0.001	13	244	123	13
[	Pb	208	-0.006	ug/L	0.000	3	751	545	2
[	Bi	209		ug/L			324071	337495	0
[	Th	232	-0.033	ug/L	0.000	0	2390	933	0
[	U	238	0.040	ug/L	0.001	1	241	2392	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 ASPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 15:44:11
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	436825	0
[	Be	9	22.170	ug/L	0.230	1	2	13217	0
	C	13		mg/L			7617	8056	2
	Cl	37		mg/L			3295164	3333300	0
[>	Sc	45		ug/L			388584	411403	1
|	Na	23	10542.731	ug/L	76.069	0	72120	117444289	0
|	Mg	24	1567.038	ug/L	18.086	1	5681	11952126	0
|	Al	27	18.313	ug/L	0.304	1	9828	226093	1
|	K	39	1451.606	ug/L	5.016	0	711387	23546109	1
|	Ca	43	34983.717	ug/L	84.025	0	298	1090004	1
|	V	51	25.613	ug/L	0.114	0	4518	467595	1
|	V-1	51	25.425	ug/L	0.103	0	6696	477160	1
|	Cr	52	23.028	ug/L	0.093	0	13277	373456	1
|	Cr	53	22.624	ug/L	0.055	0	2196	45259	1
|	Fe	54	22.742	ug/L	0.706	3	45192	78217	1
|	Fe	57	98.667	ug/L	6.999	7	15928	72987	5
|	Mn	55	22.848	ug/L	0.225	0	602	620395	0
[	Co	59	22.964	ug/L	0.249	1	189	461727	1
[>	Ge	72		ug/L			454129	435235	1
|	Ni	60	27.639	ug/L	0.368	1	79	108027	0
|	Ni	62	26.597	ug/L	0.343	1	83	15685	0
|	Cu	63	28.105	ug/L	0.179	0	277	241420	0
|	Cu	65	28.023	ug/L	0.284	1	117	114601	1
|	Zn	66	74.985	ug/L	0.309	0	483	190743	1
|	Zn	67	68.413	ug/L	0.845	1	217	29971	0
|	Zn	68	73.081	ug/L	0.250	0	12918	142543	1
|	As	75	26.741	ug/L	0.252	0	816	64729	1
|	As-1	75	25.765	ug/L	0.110	0	15845	76626	1
|	Se	82	76.649	ug/L	0.543	0	-7	19300	1
|	Se	78	73.430	ug/L	0.228	0	16279	62197	1
[	Mo	98	5.925	ug/L	0.078	1	221	48582	0
	Y	89		ug/L			387865	393612	1
	Kr	83		ug/L			522	522	2
[>	In	115		ug/L			421444	424381	1
|	Ag	107	23.907	ug/L	0.325	1	348	339150	0
|	Cd	111	23.764	ug/L	0.369	1	222	83810	1
|	Cd	114	23.772	ug/L	0.093	0	48	191399	1
|	Sb	121	1.654	ug/L	0.015	0	752	18742	0
|	Sb	123	1.648	ug/L	0.021	1	552	13952	0
|	Ba	135	30.668	ug/L	0.169	0	43	77099	1
[	Ba	137	30.648	ug/L	0.380	1	68	130777	0
[>	Tb	159		ug/L			385669	391194	1
|	Tl	205	24.084	ug/L	0.207	0	244	697783	1
|	Pb	208	24.412	ug/L	0.362	1	751	958163	1
|	Bi	209		ug/L			324071	324287	0
|	Th	232	23.634	ug/L	0.143	0	2390	1099953	0
[	U	238	24.124	ug/L	0.381	1	241	1260592	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~US82 APOST REN~~ 222222 #517-12
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 15:50:51
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	433952	1
[	Be	9	23.754	ug/L	0.264	1	2	14068	1
	C	13		mg/L			7617	8120	1
	Cl	37		mg/L			3295164	3278138	0
[>	Sc	45		ug/L			388584	401804	0
|	Na	23	10306.862	ug/L	45.542	0	72120	112148454	1
|	Mg	24	1529.423	ug/L	15.017	0	5681	11393633	0
|	Al	27	19.383	ug/L	0.833	4	9828	233192	4
|	K	39	1405.752	ug/L	6.003	0	711387	22292557	0
|	Ca	43	34016.486	ug/L	116.029	0	298	1035163	0
|	V	51	26.783	ug/L	0.187	0	4518	477334	1
|	V-1	51	26.633	ug/L	0.160	0	6696	487836	1
|	Cr	52	24.651	ug/L	0.150	0	13277	389485	0
|	Cr	53	24.334	ug/L	0.134	0	2196	47370	0
|	Fe	54	21.537	ug/L	0.036	0	45192	74825	0
|	Fe	57	92.127	ug/L	5.812	6	15928	67664	4
|	Mn	55	24.190	ug/L	0.311	1	602	641488	0
[	Co	59	24.312	ug/L	0.339	1	189	477389	0
[>	Ge	72		ug/L			454129	424137	0
|	Ni	60	29.411	ug/L	0.422	1	79	112026	1
|	Ni	62	27.992	ug/L	0.269	0	83	16084	0
|	Cu	63	29.815	ug/L	0.096	0	277	249582	0
|	Cu	65	29.373	ug/L	0.009	0	117	117062	0
|	Zn	66	79.538	ug/L	0.847	1	483	197149	1
|	Zn	67	73.058	ug/L	0.481	0	217	31180	0
|	Zn	68	77.431	ug/L	0.288	0	12918	146464	0
|	As	75	28.619	ug/L	0.203	0	816	67461	1
|	As-1	75	27.269	ug/L	0.207	0	15845	78170	1
|	Se	82	83.122	ug/L	0.119	0	-7	20398	0
|	Se	78	78.512	ug/L	0.098	0	16279	63753	0
[	Mo	98	5.647	ug/L	0.155	2	221	45136	2
	Y	89		ug/L			387865	382426	0
	Kr	83		ug/L			522	503	0
[>	In	115		ug/L			421444	416185	1
|	Ag	107	25.119	ug/L	0.383	1	348	349435	0
|	Cd	111	25.118	ug/L	0.192	0	222	86865	0
|	Cd	114	25.102	ug/L	0.411	1	48	198173	0
|	Sb	121	1.627	ug/L	0.008	0	752	18091	0
|	Sb	123	1.617	ug/L	0.030	1	552	13434	1
|	Ba	135	31.975	ug/L	0.390	1	43	78826	0
[	Ba	137	31.816	ug/L	0.432	1	68	133140	1
[>	Tb	159		ug/L			385669	386202	1
|	Tl	205	25.707	ug/L	0.393	1	244	735181	0
|	Pb	208	25.872	ug/L	0.419	1	751	1002325	0
|	Bi	209		ug/L			324071	319212	0
|	Th	232	24.833	ug/L	0.497	2	2390	1140653	0
[	U	238	25.605	ug/L	0.536	2	241	1320691	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 E REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 15:57:32
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

RLS

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	321350	0
[	Be	9	0.014	ug/L	0.006	44	2	7	36
	C	13		mg/L			7617	9658	0
	Cl	37		mg/L			3295164	3368744	0
[>	Sc	45		ug/L			388584	419576	0
[	Na	23	29508.763	ug/L	288.863	0	72120	335129141	0
[	Mg	24	4629.514	ug/L	14.942	0	5681	36002818	0
[	Al	27	627.979	ug/L	10.507	1	9828	7554602	1
[	K	39	18268.958	ug/L	183.154	1	711387	293311474	0
[	Ca	43	48684.317	ug/L	241.818	0	298	1546909	0
[	V	51	14.562	ug/L	0.128	0	4518	273231	0
[	V-1	51	14.221	ug/L	0.134	0	6696	275372	0
[	Cr	52	2.428	ug/L	0.047	1	13277	52979	1
[	Cr	53	2.222	ug/L	0.046	2	2196	6671	0
[	Fe	54	10831.886	ug/L	95.559	0	45192	14804368	1
[	Fe	57	10952.872	ug/L	197.102	1	15928	6372947	1
[	Mn	55	299.207	ug/L	5.305	1	602	8278695	1
[	Co	59	0.395	ug/L	0.005	1	189	8309	1
[>	Ge	72		ug/L			454129	329912	1
[	Ni	60	6.964	ug/L	0.117	1	79	20676	2
[	Ni	62	5.211	ug/L	0.114	2	83	2378	2
[	Cu	63	75.086	ug/L	0.549	0	277	488576	0
[	Cu	65	74.502	ug/L	1.188	1	117	230790	0
[	Zn	66	5.380	ug/L	0.089	1	483	10698	1
[	Zn	67	10.642	ug/L	0.239	2	217	3668	3
[	Zn	68	10.962	ug/L	0.347	3	12918	24181	1
[	As	75	319.262	ug/L	5.540	1	816	579283	1
[	As-1	75	321.397	ug/L	5.666	1	15845	592406	1
[	Se	82	0.263	ug/L	0.058	22	-7	44	24
[	Se	78	5.513	ug/L	0.420	7	16279	14476	0
[	Mo	98	33.599	ug/L	0.696	2	221	208090	1
	Y	89		ug/L			387865	291951	1
	Kr	83		ug/L			522	508	0
[>	In	115		ug/L			421444	308528	0
[	Ag	107	0.085	ug/L	0.008	9	348	1127	7
[	Cd	111	0.139	ug/L	0.003	1	222	519	1
[	Cd	114	0.137	ug/L	0.005	3	48	837	3
[	Sb	121	1.692	ug/L	0.021	1	752	13923	0
[	Sb	123	1.713	ug/L	0.002	0	552	10528	0
[	Ba	135	113.685	ug/L	1.001	0	43	207700	0
[	Ba	137	112.967	ug/L	0.598	0	68	350341	0
[>	Tb	159		ug/L			385669	286982	0
[	Tl	205	0.018	ug/L	0.002	12	244	554	8
[	Pb	208	6.370	ug/L	0.096	1	751	183820	0
[	Bi	209		ug/L			324071	238679	0
[	Th	232	0.311	ug/L	0.052	16	2390	12365	14
[	U	238	0.377	ug/L	0.006	1	241	14614	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 G REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 16:04:10
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	346636	1
[	Be	9	0.010	ug/L	0.005	56	2	6	40
	C	13		mg/L			7617	8944	1
	Cl	37		mg/L			3295164	3298944	1
[>	Sc	45		ug/L			388584	351853	0
[	Na	23	5145.793	ug/L	91.133	1	72120	49065061	2
[	Mg	24	2337.908	ug/L	23.344	0	5681	15249651	1
[	Al	27	2.269	ug/L	0.067	2	9828	31755	2
[	K	39	2318.269	ug/L	23.481	1	711387	31776148	1
[	Ca	43	35285.424	ug/L	103.253	0	298	940281	0
[	V	51	0.874	ug/L	0.018	2	4518	17603	1
[	V-1	51	0.786	ug/L	0.017	2	6696	18496	1
[	Cr	52	0.273	ug/L	0.024	8	13277	15661	2
[	Cr	53	0.041	ug/L	0.020	49	2196	2055	1
[	Fe	54	2105.756	ug/L	26.819	1	45192	2446521	1
[	Fe	57	2087.129	ug/L	26.729	1	15928	1030055	1
[	Mn	55	49.117	ug/L	1.146	2	602	1140138	2
[	Co	59	0.241	ug/L	0.001	0	189	4321	0
[>	Ge	72		ug/L			454129	339794	1
[	Ni	60	1.701	ug/L	0.033	1	79	5247	2
[	Ni	62	0.557	ug/L	0.011	1	83	317	2
[	Cu	63	2.700	ug/L	0.021	0	277	18293	1
[	Cu	65	2.638	ug/L	0.018	0	117	8502	1
[	Zn	66	2.294	ug/L	0.040	1	483	4907	1
[	Zn	67	2.156	ug/L	0.125	5	217	895	4
[	Zn	68	3.690	ug/L	0.183	4	12918	14796	1
[	As	75	0.868	ug/L	0.044	5	816	2232	4
[	As-1	75	1.703	ug/L	0.124	7	15845	15028	2
[	Se	82	0.093	ug/L	0.147	157	-7	12	228
[	Se	78	3.814	ug/L	0.340	8	16279	14071	2
[	Mo	98	30.587	ug/L	0.083	0	221	195155	1
	Y	89		ug/L			387865	296316	1
	Kr	83		ug/L			522	508	3
[>	In	115		ug/L			421444	321338	1
[	Ag	107	-0.008	ug/L	0.001	12	348	180	6
[	Cd	111	0.025	ug/L	0.008	30	222	235	9
[	Cd	114	0.057	ug/L	0.003	4	48	386	5
[	Sb	121	0.046	ug/L	0.002	5	752	949	2
[	Sb	123	0.048	ug/L	0.002	5	552	718	3
[	Ba	135	3.784	ug/L	0.034	0	43	7233	1
[	Ba	137	3.797	ug/L	0.042	1	68	12316	1
[>	Tb	159		ug/L			385669	298249	1
[	Tl	205	-0.003	ug/L	0.001	22	244	120	14
[	Pb	208	0.002	ug/L	0.002	101	751	646	10
[	Bi	209		ug/L			324071	249629	0
[	Th	232	0.054	ug/L	0.008	15	2390	3751	8
[	U	238	0.031	ug/L	0.001	2	241	1441	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 K REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 16:10:49
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	434759	0
[	Be	9	0.014	ug/L	0.005	37	2	10	30
	C	13		mg/L			7617	9728	2
	Cl	37		mg/L			3295164	3427086	0
[>	Sc	45		ug/L			388584	463585	1
[	Na	23	17713.082	ug/L	143.501	0	72120	222296789	0
[	Mg	24	16193.071	ug/L	178.846	1	5681	139112124	0
[	Al	27	8.918	ug/L	0.197	2	9828	130080	1
[	K	39	5429.137	ug/L	66.471	1	711387	96900428	0
[	Ca	43	36195.095	ug/L	289.266	0	298	1270841	1
[	V	51	0.274	ug/L	0.011	3	4518	10961	0
[	V-1	51	0.206	ug/L	0.010	4	6696	12281	0
[	Cr	52	-0.062	ug/L	0.007	11	13277	14751	0
[	Cr	53	-0.249	ug/L	0.004	1	2196	2089	0
[	Fe	54	6368.111	ug/L	22.266	0	45192	9638522	0
[	Fe	57	6378.351	ug/L	115.466	1	15928	4107915	0
[	Mn	55	252.997	ug/L	3.336	1	602	7733664	0
[	Co	59	0.405	ug/L	0.003	0	189	9404	1
[>	Ge	72		ug/L			454129	432453	0
[	Ni	60	2.276	ug/L	0.019	0	79	8909	0
[	Ni	62	1.071	ug/L	0.070	6	83	704	5
[	Cu	63	0.748	ug/L	0.010	1	277	6641	1
[	Cu	65	0.511	ug/L	0.021	4	117	2187	3
[	Zn	66	2.977	ug/L	0.035	1	483	7965	1
[	Zn	67	2.952	ug/L	0.095	3	217	1483	2
[	Zn	68	3.036	ug/L	0.169	5	12918	17673	1
[	As	75	0.514	ug/L	0.012	2	816	2000	1
[	As-1	75	-0.152	ug/L	0.035	23	15845	14728	0
[	Se	82	0.121	ug/L	0.027	21	-7	22	29
[	Se	78	-2.290	ug/L	0.120	5	16279	14058	0
[	Mo	98	1.749	ug/L	0.017	0	221	14397	0
	Y	89		ug/L			387865	389065	0
	Kr	83		ug/L			522	519	1
[>	In	115		ug/L			421444	412213	1
[	Ag	107	-0.014	ug/L	0.001	4	348	154	6
[	Cd	111	0.057	ug/L	0.007	12	222	413	4
[	Cd	114	0.039	ug/L	0.001	1	48	352	2
[	Sb	121	-0.029	ug/L	0.001	2	752	431	2
[	Sb	123	-0.031	ug/L	0.000	0	552	296	0
[	Ba	135	13.391	ug/L	0.194	1	43	32719	0
[	Ba	137	13.327	ug/L	0.240	1	68	55268	0
[>	Tb	159		ug/L			385669	377787	0
[	Tl	205	-0.001	ug/L	0.000	24	244	205	3
[	Pb	208	0.011	ug/L	0.001	8	751	1138	2
[	Bi	209		ug/L			324071	303953	0
[	Th	232	0.031	ug/L	0.003	9	2390	3711	3
[	U	238	0.198	ug/L	0.003	1	241	10213	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 L REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 16, 2012 16:17:27
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	437468	0
[	Be	9	0.018	ug/L	0.004	24	2	12	20
	C	13		mg/L			7617	9660	0
	Cl	37		mg/L			3295164	3411800	0
[>	Sc	45		ug/L			388584	464365	0
[	Na	23	18525.249	ug/L	123.686	0	72120	232879937	0
[	Mg	24	16995.342	ug/L	151.900	0	5681	146257849	0
[	Al	27	3.143	ug/L	0.060	1	9828	53535	1
[	K	39	5590.677	ug/L	55.821	0	711387	99929336	0
[	Ca	43	37962.984	ug/L	537.259	1	298	1335017	0
[	V	51	0.284	ug/L	0.008	2	4518	11190	1
[	V-1	51	0.211	ug/L	0.005	2	6696	12411	0
[	Cr	52	-0.063	ug/L	0.013	20	13277	14763	1
[	Cr	53	-0.264	ug/L	0.008	3	2196	2058	0
[	Fe	54	6583.323	ug/L	89.165	1	45192	9978875	0
[	Fe	57	6687.947	ug/L	84.013	1	15928	4314020	0
[	Mn	55	263.670	ug/L	3.543	1	602	8073823	0
[	Co	59	0.415	ug/L	0.007	1	189	9641	1
[>	Ge	72		ug/L			454129	438646	1
[	Ni	60	2.137	ug/L	0.027	1	79	8489	2
[	Ni	62	0.783	ug/L	0.022	2	83	544	2
[	Cu	63	0.524	ug/L	0.007	1	277	4801	0
[	Cu	65	0.284	ug/L	0.003	0	117	1282	1
[	Zn	66	1.791	ug/L	0.011	0	483	5047	1
[	Zn	67	1.882	ug/L	0.087	4	217	1035	2
[	Zn	68	2.048	ug/L	0.117	5	12918	16156	2
[	As	75	0.508	ug/L	0.020	3	816	2012	1
[	As-1	75	-0.106	ug/L	0.035	33	15845	15051	0
[	Se	82	0.107	ug/L	0.082	76	-7	19	106
[	Se	78	-2.177	ug/L	0.089	4	16279	14331	0
[	Mo	98	1.787	ug/L	0.016	0	221	14921	1
	Y	89		ug/L			387865	390809	0
	Kr	83		ug/L			522	508	1
[>	In	115		ug/L			421444	408128	0
[	Ag	107	-0.015	ug/L	0.001	4	348	126	6
[	Cd	111	0.011	ug/L	0.010	84	222	253	12
[	Cd	114	0.005	ug/L	0.000	3	48	83	1
[	Sb	121	-0.030	ug/L	0.001	4	752	410	3
[	Sb	123	-0.030	ug/L	0.005	16	552	297	12
[	Ba	135	13.850	ug/L	0.228	1	43	33511	1
[	Ba	137	13.844	ug/L	0.095	0	68	56851	0
[>	Tb	159		ug/L			385669	379992	0
[	Tl	205	-0.001	ug/L	0.000	17	244	210	2
[	Pb	208	-0.002	ug/L	0.001	27	751	669	3
[	Bi	209		ug/L			324071	309101	1
[	Th	232	0.015	ug/L	0.001	8	2390	3051	2
[	U	238	0.202	ug/L	0.005	2	241	10474	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US34 A SWN
Sample Dil Factor: 500
Comments:
Sample Date/Time: Wednesday, May 16, 2012 16:24:05
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	445101	1
[	Be	9	6.686	ug/L	0.085	1	2	4062	0
	C	13		mg/L			7617	6108	0
	Cl	37		mg/L			3295164	3595556	0
[>	Sc	45		ug/L			388584	402952	0
[	Na	23	28.138	ug/L	1.062	3	72120	381597	2
[	Mg	24	76.494	ug/L	1.656	2	5681	577083	1
[	Al	27	428.025	ug/L	1.222	0	9828	4948398	0
[	K	39	157.940	ug/L	1.188	0	711387	3166605	0
[	Ca	43	145.758	ug/L	3.419	2	298	4756	1
[	V	51	11.023	ug/L	0.069	0	4518	199764	0
[	V-1	51	10.884	ug/L	0.052	0	6696	204032	0
[	Cr	52	9.213	ug/L	0.072	0	13277	154600	0
[	Cr	53	8.908	ug/L	0.018	0	2196	18834	0
[	Fe	54	196.153	ug/L	4.361	2	45192	303473	1
[	Fe	57	194.262	ug/L	3.444	1	15928	124773	1
[	Mn	55	60.429	ug/L	0.525	0	602	1606211	0
[	Co	59	7.611	ug/L	0.012	0	189	150018	0
[>	Ge	72		ug/L			454129	461593	0
[	Ni	60	17.991	ug/L	0.153	0	79	74611	0
[	Ni	62	17.843	ug/L	0.097	0	83	11189	0
[	Cu	63	11.689	ug/L	0.119	1	277	106662	0
[	Cu	65	11.603	ug/L	0.023	0	117	50398	0
[	Zn	66	37.911	ug/L	0.455	1	483	102522	1
[	Zn	67	35.203	ug/L	0.375	1	217	16465	1
[	Zn	68	37.107	ug/L	0.255	0	12918	83226	0
[	As	75	4.529	ug/L	0.044	0	816	12317	0
[	As-1	75	3.837	ug/L	0.074	1	15845	25811	0
[	Se	82	7.403	ug/L	0.363	4	-7	1969	4
[	Se	78	4.916	ug/L	0.213	4	16279	19855	0
[	Mo	98	1.066	ug/L	0.034	3	221	9452	2
	Y	89		ug/L			387865	404253	0
	Kr	83		ug/L			522	555	5
[>	In	115		ug/L			421444	435228	0
[	Ag	107	1.406	ug/L	0.002	0	348	20794	0
[	Cd	111	3.906	ug/L	0.016	0	222	14322	0
[	Cd	114	3.821	ug/L	0.043	1	48	31588	1
[	Sb	121	0.023	ug/L	0.003	11	752	1036	2
[	Sb	123	0.028	ug/L	0.002	7	552	807	2
[	Ba	135	34.337	ug/L	0.334	0	43	88526	0
[	Ba	137	33.856	ug/L	0.250	0	68	148168	0
[>	Tb	159		ug/L			385669	389215	0
[	Tl	205	2.252	ug/L	0.034	1	244	65158	1
[	Pb	208	3.186	ug/L	0.010	0	751	125070	0
[	Bi	209		ug/L			324071	327392	0
[	Th	232	0.109	ug/L	0.005	4	2390	7434	2
[	U	238	0.056	ug/L	0.000	0	241	3141	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV7
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 16:30:44
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	411658	1
[	Be	9	49.856	ug/L	0.928	1	2	28004	1
	C	13		mg/L			7617	4782	2
	Cl	37		mg/L			3295164	3732148	0
[>	Sc	45		ug/L			388584	388703	1
[	Na	23	5201.740	ug/L	46.112	0	72120	54784687	0
[	Mg	24	5266.860	ug/L	73.349	1	5681	37940261	0
[	Al	27	5103.809	ug/L	71.409	1	9828	56808422	1
[	K	39	5071.555	ug/L	63.635	1	711387	75940634	0
[	Ca	43	5019.158	ug/L	26.382	0	298	148008	1
[	V	51	50.072	ug/L	0.026	0	4518	859348	1
[	V-1	51	49.976	ug/L	0.166	0	6696	879666	1
[	Cr	52	50.109	ug/L	0.189	0	13277	752218	1
[	Cr	53	49.807	ug/L	0.343	0	2196	91498	1
[	Fe	54	5007.552	ug/L	17.135	0	45192	6364836	1
[	Fe	57	5019.853	ug/L	32.163	0	15928	2714580	1
[	Mn	55	48.129	ug/L	0.294	0	602	1234087	0
[	Co	59	49.683	ug/L	0.556	1	189	943516	0
[>	Ge	72		ug/L			454129	450068	0
[	Ni	60	50.673	ug/L	0.418	0	79	204763	0
[	Ni	62	50.433	ug/L	0.689	1	83	30687	1
[	Cu	63	50.402	ug/L	0.214	0	277	447523	0
[	Cu	65	50.380	ug/L	0.545	1	117	212974	1
[	Zn	66	50.428	ug/L	0.606	1	483	132807	1
[	Zn	67	51.327	ug/L	0.548	1	217	23309	1
[	Zn	68	50.186	ug/L	0.308	0	12918	105237	0
[	As	75	51.056	ug/L	0.383	0	816	127072	0
[	As-1	75	50.524	ug/L	0.411	0	15845	140293	0
[	Se	82	51.554	ug/L	1.039	2	-7	13422	2
[	Se	78	49.503	ug/L	1.333	2	16279	48617	1
[	Mo	98	50.053	ug/L	0.702	1	221	422859	1
	Y	89		ug/L			387865	379934	1
	Kr	83		ug/L			522	534	2
[>	In	115		ug/L			421444	413079	1
[	Ag	107	51.869	ug/L	0.633	1	348	715932	2
[	Cd	111	50.499	ug/L	0.220	0	222	173134	2
[	Cd	114	50.907	ug/L	0.334	0	48	398879	1
[	Sb	121	50.434	ug/L	0.986	1	752	534352	1
[	Sb	123	50.503	ug/L	0.977	1	552	400211	1
[	Ba	135	50.323	ug/L	0.339	0	43	123110	0
[	Ba	137	49.804	ug/L	0.600	1	68	206816	1
[>	Tb	159		ug/L			385669	366305	2
[	Tl	205	48.392	ug/L	0.387	0	244	1312468	2
[	Pb	208	49.338	ug/L	0.032	0	751	1812664	2
[	Bi	209		ug/L			324071	298988	2
[	Th	232	49.371	ug/L	2.511	5	2390	2151019	7
[	U	238	51.525	ug/L	1.162	2	241	2520481	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB7
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 16:37:44
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	404721	0
[	Be	9	0.005	ug/L	0.004	82	2	5	50
	C	13		mg/L			7617	7586	2
	Cl	37		mg/L			3295164	3786899	0
[>	Sc	45		ug/L			388584	393718	0
[	Na	23	0.693	ug/L	2.601	375	72120	80506	34
[	Mg	24	0.599	ug/L	0.250	41	5681	10128	18
[	Al	27	0.656	ug/L	0.293	44	9828	17348	19
[	K	39	6.701	ug/L	0.654	9	711387	821432	0
[	Ca	43	9.083	ug/L	0.790	8	298	573	3
[	V	51	-0.005	ug/L	0.006	118	4518	4484	2
[	V-1	51	-0.072	ug/L	0.011	14	6696	5509	3
[	Cr	52	0.009	ug/L	0.023	248	13277	13586	1
[	Cr	53	-0.199	ug/L	0.026	13	2196	1863	1
[	Fe	54	1.488	ug/L	0.641	43	45192	47686	0
[	Fe	57	-0.071	ug/L	0.386	545	15928	16099	0
[	Mn	55	0.023	ug/L	0.002	9	602	1199	4
[	Co	59	0.002	ug/L	0.002	96	189	222	13
[>	Ge	72		ug/L			454129	456929	0
[	Ni	60	0.013	ug/L	0.004	31	79	133	13
[	Ni	62	0.030	ug/L	0.030	101	83	102	18
[	Cu	63	0.024	ug/L	0.004	17	277	499	7
[	Cu	65	0.030	ug/L	0.006	19	117	246	9
[	Zn	66	0.385	ug/L	0.022	5	483	1511	3
[	Zn	67	0.274	ug/L	0.054	19	217	343	7
[	Zn	68	-0.078	ug/L	0.032	41	12918	12852	0
[	As	75	0.028	ug/L	0.022	77	816	892	6
[	As-1	75	-0.272	ug/L	0.022	8	15845	15261	0
[	Se	82	0.002	ug/L	0.059	2452	-7	-7	213
[	Se	78	-1.097	ug/L	0.089	8	16279	15648	0
[	Mo	98	0.002	ug/L	0.008	368	221	241	28
	Y	89		ug/L			387865	384696	1
	Kr	83		ug/L			522	532	1
[>	In	115		ug/L			421444	416626	0
[	Ag	107	0.008	ug/L	0.007	99	348	450	24
[	Cd	111	0.016	ug/L	0.008	51	222	275	11
[	Cd	114	0.001	ug/L	0.004	251	48	58	49
[	Sb	121	0.051	ug/L	0.034	66	752	1291	29
[	Sb	123	0.051	ug/L	0.029	56	552	951	24
[	Ba	135	0.027	ug/L	0.011	41	43	110	26
[	Ba	137	0.024	ug/L	0.005	19	68	170	12
[>	Tb	159		ug/L			385669	368223	0
[	Tl	205	0.007	ug/L	0.005	68	244	417	30
[	Pb	208	0.022	ug/L	0.003	15	751	1523	8
[	Bi	209		ug/L			324071	302647	0
[	Th	232	0.003	ug/L	0.011	356	2390	2411	19
[	U	238	0.004	ug/L	0.004	88	241	435	41

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 C REN
Sample Dil Factor: 5
Comments:
Sample Date/Time: Wednesday, May 16, 2012 16:43:52
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	437710	0
[	Be	9	0.013	ug/L	0.005	41	2	10	33
	C	13		mg/L			7617	6896	2
	Cl	37		mg/L			3295164	3592191	1
[>	Sc	45		ug/L			388584	432158	0
[	Na	23	8100.047	ug/L	80.472	0	72120	94807276	1
[	Mg	24	7426.216	ug/L	78.805	1	5681	59481282	1
[	Al	27	3.946	ug/L	0.109	2	9828	59758	3
[	K	39	2488.098	ug/L	34.476	1	711387	41831241	2
[	Ca	43	16721.745	ug/L	275.194	1	298	547504	2
[	V	51	0.105	ug/L	0.004	3	4518	7011	0
[	V-1	51	0.046	ug/L	0.005	12	6696	8332	2
[	Cr	52	-0.090	ug/L	0.016	17	13277	13288	2
[	Cr	53	-0.260	ug/L	0.038	14	2196	1924	4
[	Fe	54	2899.556	ug/L	19.114	0	45192	4118489	0
[	Fe	57	2744.827	ug/L	17.393	0	15928	1658193	0
[	Mn	55	113.542	ug/L	1.085	0	602	3236040	1
[	Co	59	0.182	ug/L	0.005	2	189	4058	1
[>	Ge	72		ug/L			454129	464583	1
[	Ni	60	1.319	ug/L	0.024	1	79	5579	0
[	Ni	62	0.821	ug/L	0.077	9	83	600	7
[	Cu	63	0.290	ug/L	0.007	2	277	2936	3
[	Cu	65	0.194	ug/L	0.005	2	117	966	0
[	Zn	66	1.135	ug/L	0.011	0	483	3568	0
[	Zn	67	1.023	ug/L	0.108	10	217	697	6
[	Zn	68	0.637	ug/L	0.090	14	12918	14428	2
[	As	75	0.188	ug/L	0.001	0	816	1315	1
[	As-1	75	-0.432	ug/L	0.033	7	15845	15112	1
[	Se	82	0.029	ug/L	0.035	121	-7	0	7688
[	Se	78	-2.357	ug/L	0.123	5	16279	15058	1
[	Mo	98	0.643	ug/L	0.018	2	221	5828	1
	Y	89		ug/L			387865	400270	1
	Kr	83		ug/L			522	517	0
[>	In	115		ug/L			421444	420146	1
[	Ag	107	-0.009	ug/L	0.001	15	348	225	10
[	Cd	111	0.017	ug/L	0.003	19	222	280	2
[	Cd	114	0.011	ug/L	0.002	22	48	134	15
[	Sb	121	-0.010	ug/L	0.009	92	752	646	17
[	Sb	123	-0.013	ug/L	0.008	62	552	449	16
[	Ba	135	5.402	ug/L	0.122	2	43	13477	0
[	Ba	137	5.408	ug/L	0.095	1	68	22900	1
[>	Tb	159		ug/L			385669	384097	0
[	Tl	205	-0.002	ug/L	0.002	99	244	197	22
[	Pb	208	0.006	ug/L	0.002	27	751	986	6
[	Bi	209		ug/L			324071	317150	1
[	Th	232	0.041	ug/L	0.008	19	2390	4246	8
[	U	238	0.076	ug/L	0.002	2	241	4129	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 E REN
Sample Dil Factor: 5
Comments:
Sample Date/Time: Wednesday, May 16, 2012 16:50:31
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	438025	0
[	Be	9	0.005	ug/L	0.001	22	2	5	13
	C	13		mg/L			7617	6518	0
	Cl	37		mg/L			3295164	3493882	0
[>	Sc	45		ug/L			388584	442176	1
[	Na	23	11599.918	ug/L	137.930	1	72120	138874951	0
[	Mg	24	1826.295	ug/L	24.403	1	5681	14970249	0
[	Al	27	245.337	ug/L	4.163	1	9828	3116832	0
[	K	39	7214.565	ug/L	124.329	1	711387	122547874	0
[	Ca	43	19521.212	ug/L	133.295	0	298	653864	0
[	V	51	5.667	ug/L	0.054	0	4518	115194	0
[	V-1	51	5.478	ug/L	0.058	1	6696	116474	0
[	Cr	52	0.812	ug/L	0.030	3	13277	28728	1
[	Cr	53	0.567	ug/L	0.058	10	2196	3655	2
[	Fe	54	4181.451	ug/L	25.543	0	45192	6054222	1
[	Fe	57	4214.458	ug/L	46.552	1	15928	2595583	2
[	Mn	55	115.800	ug/L	1.141	0	602	3376742	0
[	Co	59	0.139	ug/L	0.002	1	189	3212	0
[>	Ge	72		ug/L			454129	456622	0
[	Ni	60	2.089	ug/L	0.046	2	79	8639	2
[	Ni	62	1.526	ug/L	0.049	3	83	1023	2
[	Cu	63	23.229	ug/L	0.154	0	277	209403	0
[	Cu	65	22.818	ug/L	0.022	0	117	97929	0
[	Zn	66	1.646	ug/L	0.030	1	483	4867	1
[	Zn	67	3.168	ug/L	0.214	6	217	1664	5
[	Zn	68	1.987	ug/L	0.020	1	12918	16702	0
[	As	75	97.992	ug/L	0.207	0	816	246683	0
[	As-1	75	97.559	ug/L	0.196	0	15845	260011	0
[	Se	82	0.088	ug/L	0.044	49	-7	15	75
[	Se	78	-2.597	ug/L	0.096	3	16279	14639	0
[	Mo	98	9.609	ug/L	0.035	0	221	82544	0
	Y	89		ug/L			387865	389308	1
	Kr	83		ug/L			522	521	0
[>	In	115		ug/L			421444	414107	0
[	Ag	107	0.007	ug/L	0.003	42	348	435	8
[	Cd	111	0.051	ug/L	0.010	19	222	392	8
[	Cd	114	0.034	ug/L	0.004	10	48	316	9
[	Sb	121	0.487	ug/L	0.010	2	752	5903	1
[	Sb	123	0.495	ug/L	0.003	0	552	4468	0
[	Ba	135	34.425	ug/L	0.264	0	43	84445	0
[	Ba	137	34.098	ug/L	0.065	0	68	141980	0
[>	Tb	159		ug/L			385669	378605	0
[	Tl	205	-0.001	ug/L	0.001	77	244	208	11
[	Pb	208	1.918	ug/L	0.010	0	751	73538	0
[	Bi	209		ug/L			324071	308269	1
[	Th	232	0.025	ug/L	0.001	3	2390	3448	1
[	U	238	0.108	ug/L	0.001	0	241	5709	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 G REN
Sample Dil Factor: 5
Comments:
Sample Date/Time: Wednesday, May 16, 2012 16:57:12
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	444520	1
[	Be	9	0.004	ug/L	0.005	130	2	4	68
	C	13		mg/L			7617	6327	1
	Cl	37		mg/L			3295164	3382237	1
[>	Sc	45		ug/L			388584	404024	1
[	Na	23	1788.962	ug/L	22.812	1	72120	19633924	1
[	Mg	24	832.134	ug/L	5.866	0	5681	6235804	1
[	Al	27	0.657	ug/L	0.005	0	9828	17815	1
[	K	39	815.502	ug/L	4.525	0	711387	13315294	2
[	Ca	43	12608.638	ug/L	89.342	0	298	386040	2
[	V	51	0.257	ug/L	0.009	3	4518	9253	2
[	V-1	51	0.170	ug/L	0.007	3	6696	10052	1
[	Cr	52	-0.062	ug/L	0.012	18	13277	12862	3
[	Cr	53	-0.308	ug/L	0.012	3	2196	1709	0
[	Fe	54	710.700	ug/L	8.025	1	45192	979118	1
[	Fe	57	735.907	ug/L	9.403	1	15928	427774	2
[	Mn	55	17.383	ug/L	0.130	0	602	463725	2
[	Co	59	0.080	ug/L	0.002	3	189	1771	3
[>	Ge	72		ug/L			454129	444066	2
[	Ni	60	0.519	ug/L	0.008	1	79	2147	2
[	Ni	62	0.160	ug/L	0.053	33	83	177	15
[	Cu	63	0.852	ug/L	0.017	1	277	7728	1
[	Cu	65	0.825	ug/L	0.001	0	117	3555	2
[	Zn	66	0.826	ug/L	0.018	2	483	2610	0
[	Zn	67	0.660	ug/L	0.017	2	217	505	2
[	Zn	68	0.042	ug/L	0.063	149	12918	12709	3
[	As	75	0.280	ug/L	0.022	7	816	1480	0
[	As-1	75	-0.498	ug/L	0.051	10	15845	14284	3
[	Se	82	0.117	ug/L	0.056	48	-7	22	61
[	Se	78	-2.853	ug/L	0.178	6	16279	14072	3
[	Mo	98	9.307	ug/L	0.167	1	221	77752	2
	Y	89		ug/L			387865	382903	1
	Kr	83		ug/L			522	496	1
[>	In	115		ug/L			421444	418191	0
[	Ag	107	-0.016	ug/L	0.002	10	348	122	18
[	Cd	111	0.007	ug/L	0.002	30	222	246	3
[	Cd	114	0.015	ug/L	0.001	7	48	164	5
[	Sb	121	-0.021	ug/L	0.002	11	752	526	4
[	Sb	123	-0.021	ug/L	0.004	17	552	382	7
[	Ba	135	1.205	ug/L	0.039	3	43	3026	2
[	Ba	137	1.202	ug/L	0.042	3	68	5119	3
[>	Tb	159		ug/L			385669	384894	1
[	Tl	205	-0.005	ug/L	0.000	7	244	88	11
[	Pb	208	-0.006	ug/L	0.000	6	751	525	3
[	Bi	209		ug/L			324071	319519	0
[	Th	232	-0.023	ug/L	0.001	5	2390	1355	5
[	U	238	0.006	ug/L	0.001	12	241	553	8

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 H REN
Sample Dil Factor: 5
Comments:
Sample Date/Time: Wednesday, May 16, 2012 17:03:54
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	426154	1
[	Be	9	0.011	ug/L	0.001	11	2	8	8
	C	13		mg/L			7617	6371	1
	Cl	37		mg/L			3295164	3395213	1
[>	Sc	45		ug/L			388584	393050	1
[	Na	23	8509.383	ug/L	74.838	0	72120	90583927	1
[	Mg	24	7920.245	ug/L	66.801	0	5681	57691779	0
[	Al	27	1.341	ug/L	0.021	1	9828	25035	1
[	K	39	2598.665	ug/L	12.548	0	711387	39701933	1
[	Ca	43	17667.104	ug/L	96.379	0	298	526034	0
[	V	51	0.110	ug/L	0.002	2	4518	6470	2
[	V-1	51	0.048	ug/L	0.004	7	6696	7628	2
[	Cr	52	-0.106	ug/L	0.020	18	13277	11849	1
[	Cr	53	-0.283	ug/L	0.024	8	2196	1709	2
[	Fe	54	3038.545	ug/L	49.816	1	45192	3922634	0
[	Fe	57	2946.642	ug/L	34.456	1	15928	1617754	1
[	Mn	55	120.500	ug/L	1.888	1	602	3123146	0
[	Co	59	0.182	ug/L	0.002	1	189	3688	0
[>	Ge	72		ug/L			454129	421163	0
[	Ni	60	0.809	ug/L	0.031	3	79	3129	3
[	Ni	62	0.355	ug/L	0.036	10	83	279	8
[	Cu	63	0.203	ug/L	0.015	7	277	1946	6
[	Cu	65	0.114	ug/L	0.005	4	117	559	4
[	Zn	66	0.893	ug/L	0.070	7	483	2639	5
[	Zn	67	0.901	ug/L	0.104	11	217	580	6
[	Zn	68	0.317	ug/L	0.155	48	12918	12526	1
[	As	75	0.245	ug/L	0.021	8	816	1324	3
[	As-1	75	-0.478	ug/L	0.036	7	15845	13593	1
[	Se	82	-0.012	ug/L	0.046	381	-7	-10	110
[	Se	78	-2.639	ug/L	0.078	2	16279	13476	0
[	Mo	98	0.688	ug/L	0.014	2	221	5643	2
	Y	89		ug/L			387865	363733	0
	Kr	83		ug/L			522	504	0
[>	In	115		ug/L			421444	392697	0
[	Ag	107	-0.018	ug/L	0.000	2	348	90	6
[	Cd	111	0.001	ug/L	0.004	500	222	209	5
[	Cd	114	-0.001	ug/L	0.001	174	48	40	20
[	Sb	121	-0.046	ug/L	0.001	2	752	242	4
[	Sb	123	-0.043	ug/L	0.001	1	552	189	3
[	Ba	135	5.570	ug/L	0.022	0	43	12991	0
[	Ba	137	5.603	ug/L	0.083	1	68	22178	1
[>	Tb	159		ug/L			385669	361413	1
[	Tl	205	-0.004	ug/L	0.000	3	244	115	3
[	Pb	208	-0.008	ug/L	0.001	11	751	432	8
[	Bi	209		ug/L			324071	300427	0
[	Th	232	-0.021	ug/L	0.001	4	2390	1344	3
[	U	238	0.079	ug/L	0.003	3	241	4036	3

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 I REN
Sample Dil Factor: 5
Comments:
Sample Date/Time: Wednesday, May 16, 2012 17:10:35
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

CV

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	417252	0
[	Be	9	0.004	ug/L	0.003	68	2	4	34
	C	13		mg/L			7617	6545	0
	Cl	37		mg/L			3295164	3458172	0
[>	Sc	45		ug/L			388584	405195	0
[	Na	23	12091.250	ug/L	122.774	1	72120	132653500	0
[	Mg	24	1858.098	ug/L	20.572	1	5681	13957946	0
[	Al	27	146.791	ug/L	0.923	0	9828	1713180	0
[	K	39	7708.841	ug/L	33.789	0	711387	119956995	0
[	Ca	43	19541.864	ug/L	21.165	0	298	599831	0
[	V	51	3.260	ug/L	0.042	1	4518	62727	0
[	V-1	51	3.162	ug/L	0.035	1	6696	64561	0
[	Cr	52	0.186	ug/L	0.005	2	13277	16708	0
[	Cr	53	0.098	ug/L	0.031	31	2196	2474	2
[	Fe	54	3365.817	ug/L	29.892	0	45192	4474873	0
[	Fe	57	3231.187	ug/L	27.060	0	15928	1827316	1
[	Mn	55	110.376	ug/L	0.862	0	602	2949623	1
[	Co	59	0.129	ug/L	0.002	1	189	2757	0
[>	Ge	72		ug/L			454129	419222	0
[	Ni	60	0.912	ug/L	0.037	4	79	3502	3
[	Ni	62	0.429	ug/L	0.005	1	83	320	1
[	Cu	63	1.556	ug/L	0.010	0	277	13115	0
[	Cu	65	1.355	ug/L	0.006	0	117	5442	0
[	Zn	66	0.417	ug/L	0.026	6	483	1466	4
[	Zn	67	1.717	ug/L	0.085	4	217	920	3
[	Zn	68	0.640	ug/L	0.162	25	12918	13023	2
[	As	75	83.055	ug/L	0.470	0	816	192069	0
[	As-1	75	82.419	ug/L	0.481	0	15845	203937	0
[	Se	82	0.089	ug/L	0.047	53	-7	14	79
[	Se	78	-3.068	ug/L	0.032	1	16279	13152	0
[	Mo	98	10.159	ug/L	0.130	1	221	80105	0
	Y	89		ug/L			387865	351118	0
	Kr	83		ug/L			522	509	0
[>	In	115		ug/L			421444	383787	1
[	Ag	107	-0.017	ug/L	0.001	6	348	95	13
[	Cd	111	0.015	ug/L	0.013	82	222	251	14
[	Cd	114	0.014	ug/L	0.001	4	48	146	2
[	Sb	121	0.425	ug/L	0.005	1	752	4866	1
[	Sb	123	0.428	ug/L	0.022	5	552	3648	3
[	Ba	135	30.983	ug/L	0.621	2	43	70432	1
[	Ba	137	30.602	ug/L	0.394	1	68	118086	0
[>	Tb	159		ug/L			385669	353483	0
[	Tl	205	-0.006	ug/L	0.000	6	244	63	14
[	Pb	208	0.007	ug/L	0.000	6	751	945	2
[	Bi	209		ug/L			324071	286016	0
[	Th	232	-0.020	ug/L	0.001	3	2390	1336	1
[	U	238	0.087	ug/L	0.002	2	241	4339	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 K REN
Sample Dil Factor: 5
Comments:
Sample Date/Time: Wednesday, May 16, 2012 17:17:15
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	425690	1
[	Be	9	0.005	ug/L	0.006	113	2	5	66
	C	13		mg/L			7617	6421	0
	Cl	37		mg/L			3295164	3487780	0
[>	Sc	45		ug/L			388584	392874	0
[	Na	23	8204.584	ug/L	22.017	0	72120	87303237	0
[	Mg	24	7623.229	ug/L	20.571	0	5681	55508089	0
[	Al	27	4.055	ug/L	0.024	0	9828	55555	0
[	K	39	2497.246	ug/L	22.391	0	711387	38162484	0
[	Ca	43	16714.350	ug/L	39.605	0	298	497478	0
[	V	51	0.099	ug/L	0.005	5	4518	6273	1
[	V-1	51	0.056	ug/L	0.007	12	6696	7760	2
[	Cr	52	-0.136	ug/L	0.015	11	13277	11393	1
[	Cr	53	-0.253	ug/L	0.032	12	2196	1763	3
[	Fe	54	2859.782	ug/L	49.837	1	45192	3693172	1
[	Fe	57	2747.192	ug/L	30.517	1	15928	1508708	0
[	Mn	55	113.786	ug/L	0.717	0	602	2948232	0
[	Co	59	0.172	ug/L	0.003	1	189	3489	1
[>	Ge	72		ug/L			454129	419050	0
[	Ni	60	0.866	ug/L	0.011	1	79	3330	1
[	Ni	62	0.393	ug/L	0.042	10	83	299	8
[	Cu	63	0.292	ug/L	0.006	1	277	2665	2
[	Cu	65	0.222	ug/L	0.013	5	117	983	4
[	Zn	66	1.453	ug/L	0.056	3	483	3996	3
[	Zn	67	1.421	ug/L	0.036	2	217	795	2
[	Zn	68	0.798	ug/L	0.052	6	12918	13288	1
[	As	75	0.291	ug/L	0.030	10	816	1424	5
[	As-1	75	-0.588	ug/L	0.061	10	15845	13271	1
[	Se	82	0.091	ug/L	0.025	27	-7	14	40
[	Se	78	-3.112	ug/L	0.185	5	16279	13120	1
[	Mo	98	0.665	ug/L	0.024	3	221	5432	3
	Y	89		ug/L			387865	356970	0
	Kr	83		ug/L			522	504	3
[>	In	115		ug/L			421444	384751	1
[	Ag	107	-0.019	ug/L	0.001	5	348	71	19
[	Cd	111	0.025	ug/L	0.007	28	222	282	6
[	Cd	114	0.016	ug/L	0.002	14	48	163	9
[	Sb	121	-0.046	ug/L	0.002	3	752	233	8
[	Sb	123	-0.046	ug/L	0.001	1	552	166	2
[	Ba	135	5.451	ug/L	0.060	1	43	12456	0
[	Ba	137	5.388	ug/L	0.089	1	68	20895	0
[>	Tb	159		ug/L			385669	347042	0
[	Tl	205	-0.005	ug/L	0.000	8	244	100	11
[	Pb	208	0.002	ug/L	0.001	27	751	750	2
[	Bi	209		ug/L			324071	289341	0
[	Th	232	-0.027	ug/L	0.000	1	2390	1050	2
[	U	238	0.075	ug/L	0.001	1	241	3708	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US82 L REN
Sample Dil Factor: 5
Comments:
Sample Date/Time: Wednesday, May 16, 2012 17:23:56
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	362979	0
[	Be	9	0.007	ug/L	0.005	71	2	5	48
	C	13		mg/L			7617	6507	1
	Cl	37		mg/L			3295164	3468706	0
[>	Sc	45		ug/L			388584	339417	1
[	Na	23	9832.829	ug/L	103.473	1	72120	90372704	0
[	Mg	24	9091.988	ug/L	65.152	0	5681	57190612	0
[	Al	27	1.573	ug/L	0.039	2	9828	23872	0
[	K	39	2985.019	ug/L	36.719	1	711387	39288239	1
[	Ca	43	20212.299	ug/L	272.906	1	298	519634	0
[	V	51	0.159	ug/L	0.021	13	4518	6319	3
[	V-1	51	0.123	ug/L	0.008	6	6696	7725	1
[	Cr	52	0.006	ug/L	0.013	202	13277	11678	0
[	Cr	53	-0.096	ug/L	0.065	67	2196	1769	6
[	Fe	54	3448.206	ug/L	24.665	0	45192	3839266	1
[	Fe	57	3240.017	ug/L	9.601	0	15928	1534834	1
[	Mn	55	136.735	ug/L	0.465	0	602	3060774	1
[	Co	59	0.208	ug/L	0.001	0	189	3614	0
[>	Ge	72		ug/L			454129	361288	1
[	Ni	60	0.904	ug/L	0.043	4	79	2993	3
[	Ni	62	0.389	ug/L	0.028	7	83	255	4
[	Cu	63	0.239	ug/L	0.003	1	277	1924	1
[	Cu	65	0.132	ug/L	0.006	4	117	540	4
[	Zn	66	0.978	ug/L	0.039	3	483	2444	3
[	Zn	67	1.057	ug/L	0.111	10	217	554	6
[	Zn	68	1.189	ug/L	0.013	1	12918	12035	1
[	As	75	0.388	ug/L	0.022	5	816	1420	2
[	As-1	75	0.296	ug/L	0.046	15	15845	13192	1
[	Se	82	0.094	ug/L	0.111	118	-7	13	174
[	Se	78	0.176	ug/L	0.199	112	16279	13043	1
[	Mo	98	0.779	ug/L	0.005	0	221	5457	0
	Y	89		ug/L			387865	307697	0
	Kr	83		ug/L			522	505	3
[>	In	115		ug/L			421444	329322	0
[	Ag	107	-0.018	ug/L	0.001	3	348	73	10
[	Cd	111	0.006	ug/L	0.005	86	222	189	6
[	Cd	114	-0.000	ug/L	0.001	478	48	36	18
[	Sb	121	-0.046	ug/L	0.001	2	752	201	4
[	Sb	123	-0.045	ug/L	0.002	4	552	146	8
[	Ba	135	6.421	ug/L	0.076	1	43	12555	1
[	Ba	137	6.451	ug/L	0.041	0	68	21406	1
[>	Tb	159		ug/L			385669	303774	0
[	Tl	205	-0.004	ug/L	0.000	5	244	93	6
[	Pb	208	-0.006	ug/L	0.000	4	751	398	1
[	Bi	209		ug/L			324071	247100	1
[	Th	232	-0.029	ug/L	0.001	2	2390	830	3
[	U	238	0.088	ug/L	0.001	1	241	3742	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV8
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 17:30:37
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	415159	0
[	Be	9	48.251	ug/L	0.654	1	2	27336	0
	C	13		mg/L			7617	4639	1
	Cl	37		mg/L			3295164	3594866	0
[>	Sc	45		ug/L			388584	363912	1
[	Na	23	5274.607	ug/L	82.032	1	72120	52005372	0
[	Mg	24	5366.952	ug/L	7.668	0	5681	36199429	1
[	Al	27	5092.582	ug/L	78.138	1	9828	53075272	2
[	K	39	5055.732	ug/L	21.113	0	711387	70883727	1
[	Ca	43	5038.036	ug/L	42.150	0	298	139081	0
[	V	51	49.634	ug/L	0.158	0	4518	797539	1
[	V-1	51	49.732	ug/L	0.102	0	6696	819595	1
[	Cr	52	50.054	ug/L	0.296	0	13277	703443	1
[	Cr	53	50.331	ug/L	0.127	0	2196	86542	1
[	Fe	54	4983.692	ug/L	67.443	1	45192	5931231	2
[	Fe	57	4945.602	ug/L	10.651	0	15928	2504017	1
[	Mn	55	48.157	ug/L	0.576	1	602	1156254	2
[	Co	59	49.319	ug/L	0.222	0	189	876919	1
[>	Ge	72		ug/L			454129	421698	0
[	Ni	60	49.577	ug/L	0.785	1	79	187703	1
[	Ni	62	50.107	ug/L	0.438	0	83	28566	0
[	Cu	63	50.007	ug/L	0.699	1	277	416034	1
[	Cu	65	50.150	ug/L	0.192	0	117	198640	0
[	Zn	66	50.406	ug/L	0.721	1	483	124383	1
[	Zn	67	50.857	ug/L	0.220	0	217	21641	0
[	Zn	68	49.999	ug/L	0.292	0	12918	98279	0
[	As	75	50.668	ug/L	0.060	0	816	118162	0
[	As-1	75	50.125	ug/L	0.183	0	15845	130528	0
[	Se	82	51.394	ug/L	0.605	1	-7	12537	1
[	Se	78	49.484	ug/L	0.980	1	16279	45539	1
[	Mo	98	49.886	ug/L	1.126	2	221	394873	2
	Y	89		ug/L			387865	352911	0
	Kr	83		ug/L			522	543	1
[>	In	115		ug/L			421444	385087	1
[	Ag	107	51.284	ug/L	0.293	0	348	659872	1
[	Cd	111	50.863	ug/L	0.591	1	222	162574	2
[	Cd	114	51.219	ug/L	0.541	1	48	374147	1
[	Sb	121	50.905	ug/L	0.793	1	752	502841	1
[	Sb	123	51.126	ug/L	1.069	2	552	377696	1
[	Ba	135	50.741	ug/L	0.154	0	43	115727	1
[	Ba	137	50.248	ug/L	0.433	0	68	194542	1
[>	Tb	159		ug/L			385669	348326	1
[	Tl	205	48.170	ug/L	0.764	1	244	1242380	1
[	Pb	208	49.136	ug/L	0.576	1	751	1716746	2
[	Bi	209		ug/L			324071	286819	2
[	Th	232	46.029	ug/L	0.612	1	2390	1905397	1
[	U	238	52.298	ug/L	0.368	0	241	2433482	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB8
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 16, 2012 17:37:37
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051612a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			424774	417738	0
[	Be	9	0.007	ug/L	0.003	50	2	5	32
	C	13		mg/L			7617	7345	1
	Cl	37		mg/L			3295164	3654957	0
[>	Sc	45		ug/L			388584	374291	1
[	Na	23	-0.428	ug/L	2.851	666	72120	64990	43
[	Mg	24	0.658	ug/L	0.225	34	5681	10043	16
[	Al	27	0.549	ug/L	0.217	39	9828	15364	16
[	K	39	7.132	ug/L	0.345	4	711387	787079	0
[	Ca	43	8.833	ug/L	0.759	8	298	537	3
[	V	51	-0.010	ug/L	0.019	185	4518	4181	7
[	V-1	51	-0.087	ug/L	0.011	12	6696	4983	4
[	Cr	52	-0.013	ug/L	0.010	74	13277	12604	0
[	Cr	53	-0.252	ug/L	0.028	11	2196	1680	2
[	Fe	54	1.427	ug/L	0.478	33	45192	45260	0
[	Fe	57	-1.158	ug/L	0.078	6	15928	14743	1
[	Mn	55	0.023	ug/L	0.003	11	602	1141	6
[	Co	59	0.001	ug/L	0.002	150	189	203	16
[>	Ge	72		ug/L			454129	433437	0
[	Ni	60	0.011	ug/L	0.002	21	79	117	8
[	Ni	62	0.043	ug/L	0.008	17	83	105	4
[	Cu	63	0.025	ug/L	0.006	24	277	479	11
[	Cu	65	0.032	ug/L	0.003	8	117	241	5
[	Zn	66	0.411	ug/L	0.015	3	483	1500	3
[	Zn	67	0.321	ug/L	0.032	9	217	346	4
[	Zn	68	-0.082	ug/L	0.026	32	12918	12184	0
[	As	75	0.076	ug/L	0.042	55	816	959	9
[	As-1	75	-0.300	ug/L	0.033	11	15845	14411	0
[	Se	82	-0.006	ug/L	0.085	1365	-7	-9	234
[	Se	78	-1.206	ug/L	0.065	5	16279	14775	0
[	Mo	98	0.001	ug/L	0.006	890	221	217	24
	Y	89		ug/L			387865	366730	0
	Kr	83		ug/L			522	550	5
[>	In	115		ug/L			421444	396683	1
[	Ag	107	0.006	ug/L	0.005	89	348	404	17
[	Cd	111	0.021	ug/L	0.009	41	222	279	11
[	Cd	114	0.002	ug/L	0.004	200	48	60	50
[	Sb	121	0.050	ug/L	0.035	69	752	1220	30
[	Sb	123	0.053	ug/L	0.029	54	552	923	24
[	Ba	135	0.021	ug/L	0.009	42	43	91	24
[	Ba	137	0.022	ug/L	0.005	23	68	151	14
[>	Tb	159		ug/L			385669	355653	0
[	Tl	205	0.006	ug/L	0.005	88	244	374	35
[	Pb	208	0.022	ug/L	0.005	23	751	1461	13
[	Bi	209		ug/L			324071	295629	0
[	Th	232	0.003	ug/L	0.010	288	2390	2349	18
[	U	238	0.004	ug/L	0.003	76	241	406	35

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7500
Serial No. – 077C8121202

IEC Date: 3-19-12 Analysis Date: 5-10-12 Analyst: M

LR Date: 3-19-12 Page: 1 of 6

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD			Sc R climbing slightly
		2			
		3			
		4			
		5			
		STD			2932-4
		2			2934-1
		3			-2
		4			-3
		5			-4
		ICV			2925-3
		ICB			
		CRI			
		ICSA			V 0.0064
		ICSAB			
		CCV1			
		CCB1			
		US82 MBZ	WMN		
		F-L		5	✓
		F			
		FDup			✓
		Fspk			✓ 0.00mL ICP Spk
		G			
		H			

US82 : 00255

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7500
Serial No. – 077C8121202

IEC Date: — Analysis Date: 5-10-12 Analyst: KA

LR Date: ✓ Page: 2 of 6

All corrections made by analyst unless otherwise noted. #A 5-10-12-

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		US82 I	WMW		
		↳ MBspk	↓	✓	0.08mL ICPspk
		CCV2			
		CCB2			
	✓	US82 MB1	TWC		CV out
222		zzzzzz A-L		5 ✓	
		A			
		ADup		✓	
		ASpk		✓	
222		zzzzzz ~~A Post~~ B			
		C			
		E			
		MB2spk	↓		
		CCV3			BE Mn Na 589 low
		CCB3			
		STD2			
		↳ 3			
		CCV4			
		CCB4			
		US82 MB1	TWC		
		A-L		5 ✓	
		A			
		ADup		✓	
		↳ ASpk	↓	✓	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7500
Serial No. – 077C8121202

IEC Date: — Analysis Date: 5-10-12 Analyst: M

LR Date: / Page: 3 of 6

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		LCS2 B	SWC		
		C			
		E			
		MBLSPK			
		CCV 5			
		CCB 5			
		CRI			
		ICSA			
		ICSAB			
		CCV 6			
		CCB 6			end pkg
LMD		ZZZZZZ			
		↓			
		LT64 MB	SWC	2	Ba 0.004 A.N.
↓		B			
		C			
		D			
		ADUP			
		A			
		ASPK			
		MBSPK	↓	↓	
		CCV			
		CCB			
	✓	LT64 MB	SWC	2	Confirms Ba

5-11-12

ANALYTICAL RESOURCES INCORPORATED

Metals Data Review Checklist

Method: (ICP) ICP-MS GFA CVA **Analysis Date:** 5-10-12

OPT 2	Analyst AMS-11	Peer BWS.11	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	see log
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	see log
ICB/CCB	✓	✓	b
Samples:			
RSD's & SD's	✓	✓	
Internal Standards	✓	✓	
Carry-over	✓	✓	see log
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	see log
Post Spikes/Serial Dilutions	✓	✓	US82
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	
Matrix Duplicates	✓	✓	
Method Blanks	✓	✓	WT64
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and QAF's	✓	✓	A.D WT64

Nebulizer Parameters: Hg_ReAlign

Analyte	Back Pressure	Flow
All	209.0 kPa	0.75 L/min

5/10/2012 8:39:56 AM Hg ReAlign... Actual peak offset (nm): 0.003
Drift (nm): 0.000 Slit adjustment: 0

Analysis Begun

Start Time: 5/10/2012 8:41:06 AM
Plasma On Time: 5/10/2012 7:27:57 AM
Logged In Analyst: metals
Technique: ICP Continuous
Spectrometer Model: Optima 7300 DV, S/N 077C8121202Autosampler Model: AS-93plus

Sample Information File: C:\pe\metals\Sample Information\CRISET1.sif
Batch ID:
Results Data Set: I2120510
Results Library: C:\pe\metals\Results\Results.mdb

Method Loaded
Method Name: 7300bcESI2FAST
Method Last Saved: 3/19/2012 10:25:21 AM
IEC File: IEC031612.iec
MSF File:
Method Description: 12Axial Elements

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

Sequence No.: 1
Autosampler Location: 1
Sample ID: Calib Blank 1
Date Collected: 5/10/2012 8:41:07 AM
Data Type: Original

Rerun

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	209.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2463241.3	13922.49	0.57%	100.0	%
ScR 361.383	368438.4	1927.28	0.52%	100.0	%
Ag 328.068†	-116.4	35.74	30.69%	[0.00]	mg/L
Al 308.215†	148.2	2.36	1.59%	[0.00]	mg/L
As 188.979†	-3.4	3.70	107.89%	[0.00]	mg/L
B 249.677†	29.6	6.00	20.26%	[0.00]	mg/L
Ba 233.527†	18.2	1.32	7.24%	[0.00]	mg/L
Be 313.042†	1248.1	47.26	3.79%	[0.00]	mg/L
Ca 317.933†	411.2	5.26	1.28%	[0.00]	mg/L
Cd 228.802†	269.0	2.97	1.11%	[0.00]	mg/L
Co 228.616†	-13.7	7.36	53.68%	[0.00]	mg/L
Cr 267.716†	-32.5	4.74	14.61%	[0.00]	mg/L
Cu 324.752†	1111.1	42.56	3.83%	[0.00]	mg/L
Fe 273.955†	-21.8	1.80	8.26%	[0.00]	mg/L
K 766.490†	-395.0	10.47	2.65%	[0.00]	mg/L
Mg 279.077†	-100.2	2.63	2.62%	[0.00]	mg/L
Mn 257.610†	-8.4	0.39	4.64%	[0.00]	mg/L
Mo 202.031†	88.1	6.89	7.82%	[0.00]	mg/L
Na 589.592†	1393.8	39.72	2.85%	[0.00]	mg/L
Na 330.237†	-17.1	7.55	44.03%	[0.00]	mg/L
Ni 231.604†	-7.8	3.89	49.69%	[0.00]	mg/L
Pb 220.353†	162.4	3.05	1.88%	[0.00]	mg/L
Sb 206.836†	244.2	2.01	0.82%	[0.00]	mg/L
Se 196.026†	-118.7	4.26	3.59%	[0.00]	mg/L
Si 288.158†	83.9	6.91	8.24%	[0.00]	mg/L
Sn 189.927†	-41.0	1.76	4.29%	[0.00]	mg/L
Sr 421.552†	-614.7	28.41	4.62%	[0.00]	mg/L
Ti 334.903†	-112.8	13.80	12.24%	[0.00]	mg/L
Tl 190.801†	-7.0	2.87	40.96%	[0.00]	mg/L
V 292.402†	517.9	5.72	1.11%	[0.00]	mg/L
Zn 206.200†	-65.2	1.57	2.42%	[0.00]	mg/L

Sequence No.: 2
Sample ID: STD2

Autosampler Location: 2
Date Collected: 5/10/2012 8:45:22 AM
Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	209.0 kPa	0.75 L/min

Mean Data: STD2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2546015.1	19332.54	0.76%	103.4	%
ScR 361.383	379288.3	1336.25	0.35%	102.9	%
Ba 233.527†	83366.4	240.58	0.29%	[10]	mg/L
Cd 228.802†	299742.7	2042.90	0.68%	[10]	mg/L
Co 228.616†	385721.5	2510.66	0.65%	[10]	mg/L
Cr 267.716†	83762.5	302.12	0.36%	[10]	mg/L
Cu 324.752†	2144110.0	6563.39	0.31%	[10]	mg/L
Mn 257.610†	541810.3	2316.51	0.43%	[10]	mg/L
V 292.402†	1770845.6	5076.48	0.29%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 5/10/2012 8:47:09 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	209.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2534810.9	9735.57	0.38%	102.9	%
ScR 361.383	379709.3	1606.39	0.42%	103.1	%
Ag 328.068†	266428.8	940.13	0.35%	[1.0]	mg/L
As 188.979†	23143.3	88.70	0.38%	[10]	mg/L
B 249.677†	60959.2	1055.01	1.73%	[10]	mg/L
Be 313.042†	3480398.6	26265.27	0.75%	[5.0]	mg/L
Na 589.592†	621008.8	3046.23	0.49%	[50]	mg/L
Ni 231.604†	46397.5	601.82	1.30%	[10]	mg/L
Pb 220.353†	116640.9	457.33	0.39%	[10]	mg/L
Se 196.026†	17441.4	51.25	0.29%	[10]	mg/L
Sr 421.552†	3999409.2	24463.24	0.61%	[5]	mg/L
Tl 190.801†	24394.6	89.70	0.37%	[10]	mg/L
Zn 206.200†	28107.0	528.42	1.88%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 5/10/2012 8:49:25 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
Ali	209.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2547561.8	9215.63	0.36%	103.4	%
ScR 361.383	386943.4	2174.99	0.56%	105.0	%
Mo 202.031†	201446.2	2224.38	1.10%	[10]	mg/L
Sb 206.836†	34967.4	539.73	1.54%	[10]	mg/L
Si 288.158†	21304.5	285.47	1.34%	[10]	mg/L
Sn 189.927†	68563.5	705.81	1.03%	[10]	mg/L
Ti 334.903†	278593.9	3240.29	1.16%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 5/10/2012 8:51:39 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2466776.8	19934.24	0.81%	100.1	%
ScR 361.383	386978.9	3776.65	0.98%	105.0	%
Al 308.215†	46102.8	444.46	0.96%	[30]	mg/L
Ca 317.933†	306760.8	1102.00	0.36%	[30]	mg/L
Fe 273.955†	137848.4	446.13	0.32%	[100]	mg/L
K 766.490†	215677.8	716.02	0.33%	[100]	mg/L
Mg 279.077†	37283.5	522.40	1.40%	[30]	mg/L
Na 330.237†	2926.3	36.46	1.25%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	266400	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1537	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	2314	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	6096	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	8337	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	696100	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	10230	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	29970	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	38570	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	8376	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	214400	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1378	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2157	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1243	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	54180	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	20140	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	12420	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	29.26	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	4640	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	11660	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3497	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1744	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	2130	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	6856	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	799900	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	27860	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2439	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	177100	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	2811	0.00000	1.000000	

Analysis Begun

Start Time: 5/10/2012 8:54:20 AM
Logged In Analyst: metals
Spectrometer Model: Optima 7300 DV, S/N 077C8121202
Plasma On Time: 5/10/2012 7:27:57 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\metals\Sample Information\CRISET1.sif
Batch ID:
Results Data Set: I2120510
Results Library: C:\pe\metals\Results\Results.mdb

Sequence No.: 1
Sample ID: Calib Blank 1
Autosampler Location: 1
Date Collected: 5/10/2012 8:54:21 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2547088.5	9272.26	0.36%	100.0	%
ScR 361.383	383556.6	2787.64	0.73%	100.0	%
Ag 328.068†	-138.0	44.85	32.49%	[0.00]	mg/L
Al 308.215†	152.2	8.39	5.51%	[0.00]	mg/L
As 188.979†	-3.3	2.58	78.79%	[0.00]	mg/L
B 249.677†	51.2	2.37	4.63%	[0.00]	mg/L
Ba 233.527†	17.9	2.66	14.86%	[0.00]	mg/L
Be 313.042†	1288.0	30.83	2.39%	[0.00]	mg/L
Ca 317.933†	406.4	10.80	2.66%	[0.00]	mg/L
Cd 228.802†	274.5	5.58	2.03%	[0.00]	mg/L
Co 228.616†	-16.9	4.56	27.01%	[0.00]	mg/L
Cr 267.716†	-29.4	12.87	43.71%	[0.00]	mg/L
Cu 324.752†	1181.2	33.09	2.80%	[0.00]	mg/L
Fe 273.955†	-21.7	1.55	7.14%	[0.00]	mg/L
K 766.490†	-402.0	15.65	3.89%	[0.00]	mg/L
Mg 279.077†	-102.0	4.37	4.28%	[0.00]	mg/L
Mn 257.610†	-8.6	1.79	20.71%	[0.00]	mg/L
Mo 202.031†	107.9	4.09	3.79%	[0.00]	mg/L
Na 589.592†	1384.0	56.48	4.08%	[0.00]	mg/L
Na 330.237†	-14.2	14.40	101.64%	[0.00]	mg/L
Ni 231.604†	-6.5	3.99	60.98%	[0.00]	mg/L
Pb 220.353†	154.8	1.69	1.09%	[0.00]	mg/L
Sb 206.836†	249.2	2.90	1.17%	[0.00]	mg/L
Se 196.026†	-111.3	1.78	1.60%	[0.00]	mg/L
Si 288.158†	83.5	1.25	1.50%	[0.00]	mg/L
Sn 189.927†	-40.9	3.00	7.34%	[0.00]	mg/L
Sr 421.552†	-572.9	12.84	2.24%	[0.00]	mg/L
Ti 334.903†	-107.6	14.63	13.59%	[0.00]	mg/L
Tl 190.801†	-10.0	3.62	36.05%	[0.00]	mg/L
V 292.402†	524.0	44.23	8.44%	[0.00]	mg/L
Zn 206.200†	-63.8	1.11	1.75%	[0.00]	mg/L

Sequence No.: 2
Sample ID: STD2

Autosampler Location: 2
Date Collected: 5/10/2012 8:58:35 AM
Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: STD2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2591140.8	14587.15	0.56%	101.7	%
ScR 361.383	384849.4	2819.94	0.73%	100.3	%
Ba 233.527†	86540.4	394.65	0.46%	[10]	mg/L
Cd 228.802†	311104.0	1564.56	0.50%	[10]	mg/L
Co 228.616†	401481.1	1814.58	0.45%	[10]	mg/L
Cr 267.716†	87895.0	333.51	0.38%	[10]	mg/L
Cu 324.752†	2247302.7	7229.53	0.32%	[10]	mg/L
Mn 257.610†	560811.9	2284.03	0.41%	[10]	mg/L
V 292.402†	1842721.2	10320.20	0.56%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 5/10/2012 9:00:22 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2540732.4	7130.09	0.28%	99.75	%
ScR 361.383	373248.2	2687.19	0.72%	97.31	%
Ag 328.068†	270907.6	1546.89	0.57%	[1.0]	mg/L
As 188.979†	23608.4	142.84	0.61%	[10]	mg/L
B 249.677†	64377.6	331.95	0.52%	[10]	mg/L
Be 313.042†	3675467.2	44034.40	1.20%	[5.0]	mg/L
Na 589.592†	648982.4	11429.68	1.76%	[50]	mg/L
Ni 231.604†	48552.7	129.94	0.27%	[10]	mg/L
Pb 220.353†	119343.8	737.00	0.62%	[10]	mg/L
Se 196.026†	17689.9	148.98	0.84%	[10]	mg/L
Sr 421.552†	4240627.9	40866.00	0.96%	[5]	mg/L
Tl 190.801†	24795.6	130.90	0.53%	[10]	mg/L
Zn 206.200†	29550.3	118.80	0.40%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 5/10/2012 9:02:39 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2586643.6	15431.91	0.60%	101.6	%
ScR 361.383	382988.7	1634.58	0.43%	99.85	%
Mo 202.031†	204309.2	1436.50	0.70%	{10}	mg/L
Sb 206.836†	35563.5	344.75	0.97%	{10}	mg/L
Si 288.158†	21941.7	179.06	0.82%	{10}	mg/L
Sn 189.927†	69258.1	660.58	0.95%	{10}	mg/L
Ti 334.903†	288768.1	3067.15	1.06%	{10}	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 5/10/2012 9:04:53 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
ScA 357.253	2436370.6	7240.80	0.30%	95.65	%
ScR 361.383	383457.7	2382.39	0.62%	99.97	%
Al 308.215†	48043.1	521.60	1.09%	[30]	mg/L
Ca 317.933†	318247.8	2547.90	0.80%	[30]	mg/L
Fe 273.955†	142592.0	722.76	0.51%	[100]	mg/L
K 766.490†	224069.5	1797.53	0.80%	[100]	mg/L
Mg 279.077†	38730.4	225.43	0.58%	[30]	mg/L
Na 330.237†	3046.8	20.72	0.68%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	270900	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1601	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	2361	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	6438	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	8654	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	735100	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	10610	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	31110	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	40150	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	8789	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	224700	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1426	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2241	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1291	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	56080	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	20430	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	12980	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	30.47	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	4855	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	11930	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3556	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1769	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	2194	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	6926	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	848100	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	28880	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2480	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	184300	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	2955	0.00000	1.000000	

Analysis Begun

Start Time: 5/10/2012 9:07:39 AM
Logged In Analyst: metals
Spectrometer Model: Optima 7300 DV, S/N 077C8121202
Plasma On Time: 5/10/2012 7:27:57 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\metals\Sample Information\CRISET1.sif
Batch ID:
Results Data Set: I2120510
Results Library: C:\pe\metals\Results\Results.mdb

Sequence No.: 1
Sample ID: CV
Dilution: 1X
Autosampler Location: 7
Date Collected: 5/10/2012 9:07:40 AM
Data Type: Original

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2592414.1	101.8	%	0.37				0.36%
ScR 361.383	380269.8	99.14	%	1.814				1.83%
Ag 328.068†	270383.1	0.9980	mg/L	0.00336	0.9980	mg/L	0.00336	0.34%
Al 308.215†	3251.6	2.001	mg/L	0.0267	2.001	mg/L	0.0267	1.33%
As 188.979†	4576.0	1.943	mg/L	0.0065	1.943	mg/L	0.0065	0.33%
B 249.677†	6333.0	0.9818	mg/L	0.01008	0.9818	mg/L	0.01008	1.03%
Ba 233.527†	8703.2	1.005	mg/L	0.0148	1.005	mg/L	0.0148	1.47%
Be 313.042†	700835.0	0.9527	mg/L	0.01409	0.9527	mg/L	0.01409	1.48%
Ca 317.933†	21891.7	2.064	mg/L	0.0168	2.064	mg/L	0.0168	0.81%
Cd 228.802†	31412.8	1.004	mg/L	0.0064	1.004	mg/L	0.0064	0.64%
Co 228.616†	38857.8	0.9661	mg/L	0.00672	0.9661	mg/L	0.00672	0.70%
Cr 267.716†	8953.6	1.018	mg/L	0.0104	1.018	mg/L	0.0104	1.02%
Cu 324.752†	226063.6	1.006	mg/L	0.0081	1.006	mg/L	0.0081	0.80%
Fe 273.955†	2931.1	2.051	mg/L	0.0325	2.051	mg/L	0.0325	1.58%
K 766.490†	45555.3	20.33	mg/L	0.221	20.33	mg/L	0.221	1.09%
Mg 279.077†	2607.2	2.025	mg/L	0.0244	2.025	mg/L	0.0244	1.21%
Mn 257.610†	53778.1	0.9596	mg/L	0.01422	0.9596	mg/L	0.01422	1.48%
Mo 202.031†	20638.3	1.010	mg/L	0.0016	1.010	mg/L	0.0016	0.16%
Na 589.592†	636515.2	49.04	mg/L	0.676	49.04	mg/L	0.676	1.38%
Na 330.237†	1587.7	52.15	mg/L	0.673	52.15	mg/L	0.673	1.29%
Ni 231.604†	4753.7	0.9810	mg/L	0.01579	0.9810	mg/L	0.01579	1.61%
Pb 220.353†	23669.8	1.985	mg/L	0.0041	1.985	mg/L	0.0041	0.21%
Sb 206.836†	7281.4	2.047	mg/L	0.0046	2.047	mg/L	0.0046	0.23%
Se 196.026†	3445.7	1.947	mg/L	0.0056	1.947	mg/L	0.0056	0.29%
Si 288.158†	4575.5	2.089	mg/L	0.0215	2.089	mg/L	0.0215	1.03%
Sn 189.927†	7027.4	1.017	mg/L	0.0022	1.017	mg/L	0.0022	0.22%
Sr 421.552†	828757.0	0.9772	mg/L	0.01251	0.9772	mg/L	0.01251	1.28%
Ti 334.903†	28463.3	0.9840	mg/L	0.01169	0.9840	mg/L	0.01169	1.19%
Tl 190.801†	4818.8	1.942	mg/L	0.0069	1.942	mg/L	0.0069	0.35%
V 292.402†	182645.5	0.9956	mg/L	0.00464	0.9956	mg/L	0.00464	0.47%
Zn 206.200†	2991.9	1.013	mg/L	0.0135	1.013	mg/L	0.0135	1.33%

Sequence No.: 2
Sample ID: CB
Dilution: 1X

Autosampler Location: 1
Date Collected: 5/10/2012 9:11:43 AM
Data Type: Original

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2552256.6	100.2	%	0.48				0.48%
ScR 361.383	390392.9	101.8	%	0.97				0.96%
Ag 328.068†	3.6	0.00001	mg/L	0.000084	0.00001	mg/L	0.000084	625.68%
Al 308.215†	9.4	0.00586	mg/L	0.001484	0.00586	mg/L	0.001484	25.32%
As 188.979†	0.5	0.00023	mg/L	0.001201	0.00023	mg/L	0.001201	522.28%
B 249.677†	2.3	0.00035	mg/L	0.000711	0.00035	mg/L	0.000711	201.74%
Ba 233.527†	-1.6	-0.00018	mg/L	0.000267	-0.00018	mg/L	0.000267	145.24%
Be 313.042†	-25.4	-0.00003	mg/L	0.000026	-0.00003	mg/L	0.000026	74.49%
Ca 317.933†	0.5	0.00005	mg/L	0.000401	0.00005	mg/L	0.000401	881.46%
Cd 228.802†	5.5	0.00018	mg/L	0.000064	0.00018	mg/L	0.000064	36.52%
Co 228.616†	-5.6	-0.00014	mg/L	0.000175	-0.00014	mg/L	0.000175	125.66%
Cr 267.716†	-0.7	-0.00008	mg/L	0.000530	-0.00008	mg/L	0.000530	667.73%
Cu 324.752†	9.9	0.00004	mg/L	0.000109	0.00004	mg/L	0.000109	247.35%
Fe 273.955†	-1.3	-0.00090	mg/L	0.001739	-0.00090	mg/L	0.001739	194.17%
K 766.490†	34.9	0.01557	mg/L	0.004961	0.01557	mg/L	0.004961	31.87%
Mg 279.077†	0.6	0.00047	mg/L	0.006869	0.00047	mg/L	0.006869	>999.9%
Mn 257.610†	-1.4	-0.00003	mg/L	0.000035	-0.00003	mg/L	0.000035	139.54%
Mo 202.031†	-3.0	-0.00015	mg/L	0.000107	-0.00015	mg/L	0.000107	72.97%
Na 589.592†	-0.1	-0.00001	mg/L	0.000922	-0.00001	mg/L	0.000922	>999.9%
Na 330.237†	7.1	0.2343	mg/L	0.08742	0.2343	mg/L	0.08742	37.31%
Ni 231.604†	-3.7	-0.00076	mg/L	0.001052	-0.00076	mg/L	0.001052	138.86%
Pb 220.353†	1.7	0.00014	mg/L	0.000623	0.00014	mg/L	0.000623	435.40%
Sb 206.836†	12.0	0.00338	mg/L	0.001875	0.00338	mg/L	0.001875	55.46%
Se 196.026†	0.6	0.00034	mg/L	0.002934	0.00034	mg/L	0.002934	853.77%
Si 288.158†	-0.3	-0.00015	mg/L	0.000316	-0.00015	mg/L	0.000316	207.17%
Sn 189.927†	5.6	0.00082	mg/L	0.000527	0.00082	mg/L	0.000527	64.45%
Sr 421.552†	24.0	0.00003	mg/L	0.000011	0.00003	mg/L	0.000011	37.82%
Ti 334.903†	9.5	0.00033	mg/L	0.000522	0.00033	mg/L	0.000522	158.33%
Tl 190.801†	6.1	0.00245	mg/L	0.000725	0.00245	mg/L	0.000725	29.63%
V 292.402†	24.8	0.00013	mg/L	0.000075	0.00013	mg/L	0.000075	56.00%
Zn 206.200†	-1.8	-0.00062	mg/L	0.000100	-0.00062	mg/L	0.000100	16.03%

Sequence No.: 3
Sample ID: CRI

Autosampler Location: 301
Date Collected: 5/10/2012 9:15:57 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2604339.1	102.2	%	0.17				0.16%
ScR 361.383	391283.9	102.0	%	0.25				0.24%
Ag 328.068†	780.5	0.00288	mg/L	0.000031	0.00288	mg/L	0.000031	1.09%
Al 308.215†	89.8	0.05595	mg/L	0.002489	0.05595	mg/L	0.002489	4.45%
As 188.979†	119.4	0.05061	mg/L	0.001285	0.05061	mg/L	0.001285	2.54%
B 249.677†	118.7	0.01844	mg/L	0.000304	0.01844	mg/L	0.000304	1.65%
Ba 233.527†	27.4	0.00316	mg/L	0.000637	0.00316	mg/L	0.000637	20.14%
Be 313.042†	646.7	0.00088	mg/L	0.000045	0.00088	mg/L	0.000045	5.10%
Ca 317.933†	522.9	0.04929	mg/L	0.001220	0.04929	mg/L	0.001220	2.48%
Cd 228.802†	72.3	0.00215	mg/L	0.000106	0.00215	mg/L	0.000106	4.91%
Co 228.616†	118.8	0.00295	mg/L	0.000117	0.00295	mg/L	0.000117	3.98%
Cr 267.716†	39.9	0.00454	mg/L	0.000498	0.00454	mg/L	0.000498	10.98%
Cu 324.752†	407.5	0.00182	mg/L	0.000027	0.00182	mg/L	0.000027	1.47%
Fe 273.955†	72.1	0.05054	mg/L	0.000252	0.05054	mg/L	0.000252	0.50%
K 766.490†	1116.5	0.4983	mg/L	0.02572	0.4983	mg/L	0.02572	5.16%
Mg 279.077†	73.3	0.05679	mg/L	0.000747	0.05679	mg/L	0.000747	1.32%
Mn 257.610†	58.6	0.00105	mg/L	0.000150	0.00105	mg/L	0.000150	14.32%
Mo 202.031†	82.4	0.00403	mg/L	0.000134	0.00403	mg/L	0.000134	3.34%
Na 589.592†	5915.1	0.4557	mg/L	0.00012	0.4557	mg/L	0.00012	0.03%
Na 330.237†	19.1	0.6255	mg/L	0.20504	0.6255	mg/L	0.20504	32.78%
Ni 231.604†	43.6	0.00902	mg/L	0.000520	0.00902	mg/L	0.000520	5.77%
Pb 220.353†	234.3	0.01964	mg/L	0.000923	0.01964	mg/L	0.000923	4.70%
Sb 206.836†	177.1	0.04982	mg/L	0.000539	0.04982	mg/L	0.000539	1.08%
Se 196.026†	86.7	0.04902	mg/L	0.002454	0.04902	mg/L	0.002454	5.01%
Si 288.158†	130.2	0.05937	mg/L	0.004891	0.05937	mg/L	0.004891	8.24%
Sn 189.927†	73.7	0.01069	mg/L	0.000565	0.01069	mg/L	0.000565	5.29%
Sr 421.552†	806.6	0.00095	mg/L	0.000051	0.00095	mg/L	0.000051	5.35%
Ti 334.903†	152.4	0.00527	mg/L	0.000375	0.00527	mg/L	0.000375	7.11%
Tl 190.801†	124.5	0.05022	mg/L	0.000368	0.05022	mg/L	0.000368	0.73%
V 292.402†	512.2	0.00279	mg/L	0.000051	0.00279	mg/L	0.000051	1.82%
Zn 206.200†	25.5	0.00865	mg/L	0.000301	0.00865	mg/L	0.000301	3.48%

Sequence No.: 4
Sample ID: ICSA

Autosampler Location: 302
Date Collected: 5/10/2012 9:20:12 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2506505.9	98.41	%	0.684				0.69%
ScR 361.383	380149.7	99.11	%	1.496				1.51%
Ag 328.068†	-226.1	-0.00151	mg/L	0.000054	-0.00151	mg/L	0.000054	3.61%
Al 308.215†	319107.5	199.3	mg/L	0.45	199.3	mg/L	0.45	0.23%
As 188.979†	-0.3	-0.01588	mg/L	0.001053	-0.01588	mg/L	0.001053	6.63%
B 249.677†	21.2	0.00328	mg/L	0.001252	0.00328	mg/L	0.001252	38.11%
Ba 233.527†	115.7	0.00322	mg/L	0.000348	0.00322	mg/L	0.000348	10.80%
Be 313.042†	45.9	0.00004	mg/L	0.000021	0.00004	mg/L	0.000021	50.32%
Ca 317.933†	1070456.8	100.9	mg/L	0.14	100.9	mg/L	0.14	0.14%
Cd 228.802†	69.3	0.00034	mg/L	0.000030	0.00034	mg/L	0.000030	8.66%
Co 228.616†	97.9	0.00243	mg/L	0.000016	0.00243	mg/L	0.000016	0.64%
Cr 267.716†	-33.7	-0.00094	mg/L	0.000300	-0.00094	mg/L	0.000300	31.89%
Cu 324.752†	-3640.7	-0.00239	mg/L	0.000200	-0.00239	mg/L	0.000200	8.34%
Fe 273.955†	283364.0	198.7	mg/L	0.03	198.7	mg/L	0.03	0.02%
K 766.490†	72.3	0.03228	mg/L	0.003833	0.03228	mg/L	0.003833	11.88%
Mg 279.077†	126729.8	98.05	mg/L	0.107	98.05	mg/L	0.107	0.11%
Mn 257.610†	54.0	0.00011	mg/L	0.000110	0.00011	mg/L	0.000110	99.43%
Mo 202.031†	123.8	0.00435	mg/L	0.000149	0.00435	mg/L	0.000149	3.42%
Na 589.592†	360.2	0.02775	mg/L	0.003316	0.02775	mg/L	0.003316	11.95%
Na 330.237†	19.6	-0.01196	mg/L	0.277769	-0.01196	mg/L	0.277769	>999.9%
Ni 231.604†	-7.4	-0.00143	mg/L	0.001224	-0.00143	mg/L	0.001224	85.88%
Pb 220.353†	-254.1	-0.00669	mg/L	0.000214	-0.00669	mg/L	0.000214	3.19%
Sb 206.836†	371.8	0.01648	mg/L	0.003509	0.01648	mg/L	0.003509	21.29%
Se 196.026†	-21.8	0.01049	mg/L	0.007828	0.01049	mg/L	0.007828	74.60%
Si 288.158†	-40.3	-0.01834	mg/L	0.003911	-0.01834	mg/L	0.003911	21.33%
Sn 189.927†	-103.8	-0.01197	mg/L	0.001267	-0.01197	mg/L	0.001267	10.59%
Sr 421.552†	8411.6	0.00992	mg/L	0.000136	0.00992	mg/L	0.000136	1.37%
Ti 334.903†	84.8	-0.00059	mg/L	0.000192	-0.00059	mg/L	0.000192	32.57%
Tl 190.801†	-31.0	0.01364	mg/L	0.001317	0.01364	mg/L	0.001317	9.66%
V 292.402†	5611.9	0.00644	mg/L	0.000171	0.00644	mg/L	0.000171	2.65%
Zn 206.200†	-36.6	-0.00508	mg/L	0.000370	-0.00508	mg/L	0.000370	7.28%

Sequence No.: 5
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 5/10/2012 9:24:28 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2515223.5	98.75	%	0.077				0.08%
ScR 361.383	385439.3	100.5	%	1.95				1.94%
Ag 328.068†	281316.5	1.038	mg/L	0.0050	1.038	mg/L	0.0050	0.48%
Al 308.215†	322472.3	201.3	mg/L	1.10	201.3	mg/L	1.10	0.55%
As 188.979†	2406.8	1.003	mg/L	0.0029	1.003	mg/L	0.0029	0.29%
B 249.677†	25.8	0.00120	mg/L	0.001710	0.00120	mg/L	0.001710	142.14%
Ba 233.527†	8885.9	1.016	mg/L	0.0124	1.016	mg/L	0.0124	1.22%
Be 313.042†	718889.7	0.9773	mg/L	0.00505	0.9773	mg/L	0.00505	0.52%
Ca 317.933†	1078933.2	101.7	mg/L	0.08	101.7	mg/L	0.08	0.08%
Cd 228.802†	32730.6	1.047	mg/L	0.0025	1.047	mg/L	0.0025	0.24%
Co 228.616†	38723.6	0.9641	mg/L	0.00265	0.9641	mg/L	0.00265	0.27%
Cr 267.716†	9045.7	1.032	mg/L	0.0132	1.032	mg/L	0.0132	1.28%
Cu 324.752†	234268.7	1.057	mg/L	0.0022	1.057	mg/L	0.0022	0.20%
Fe 273.955†	287584.7	201.7	mg/L	1.44	201.7	mg/L	1.44	0.71%
K 766.490†	33.4	0.01489	mg/L	0.005277	0.01489	mg/L	0.005277	35.44%
Mg 279.077†	127741.4	98.83	mg/L	0.244	98.83	mg/L	0.244	0.25%
Mn 257.610†	54086.0	0.9639	mg/L	0.00416	0.9639	mg/L	0.00416	0.43%
Mo 202.031†	116.2	0.00396	mg/L	0.000259	0.00396	mg/L	0.000259	6.54%
Na 589.592†	284.4	0.02191	mg/L	0.000450	0.02191	mg/L	0.000450	2.05%
Na 330.237†	29.7	0.1099	mg/L	0.24449	0.1099	mg/L	0.24449	222.44%
Ni 231.604†	4640.9	0.9569	mg/L	0.01281	0.9569	mg/L	0.01281	1.34%
Pb 220.353†	11673.7	0.9936	mg/L	0.00441	0.9936	mg/L	0.00441	0.44%
Sb 206.836†	3901.6	0.9995	mg/L	0.00346	0.9995	mg/L	0.00346	0.35%
Se 196.026†	1809.2	1.045	mg/L	0.0017	1.045	mg/L	0.0017	0.16%
Si 288.158†	-55.2	-0.02122	mg/L	0.001016	-0.02122	mg/L	0.001016	4.78%
Sn 189.927†	-115.4	-0.01288	mg/L	0.000737	-0.01288	mg/L	0.000737	5.72%
Sr 421.552†	8466.3	0.00998	mg/L	0.000042	0.00998	mg/L	0.000042	0.42%
Ti 334.903†	86.0	-0.00080	mg/L	0.000210	-0.00080	mg/L	0.000210	26.16%
Tl 190.801†	2348.5	0.9691	mg/L	0.00477	0.9691	mg/L	0.00477	0.49%
V 292.402†	189191.0	1.007	mg/L	0.0058	1.007	mg/L	0.0058	0.57%
Zn 206.200†	2757.7	0.9413	mg/L	0.01423	0.9413	mg/L	0.01423	1.51%

Sequence No.: 6
Sample ID: CV

Autosampler Location: 7
Date Collected: 5/10/2012 9:29:18 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2660504.3	104.5	%	0.30				0.29%
ScR 361.383	397663.4	103.7	%	0.64				0.62%
Ag 328.068†	273102.2	1.008	mg/L	0.0021	1.008	mg/L	0.0021	0.21%
Al 308.215†	3222.5	1.982	mg/L	0.0047	1.982	mg/L	0.0047	0.24%
As 188.979†	4633.2	1.968	mg/L	0.0085	1.968	mg/L	0.0085	0.43%
B 249.677†	6303.5	0.9772	mg/L	0.00275	0.9772	mg/L	0.00275	0.28%
Ba 233.527†	8680.5	1.003	mg/L	0.0038	1.003	mg/L	0.0038	0.38%
Be 313.042†	700473.1	0.9522	mg/L	0.00551	0.9522	mg/L	0.00551	0.58%
Ca 317.933†	20820.2	1.963	mg/L	0.0060	1.963	mg/L	0.0060	0.31%
Cd 228.802†	31941.1	1.020	mg/L	0.0020	1.020	mg/L	0.0020	0.20%
Co 228.616†	39550.8	0.9833	mg/L	0.00087	0.9833	mg/L	0.00087	0.09%
Cr 267.716†	8980.3	1.021	mg/L	0.0050	1.021	mg/L	0.0050	0.49%
Cu 324.752†	230472.0	1.025	mg/L	0.0033	1.025	mg/L	0.0033	0.32%
Fe 273.955†	2937.4	2.055	mg/L	0.0091	2.055	mg/L	0.0091	0.44%
K 766.490†	45203.8	20.17	mg/L	0.139	20.17	mg/L	0.139	0.69%
Mg 279.077†	2603.3	2.022	mg/L	0.0042	2.022	mg/L	0.0042	0.21%
Mn 257.610†	53554.0	0.9556	mg/L	0.00413	0.9556	mg/L	0.00413	0.43%
Mo 202.031†	20786.9	1.017	mg/L	0.0038	1.017	mg/L	0.0038	0.38%
Na 589.592†	619548.9	47.73	mg/L	0.316	47.73	mg/L	0.316	0.66%
Na 330.237†	1583.3	52.00	mg/L	0.145	52.00	mg/L	0.145	0.28%
Ni 231.604†	4740.5	0.9783	mg/L	0.00440	0.9783	mg/L	0.00440	0.45%
Pb 220.353†	23895.8	2.004	mg/L	0.0064	2.004	mg/L	0.0064	0.32%
Sb 206.836†	7378.1	2.074	mg/L	0.0080	2.074	mg/L	0.0080	0.39%
Se 196.026†	3488.6	1.971	mg/L	0.0040	1.971	mg/L	0.0040	0.20%
Si 288.158†	4528.8	2.068	mg/L	0.0058	2.068	mg/L	0.0058	0.28%
Sn 189.927†	7088.8	1.026	mg/L	0.0041	1.026	mg/L	0.0041	0.40%
Sr 421.552†	823674.6	0.9712	mg/L	0.00407	0.9712	mg/L	0.00407	0.42%
Ti 334.903†	28377.2	0.9811	mg/L	0.00460	0.9811	mg/L	0.00460	0.47%
Tl 190.801†	4859.6	1.959	mg/L	0.0077	1.959	mg/L	0.0077	0.40%
V 292.402†	185460.0	1.011	mg/L	0.0033	1.011	mg/L	0.0033	0.33%
Zn 206.200†	3002.7	1.017	mg/L	0.0051	1.017	mg/L	0.0051	0.50%

Sequence No.: 7
Sample ID: CB

Autosampler Location: 1
Date Collected: 5/10/2012 9:33:21 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2674114.9	105.0	%	0.19				0.18%
ScR 361.383	406948.7	106.1	%	0.76				0.72%
Ag 328.068†	37.1	0.00014	mg/L	0.000022	0.00014	mg/L	0.000022	16.21%
Al 308.215†	-4.8	-0.00299	mg/L	0.000892	-0.00299	mg/L	0.000892	29.84%
As 188.979†	2.0	0.00086	mg/L	0.000993	0.00086	mg/L	0.000993	114.87%
B 249.677†	-6.2	-0.00097	mg/L	0.000877	-0.00097	mg/L	0.000877	90.55%
Ba 233.527†	-0.2	-0.00002	mg/L	0.000123	-0.00002	mg/L	0.000123	524.39%
Be 313.042†	-28.5	-0.00004	mg/L	0.000019	-0.00004	mg/L	0.000019	49.46%
Ca 317.933†	-14.4	-0.00136	mg/L	0.000420	-0.00136	mg/L	0.000420	30.90%
Cd 228.802†	-4.0	-0.00013	mg/L	0.000018	-0.00013	mg/L	0.000018	14.06%
Co 228.616†	3.7	0.00009	mg/L	0.000134	0.00009	mg/L	0.000134	146.75%
Cr 267.716†	0.4	0.00005	mg/L	0.000251	0.00005	mg/L	0.000251	518.48%
Cu 324.752†	-16.9	-0.00008	mg/L	0.000156	-0.00008	mg/L	0.000156	206.79%
Fe 273.955†	3.0	0.00212	mg/L	0.002490	0.00212	mg/L	0.002490	117.26%
K 766.490†	43.1	0.01925	mg/L	0.015184	0.01925	mg/L	0.015184	78.86%
Mg 279.077†	8.7	0.00671	mg/L	0.004915	0.00671	mg/L	0.004915	73.26%
Mn 257.610†	-1.5	-0.00003	mg/L	0.000040	-0.00003	mg/L	0.000040	149.87%
Mo 202.031†	-15.2	-0.00075	mg/L	0.000163	-0.00075	mg/L	0.000163	21.86%
Na 589.592†	-33.8	-0.00261	mg/L	0.001745	-0.00261	mg/L	0.001745	66.95%
Na 330.237†	-0.7	-0.02133	mg/L	0.125221	-0.02133	mg/L	0.125221	587.04%
Ni 231.604†	-0.2	-0.00004	mg/L	0.000737	-0.00004	mg/L	0.000737	>999.9%
Pb 220.353†	-5.3	-0.00044	mg/L	0.000392	-0.00044	mg/L	0.000392	88.17%
Sb 206.836†	1.6	0.00045	mg/L	0.001667	0.00045	mg/L	0.001667	373.24%
Se 196.026†	1.9	0.00105	mg/L	0.002861	0.00105	mg/L	0.002861	272.15%
Si 288.158†	-6.6	-0.00301	mg/L	0.001761	-0.00301	mg/L	0.001761	58.48%
Sn 189.927†	7.4	0.00108	mg/L	0.000823	0.00108	mg/L	0.000823	76.52%
Sr 421.552†	45.9	0.00005	mg/L	0.000050	0.00005	mg/L	0.000050	92.19%
Ti 334.903†	15.4	0.00054	mg/L	0.000876	0.00054	mg/L	0.000876	163.47%
Tl 190.801†	5.6	0.00227	mg/L	0.002591	0.00227	mg/L	0.002591	114.32%
V 292.402†	-10.2	-0.00006	mg/L	0.000007	-0.00006	mg/L	0.000007	11.62%
Zn 206.200†	1.6	0.00054	mg/L	0.001062	0.00054	mg/L	0.001062	195.42%

Sequence No.: 8
Sample ID: US82 MB2 WMN

Autosampler Location: 304
Date Collected: 5/10/2012 9:37:36 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 MB2 WMN

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US82 MB2 WMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2704758.9	106.2	%	0.18				0.17%
ScR 361.383	403892.3	105.3	%	0.33				0.31%
Ag 328.068†	-25.6	-0.00009	mg/L	0.000143	-0.00009	mg/L	0.000143	151.82%
Al 308.215†	0.6	0.00037	mg/L	0.001759	0.00037	mg/L	0.001759	472.53%
As 188.979†	3.9	0.00164	mg/L	0.001134	0.00164	mg/L	0.001134	69.04%
B 249.677†	-16.3	-0.00253	mg/L	0.000921	-0.00253	mg/L	0.000921	36.38%
Ba 233.527†	-1.3	-0.00015	mg/L	0.000306	-0.00015	mg/L	0.000306	204.22%
Be 313.042†	-72.7	-0.00010	mg/L	0.000023	-0.00010	mg/L	0.000023	22.78%
Ca 317.933†	-11.4	-0.00108	mg/L	0.001136	-0.00108	mg/L	0.001136	105.31%
Cd 228.802†	-2.6	-0.00009	mg/L	0.000027	-0.00009	mg/L	0.000027	30.11%
Co 228.616†	0.7	0.00002	mg/L	0.000100	0.00002	mg/L	0.000100	565.78%
Cr 267.716†	-3.3	-0.00038	mg/L	0.000843	-0.00038	mg/L	0.000843	221.49%
Cu 324.752†	-49.4	-0.00022	mg/L	0.000073	-0.00022	mg/L	0.000073	33.02%
Fe 273.955†	3.1	0.00216	mg/L	0.000406	0.00216	mg/L	0.000406	18.79%
K 766.490†	42.2	0.01885	mg/L	0.008982	0.01885	mg/L	0.008982	47.65%
Mg 279.077†	7.7	0.00595	mg/L	0.002705	0.00595	mg/L	0.002705	45.46%
Mn 257.610†	-1.7	-0.00003	mg/L	0.000017	-0.00003	mg/L	0.000017	57.11%
Mo 202.031†	-29.8	-0.00146	mg/L	0.000206	-0.00146	mg/L	0.000206	14.08%
Na 589.592†	2595.0	0.1999	mg/L	0.04358	0.1999	mg/L	0.04358	21.80%
Na 330.237†	-2.0	-0.06449	mg/L	0.253601	-0.06449	mg/L	0.253601	393.26%
Ni 231.604†	-2.4	-0.00051	mg/L	0.001726	-0.00051	mg/L	0.001726	338.89%
Pb 220.353†	-8.6	-0.00072	mg/L	0.000448	-0.00072	mg/L	0.000448	62.23%
Sb 206.836†	-19.9	-0.00557	mg/L	0.000400	-0.00557	mg/L	0.000400	7.19%
Se 196.026†	7.4	0.00418	mg/L	0.000550	0.00418	mg/L	0.000550	13.16%
Si 288.158†	-26.5	-0.01209	mg/L	0.002661	-0.01209	mg/L	0.002661	22.01%
Sn 189.927†	5.8	0.00083	mg/L	0.000386	0.00083	mg/L	0.000386	46.27%
Sr 421.552†	11.6	0.00001	mg/L	0.000020	0.00001	mg/L	0.000020	145.35%
Ti 334.903†	1.4	0.00005	mg/L	0.000374	0.00005	mg/L	0.000374	764.79%
Tl 190.801†	4.9	0.00197	mg/L	0.001647	0.00197	mg/L	0.001647	83.62%
V 292.402†	-28.1	-0.00016	mg/L	0.000098	-0.00016	mg/L	0.000098	62.75%
Zn 206.200†	3.9	0.00133	mg/L	0.000182	0.00133	mg/L	0.000182	13.64%

Sequence No.: 9
Sample ID: US82 F-L WMN

Autosampler Location: 305
Date Collected: 5/10/2012 9:41:51 AM
Data Type: Original

Dilution: 5X

Nebulizer Parameters: US82 F-L WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 F-L WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2684171.7	105.4	%	0.48				0.46%
ScR 361.383	407864.1	106.3	%	0.58				0.55%
Ag 328.068†	21.9	0.00003	mg/L	0.000087	0.00014	mg/L	0.000434	316.59%
Al 308.215†	0.3	0.00018	mg/L	0.001090	0.00092	mg/L	0.005452	589.69%
As 188.979†	-0.3	-0.00012	mg/L	0.000913	-0.00060	mg/L	0.004563	763.63%
B 249.677†	-4.1	-0.00064	mg/L	0.000658	-0.00319	mg/L	0.003292	103.09%
Ba 233.527†	13.9	0.00161	mg/L	0.000145	0.00803	mg/L	0.000727	9.06%
Be 313.042†	-63.9	-0.00009	mg/L	0.000018	-0.00044	mg/L	0.000089	20.44%
Ca 317.933†	84340.0	7.950	mg/L	0.0288	39.75	mg/L	0.144	0.36%
Cd 228.802†	-3.9	-0.00012	mg/L	0.000172	-0.00062	mg/L	0.000862	138.76%
Co 228.616†	4.1	0.00010	mg/L	0.000114	0.00051	mg/L	0.000568	111.87%
Cr 267.716†	-0.4	-0.00025	mg/L	0.000534	-0.00123	mg/L	0.002671	217.04%
Cu 324.752†	155.7	0.00069	mg/L	0.000039	0.00346	mg/L	0.000196	5.67%
Fe 273.955†	6.0	0.00422	mg/L	0.001053	0.02108	mg/L	0.005267	24.99%
K 766.490†	780.8	0.3485	mg/L	0.00640	1.742	mg/L	0.0320	1.84%
Mg 279.077†	457.6	0.3545	mg/L	0.00283	1.772	mg/L	0.0142	0.80%
Mn 257.610†	14.6	0.00026	mg/L	0.000062	0.00129	mg/L	0.000309	23.94%
Mo 202.031†	18.0	0.00075	mg/L	0.000072	0.00373	mg/L	0.000361	9.67%
Na 589.592†	27431.0	2.113	mg/L	0.0097	10.57	mg/L	0.048	0.46%
Na 330.237†	65.1	2.083	mg/L	0.2488	10.42	mg/L	1.244	11.94%
Ni 231.604†	0.7	0.00015	mg/L	0.000811	0.00074	mg/L	0.004057	546.06%
Pb 220.353†	-22.2	-0.00186	mg/L	0.000497	-0.00932	mg/L	0.002483	26.65%
Sb 206.836†	-5.7	-0.00161	mg/L	0.000472	-0.00804	mg/L	0.002359	29.35%
Se 196.026†	8.2	0.00465	mg/L	0.002660	0.02323	mg/L	0.013302	57.25%
Si 288.158†	2637.9	1.202	mg/L	0.0143	6.011	mg/L	0.0715	1.19%
Sn 189.927†	-3.5	-0.00027	mg/L	0.000683	-0.00135	mg/L	0.003413	252.07%
Sr 421.552†	17399.1	0.02051	mg/L	0.000160	0.1026	mg/L	0.00080	0.78%
Ti 334.903†	6.0	-0.00007	mg/L	0.000221	-0.00036	mg/L	0.001104	308.17%
Tl 190.801†	9.3	0.00375	mg/L	0.001602	0.01873	mg/L	0.008012	42.77%
V 292.402†	74.7	0.00041	mg/L	0.000114	0.00203	mg/L	0.000569	28.10%
Zn 206.200†	6.7	0.00215	mg/L	0.000283	0.01077	mg/L	0.001417	13.16%

Sequence No.: 10
Sample ID: US82 F WMN

Autosampler Location: 306
Date Collected: 5/10/2012 9:46:05 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 F WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 F WMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2710977.2	106.4	%	0.76				0.72%
ScR 361.383	409117.5	106.7	%	1.15				1.08%
Ag 328.068†	40.1	-0.00013	mg/L	0.000063	-0.00013	mg/L	0.000063	48.61%
Al 308.215†	-2.0	-0.00135	mg/L	0.004185	-0.00135	mg/L	0.004185	310.55%
As 188.979†	-6.3	-0.00271	mg/L	0.001487	-0.00271	mg/L	0.001487	54.86%
B 249.677†	70.7	0.01099	mg/L	0.000647	0.01099	mg/L	0.000647	5.88%
Ba 233.527†	51.8	0.00598	mg/L	0.000228	0.00598	mg/L	0.000228	3.81%
Be 313.042†	-58.4	-0.00008	mg/L	0.000033	-0.00008	mg/L	0.000033	40.14%
Ca 317.933†	436590.8	41.16	mg/L	0.438	41.16	mg/L	0.438	1.07%
Cd 228.802†	-3.8	-0.00011	mg/L	0.000175	-0.00011	mg/L	0.000175	158.68%
Co 228.616†	24.1	0.00060	mg/L	0.000055	0.00060	mg/L	0.000055	9.26%
Cr 267.716†	10.2	0.00014	mg/L	0.000345	0.00014	mg/L	0.000345	241.13%
Cu 324.752†	770.4	0.00342	mg/L	0.000106	0.00342	mg/L	0.000106	3.11%
Fe 273.955†	5.6	0.00393	mg/L	0.000649	0.00393	mg/L	0.000649	16.53%
K 766.490†	3794.6	1.694	mg/L	0.0431	1.694	mg/L	0.0431	2.55%
Mg 279.077†	2196.3	1.701	mg/L	0.0147	1.701	mg/L	0.0147	0.87%
Mn 257.610†	48.5	0.00085	mg/L	0.000027	0.00085	mg/L	0.000027	3.12%
Mo 202.031†	145.0	0.00640	mg/L	0.000241	0.00640	mg/L	0.000241	3.77%
Na 589.592†	145789.8	11.23	mg/L	0.157	11.23	mg/L	0.157	1.40%
Na 330.237†	364.4	11.69	mg/L	0.208	11.69	mg/L	0.208	1.78%
Ni 231.604†	11.2	0.00230	mg/L	0.000259	0.00230	mg/L	0.000259	11.28%
Pb 220.353†	-27.4	-0.00230	mg/L	0.000183	-0.00230	mg/L	0.000183	7.95%
Sb 206.836†	-0.9	-0.00029	mg/L	0.001550	-0.00029	mg/L	0.001550	533.34%
Se 196.026†	41.8	0.02363	mg/L	0.001806	0.02363	mg/L	0.001806	7.64%
Si 288.158†	13437.9	6.124	mg/L	0.0809	6.124	mg/L	0.0809	1.32%
Sn 189.927†	-22.2	-0.00201	mg/L	0.000376	-0.00201	mg/L	0.000376	18.72%
Sr 421.552†	89340.7	0.1053	mg/L	0.00154	0.1053	mg/L	0.00154	1.46%
Ti 334.903†	45.9	0.00015	mg/L	0.000628	0.00015	mg/L	0.000628	432.46%
Tl 190.801†	21.2	0.00857	mg/L	0.001634	0.00857	mg/L	0.001634	19.06%
V 292.402†	494.3	0.00269	mg/L	0.000124	0.00269	mg/L	0.000124	4.60%
Zn 206.200†	4.5	0.00099	mg/L	0.000747	0.00099	mg/L	0.000747	75.46%

Sequence No.: 11
Sample ID: US82 FDUP WMN

Autosampler Location: 307
Date Collected: 5/10/2012 9:50:19 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 FDUP WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 FDUP WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2727384.6	107.1	%	0.29				0.27%
ScR 361.383	409381.9	106.7	%	0.83				0.78%
Ag 328.068†	98.3	0.00009	mg/L	0.000209	0.00009	mg/L	0.000209	245.52%
Al 308.215†	-5.0	-0.00324	mg/L	0.002564	-0.00324	mg/L	0.002564	79.03%
As 188.979†	-7.1	-0.00305	mg/L	0.001389	-0.00305	mg/L	0.001389	45.59%
B 249.677†	63.6	0.00989	mg/L	0.001228	0.00989	mg/L	0.001228	12.43%
Ba 233.527†	57.6	0.00665	mg/L	0.000660	0.00665	mg/L	0.000660	9.92%
Be 313.042†	-63.0	-0.00009	mg/L	0.000021	-0.00009	mg/L	0.000021	23.48%
Ca 317.933†	437982.5	41.29	mg/L	0.375	41.29	mg/L	0.375	0.91%
Cd 228.802†	-0.7	-0.00001	mg/L	0.000061	-0.00001	mg/L	0.000061	446.68%
Co 228.616†	19.4	0.00048	mg/L	0.000146	0.00048	mg/L	0.000146	30.36%
Cr 267.716†	5.6	-0.00038	mg/L	0.000852	-0.00038	mg/L	0.000852	225.25%
Cu 324.752†	712.6	0.00316	mg/L	0.000170	0.00316	mg/L	0.000170	5.37%
Fe 273.955†	3.8	0.00268	mg/L	0.001300	0.00268	mg/L	0.001300	48.47%
K 766.490†	3844.2	1.716	mg/L	0.0301	1.716	mg/L	0.0301	1.76%
Mg 279.077†	2220.7	1.720	mg/L	0.0231	1.720	mg/L	0.0231	1.34%
Mn 257.610†	48.3	0.00085	mg/L	0.000044	0.00085	mg/L	0.000044	5.13%
Mo 202.031†	142.9	0.00629	mg/L	0.000113	0.00629	mg/L	0.000113	1.79%
Na 589.592†	145418.7	11.20	mg/L	0.163	11.20	mg/L	0.163	1.46%
Na 330.237†	379.8	12.20	mg/L	0.411	12.20	mg/L	0.411	3.37%
Ni 231.604†	4.7	0.00098	mg/L	0.000552	0.00098	mg/L	0.000552	56.60%
Pb 220.353†	-40.0	-0.00335	mg/L	0.000553	-0.00335	mg/L	0.000553	16.50%
Sb 206.836†	-0.1	-0.00004	mg/L	0.001935	-0.00004	mg/L	0.001935	>999.9%
Se 196.026†	43.6	0.02463	mg/L	0.003580	0.02463	mg/L	0.003580	14.54%
Si 288.158†	13567.6	6.183	mg/L	0.0683	6.183	mg/L	0.0683	1.10%
Sn 189.927†	-25.9	-0.00253	mg/L	0.000385	-0.00253	mg/L	0.000385	15.25%
Sr 421.552†	89318.0	0.1053	mg/L	0.00162	0.1053	mg/L	0.00162	1.54%
Ti 334.903†	42.2	0.00001	mg/L	0.000234	0.00001	mg/L	0.000234	>999.9%
Tl 190.801†	21.4	0.00865	mg/L	0.001775	0.00865	mg/L	0.001775	20.53%
V 292.402†	466.3	0.00254	mg/L	0.000033	0.00254	mg/L	0.000033	1.29%
Zn 206.200†	1.7	0.00003	mg/L	0.000738	0.00003	mg/L	0.000738	>999.9%

Sequence No.: 12
Sample ID: US82 FSPK WMN

Autosampler Location: 308
Date Collected: 5/10/2012 9:54:33 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 FSPK WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 FSPK WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2729316.2	107.2	%	0.14				0.13%
ScR 361.383	412574.3	107.6	%	1.02				0.95%
Ag 328.068†	118774.6	0.4381	mg/L	0.01044	0.4381	mg/L	0.01044	2.38%
Al 308.215†	3304.9	2.054	mg/L	0.0250	2.054	mg/L	0.0250	1.22%
As 188.979†	4990.3	2.113	mg/L	0.0103	2.113	mg/L	0.0103	0.49%
B 249.677†	73.3	0.00992	mg/L	0.000664	0.00992	mg/L	0.000664	6.70%
Ba 233.527†	17822.8	2.059	mg/L	0.0228	2.059	mg/L	0.0228	1.11%
Be 313.042†	361177.7	0.4910	mg/L	0.00670	0.4910	mg/L	0.00670	1.36%
Ca 317.933†	540339.9	50.94	mg/L	0.629	50.94	mg/L	0.629	1.24%
Cd 228.802†	17255.5	0.5477	mg/L	0.00597	0.5477	mg/L	0.00597	1.09%
Co 228.616†	20329.2	0.5058	mg/L	0.00392	0.5058	mg/L	0.00392	0.77%
Cr 267.716†	4484.9	0.5086	mg/L	0.00434	0.5086	mg/L	0.00434	0.85%
Cu 324.752†	116637.3	0.5192	mg/L	0.00457	0.5192	mg/L	0.00457	0.88%
Fe 273.955†	2890.6	2.025	mg/L	0.0148	2.025	mg/L	0.0148	0.73%
K 766.490†	27144.5	12.11	mg/L	0.283	12.11	mg/L	0.283	2.34%
Mg 279.077†	15813.1	12.25	mg/L	0.140	12.25	mg/L	0.140	1.14%
Mn 257.610†	28376.5	0.5066	mg/L	0.00551	0.5066	mg/L	0.00551	1.09%
Mo 202.031†	156.3	0.00679	mg/L	0.000241	0.00679	mg/L	0.000241	3.55%
Na 589.592†	265958.8	20.49	mg/L	0.393	20.49	mg/L	0.393	1.92%
Na 330.237†	691.0	22.24	mg/L	0.099	22.24	mg/L	0.099	0.44%
Ni 231.604†	2386.7	0.4916	mg/L	0.00500	0.4916	mg/L	0.00500	1.02%
Pb 220.353†	24292.6	2.036	mg/L	0.0187	2.036	mg/L	0.0187	0.92%
Sb 206.836†	15.0	-0.00087	mg/L	0.002308	-0.00087	mg/L	0.002308	264.72%
Se 196.026†	4141.7	2.341	mg/L	0.0007	2.341	mg/L	0.0007	0.03%
Si 288.158†	13746.1	6.267	mg/L	0.0741	6.267	mg/L	0.0741	1.18%
Sn 189.927†	-35.0	-0.00349	mg/L	0.000596	-0.00349	mg/L	0.000596	17.06%
Sr 421.552†	507822.0	0.5988	mg/L	0.01002	0.5988	mg/L	0.01002	1.67%
Ti 334.903†	44.7	-0.00035	mg/L	0.000109	-0.00035	mg/L	0.000109	31.29%
Tl 190.801†	5084.6	2.048	mg/L	0.0078	2.048	mg/L	0.0078	0.38%
V 292.402†	95090.6	0.5180	mg/L	0.00508	0.5180	mg/L	0.00508	0.98%
Zn 206.200†	1473.3	0.4986	mg/L	0.00466	0.4986	mg/L	0.00466	0.94%

Sequence No.: 13
Sample ID: US82 G WMN

Autosampler Location: 309
Date Collected: 5/10/2012 9:58:33 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 G WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 G WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2802892.2	110.0	%	1.41				1.28%
ScR 361.383	421478.4	109.9	%	1.63				1.49%
Ag 328.068†	108.1	0.00015	mg/L	0.000080	0.00015	mg/L	0.000080	54.42%
Al 308.215†	-4.3	-0.00291	mg/L	0.004670	-0.00291	mg/L	0.004670	160.68%
As 188.979†	-6.8	-0.00296	mg/L	0.001014	-0.00296	mg/L	0.001014	34.27%
B 249.677†	80.7	0.01255	mg/L	0.000847	0.01255	mg/L	0.000847	6.75%
Ba 233.527†	29.3	0.00329	mg/L	0.000114	0.00329	mg/L	0.000114	3.46%
Be 313.042†	-99.3	-0.00014	mg/L	0.000052	-0.00014	mg/L	0.000052	38.00%
Ca 317.933†	378771.9	35.71	mg/L	0.306	35.71	mg/L	0.306	0.86%
Cd 228.802†	-3.7	-0.00013	mg/L	0.000195	-0.00013	mg/L	0.000195	150.87%
Co 228.616†	20.2	0.00051	mg/L	0.000131	0.00051	mg/L	0.000131	25.79%
Cr 267.716†	5.9	-0.00015	mg/L	0.000316	-0.00015	mg/L	0.000316	213.07%
Cu 324.752†	426.1	0.00202	mg/L	0.000012	0.00202	mg/L	0.000012	0.60%
Fe 273.955†	2828.2	1.983	mg/L	0.0102	1.983	mg/L	0.0102	0.51%
K 766.490†	5142.7	2.295	mg/L	0.0045	2.295	mg/L	0.0045	0.20%
Mg 279.077†	2792.0	2.162	mg/L	0.0042	2.162	mg/L	0.0042	0.19%
Mn 257.610†	2700.8	0.04816	mg/L	0.000606	0.04816	mg/L	0.000606	1.26%
Mo 202.031†	489.0	0.02333	mg/L	0.000340	0.02333	mg/L	0.000340	1.46%
Na 589.592†	61619.2	4.747	mg/L	0.0238	4.747	mg/L	0.0238	0.50%
Na 330.237†	163.8	5.144	mg/L	0.4459	5.144	mg/L	0.4459	8.67%
Ni 231.604†	2.3	0.00046	mg/L	0.001080	0.00046	mg/L	0.001080	232.71%
Pb 220.353†	-42.5	-0.00368	mg/L	0.001354	-0.00368	mg/L	0.001354	36.79%
Sb 206.836†	-15.2	-0.00454	mg/L	0.001019	-0.00454	mg/L	0.001019	22.46%
Se 196.026†	47.2	0.02688	mg/L	0.001597	0.02688	mg/L	0.001597	5.94%
Si 288.158†	25818.9	11.77	mg/L	0.079	11.77	mg/L	0.079	0.67%
Sn 189.927†	-24.6	-0.00252	mg/L	0.000810	-0.00252	mg/L	0.000810	32.19%
Sr 421.552†	66485.7	0.07839	mg/L	0.001040	0.07839	mg/L	0.001040	1.33%
Ti 334.903†	37.4	0.00002	mg/L	0.000152	0.00002	mg/L	0.000152	771.82%
Tl 190.801†	22.3	0.00935	mg/L	0.000332	0.00935	mg/L	0.000332	3.55%
V 292.402†	176.8	0.00075	mg/L	0.000104	0.00075	mg/L	0.000104	13.89%
Zn 206.200†	4.8	0.00114	mg/L	0.001244	0.00114	mg/L	0.001244	108.82%

Sequence No.: 14
Sample ID: US82 H WMN

Autosampler Location: 310
Date Collected: 5/10/2012 10:02:47 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 H WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 H WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2745437.8	107.8	%	0.47				0.43%
ScR 361.383	425674.5	111.0	%	0.94				0.84%
Ag 328.068†	62.8	-0.00017	mg/L	0.000023	-0.00017	mg/L	0.000023	13.97%
Al 308.215†	-7.6	-0.00481	mg/L	0.002352	-0.00481	mg/L	0.002352	48.86%
As 188.979†	-9.6	-0.00453	mg/L	0.002028	-0.00453	mg/L	0.002028	44.75%
B 249.677†	261.4	0.04061	mg/L	0.002148	0.04061	mg/L	0.002148	5.29%
Ba 233.527†	125.5	0.01407	mg/L	0.000170	0.01407	mg/L	0.000170	1.21%
Be 313.042†	-97.1	-0.00013	mg/L	0.000009	-0.00013	mg/L	0.000009	6.47%
Ca 317.933†	526764.5	49.66	mg/L	0.361	49.66	mg/L	0.361	0.73%
Cd 228.802†	1.6	-0.00001	mg/L	0.000075	-0.00001	mg/L	0.000075	627.61%
Co 228.616†	34.7	0.00086	mg/L	0.000098	0.00086	mg/L	0.000098	11.47%
Cr 267.716†	9.1	-0.00051	mg/L	0.000116	-0.00051	mg/L	0.000116	22.68%
Cu 324.752†	-96.1	0.00007	mg/L	0.000036	0.00007	mg/L	0.000036	49.71%
Fe 273.955†	11858.3	8.316	mg/L	0.0926	8.316	mg/L	0.0926	1.11%
K 766.490†	16022.7	7.151	mg/L	0.0898	7.151	mg/L	0.0898	1.26%
Mg 279.077†	26858.0	20.80	mg/L	0.223	20.80	mg/L	0.223	1.07%
Mn 257.610†	17680.8	0.3152	mg/L	0.00366	0.3152	mg/L	0.00366	1.16%
Mo 202.031†	85.6	0.00334	mg/L	0.000232	0.00334	mg/L	0.000232	6.95%
Na 589.592†	274476.3	21.15	mg/L	0.151	21.15	mg/L	0.151	0.71%
Na 330.237†	700.4	22.66	mg/L	0.336	22.66	mg/L	0.336	1.48%
Ni 231.604†	4.1	0.00084	mg/L	0.001107	0.00084	mg/L	0.001107	131.66%
Pb 220.353†	-64.4	-0.00594	mg/L	0.000106	-0.00594	mg/L	0.000106	1.78%
Sb 206.836†	-5.1	-0.00246	mg/L	0.000800	-0.00246	mg/L	0.000800	32.58%
Se 196.026†	54.5	0.03148	mg/L	0.003182	0.03148	mg/L	0.003182	10.11%
Si 288.158†	37944.2	17.29	mg/L	0.203	17.29	mg/L	0.203	1.18%
Sn 189.927†	-33.6	-0.00340	mg/L	0.000576	-0.00340	mg/L	0.000576	16.92%
Sr 421.552†	85429.7	0.1007	mg/L	0.00103	0.1007	mg/L	0.00103	1.02%
Ti 334.903†	62.6	0.00043	mg/L	0.000524	0.00043	mg/L	0.000524	121.36%
Tl 190.801†	14.3	0.00685	mg/L	0.001794	0.00685	mg/L	0.001794	26.17%
V 292.402†	291.1	0.00063	mg/L	0.000024	0.00063	mg/L	0.000024	3.76%
Zn 206.200†	0.9	-0.00036	mg/L	0.001491	-0.00036	mg/L	0.001491	419.68%

Sequence No.: 15
Sample ID: US82 I WMN

Autosampler Location: 311
Date Collected: 5/10/2012 10:07:01 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 I WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 I WMN

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2726848.5	107.1	%	0.78				0.72%
ScR 361.383	422096.3	110.0	%	1.00				0.91%
Ag 328.068†	602.7	0.00176	mg/L	0.000370	0.00176	mg/L	0.000370	21.08%
Al 308.215†	712.2	0.4442	mg/L	0.00473	0.4442	mg/L	0.00473	1.07%
As 188.979†	513.4	0.2173	mg/L	0.00088	0.2173	mg/L	0.00088	0.41%
B 249.677†	200.7	0.03120	mg/L	0.000233	0.03120	mg/L	0.000233	0.75%
Ba 233.527†	635.8	0.07296	mg/L	0.000856	0.07296	mg/L	0.000856	1.17%
Be 313.042†	-58.8	-0.00009	mg/L	0.000028	-0.00009	mg/L	0.000028	32.23%
Ca 317.933†	633855.5	59.75	mg/L	0.581	59.75	mg/L	0.581	0.97%
Cd 228.802†	31.4	0.00017	mg/L	0.000110	0.00017	mg/L	0.000110	63.27%
Co 228.616†	31.0	0.00076	mg/L	0.000080	0.00076	mg/L	0.000080	10.56%
Cr 267.716†	9.9	-0.00001	mg/L	0.000372	-0.00001	mg/L	0.000372	>999.9%
Cu 324.752†	625.0	0.00345	mg/L	0.000116	0.00345	mg/L	0.000116	3.36%
Fe 273.955†	13945.5	9.780	mg/L	0.0206	9.780	mg/L	0.0206	0.21%
K 766.490†	50813.4	22.68	mg/L	0.429	22.68	mg/L	0.429	1.89%
Mg 279.077†	6581.2	5.092	mg/L	0.1074	5.092	mg/L	0.1074	2.11%
Mn 257.610†	17515.1	0.3123	mg/L	0.00459	0.3123	mg/L	0.00459	1.47%
Mo 202.031†	553.5	0.02607	mg/L	0.000628	0.02607	mg/L	0.000628	2.41%
Na 589.592†	413812.8	31.88	mg/L	0.354	31.88	mg/L	0.354	1.11%
Na 330.237†	1084.8	35.21	mg/L	0.281	35.21	mg/L	0.281	0.80%
Ni 231.604†	11.2	0.00231	mg/L	0.000370	0.00231	mg/L	0.000370	16.04%
Pb 220.353†	-45.1	-0.00436	mg/L	0.000164	-0.00436	mg/L	0.000164	3.75%
Sb 206.836†	1.8	-0.00082	mg/L	0.000731	-0.00082	mg/L	0.000731	88.94%
Se 196.026†	46.6	0.02719	mg/L	0.002996	0.02719	mg/L	0.002996	11.02%
Si 288.158†	56981.4	25.97	mg/L	0.407	25.97	mg/L	0.407	1.57%
Sn 189.927†	-39.4	-0.00394	mg/L	0.000731	-0.00394	mg/L	0.000731	18.56%
Sr 421.552†	149949.7	0.1768	mg/L	0.00184	0.1768	mg/L	0.00184	1.04%
Ti 334.903†	106.6	0.00157	mg/L	0.000528	0.00157	mg/L	0.000528	33.60%
Tl 190.801†	21.1	0.00986	mg/L	0.000756	0.00986	mg/L	0.000756	7.67%
V 292.402†	2068.6	0.01012	mg/L	0.000088	0.01012	mg/L	0.000088	0.87%
Zn 206.200†	-8.4	-0.00361	mg/L	0.000774	-0.00361	mg/L	0.000774	21.42%

Sequence No.: 16
Sample ID: US82 MB2SPK WMN

Autosampler Location: 312
Date Collected: 5/10/2012 10:11:15 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 MB2SPK WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 MB2SPK WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2731928.6	107.3	%	0.78				0.72%
ScR 361.383	418632.1	109.1	%	1.03				0.95%
Ag 328.068†	106384.2	0.3926	mg/L	0.01866	0.3926	mg/L	0.01866	4.75%
Al 308.215†	3262.0	2.027	mg/L	0.0250	2.027	mg/L	0.0250	1.23%
As 188.979†	5006.6	2.120	mg/L	0.0141	2.120	mg/L	0.0141	0.67%
B 249.677†	-10.9	-0.00320	mg/L	0.000622	-0.00320	mg/L	0.000622	19.42%
Ba 233.527†	17517.6	2.024	mg/L	0.0201	2.024	mg/L	0.0201	0.99%
Be 313.042†	353736.4	0.4809	mg/L	0.00601	0.4809	mg/L	0.00601	1.25%
Ca 317.933†	108986.3	10.27	mg/L	0.118	10.27	mg/L	0.118	1.15%
Cd 228.802†	17517.1	0.5560	mg/L	0.00512	0.5560	mg/L	0.00512	0.92%
Co 228.616†	20876.1	0.5195	mg/L	0.00409	0.5195	mg/L	0.00409	0.79%
Cr 267.716†	4429.7	0.5033	mg/L	0.00393	0.5033	mg/L	0.00393	0.78%
Cu 324.752†	118231.7	0.5263	mg/L	0.00373	0.5263	mg/L	0.00373	0.71%
Fe 273.955†	2901.8	2.033	mg/L	0.0043	2.033	mg/L	0.0043	0.21%
K 766.490†	23483.9	10.48	mg/L	0.178	10.48	mg/L	0.178	1.70%
Mg 279.077†	13395.3	10.38	mg/L	0.095	10.38	mg/L	0.095	0.92%
Mn 257.610†	27821.3	0.4967	mg/L	0.00441	0.4967	mg/L	0.00441	0.89%
Mo 202.031†	9.8	0.00031	mg/L	0.000095	0.00031	mg/L	0.000095	31.24%
Na 589.592†	126471.8	9.744	mg/L	0.1529	9.744	mg/L	0.1529	1.57%
Na 330.237†	326.1	10.53	mg/L	0.063	10.53	mg/L	0.063	0.60%
Ni 231.604†	2343.8	0.4827	mg/L	0.00446	0.4827	mg/L	0.00446	0.92%
Pb 220.353†	24943.6	2.091	mg/L	0.0089	2.091	mg/L	0.0089	0.42%
Sb 206.836†	-0.1	-0.00500	mg/L	0.000726	-0.00500	mg/L	0.000726	14.53%
Se 196.026†	4071.6	2.301	mg/L	0.0184	2.301	mg/L	0.0184	0.80%
Si 288.158†	-28.9	-0.01104	mg/L	0.000502	-0.01104	mg/L	0.000502	4.55%
Sn 189.927†	-11.0	-0.00122	mg/L	0.000294	-0.00122	mg/L	0.000294	24.21%
Sr 421.552†	418620.0	0.4936	mg/L	0.00742	0.4936	mg/L	0.00742	1.50%
Ti 334.903†	9.9	-0.00013	mg/L	0.000274	-0.00013	mg/L	0.000274	217.40%
Tl 190.801†	5182.9	2.088	mg/L	0.0172	2.088	mg/L	0.0172	0.82%
V 292.402†	97258.1	0.5298	mg/L	0.00209	0.5298	mg/L	0.00209	0.40%
Zn 206.200†	1458.0	0.4939	mg/L	0.00393	0.4939	mg/L	0.00393	0.80%

Sequence No.: 17
Sample ID: CV 2

Autosampler Location: 7
Date Collected: 5/10/2012 10:15:15 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2654265.7	104.2	%	1.24				1.19%
ScR 361.383	399471.1	104.1	%	0.78				0.75%
Ag 328.068†	297713.9	1.099	mg/L	0.0173	1.099	mg/L	0.0173	1.58%
Al 308.215†	3226.2	1.985	mg/L	0.0151	1.985	mg/L	0.0151	0.76%
As 188.979†	4522.9	1.921	mg/L	0.0181	1.921	mg/L	0.0181	0.94%
B 249.677†	6260.5	0.9705	mg/L	0.00923	0.9705	mg/L	0.00923	0.95%
Ba 233.527†	8550.9	0.9877	mg/L	0.00838	0.9877	mg/L	0.00838	0.85%
Be 313.042†	692608.3	0.9415	mg/L	0.00510	0.9415	mg/L	0.00510	0.54%
Ca 317.933†	20693.0	1.951	mg/L	0.0204	1.951	mg/L	0.0204	1.05%
Cd 228.802†	31779.7	1.015	mg/L	0.0094	1.015	mg/L	0.0094	0.93%
Co 228.616†	39202.5	0.9747	mg/L	0.00890	0.9747	mg/L	0.00890	0.91%
Cr 267.716†	8911.8	1.013	mg/L	0.0111	1.013	mg/L	0.0111	1.10%
Cu 324.752†	232502.7	1.034	mg/L	0.0125	1.034	mg/L	0.0125	1.21%
Fe 273.955†	2908.3	2.035	mg/L	0.0185	2.035	mg/L	0.0185	0.91%
K 766.490†	45271.9	20.20	mg/L	0.092	20.20	mg/L	0.092	0.45%
Mg 279.077†	2593.2	2.014	mg/L	0.0238	2.014	mg/L	0.0238	1.18%
Mn 257.610†	52822.3	0.9426	mg/L	0.00317	0.9426	mg/L	0.00317	0.34%
Mo 202.031†	20393.1	0.9981	mg/L	0.01050	0.9981	mg/L	0.01050	1.05%
Na 589.592†	611390.8	47.10	mg/L	0.019	47.10	mg/L	0.019	0.04%
Na 330.237†	1583.2	52.00	mg/L	0.254	52.00	mg/L	0.254	0.49%
Ni 231.604†	4667.2	0.9632	mg/L	0.00577	0.9632	mg/L	0.00577	0.60%
Pb 220.353†	23320.4	1.955	mg/L	0.0206	1.955	mg/L	0.0206	1.05%
Sb 206.836†	7234.7	2.033	mg/L	0.0227	2.033	mg/L	0.0227	1.12%
Se 196.026†	3403.8	1.924	mg/L	0.0161	1.924	mg/L	0.0161	0.84%
Si 288.158†	4543.9	2.075	mg/L	0.0211	2.075	mg/L	0.0211	1.02%
Sn 189.927†	6883.4	0.9959	mg/L	0.01053	0.9959	mg/L	0.01053	1.06%
Sr 421.552†	820165.4	0.9670	mg/L	0.00278	0.9670	mg/L	0.00278	0.29%
Ti 334.903†	28148.1	0.9731	mg/L	0.00318	0.9731	mg/L	0.00318	0.33%
Tl 190.801†	4754.0	1.916	mg/L	0.0166	1.916	mg/L	0.0166	0.87%
V 292.402†	185680.2	1.012	mg/L	0.0075	1.012	mg/L	0.0075	0.74%
Zn 206.200†	2953.5	1.000	mg/L	0.0089	1.000	mg/L	0.0089	0.89%

Sequence No.: 18
Sample ID: CB 2

Autosampler Location: 1
Date Collected: 5/10/2012 10:19:19 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2695770.4	105.8	%	1.51				1.42%
ScR 361.383	400855.5	104.5	%	0.17				0.16%
Ag 328.068†	142.9	0.00053	mg/L	0.000252	0.00053	mg/L	0.000252	47.82%
Al 308.215†	0.5	0.00033	mg/L	0.004027	0.00033	mg/L	0.004027	>999.9%
As 188.979†	0.3	0.00011	mg/L	0.001400	0.00011	mg/L	0.001400	>999.9%
B 249.677†	-13.4	-0.00209	mg/L	0.000543	-0.00209	mg/L	0.000543	25.99%
Ba 233.527†	-0.7	-0.00008	mg/L	0.000274	-0.00008	mg/L	0.000274	352.86%
Be 313.042†	-45.4	-0.00006	mg/L	0.000022	-0.00006	mg/L	0.000022	36.24%
Ca 317.933†	-9.4	-0.00089	mg/L	0.001184	-0.00089	mg/L	0.001184	133.55%
Cd 228.802†	-7.6	-0.00024	mg/L	0.000121	-0.00024	mg/L	0.000121	49.40%
Co 228.616†	-9.0	-0.00022	mg/L	0.000088	-0.00022	mg/L	0.000088	39.16%
Cr 267.716†	-2.7	-0.00031	mg/L	0.000656	-0.00031	mg/L	0.000656	214.73%
Cu 324.752†	-12.0	-0.00005	mg/L	0.000032	-0.00005	mg/L	0.000032	61.11%
Fe 273.955†	1.9	0.00133	mg/L	0.001128	0.00133	mg/L	0.001128	84.83%
K 766.490†	72.8	0.03247	mg/L	0.010344	0.03247	mg/L	0.010344	31.86%
Mg 279.077†	9.5	0.00733	mg/L	0.011486	0.00733	mg/L	0.011486	156.74%
Mn 257.610†	2.5	0.00004	mg/L	0.000142	0.00004	mg/L	0.000142	327.26%
Mo 202.031†	-17.0	-0.00083	mg/L	0.000068	-0.00083	mg/L	0.000068	8.13%
Na 589.592†	-140.8	-0.01085	mg/L	0.003233	-0.01085	mg/L	0.003233	29.79%
Na 330.237†	3.7	0.1203	mg/L	0.48761	0.1203	mg/L	0.48761	405.44%
Ni 231.604†	2.3	0.00046	mg/L	0.000910	0.00046	mg/L	0.000910	196.85%
Pb 220.353†	-17.0	-0.00142	mg/L	0.000652	-0.00142	mg/L	0.000652	45.81%
Sb 206.836†	-12.1	-0.00339	mg/L	0.001303	-0.00339	mg/L	0.001303	38.42%
Se 196.026†	2.8	0.00156	mg/L	0.003802	0.00156	mg/L	0.003802	243.02%
Si 288.158†	-3.4	-0.00155	mg/L	0.002125	-0.00155	mg/L	0.002125	137.25%
Sn 189.927†	5.6	0.00081	mg/L	0.000144	0.00081	mg/L	0.000144	17.72%
Sr 421.552†	33.5	0.00004	mg/L	0.000019	0.00004	mg/L	0.000019	47.95%
Ti 334.903†	10.0	0.00035	mg/L	0.000198	0.00035	mg/L	0.000198	56.92%
Tl 190.801†	6.2	0.00249	mg/L	0.000946	0.00249	mg/L	0.000946	38.00%
V 292.402†	-32.7	-0.00018	mg/L	0.000228	-0.00018	mg/L	0.000228	126.67%
Zn 206.200†	3.7	0.00124	mg/L	0.000920	0.00124	mg/L	0.000920	74.29%

Sequence No.: 19
Sample ID: US82 MB1 TWC

Dilution: 1X

Autosampler Location: 313
Date Collected: 5/10/2012 10:23:34 AM
Data Type: Original

Nebulizer Parameters: US82 MB1 TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 MB1 TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2795559.1	109.8	%	0.27				0.24%
ScR 361.383	424936.1	110.8	%	0.88				0.79%
Ag 328.068†	64.9	0.00024	mg/L	0.000132	0.00024	mg/L	0.000132	54.95%
Al 308.215†	-2.9	-0.00181	mg/L	0.002050	-0.00181	mg/L	0.002050	113.00%
As 188.979†	1.6	0.00069	mg/L	0.002187	0.00069	mg/L	0.002187	314.83%
B 249.677†	-13.8	-0.00214	mg/L	0.000151	-0.00214	mg/L	0.000151	7.07%
Ba 233.527†	0.2	0.00002	mg/L	0.000244	0.00002	mg/L	0.000244	>999.9%
Be 313.042†	-142.9	-0.00019	mg/L	0.000007	-0.00019	mg/L	0.000007	3.75%
Ca 317.933†	51.5	0.00486	mg/L	0.001366	0.00486	mg/L	0.001366	28.13%
Cd 228.802†	-11.4	-0.00037	mg/L	0.000079	-0.00037	mg/L	0.000079	21.32%
Co 228.616†	-2.7	-0.00007	mg/L	0.000014	-0.00007	mg/L	0.000014	19.94%
Cr 267.716†	1.8	0.00021	mg/L	0.000513	0.00021	mg/L	0.000513	246.45%
Cu 324.752†	16.9	0.00008	mg/L	0.000088	0.00008	mg/L	0.000088	116.59%
Fe 273.955†	4.8	0.00340	mg/L	0.002479	0.00340	mg/L	0.002479	72.98%
K 766.490†	94.3	0.04209	mg/L	0.001147	0.04209	mg/L	0.001147	2.73%
Mg 279.077†	14.3	0.01106	mg/L	0.001573	0.01106	mg/L	0.001573	14.23%
Mn 257.610†	0.4	0.00001	mg/L	0.000054	0.00001	mg/L	0.000054	837.37%
Mo 202.031†	-26.4	-0.00129	mg/L	0.000147	-0.00129	mg/L	0.000147	11.32%
Na 589.592†	-276.3	-0.02128	mg/L	0.001857	-0.02128	mg/L	0.001857	8.72%
Na 330.237†	8.5	0.2795	mg/L	0.47625	0.2795	mg/L	0.47625	170.42%
Ni 231.604†	0.6	0.00012	mg/L	0.000660	0.00012	mg/L	0.000660	547.89%
Pb 220.353†	-24.4	-0.00205	mg/L	0.000653	-0.00205	mg/L	0.000653	31.91%
Sb 206.836†	-22.0	-0.00618	mg/L	0.001496	-0.00618	mg/L	0.001496	24.19%
Se 196.026†	13.6	0.00768	mg/L	0.001607	0.00768	mg/L	0.001607	20.91%
Si 288.158†	-7.6	-0.00346	mg/L	0.001317	-0.00346	mg/L	0.001317	38.03%
Sn 189.927†	5.9	0.00084	mg/L	0.000257	0.00084	mg/L	0.000257	30.55%
Sr 421.552†	80.4	0.00009	mg/L	0.000020	0.00009	mg/L	0.000020	20.67%
Ti 334.903†	20.1	0.00070	mg/L	0.000586	0.00070	mg/L	0.000586	83.93%
Tl 190.801†	6.7	0.00271	mg/L	0.001841	0.00271	mg/L	0.001841	67.87%
V 292.402†	-54.0	-0.00029	mg/L	0.000164	-0.00029	mg/L	0.000164	55.93%
Zn 206.200†	5.1	0.00172	mg/L	0.000289	0.00172	mg/L	0.000289	16.85%

Sequence No.: 20
Sample ID: ~~US82 A-L TWC~~ zzzzzz
Dilution: 5X

Autosampler Location: 314
Date Collected: 5/10/2012 10:27:50 AM
Data Type: Original

5-10-12

Nebulizer Parameters: US82 A-L TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 A-L TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2762534.0	108.5	%	1.35				1.24%
ScR 361.383	423381.1	110.4	%	0.62				0.56%
Ag 328.068†	46.3	0.00012	mg/L	0.000099	0.00059	mg/L	0.000495	83.74%
Al 308.215†	-4.5	-0.00283	mg/L	0.001534	-0.01416	mg/L	0.007668	54.16%
As 188.979†	-2.2	-0.00095	mg/L	0.001576	-0.00477	mg/L	0.007880	165.26%
B 249.677†	-4.4	-0.00069	mg/L	0.000611	-0.00343	mg/L	0.003056	89.05%
Ba 233.527†	9.6	0.00111	mg/L	0.000058	0.00556	mg/L	0.000288	5.17%
Be 313.042†	-149.0	-0.00020	mg/L	0.000028	-0.00101	mg/L	0.000139	13.69%
Ca 317.933†	83194.4	7.842	mg/L	0.0406	39.21	mg/L	0.203	0.52%
Cd 228.802†	-8.0	-0.00025	mg/L	0.000125	-0.00126	mg/L	0.000624	49.38%
Co 228.616†	-4.3	-0.00011	mg/L	0.000080	-0.00055	mg/L	0.000398	72.45%
Cr 267.716†	2.9	0.00013	mg/L	0.000249	0.00066	mg/L	0.001244	188.86%
Cu 324.752†	120.1	0.00053	mg/L	0.000098	0.00266	mg/L	0.000488	18.33%
Fe 273.955†	7.8	0.00549	mg/L	0.000603	0.02744	mg/L	0.003015	10.99%
K 766.490†	775.4	0.3461	mg/L	0.00824	1.730	mg/L	0.0412	2.38%
Mg 279.077†	456.8	0.3539	mg/L	0.00613	1.769	mg/L	0.0306	1.73%
Mn 257.610†	9.0	0.00016	mg/L	0.000048	0.00079	mg/L	0.000241	30.54%
Mo 202.031†	17.3	0.00071	mg/L	0.000285	0.00357	mg/L	0.001423	39.84%
Na 589.592†	26980.1	2.079	mg/L	0.0241	10.39	mg/L	0.120	1.16%
Na 330.237†	71.8	2.306	mg/L	0.2257	11.53	mg/L	1.128	9.79%
Ni 231.604†	4.0	0.00081	mg/L	0.000995	0.00406	mg/L	0.004974	122.53%
Pb 220.353†	-32.6	-0.00273	mg/L	0.000508	-0.01365	mg/L	0.002539	18.61%
Sb 206.836†	-18.6	-0.00523	mg/L	0.000759	-0.02617	mg/L	0.003793	14.49%
Se 196.026†	14.0	0.00789	mg/L	0.001190	0.03944	mg/L	0.005949	15.08%
Si 288.158†	2290.5	1.044	mg/L	0.0511	5.219	mg/L	0.2556	4.90%
Sn 189.927†	-1.1	0.00007	mg/L	0.000411	0.00035	mg/L	0.002055	590.09%
Sr 421.552†	17231.7	0.02032	mg/L	0.000105	0.1016	mg/L	0.00053	0.52%
Ti 334.903†	22.9	0.00052	mg/L	0.000261	0.00260	mg/L	0.001303	50.14%
Tl 190.801†	7.2	0.00290	mg/L	0.001339	0.01449	mg/L	0.006694	46.21%
V 292.402†	43.0	0.00023	mg/L	0.000038	0.00117	mg/L	0.000190	16.24%
Zn 206.200†	8.2	0.00267	mg/L	0.000614	0.01336	mg/L	0.003069	22.97%

Sequence No.: 21
Sample ID: US82 A TWC

Dilution: 1X

Autosampler Location: 315
Date Collected: 5/10/2012 10:32:04 AM
Data Type: Original

Nebulizer Parameters: US82 A TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 A TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2754607.9	108.1	%	0.84				0.78%
ScR 361.383	423942.6	110.5	%	0.21				0.19%
Ag 328.068†	78.5	0.00002	mg/L	0.000181	0.00002	mg/L	0.000181	925.30%
Al 308.215†	28.9	0.01792	mg/L	0.002953	0.01792	mg/L	0.002953	16.48%
As 188.979†	-6.9	-0.00294	mg/L	0.000380	-0.00294	mg/L	0.000380	12.91%
B 249.677†	62.9	0.00977	mg/L	0.000824	0.00977	mg/L	0.000824	8.44%
Ba 233.527†	54.7	0.00632	mg/L	0.000135	0.00632	mg/L	0.000135	2.14%
Be 313.042†	-122.4	-0.00017	mg/L	0.000008	-0.00017	mg/L	0.000008	4.48%
Ca 317.933†	426295.3	40.19	mg/L	0.138	40.19	mg/L	0.138	0.34%
Cd 228.802†	-5.5	-0.00017	mg/L	0.000065	-0.00017	mg/L	0.000065	39.25%
Co 228.616†	9.0	0.00022	mg/L	0.000073	0.00022	mg/L	0.000073	32.97%
Cr 267.716†	5.4	-0.00038	mg/L	0.000472	-0.00038	mg/L	0.000472	125.26%
Cu 324.752†	782.7	0.00347	mg/L	0.000205	0.00347	mg/L	0.000205	5.89%
Fe 273.955†	22.8	0.01599	mg/L	0.001065	0.01599	mg/L	0.001065	6.66%
K 766.490†	3635.6	1.623	mg/L	0.0182	1.623	mg/L	0.0182	1.12%
Mg 279.077†	2147.6	1.663	mg/L	0.0122	1.663	mg/L	0.0122	0.73%
Mn 257.610†	49.9	0.00088	mg/L	0.000090	0.00088	mg/L	0.000090	10.28%
Mo 202.031†	145.1	0.00642	mg/L	0.000123	0.00642	mg/L	0.000123	1.92%
Na 589.592†	136457.6	10.51	mg/L	0.121	10.51	mg/L	0.121	1.15%
Na 330.237†	361.8	11.61	mg/L	0.097	11.61	mg/L	0.097	0.84%
Ni 231.604†	15.1	0.00311	mg/L	0.000750	0.00311	mg/L	0.000750	24.10%
Pb 220.353†	-48.1	-0.00403	mg/L	0.000177	-0.00403	mg/L	0.000177	4.38%
Sb 206.836†	-0.8	-0.00024	mg/L	0.001008	-0.00024	mg/L	0.001008	420.91%
Se 196.026†	34.0	0.01921	mg/L	0.001552	0.01921	mg/L	0.001552	8.08%
Si 288.158†	12011.6	5.474	mg/L	0.0985	5.474	mg/L	0.0985	1.80%
Sn 189.927†	-22.9	-0.00214	mg/L	0.000442	-0.00214	mg/L	0.000442	20.67%
Sr 421.552†	86076.0	0.1015	mg/L	0.00074	0.1015	mg/L	0.00074	0.73%
Ti 334.903†	49.5	0.00030	mg/L	0.000585	0.00030	mg/L	0.000585	192.44%
Tl 190.801†	18.0	0.00728	mg/L	0.000427	0.00728	mg/L	0.000427	5.87%
V 292.402†	480.0	0.00261	mg/L	0.000150	0.00261	mg/L	0.000150	5.73%
Zn 206.200†	6.6	0.00171	mg/L	0.000565	0.00171	mg/L	0.000565	33.07%

Sequence No.: 22
Sample ID: US82 ADUP TWC

Dilution: 1X

Autosampler Location: 316
Date Collected: 5/10/2012 10:36:18 AM
Data Type: Original

Nebulizer Parameters: US82 ADUP TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 ADUP TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2769831.8	108.7	%	1.02				0.94%
ScR 361.383	422288.7	110.1	%	1.11				1.01%
Ag 328.068†	81.5	0.00003	mg/L	0.000092	0.00003	mg/L	0.000092	314.26%
Al 308.215†	31.8	0.01975	mg/L	0.002674	0.01975	mg/L	0.002674	13.54%
As 188.979†	-10.3	-0.00441	mg/L	0.001883	-0.00441	mg/L	0.001883	42.66%
B 249.677†	70.0	0.01087	mg/L	0.001401	0.01087	mg/L	0.001401	12.89%
Ba 233.527†	56.1	0.00648	mg/L	0.000148	0.00648	mg/L	0.000148	2.28%
Be 313.042†	-133.7	-0.00018	mg/L	0.000008	-0.00018	mg/L	0.000008	4.12%
Ca 317.933†	428121.6	40.36	mg/L	0.149	40.36	mg/L	0.149	0.37%
Cd 228.802†	-0.2	0.00001	mg/L	0.000055	0.00001	mg/L	0.000055	490.38%
Co 228.616†	11.4	0.00028	mg/L	0.000111	0.00028	mg/L	0.000111	39.66%
Cr 267.716†	7.6	-0.00013	mg/L	0.000539	-0.00013	mg/L	0.000539	406.39%
Cu 324.752†	813.1	0.00361	mg/L	0.000052	0.00361	mg/L	0.000052	1.44%
Fe 273.955†	25.4	0.01781	mg/L	0.001270	0.01781	mg/L	0.001270	7.13%
K 766.490†	3683.1	1.644	mg/L	0.0161	1.644	mg/L	0.0161	0.98%
Mg 279.077†	2166.3	1.678	mg/L	0.0152	1.678	mg/L	0.0152	0.90%
Mn 257.610†	55.4	0.00098	mg/L	0.000026	0.00098	mg/L	0.000026	2.66%
Mo 202.031†	151.2	0.00672	mg/L	0.000228	0.00672	mg/L	0.000228	3.39%
Na 589.592†	137273.3	10.58	mg/L	0.067	10.58	mg/L	0.067	0.64%
Na 330.237†	362.5	11.63	mg/L	0.455	11.63	mg/L	0.455	3.91%
Ni 231.604†	25.8	0.00530	mg/L	0.000278	0.00530	mg/L	0.000278	5.25%
Pb 220.353†	-51.1	-0.00428	mg/L	0.000184	-0.00428	mg/L	0.000184	4.31%
Sb 206.836†	-0.3	-0.00012	mg/L	0.001205	-0.00012	mg/L	0.001205	987.41%
Se 196.026†	39.2	0.02218	mg/L	0.003191	0.02218	mg/L	0.003191	14.39%
Si 288.158†	12665.7	5.772	mg/L	0.0612	5.772	mg/L	0.0612	1.06%
Sn 189.927†	-28.1	-0.00287	mg/L	0.000509	-0.00287	mg/L	0.000509	17.75%
Sr 421.552†	86221.1	0.1017	mg/L	0.00068	0.1017	mg/L	0.00068	0.67%
Ti 334.903†	60.8	0.00069	mg/L	0.000040	0.00069	mg/L	0.000040	5.76%
Tl 190.801†	18.1	0.00731	mg/L	0.001129	0.00731	mg/L	0.001129	15.45%
V 292.402†	462.5	0.00252	mg/L	0.000182	0.00252	mg/L	0.000182	7.23%
Zn 206.200†	5.5	0.00132	mg/L	0.000604	0.00132	mg/L	0.000604	45.77%

Sequence No.: 23
Sample ID: US82 ASPK TWC

Dilution: 1X

Autosampler Location: 317
Date Collected: 5/10/2012 10:40:32 AM
Data Type: Original

Nebulizer Parameters: US82 ASPK TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US82 ASPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2740974.8	107.6	%	1.47				1.37%
ScR 361.383	427477.5	111.5	%	0.57				0.51%
Ag 328.068†	136909.9	0.5051	mg/L	0.00776	0.5051	mg/L	0.00776	1.54%
Al 308.215†	3180.9	1.976	mg/L	0.0115	1.976	mg/L	0.0115	0.58%
As 188.979†	4592.6	1.945	mg/L	0.0226	1.945	mg/L	0.0226	1.16%
B 249.677†	73.6	0.01001	mg/L	0.000246	0.01001	mg/L	0.000246	2.46%
Ba 233.527†	16861.7	1.948	mg/L	0.0133	1.948	mg/L	0.0133	0.68%
Be 313.042†	347264.0	0.4721	mg/L	0.00111	0.4721	mg/L	0.00111	0.23%
Ca 317.933†	535077.1	50.44	mg/L	0.037	50.44	mg/L	0.037	0.07%
Cd 228.802†	16084.8	0.5106	mg/L	0.00676	0.5106	mg/L	0.00676	1.32%
Co 228.616†	19673.2	0.4895	mg/L	0.00656	0.4895	mg/L	0.00656	1.34%
Cr 267.716†	4401.0	0.4991	mg/L	0.00148	0.4991	mg/L	0.00148	0.30%
Cu 324.752†	116682.3	0.5194	mg/L	0.00594	0.5194	mg/L	0.00594	1.14%
Fe 273.955†	2851.8	1.998	mg/L	0.0141	1.998	mg/L	0.0141	0.71%
K 766.490†	25793.1	11.51	mg/L	0.027	11.51	mg/L	0.027	0.23%
Mg 279.077†	15224.3	11.79	mg/L	0.042	11.79	mg/L	0.042	0.35%
Mn 257.610†	26599.4	0.4749	mg/L	0.00398	0.4749	mg/L	0.00398	0.84%
Mo 202.031†	162.0	0.00707	mg/L	0.000583	0.00707	mg/L	0.000583	8.25%
Na 589.592†	254733.3	19.63	mg/L	0.055	19.63	mg/L	0.055	0.28%
Na 330.237†	680.8	21.91	mg/L	0.173	21.91	mg/L	0.173	0.79%
Ni 231.604†	2231.5	0.4596	mg/L	0.00472	0.4596	mg/L	0.00472	1.03%
Pb 220.353†	22830.8	1.914	mg/L	0.0312	1.914	mg/L	0.0312	1.63%
Sb 206.836†	16.9	-0.00021	mg/L	0.000919	-0.00021	mg/L	0.000919	430.02%
Se 196.026†	3467.3	1.960	mg/L	0.0188	1.960	mg/L	0.0188	0.96%
Si 288.158†	12975.1	5.915	mg/L	0.0462	5.915	mg/L	0.0462	0.78%
Sn 189.927†	-35.8	-0.00362	mg/L	0.000151	-0.00362	mg/L	0.000151	4.18%
Sr 421.552†	489601.9	0.5773	mg/L	0.00109	0.5773	mg/L	0.00109	0.19%
Ti 334.903†	69.4	0.00052	mg/L	0.000320	0.00052	mg/L	0.000320	60.94%
Tl 190.801†	4719.8	1.901	mg/L	0.0190	1.901	mg/L	0.0190	1.00%
V 292.402†	93645.2	0.5102	mg/L	0.00846	0.5102	mg/L	0.00846	1.66%
Zn 206.200†	1382.0	0.4677	mg/L	0.00345	0.4677	mg/L	0.00345	0.74%

Sequence No.: 24
Sample ID: ~~US82 APOST TWC~~ ZZZZZZ
Dilution: 1X

Autosampler Location: 318
Date Collected: 5/10/2012 10:44:32 AM
Data Type: Original

5-10-12

Nebulizer Parameters: US82 APOST TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US82 APOST TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2738014.8	107.5	%	1.24				1.15%
ScR 361.383	424547.4	110.7	%	1.31				1.18%
Ag 328.068†	136684.5	0.5042	mg/L	0.00677	0.5042	mg/L	0.00677	1.34%
Al 308.215†	3212.0	1.996	mg/L	0.0262	1.996	mg/L	0.0262	1.32%
As 188.979†	4672.6	1.979	mg/L	0.0268	1.979	mg/L	0.0268	1.35%
B 249.677†	69.9	0.00943	mg/L	0.000648	0.00943	mg/L	0.000648	6.87%
Ba 233.527†	16959.0	1.959	mg/L	0.0208	1.959	mg/L	0.0208	1.06%
Be 313.042†	341876.6	0.4647	mg/L	0.00285	0.4647	mg/L	0.00285	0.61%
Ca 317.933†	523345.0	49.33	mg/L	0.322	49.33	mg/L	0.322	0.65%
Cd 228.802†	16155.7	0.5128	mg/L	0.00719	0.5128	mg/L	0.00719	1.40%
Co 228.616†	19655.0	0.4891	mg/L	0.00746	0.4891	mg/L	0.00746	1.53%
Cr 267.716†	4330.0	0.4910	mg/L	0.00616	0.4910	mg/L	0.00616	1.25%
Cu 324.752†	117264.8	0.5220	mg/L	0.00603	0.5220	mg/L	0.00603	1.16%
Fe 273.955†	2861.8	2.005	mg/L	0.0226	2.005	mg/L	0.0226	1.13%
K 766.490†	25878.6	11.55	mg/L	0.085	11.55	mg/L	0.085	0.74%
Mg 279.077†	15124.8	11.72	mg/L	0.155	11.72	mg/L	0.155	1.33%
Mn 257.610†	26928.2	0.4808	mg/L	0.00442	0.4808	mg/L	0.00442	0.92%
Mo 202.031†	162.2	0.00710	mg/L	0.000437	0.00710	mg/L	0.000437	6.16%
Na 589.592†	251443.9	19.37	mg/L	0.149	19.37	mg/L	0.149	0.77%
Na 330.237†	673.0	21.67	mg/L	0.188	21.67	mg/L	0.188	0.87%
Ni 231.604†	2255.0	0.4644	mg/L	0.00416	0.4644	mg/L	0.00416	0.90%
Pb 220.353†	23051.6	1.932	mg/L	0.0271	1.932	mg/L	0.0271	1.40%
Sb 206.836†	16.3	-0.00032	mg/L	0.001741	-0.00032	mg/L	0.001741	541.37%
Se 196.026†	3535.0	1.998	mg/L	0.0321	1.998	mg/L	0.0321	1.60%
Si 288.158†	12543.4	5.719	mg/L	0.0565	5.719	mg/L	0.0565	0.99%
Sn 189.927†	-34.9	-0.00353	mg/L	0.000457	-0.00353	mg/L	0.000457	12.95%
Sr 421.552†	485992.3	0.5730	mg/L	0.00307	0.5730	mg/L	0.00307	0.54%
Ti 334.903†	60.9	0.00027	mg/L	0.000150	0.00027	mg/L	0.000150	55.50%
Tl 190.801†	4826.5	1.944	mg/L	0.0292	1.944	mg/L	0.0292	1.50%
V 292.402†	93867.7	0.5113	mg/L	0.00539	0.5113	mg/L	0.00539	1.06%
Zn 206.200†	1369.3	0.4634	mg/L	0.00410	0.4634	mg/L	0.00410	0.88%

Sequence No.: 25
Sample ID: US82 B TWC

Dilution: 1X

Autosampler Location: 319
Date Collected: 5/10/2012 10:48:32 AM
Data Type: Original

Nebulizer Parameters: US82 B TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 B TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2779581.5	109.1	%	0.46				0.43%
ScR 361.383	424659.4	110.7	%	1.92				1.73%
Ag 328.068†	81.4	0.00006	mg/L	0.000063	0.00006	mg/L	0.000063	114.02%
Al 308.215†	10.5	0.00634	mg/L	0.001768	0.00634	mg/L	0.001768	27.91%
As 188.979†	-11.6	-0.00500	mg/L	0.001149	-0.00500	mg/L	0.001149	22.96%
B 249.677†	73.6	0.01146	mg/L	0.000374	0.01146	mg/L	0.000374	3.27%
Ba 233.527†	29.4	0.00330	mg/L	0.000146	0.00330	mg/L	0.000146	4.42%
Be 313.042†	-97.9	-0.00013	mg/L	0.000030	-0.00013	mg/L	0.000030	22.61%
Ca 317.933†	366999.4	34.60	mg/L	0.068	34.60	mg/L	0.068	0.20%
Cd 228.802†	-2.9	-0.00009	mg/L	0.000118	-0.00009	mg/L	0.000118	125.53%
Co 228.616†	10.0	0.00025	mg/L	0.000106	0.00025	mg/L	0.000106	41.86%
Cr 267.716†	6.1	-0.00010	mg/L	0.000380	-0.00010	mg/L	0.000380	376.50%
Cu 324.752†	15374.8	0.06854	mg/L	0.000405	0.06854	mg/L	0.000405	0.59%
Fe 273.955†	2717.4	1.906	mg/L	0.0237	1.906	mg/L	0.0237	1.24%
K 766.490†	4949.7	2.209	mg/L	0.0461	2.209	mg/L	0.0461	2.09%
Mg 279.077†	2721.2	2.107	mg/L	0.0273	2.107	mg/L	0.0273	1.30%
Mn 257.610†	2580.8	0.04602	mg/L	0.000969	0.04602	mg/L	0.000969	2.11%
Mo 202.031†	515.1	0.02462	mg/L	0.000083	0.02462	mg/L	0.000083	0.34%
Na 589.592†	55471.2	4.274	mg/L	0.0231	4.274	mg/L	0.0231	0.54%
Na 330.237†	151.9	4.759	mg/L	0.1412	4.759	mg/L	0.1412	2.97%
Ni 231.604†	5.9	0.00120	mg/L	0.000516	0.00120	mg/L	0.000516	42.88%
Pb 220.353†	-52.4	-0.00459	mg/L	0.000602	-0.00459	mg/L	0.000602	13.12%
Sb 206.836†	-10.5	-0.00320	mg/L	0.000503	-0.00320	mg/L	0.000503	15.70%
Se 196.026†	31.1	0.01774	mg/L	0.003429	0.01774	mg/L	0.003429	19.32%
Si 288.158†	23656.8	10.78	mg/L	0.179	10.78	mg/L	0.179	1.66%
Sn 189.927†	-25.1	-0.00262	mg/L	0.001049	-0.00262	mg/L	0.001049	40.05%
Sr 421.552†	63882.6	0.07532	mg/L	0.000368	0.07532	mg/L	0.000368	0.49%
Ti 334.903†	48.9	0.00046	mg/L	0.000414	0.00046	mg/L	0.000414	90.78%
Tl 190.801†	19.4	0.00816	mg/L	0.002094	0.00816	mg/L	0.002094	25.65%
V 292.402†	141.4	0.00057	mg/L	0.000115	0.00057	mg/L	0.000115	20.37%
Zn 206.200†	8.9	0.00253	mg/L	0.000985	0.00253	mg/L	0.000985	38.87%

Sequence No.: 26
Sample ID: US82 C TWC

Dilution: 1X

Autosampler Location: 320
Date Collected: 5/10/2012 10:52:46 AM
Data Type: Original

Nebulizer Parameters: US82 C TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 C TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2767321.2	108.6	%	0.38				0.35%
ScR 361.383	424000.1	110.5	%	0.35				0.32%
Ag 328.068†	78.1	-0.00010	mg/L	0.000186	-0.00010	mg/L	0.000186	188.80%
Al 308.215†	8.5	0.00522	mg/L	0.002293	0.00522	mg/L	0.002293	43.95%
As 188.979†	-7.0	-0.00341	mg/L	0.002137	-0.00341	mg/L	0.002137	62.67%
B 249.677†	245.4	0.03813	mg/L	0.000460	0.03813	mg/L	0.000460	1.21%
Ba 233.527†	125.3	0.01406	mg/L	0.000543	0.01406	mg/L	0.000543	3.86%
Be 313.042†	-124.4	-0.00017	mg/L	0.000017	-0.00017	mg/L	0.000017	9.77%
Ca 317.933†	509412.9	48.02	mg/L	0.209	48.02	mg/L	0.209	0.44%
Cd 228.802†	-2.6	-0.00015	mg/L	0.000106	-0.00015	mg/L	0.000106	72.16%
Co 228.616†	27.5	0.00068	mg/L	0.000136	0.00068	mg/L	0.000136	19.99%
Cr 267.716†	16.4	0.00038	mg/L	0.000232	0.00038	mg/L	0.000232	61.93%
Cu 324.752†	1.6	0.00049	mg/L	0.000096	0.00049	mg/L	0.000096	19.56%
Fe 273.955†	11512.5	8.074	mg/L	0.0721	8.074	mg/L	0.0721	0.89%
K 766.490†	15460.0	6.900	mg/L	0.0481	6.900	mg/L	0.0481	0.70%
Mg 279.077†	25877.7	20.04	mg/L	0.140	20.04	mg/L	0.140	0.70%
Mn 257.610†	17079.1	0.3045	mg/L	0.00191	0.3045	mg/L	0.00191	0.63%
Mo 202.031†	82.0	0.00320	mg/L	0.000298	0.00320	mg/L	0.000298	9.33%
Na 589.592†	258037.7	19.88	mg/L	0.136	19.88	mg/L	0.136	0.69%
Na 330.237†	697.7	22.58	mg/L	0.317	22.58	mg/L	0.317	1.40%
Ni 231.604†	14.7	0.00302	mg/L	0.000568	0.00302	mg/L	0.000568	18.81%
Pb 220.353†	-69.7	-0.00637	mg/L	0.000516	-0.00637	mg/L	0.000516	8.10%
Sb 206.836†	-6.0	-0.00272	mg/L	0.001428	-0.00272	mg/L	0.001428	52.49%
Se 196.026†	36.7	0.02139	mg/L	0.006084	0.02139	mg/L	0.006084	28.44%
Si 288.158†	34179.3	15.58	mg/L	0.212	15.58	mg/L	0.212	1.36%
Sn 189.927†	-34.0	-0.00350	mg/L	0.000032	-0.00350	mg/L	0.000032	0.91%
Sr 421.552†	81967.5	0.09665	mg/L	0.000178	0.09665	mg/L	0.000178	0.18%
Ti 334.903†	50.1	0.00005	mg/L	0.000330	0.00005	mg/L	0.000330	607.62%
Tl 190.801†	15.2	0.00719	mg/L	0.001989	0.00719	mg/L	0.001989	27.66%
V 292.402†	248.6	0.00043	mg/L	0.000117	0.00043	mg/L	0.000117	26.99%
Zn 206.200†	10.9	0.00304	mg/L	0.000330	0.00304	mg/L	0.000330	10.85%

Sequence No.: 27
Sample ID: US82 E TWC

Dilution: 1X

Autosampler Location: 321
Date Collected: 5/10/2012 10:57:00 AM
Data Type: Original

Nebulizer Parameters: US82 E TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 E TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2782387.4	109.2	%	0.29				0.26%
ScR 361.383	430293.1	112.2	%	0.79				0.70%
Ag 328.068†	117.0	-0.00003	mg/L	0.000051	-0.00003	mg/L	0.000051	186.06%
Al 308.215†	1174.7	0.7329	mg/L	0.00870	0.7329	mg/L	0.00870	1.19%
As 188.979†	578.9	0.2451	mg/L	0.00270	0.2451	mg/L	0.00270	1.10%
B 249.677†	194.1	0.03018	mg/L	0.000344	0.03018	mg/L	0.000344	1.14%
Ba 233.527†	742.6	0.08518	mg/L	0.000268	0.08518	mg/L	0.000268	0.31%
Be 313.042†	-109.6	-0.00016	mg/L	0.000017	-0.00016	mg/L	0.000017	10.60%
Ca 317.933†	620819.1	58.52	mg/L	0.263	58.52	mg/L	0.263	0.45%
Cd 228.802†	30.1	0.00004	mg/L	0.000110	0.00004	mg/L	0.000110	299.56%
Co 228.616†	28.1	0.00066	mg/L	0.000104	0.00066	mg/L	0.000104	15.67%
Cr 267.716†	31.3	0.00256	mg/L	0.000764	0.00256	mg/L	0.000764	29.83%
Cu 324.752†	13852.1	0.06248	mg/L	0.000502	0.06248	mg/L	0.000502	0.80%
Fe 273.955†	17341.3	12.16	mg/L	0.087	12.16	mg/L	0.087	0.71%
K 766.490†	47024.8	20.99	mg/L	0.252	20.99	mg/L	0.252	1.20%
Mg 279.077†	6454.9	4.993	mg/L	0.0497	4.993	mg/L	0.0497	0.99%
Mn 257.610†	18000.0	0.3210	mg/L	0.00296	0.3210	mg/L	0.00296	0.92%
Mo 202.031†	545.6	0.02571	mg/L	0.000333	0.02571	mg/L	0.000333	1.30%
Na 589.592†	387225.7	29.83	mg/L	0.247	29.83	mg/L	0.247	0.83%
Na 330.237†	1051.4	34.13	mg/L	0.186	34.13	mg/L	0.186	0.54%
Ni 231.604†	157.2	0.03237	mg/L	0.000930	0.03237	mg/L	0.000930	2.87%
Pb 220.353†	-5.7	-0.00124	mg/L	0.000988	-0.00124	mg/L	0.000988	79.40%
Sb 206.836†	-0.5	-0.00186	mg/L	0.001087	-0.00186	mg/L	0.001087	58.39%
Se 196.026†	39.9	0.02365	mg/L	0.001761	0.02365	mg/L	0.001761	7.45%
Si 288.158†	52981.6	24.15	mg/L	0.175	24.15	mg/L	0.175	0.72%
Sn 189.927†	-40.8	-0.00417	mg/L	0.000594	-0.00417	mg/L	0.000594	14.24%
Sr 421.552†	147253.3	0.1736	mg/L	0.00131	0.1736	mg/L	0.00131	0.75%
Ti 334.903†	357.6	0.01031	mg/L	0.000246	0.01031	mg/L	0.000246	2.39%
Tl 190.801†	15.3	0.00783	mg/L	0.002017	0.00783	mg/L	0.002017	25.77%
V 292.402†	3383.9	0.01697	mg/L	0.000151	0.01697	mg/L	0.000151	0.89%
Zn 206.200†	7.1	0.00165	mg/L	0.000673	0.00165	mg/L	0.000673	40.65%

Sequence No.: 28
Sample ID: US82 MB1SPK TWC

Dilution: 1X

Autosampler Location: 322
Date Collected: 5/10/2012 11:01:14 AM
Data Type: Original

Nebulizer Parameters: US82 MB1SPK TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 MB1SPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2845674.6	111.7	%	0.57				0.51%
ScR 361.383	433866.3	113.1	%	1.09				0.96%
Ag 328.068†	131261.2	0.4845	mg/L	0.00367	0.4845	mg/L	0.00367	0.76%
Al 308.215†	3052.1	1.896	mg/L	0.0157	1.896	mg/L	0.0157	0.83%
As 188.979†	4414.6	1.870	mg/L	0.0127	1.870	mg/L	0.0127	0.68%
B 249.677†	-10.8	-0.00306	mg/L	0.000521	-0.00306	mg/L	0.000521	17.05%
Ba 233.527†	16343.5	1.888	mg/L	0.0170	1.888	mg/L	0.0170	0.90%
Be 313.042†	333673.6	0.4536	mg/L	0.00364	0.4536	mg/L	0.00364	0.80%
Ca 317.933†	101851.1	9.601	mg/L	0.0463	9.601	mg/L	0.0463	0.48%
Cd 228.802†	15474.8	0.4912	mg/L	0.00343	0.4912	mg/L	0.00343	0.70%
Co 228.616†	19083.8	0.4749	mg/L	0.00145	0.4749	mg/L	0.00145	0.31%
Cr 267.716†	4262.2	0.4843	mg/L	0.00420	0.4843	mg/L	0.00420	0.87%
Cu 324.752†	111253.3	0.4953	mg/L	0.00139	0.4953	mg/L	0.00139	0.28%
Fe 273.955†	2751.0	1.927	mg/L	0.0136	1.927	mg/L	0.0136	0.70%
K 766.490†	21665.5	9.669	mg/L	0.0530	9.669	mg/L	0.0530	0.55%
Mg 279.077†	12625.0	9.779	mg/L	0.0901	9.779	mg/L	0.0901	0.92%
Mn 257.610†	25784.7	0.4604	mg/L	0.00439	0.4604	mg/L	0.00439	0.95%
Mo 202.031†	5.3	0.00010	mg/L	0.000061	0.00010	mg/L	0.000061	63.82%
Na 589.592†	114651.2	8.833	mg/L	0.1077	8.833	mg/L	0.1077	1.22%
Na 330.237†	306.7	9.904	mg/L	0.1349	9.904	mg/L	0.1349	1.36%
Ni 231.604†	2148.4	0.4425	mg/L	0.00378	0.4425	mg/L	0.00378	0.86%
Pb 220.353†	22133.3	1.855	mg/L	0.0192	1.855	mg/L	0.0192	1.03%
Sb 206.836†	-11.9	-0.00815	mg/L	0.001397	-0.00815	mg/L	0.001397	17.16%
Se 196.026†	3295.7	1.863	mg/L	0.0200	1.863	mg/L	0.0200	1.07%
Si 288.158†	169.5	0.07910	mg/L	0.029877	0.07910	mg/L	0.029877	37.77%
Sn 189.927†	-5.7	-0.00049	mg/L	0.000636	-0.00049	mg/L	0.000636	130.95%
Sr 421.552†	392566.8	0.4629	mg/L	0.00312	0.4629	mg/L	0.00312	0.67%
Ti 334.903†	10.8	-0.00007	mg/L	0.000102	-0.00007	mg/L	0.000102	154.32%
Tl 190.801†	4619.7	1.861	mg/L	0.0103	1.861	mg/L	0.0103	0.55%
V 292.402†	89890.4	0.4897	mg/L	0.00478	0.4897	mg/L	0.00478	0.98%
Zn 206.200†	1348.0	0.4567	mg/L	0.00170	0.4567	mg/L	0.00170	0.37%

Sequence No.: 29
Sample ID: CV 3

Autosampler Location: 7
Date Collected: 5/10/2012 11:05:14 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2799876.6	109.9	%	0.38				0.34%
ScR 361.383	419455.6	109.4	%	0.90				0.82%
Ag 328.068†	255101.4	0.9416	mg/L	0.00349	0.9416	mg/L	0.00349	0.37%
Al 308.215†	3075.1	1.892	mg/L	0.0142	1.892	mg/L	0.0142	0.75%
As 188.979†	4338.4	1.842	mg/L	0.0016	1.842	mg/L	0.0016	0.09%
B 249.677†	6001.1	0.9303	mg/L	0.00671	0.9303	mg/L	0.00671	0.72%
Ba 233.527†	8146.4	0.9409	mg/L	0.00592	0.9409	mg/L	0.00592	0.63%
Be 313.042†	656761.2	0.8928	mg/L	0.00289	0.8928	mg/L	0.00289	0.32%
Ca 317.933†	19887.7	1.875	mg/L	0.0096	1.875	mg/L	0.0096	0.51%
Cd 228.802†	30392.4	0.9710	mg/L	0.01333	0.9710	mg/L	0.01333	1.37%
Co 228.616†	37490.4	0.9321	mg/L	0.00922	0.9321	mg/L	0.00922	0.99%
Cr 267.716†	8548.2	0.9721	mg/L	0.00760	0.9721	mg/L	0.00760	0.78%
Cu 324.752†	220032.1	0.9790	mg/L	0.00656	0.9790	mg/L	0.00656	0.67%
Fe 273.955†	2767.5	1.937	mg/L	0.0176	1.937	mg/L	0.0176	0.91%
K 766.490†	42852.6	19.12	mg/L	0.100	19.12	mg/L	0.100	0.52%
Mg 279.077†	2479.1	1.925	mg/L	0.0139	1.925	mg/L	0.0139	0.72%
Mn 257.610†	50062.6	0.8933	mg/L	0.00434	0.8933	mg/L	0.00434	0.49%
Mo 202.031†	19467.0	0.9528	mg/L	0.00234	0.9528	mg/L	0.00234	0.25%
Na 589.592†	580446.8	44.72	mg/L	0.099	44.72	mg/L	0.099	0.22%
Na 330.237†	1525.8	50.11	mg/L	0.362	50.11	mg/L	0.362	0.72%
Ni 231.604†	4433.4	0.9150	mg/L	0.00497	0.9150	mg/L	0.00497	0.54%
Pb 220.353†	22356.3	1.874	mg/L	0.0040	1.874	mg/L	0.0040	0.21%
Sb 206.836†	6927.1	1.947	mg/L	0.0043	1.947	mg/L	0.0043	0.22%
Se 196.026†	3255.0	1.839	mg/L	0.0049	1.839	mg/L	0.0049	0.27%
Si 288.158†	4380.6	2.000	mg/L	0.0313	2.000	mg/L	0.0313	1.57%
Sn 189.927†	6601.5	0.9551	mg/L	0.00423	0.9551	mg/L	0.00423	0.44%
Sr 421.552†	779438.6	0.9190	mg/L	0.00263	0.9190	mg/L	0.00263	0.29%
Ti 334.903†	26746.2	0.9247	mg/L	0.00387	0.9247	mg/L	0.00387	0.42%
Tl 190.801†	4541.3	1.830	mg/L	0.0080	1.830	mg/L	0.0080	0.44%
V 292.402†	175877.3	0.9587	mg/L	0.00305	0.9587	mg/L	0.00305	0.32%
Zn 206.200†	2822.9	0.9559	mg/L	0.00664	0.9559	mg/L	0.00664	0.69%

Sequence No.: 30
Sample ID: CB 3

Autosampler Location: 1
Date Collected: 5/10/2012 11:09:18 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2840761.8	111.5	%	0.01				0.01%
ScR 361.383	428017.5	111.6	%	0.76				0.68%
Ag 328.068†	13.7	0.00005	mg/L	0.000027	0.00005	mg/L	0.000027	53.27%
Al 308.215†	-1.0	-0.00060	mg/L	0.003126	-0.00060	mg/L	0.003126	518.76%
As 188.979†	-0.2	-0.00010	mg/L	0.002051	-0.00010	mg/L	0.002051	>999.9%
B 249.677†	-10.1	-0.00156	mg/L	0.001005	-0.00156	mg/L	0.001005	64.25%
Ba 233.527†	0.1	0.00002	mg/L	0.000403	0.00002	mg/L	0.000403	>999.9%
Be 313.042†	-100.6	-0.00014	mg/L	0.000025	-0.00014	mg/L	0.000025	17.97%
Ca 317.933†	-17.7	-0.00167	mg/L	0.001592	-0.00167	mg/L	0.001592	95.14%
Cd 228.802†	-12.0	-0.00039	mg/L	0.000081	-0.00039	mg/L	0.000081	21.09%
Co 228.616†	-6.3	-0.00016	mg/L	0.000046	-0.00016	mg/L	0.000046	28.69%
Cr 267.716†	1.3	0.00014	mg/L	0.000348	0.00014	mg/L	0.000348	240.42%
Cu 324.752†	-17.6	-0.00008	mg/L	0.000013	-0.00008	mg/L	0.000013	16.67%
Fe 273.955†	4.2	0.00298	mg/L	0.001039	0.00298	mg/L	0.001039	34.90%
K 766.490†	64.0	0.02857	mg/L	0.008079	0.02857	mg/L	0.008079	28.27%
Mg 279.077†	13.4	0.01036	mg/L	0.003959	0.01036	mg/L	0.003959	38.22%
Mn 257.610†	2.2	0.00004	mg/L	0.000062	0.00004	mg/L	0.000062	157.05%
Mo 202.031†	-20.0	-0.00098	mg/L	0.000141	-0.00098	mg/L	0.000141	14.40%
Na 589.592†	-347.8	-0.02680	mg/L	0.001840	-0.02680	mg/L	0.001840	6.87%
Na 330.237†	7.0	0.2307	mg/L	0.05740	0.2307	mg/L	0.05740	24.88%
Ni 231.604†	-0.3	-0.00007	mg/L	0.000679	-0.00007	mg/L	0.000679	977.75%
Pb 220.353†	-26.9	-0.00226	mg/L	0.000372	-0.00226	mg/L	0.000372	16.47%
Sb 206.836†	-15.4	-0.00432	mg/L	0.001983	-0.00432	mg/L	0.001983	45.87%
Se 196.026†	9.2	0.00521	mg/L	0.001083	0.00521	mg/L	0.001083	20.78%
Si 288.158†	41.8	0.01903	mg/L	0.007734	0.01903	mg/L	0.007734	40.63%
Sn 189.927†	7.0	0.00101	mg/L	0.000240	0.00101	mg/L	0.000240	23.85%
Sr 421.552†	76.9	0.00009	mg/L	0.000039	0.00009	mg/L	0.000039	43.06%
Ti 334.903†	17.4	0.00060	mg/L	0.000427	0.00060	mg/L	0.000427	70.76%
Tl 190.801†	3.7	0.00150	mg/L	0.000419	0.00150	mg/L	0.000419	27.89%
V 292.402†	-57.6	-0.00031	mg/L	0.000123	-0.00031	mg/L	0.000123	39.09%
Zn 206.200†	5.6	0.00190	mg/L	0.000577	0.00190	mg/L	0.000577	30.39%

Analysis Begun

Start Time: 5/10/2012 11:13:50 AM
Logged In Analyst: metals
Spectrometer Model: Optima 7300 DV, S/N 077C8121202
Plasma On Time: 5/10/2012 7:27:57 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\metals\Sample Information\0510.sif
Batch ID:
Results Data Set: I2120510
Results Library: C:\pe\metals\Results\Results.mdb

Sequence No.: 1
Sample ID: STD2
Date Collected: 5/10/2012 11:13:51 AM
Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2840292.1	15241.52	0.54%	111.5	%
ScR 361.383	425792.7	3896.82	0.92%	111.0	%
Ba 233.527†	80003.2	175.74	0.22%	[10]	mg/L
Cd 228.802†	297044.0	979.44	0.33%	[10]	mg/L
Co 228.616†	383480.9	773.87	0.20%	[10]	mg/L
Cr 267.716†	83214.1	140.85	0.17%	[10]	mg/L
Cu 324.752†	2187597.1	3265.53	0.15%	[10]	mg/L
Mn 257.610†	513993.7	1632.45	0.32%	[10]	mg/L
V 292.402†	1780815.4	7143.83	0.40%	[10]	mg/L

Sequence No.: 2
Sample ID: STD3

Date Collected: 5/10/2012 11:16:01 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2759604.8	13901.89	0.50%	108.3	%
ScR 361.383	414199.3	3220.42	0.78%	108.0	%
Ag 328.068†	249612.5	2117.92	0.85%	[1.0]	mg/L
As 188.979+	22051.0	82.95	0.38%	[10]	mg/L
B 249.677†	60430.8	807.85	1.34%	[10]	mg/L
Be 313.042+	3374835.4	7317.01	0.22%	[5.0]	mg/L
Na 589.592+	573912.2	3529.56	0.61%	[50]	mg/L
Ni 231.604†	44727.2	448.50	1.00%	[10]	mg/L
Pb 220.353+	110823.8	623.05	0.56%	[10]	mg/L
Se 196.026†	16404.3	43.77	0.27%	[10]	mg/L
Sr 421.552+	3908054.6	9310.67	0.24%	[5]	mg/L
Tl 190.801+	22952.6	123.95	0.54%	[10]	mg/L
Zn 206.200†	27791.6	329.85	1.19%	[10]	mg/L

Analysis Begun

Start Time: 5/10/2012 11:18:36 AM
Logged In Analyst: metals
Spectrometer Model: Optima 7300 DV, S/N 077C8121202
Plasma On Time: 5/10/2012 7:27:57 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\metals\Sample Information\0510.sif
Batch ID:
Results Data Set: I2120510
Results Library: C:\pe\metals\Results\Results.mdb

Sequence No.: 1
Sample ID: CV
Autosampler Location: 7
Date Collected: 5/10/2012 11:18:37 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2773530.8	108.9	%	0.26				0.24%
ScR 361.383	418785.5	109.2	%	0.75				0.69%
Ag 328.068†	255960.5	1.025	mg/L	0.0055	1.025	mg/L	0.0055	0.54%
Al 308.215†	3049.7	1.875	mg/L	0.0158	1.875	mg/L	0.0158	0.84%
As 188.979†	4296.1	1.953	mg/L	0.0124	1.953	mg/L	0.0124	0.63%
B 249.677†	6009.2	0.9923	mg/L	0.00677	0.9923	mg/L	0.00677	0.68%
Ba 233.527†	8051.1	1.006	mg/L	0.0079	1.006	mg/L	0.0079	0.79%
Be 313.042†	650224.2	0.9627	mg/L	0.00624	0.9627	mg/L	0.00624	0.65%
Ca 317.933†	19740.5	1.861	mg/L	0.0077	1.861	mg/L	0.0077	0.41%
Cd 228.802†	30616.5	1.024	mg/L	0.0051	1.024	mg/L	0.0051	0.50%
Co 228.616†	37769.7	0.9832	mg/L	0.00413	0.9832	mg/L	0.00413	0.42%
Cr 267.716†	8445.3	1.014	mg/L	0.0071	1.014	mg/L	0.0071	0.70%
Cu 324.752†	222771.9	1.018	mg/L	0.0033	1.018	mg/L	0.0033	0.32%
Fe 273.955†	2736.0	1.914	mg/L	0.0127	1.914	mg/L	0.0127	0.66%
K 766.490†	42979.6	19.18	mg/L	0.120	19.18	mg/L	0.120	0.62%
Mg 279.077†	2463.1	1.913	mg/L	0.0127	1.913	mg/L	0.0127	0.66%
Mn 257.610†	49521.0	0.9642	mg/L	0.00511	0.9642	mg/L	0.00511	0.53%
Mo 202.031†	19370.5	0.9481	mg/L	0.00339	0.9481	mg/L	0.00339	0.36%
Na 589.592†	572513.1	49.88	mg/L	0.193	49.88	mg/L	0.193	0.39%
Na 330.237†	1509.9	49.57	mg/L	0.418	49.57	mg/L	0.418	0.84%
Ni 231.604†	4370.4	0.9790	mg/L	0.00706	0.9790	mg/L	0.00706	0.72%
Pb 220.353†	22225.7	2.007	mg/L	0.0102	2.007	mg/L	0.0102	0.51%
Sb 206.836†	6887.1	1.935	mg/L	0.0118	1.935	mg/L	0.0118	0.61%
Se 196.026†	3223.2	1.964	mg/L	0.0155	1.964	mg/L	0.0155	0.79%
Si 288.158†	4269.7	1.950	mg/L	0.0301	1.950	mg/L	0.0301	1.55%
Sn 189.927†	6553.3	0.9482	mg/L	0.00497	0.9482	mg/L	0.00497	0.52%
Sr 421.552†	773300.8	0.9894	mg/L	0.00518	0.9894	mg/L	0.00518	0.52%
Ti 334.903†	26509.1	0.9165	mg/L	0.00518	0.9165	mg/L	0.00518	0.57%
Tl 190.801†	4503.6	1.961	mg/L	0.0070	1.961	mg/L	0.0070	0.36%
V 292.402†	176727.8	0.9968	mg/L	0.00960	0.9968	mg/L	0.00960	0.96%
Zn 206.200†	2805.8	1.010	mg/L	0.0064	1.010	mg/L	0.0064	0.63%

Sequence No.: 2
Sample ID: CB 4

Autosampler Location: 1
Date Collected: 5/10/2012 11:22:41 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2801702.5	110.0	%	0.53				0.48%
ScR 361.383	423293.8	110.4	%	0.43				0.39%
Ag 328.068†	5.9	0.00002	mg/L	0.000095	0.00002	mg/L	0.000095	401.01%
Al 308.215†	1.4	0.00087	mg/L	0.005232	0.00087	mg/L	0.005232	598.25%
As 188.979†	1.3	0.00062	mg/L	0.000375	0.00062	mg/L	0.000375	60.39%
B 249.677†	13.0	0.00216	mg/L	0.000656	0.00216	mg/L	0.000656	30.44%
Ba 233.527†	1.0	0.00013	mg/L	0.000391	0.00013	mg/L	0.000391	308.98%
Be 313.042†	-43.0	-0.00006	mg/L	0.000078	-0.00006	mg/L	0.000078	122.05%
Ca 317.933†	-28.3	-0.00267	mg/L	0.000498	-0.00267	mg/L	0.000498	18.69%
Cd 228.802†	-7.5	-0.00025	mg/L	0.000071	-0.00025	mg/L	0.000071	27.97%
Co 228.616†	-5.7	-0.00015	mg/L	0.000078	-0.00015	mg/L	0.000078	52.16%
Cr 267.716†	-2.4	-0.00029	mg/L	0.001140	-0.00029	mg/L	0.001140	398.72%
Cu 324.752†	-21.6	-0.00010	mg/L	0.000063	-0.00010	mg/L	0.000063	63.44%
Fe 273.955†	2.8	0.00195	mg/L	0.000697	0.00195	mg/L	0.000697	35.78%
K 766.490†	76.1	0.03395	mg/L	0.013002	0.03395	mg/L	0.013002	38.30%
Mg 279.077†	15.6	0.01211	mg/L	0.003101	0.01211	mg/L	0.003101	25.61%
Mn 257.610†	8.3	0.00016	mg/L	0.000057	0.00016	mg/L	0.000057	35.46%
Mo 202.031†	-20.5	-0.00100	mg/L	0.000263	-0.00100	mg/L	0.000263	26.30%
Na 589.592†	-380.6	-0.03316	mg/L	0.002378	-0.03316	mg/L	0.002378	7.17%
Na 330.237†	0.3	0.00952	mg/L	0.240215	0.00952	mg/L	0.240215	>999.9%
Ni 231.604†	1.7	0.00038	mg/L	0.000328	0.00038	mg/L	0.000328	85.93%
Pb 220.353†	-29.6	-0.00267	mg/L	0.000868	-0.00267	mg/L	0.000868	32.48%
Sb 206.836†	-14.8	-0.00414	mg/L	0.000330	-0.00414	mg/L	0.000330	7.96%
Se 196.026†	7.3	0.00447	mg/L	0.002458	0.00447	mg/L	0.002458	55.02%
Si 288.158†	7.4	0.00337	mg/L	0.007503	0.00337	mg/L	0.007503	222.61%
Sn 189.927†	8.4	0.00121	mg/L	0.000261	0.00121	mg/L	0.000261	21.63%
Sr 421.552†	151.2	0.00019	mg/L	0.000064	0.00019	mg/L	0.000064	32.89%
Ti 334.903†	32.6	0.00113	mg/L	0.000190	0.00113	mg/L	0.000190	16.77%
Tl 190.801†	5.6	0.00244	mg/L	0.000954	0.00244	mg/L	0.000954	39.15%
V 292.402†	-48.6	-0.00028	mg/L	0.000084	-0.00028	mg/L	0.000084	30.58%
Zn 206.200†	6.9	0.00247	mg/L	0.000727	0.00247	mg/L	0.000727	29.45%

Sequence No.: 3
Sample ID: US82 MB1 TWC

Autosampler Location: 313
Date Collected: 5/10/2012 11:26:56 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 MB1 TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 MB1 TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2832389.6	111.2	%	0.62				0.56%
ScR 361.383	423711.7	110.5	%	0.95				0.86%
Ag 328.068†	-3.0	-0.00001	mg/L	0.000016	-0.00001	mg/L	0.000016	128.79%
Al 308.215†	-0.8	-0.00045	mg/L	0.002890	-0.00045	mg/L	0.002890	640.57%
As 188.979†	-1.6	-0.00074	mg/L	0.000893	-0.00074	mg/L	0.000893	120.61%
B 249.677†	-2.7	-0.00045	mg/L	0.000977	-0.00045	mg/L	0.000977	217.31%
Ba 233.527†	-2.7	-0.00034	mg/L	0.000197	-0.00034	mg/L	0.000197	58.83%
Be 313.042†	-141.4	-0.00021	mg/L	0.000020	-0.00021	mg/L	0.000020	9.60%
Ca 317.933†	53.7	0.00506	mg/L	0.000920	0.00506	mg/L	0.000920	18.16%
Cd 228.802†	-10.9	-0.00036	mg/L	0.000116	-0.00036	mg/L	0.000116	32.11%
Co 228.616†	-1.7	-0.00004	mg/L	0.000164	-0.00004	mg/L	0.000164	371.92%
Cr 267.716†	-2.2	-0.00026	mg/L	0.000558	-0.00026	mg/L	0.000558	214.65%
Cu 324.752†	19.7	0.00009	mg/L	0.000113	0.00009	mg/L	0.000113	125.41%
Fe 273.955†	5.2	0.00365	mg/L	0.001867	0.00365	mg/L	0.001867	51.13%
K 766.490†	37.5	0.01675	mg/L	0.004746	0.01675	mg/L	0.004746	28.34%
Mg 279.077†	15.2	0.01177	mg/L	0.004347	0.01177	mg/L	0.004347	36.93%
Mn 257.610†	-0.2	0.00000	mg/L	0.000062	0.00000	mg/L	0.000062	>999.9%
Mo 202.031†	-26.5	-0.00130	mg/L	0.000301	-0.00130	mg/L	0.000301	23.20%
Na 589.592†	-497.8	-0.04337	mg/L	0.001992	-0.04337	mg/L	0.001992	4.59%
Na 330.237†	1.8	0.05823	mg/L	0.244121	0.05823	mg/L	0.244121	419.22%
Ni 231.604†	3.7	0.00083	mg/L	0.000044	0.00083	mg/L	0.000044	5.29%
Pb 220.353†	-29.3	-0.00264	mg/L	0.000400	-0.00264	mg/L	0.000400	15.15%
Sb 206.836†	-24.1	-0.00677	mg/L	0.000495	-0.00677	mg/L	0.000495	7.31%
Se 196.026†	9.8	0.00598	mg/L	0.002342	0.00598	mg/L	0.002342	39.18%
Si 288.158†	9.4	0.00427	mg/L	0.001664	0.00427	mg/L	0.001664	38.93%
Sn 189.927†	6.1	0.00088	mg/L	0.000178	0.00088	mg/L	0.000178	20.23%
Sr 421.552†	81.0	0.00010	mg/L	0.000033	0.00010	mg/L	0.000033	32.32%
Ti 334.903†	-6.2	-0.00021	mg/L	0.000412	-0.00021	mg/L	0.000412	193.76%
Tl 190.801†	4.6	0.00199	mg/L	0.003264	0.00199	mg/L	0.003264	163.70%
V 292.402†	-56.2	-0.00032	mg/L	0.000072	-0.00032	mg/L	0.000072	22.55%
Zn 206.200†	4.9	0.00178	mg/L	0.000292	0.00178	mg/L	0.000292	16.46%

Sequence No.: 4
Sample ID: US82 A-L TWC

Autosampler Location: 314
Date Collected: 5/10/2012 11:31:12 AM
Data Type: Original

Dilution: 5X

Nebulizer Parameters: US82 A-L TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US82 A-L TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2835157.4	111.3	%	0.43				0.39%
ScR 361.383	426850.5	111.3	%	0.70				0.63%
Ag 328.068†	68.4	0.00022	mg/L	0.000120	0.00112	mg/L	0.000598	53.64%
Al 308.215†	0.6	0.00038	mg/L	0.002308	0.00190	mg/L	0.011542	608.68%
As 188.979†	-4.4	-0.00201	mg/L	0.001774	-0.01007	mg/L	0.008870	88.06%
B 249.677†	7.0	0.00116	mg/L	0.000487	0.00582	mg/L	0.002436	41.82%
Ba 233.527†	11.7	0.00146	mg/L	0.000138	0.00729	mg/L	0.000691	9.47%
Be 313.042†	-148.0	-0.00022	mg/L	0.000020	-0.00110	mg/L	0.000099	8.99%
Ca 317.933†	80723.0	7.609	mg/L	0.0402	38.05	mg/L	0.201	0.53%
Cd 228.802†	-9.2	-0.00030	mg/L	0.000085	-0.00151	mg/L	0.000425	28.19%
Co 228.616†	-0.8	-0.00002	mg/L	0.000147	-0.00011	mg/L	0.000735	678.05%
Cr 267.716†	-1.3	-0.00034	mg/L	0.000498	-0.00171	mg/L	0.002488	145.19%
Cu 324.752†	123.7	0.00056	mg/L	0.000120	0.00282	mg/L	0.000602	21.35%
Fe 273.955†	7.6	0.00535	mg/L	0.000268	0.02673	mg/L	0.001341	5.02%
K 766.490†	789.9	0.3525	mg/L	0.00770	1.763	mg/L	0.0385	2.18%
Mg 279.077†	447.2	0.3464	mg/L	0.00268	1.732	mg/L	0.0134	0.77%
Mn 257.610†	12.1	0.00023	mg/L	0.000073	0.00116	mg/L	0.000365	31.35%
Mo 202.031†	7.3	0.00023	mg/L	0.000270	0.00115	mg/L	0.001348	117.27%
Na 589.592†	25652.7	2.235	mg/L	0.0123	11.17	mg/L	0.062	0.55%
Na 330.237†	77.6	2.497	mg/L	0.0438	12.48	mg/L	0.219	1.75%
Ni 231.604†	3.9	0.00087	mg/L	0.000552	0.00435	mg/L	0.002760	63.45%
Pb 220.353†	-38.1	-0.00344	mg/L	0.000643	-0.01719	mg/L	0.003214	18.70%
Sb 206.836†	-24.9	-0.00700	mg/L	0.001501	-0.03500	mg/L	0.007506	21.45%
Se 196.026†	17.1	0.01042	mg/L	0.001073	0.05208	mg/L	0.005367	10.31%
Si 288.158†	2389.9	1.089	mg/L	0.0071	5.446	mg/L	0.0355	0.65%
Sn 189.927†	-1.8	-0.00004	mg/L	0.000273	-0.00020	mg/L	0.001364	689.72%
Sr 421.552†	16725.9	0.02140	mg/L	0.000106	0.1070	mg/L	0.00053	0.50%
Ti 334.903†	-2.3	-0.00035	mg/L	0.000367	-0.00173	mg/L	0.001837	106.46%
Tl 190.801†	8.3	0.00363	mg/L	0.000389	0.01815	mg/L	0.001944	10.71%
V 292.402†	52.6	0.00029	mg/L	0.000198	0.00147	mg/L	0.000991	67.38%
Zn 206.200†	8.8	0.00306	mg/L	0.000295	0.01531	mg/L	0.001477	9.65%

Sequence No.: 5
Sample ID: US82 A TWC

Autosampler Location: 315
Date Collected: 5/10/2012 11:35:26 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 A TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US82 A TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2818528.2	110.7	%	0.06				0.05%
ScR 361.383	423216.1	110.3	%	0.37				0.33%
Ag 328.068†	74.1	0.00003	mg/L	0.000233	0.00003	mg/L	0.000233	698.85%
Al 308.215†	28.0	0.01740	mg/L	0.001857	0.01740	mg/L	0.001857	10.67%
As 188.979†	-9.7	-0.00442	mg/L	0.001694	-0.00442	mg/L	0.001694	38.32%
B 249.677†	70.9	0.01173	mg/L	0.000243	0.01173	mg/L	0.000243	2.07%
Ba 233.527†	54.2	0.00677	mg/L	0.000348	0.00677	mg/L	0.000348	5.14%
Be 313.042†	-146.8	-0.00022	mg/L	0.000034	-0.00022	mg/L	0.000034	15.40%
Ca 317.933†	415500.9	39.17	mg/L	0.236	39.17	mg/L	0.236	0.60%
Cd 228.802†	-3.8	-0.00011	mg/L	0.000151	-0.00011	mg/L	0.000151	134.45%
Co 228.616†	9.8	0.00025	mg/L	0.000084	0.00025	mg/L	0.000084	33.28%
Cr 267.716†	8.1	0.00001	mg/L	0.000308	0.00001	mg/L	0.000308	>999.9%
Cu 324.752†	774.1	0.00353	mg/L	0.000047	0.00353	mg/L	0.000047	1.34%
Fe 273.955†	21.7	0.01522	mg/L	0.000776	0.01522	mg/L	0.000776	5.09%
K 766.490†	3617.8	1.615	mg/L	0.0068	1.615	mg/L	0.0068	0.42%
Mg 279.077†	2119.7	1.642	mg/L	0.0004	1.642	mg/L	0.0004	0.03%
Mn 257.610†	52.6	0.00101	mg/L	0.000085	0.00101	mg/L	0.000085	8.40%
Mo 202.031†	144.6	0.00641	mg/L	0.000156	0.00641	mg/L	0.000156	2.44%
Na 589.592†	133714.5	11.65	mg/L	0.025	11.65	mg/L	0.025	0.22%
Na 330.237†	357.8	11.49	mg/L	0.430	11.49	mg/L	0.430	3.75%
Ni 231.604†	18.4	0.00410	mg/L	0.000158	0.00410	mg/L	0.000158	3.86%
Pb 220.353†	-58.2	-0.00525	mg/L	0.000340	-0.00525	mg/L	0.000340	6.48%
Sb 206.836†	-13.3	-0.00377	mg/L	0.000765	-0.00377	mg/L	0.000765	20.29%
Se 196.026†	33.3	0.02032	mg/L	0.004547	0.02032	mg/L	0.004547	22.38%
Si 288.158†	12449.8	5.674	mg/L	0.0227	5.674	mg/L	0.0227	0.40%
Sn 189.927†	-26.5	-0.00269	mg/L	0.000490	-0.00269	mg/L	0.000490	18.21%
Sr 421.552†	83866.0	0.1073	mg/L	0.00010	0.1073	mg/L	0.00010	0.09%
Ti 334.903†	50.9	0.00039	mg/L	0.000098	0.00039	mg/L	0.000098	25.34%
Tl 190.801†	17.3	0.00758	mg/L	0.002401	0.00758	mg/L	0.002401	31.68%
V 292.402†	451.3	0.00254	mg/L	0.000218	0.00254	mg/L	0.000218	8.56%
Zn 206.200†	4.9	0.00126	mg/L	0.000473	0.00126	mg/L	0.000473	37.44%

Sequence No.: 6
Sample ID: US82 ADUP TWC

Autosampler Location: 316
Date Collected: 5/10/2012 11:39:40 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 ADUP TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 ADUP TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2819019.9	110.7	%	0.54				0.49%
ScR 361.383	427218.8	111.4	%	0.32				0.29%
Ag 328.068†	66.0	0.00000	mg/L	0.000065	0.00000	mg/L	0.000065	>999.9%
Al 308.215†	32.0	0.01987	mg/L	0.002538	0.01987	mg/L	0.002538	12.77%
As 188.979†	-9.2	-0.00423	mg/L	0.001085	-0.00423	mg/L	0.001085	25.67%
B 249.677†	70.6	0.01169	mg/L	0.000799	0.01169	mg/L	0.000799	6.83%
Ba 233.527†	52.6	0.00657	mg/L	0.000420	0.00657	mg/L	0.000420	6.39%
Be 313.042†	-151.2	-0.00023	mg/L	0.000021	-0.00023	mg/L	0.000021	9.10%
Ca 317.933†	414594.2	39.08	mg/L	0.344	39.08	mg/L	0.344	0.88%
Cd 228.802†	-2.8	-0.00008	mg/L	0.000139	-0.00008	mg/L	0.000139	182.84%
Co 228.616†	2.5	0.00006	mg/L	0.000073	0.00006	mg/L	0.000073	119.81%
Cr 267.716†	6.5	-0.00018	mg/L	0.000250	-0.00018	mg/L	0.000250	140.63%
Cu 324.752†	770.7	0.00351	mg/L	0.000094	0.00351	mg/L	0.000094	2.67%
Fe 273.955†	23.5	0.01646	mg/L	0.001453	0.01646	mg/L	0.001453	8.83%
K 766.490†	3571.5	1.594	mg/L	0.0042	1.594	mg/L	0.0042	0.26%
Mg 279.077†	2117.4	1.640	mg/L	0.0086	1.640	mg/L	0.0086	0.53%
Mn 257.610†	53.8	0.00104	mg/L	0.000031	0.00104	mg/L	0.000031	2.97%
Mo 202.031†	135.3	0.00596	mg/L	0.000379	0.00596	mg/L	0.000379	6.37%
Na 589.592†	132639.6	11.56	mg/L	0.087	11.56	mg/L	0.087	0.75%
Na 330.237†	347.9	11.16	mg/L	0.137	11.16	mg/L	0.137	1.23%
Ni 231.604†	21.7	0.00485	mg/L	0.000945	0.00485	mg/L	0.000945	19.48%
Pb 220.353†	-58.0	-0.00524	mg/L	0.000163	-0.00524	mg/L	0.000163	3.11%
Sb 206.836†	-11.4	-0.00323	mg/L	0.001288	-0.00323	mg/L	0.001288	39.89%
Se 196.026†	38.7	0.02362	mg/L	0.003253	0.02362	mg/L	0.003253	13.77%
Si 288.158†	12595.7	5.741	mg/L	0.0173	5.741	mg/L	0.0173	0.30%
Sn 189.927†	-28.8	-0.00302	mg/L	0.000517	-0.00302	mg/L	0.000517	17.11%
Sr 421.552†	83653.9	0.1070	mg/L	0.00062	0.1070	mg/L	0.00062	0.58%
Ti 334.903†	52.6	0.00045	mg/L	0.000581	0.00045	mg/L	0.000581	129.36%
Tl 190.801†	14.4	0.00632	mg/L	0.001465	0.00632	mg/L	0.001465	23.18%
V 292.402†	428.0	0.00241	mg/L	0.000147	0.00241	mg/L	0.000147	6.10%
Zn 206.200†	8.5	0.00256	mg/L	0.001420	0.00256	mg/L	0.001420	55.48%

Sequence No.: 7
Sample ID: US82 ASPK TWC

Autosampler Location: 317
Date Collected: 5/10/2012 11:43:54 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 ASPK TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 ASPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2799713.0	109.9	%	0.63				0.57%
ScR 361.383	428027.4	111.6	%	0.36				0.32%
Ag 328.068†	132614.7	0.5310	mg/L	0.00260	0.5310	mg/L	0.00260	0.49%
Al 308.215†	3122.3	1.940	mg/L	0.0040	1.940	mg/L	0.0040	0.21%
As 188.979†	4452.8	2.019	mg/L	0.0169	2.019	mg/L	0.0169	0.84%
B 249.677†	74.6	0.01090	mg/L	0.001015	0.01090	mg/L	0.001015	9.31%
Ba 233.527†	16344.4	2.043	mg/L	0.0033	2.043	mg/L	0.0033	0.16%
Be 313.042†	333795.5	0.4942	mg/L	0.00046	0.4942	mg/L	0.00046	0.09%
Ca 317.933†	519045.5	48.93	mg/L	0.252	48.93	mg/L	0.252	0.51%
Cd 228.802†	15699.4	0.5218	mg/L	0.00631	0.5218	mg/L	0.00631	1.21%
Co 228.616†	19120.7	0.4981	mg/L	0.00348	0.4981	mg/L	0.00348	0.70%
Cr 267.716†	4264.1	0.5108	mg/L	0.00182	0.5108	mg/L	0.00182	0.36%
Cu 324.752†	114238.2	0.5224	mg/L	0.00105	0.5224	mg/L	0.00105	0.20%
Fe 273.955†	2764.7	1.937	mg/L	0.0008	1.937	mg/L	0.0008	0.04%
K 766.490†	25237.4	11.26	mg/L	0.017	11.26	mg/L	0.017	0.15%
Mg 279.077†	14839.6	11.49	mg/L	0.014	11.49	mg/L	0.014	0.12%
Mn 257.610†	25729.8	0.5012	mg/L	0.00125	0.5012	mg/L	0.00125	0.25%
Mo 202.031†	156.1	0.00681	mg/L	0.000192	0.00681	mg/L	0.000192	2.82%
Na 589.592†	249837.7	21.77	mg/L	0.130	21.77	mg/L	0.130	0.60%
Na 330.237†	675.0	21.73	mg/L	0.082	21.73	mg/L	0.082	0.38%
Ni 231.604†	2155.0	0.4818	mg/L	0.00120	0.4818	mg/L	0.00120	0.25%
Pb 220.353†	21993.2	1.985	mg/L	0.0042	1.985	mg/L	0.0042	0.21%
Sb 206.836†	8.3	-0.00272	mg/L	0.001384	-0.00272	mg/L	0.001384	50.92%
Se 196.026†	3350.7	2.042	mg/L	0.0128	2.042	mg/L	0.0128	0.62%
Si 288.158†	12877.6	5.871	mg/L	0.0087	5.871	mg/L	0.0087	0.15%
Sn 189.927†	-36.9	-0.00383	mg/L	0.000564	-0.00383	mg/L	0.000564	14.72%
Sr 421.552†	476395.9	0.6095	mg/L	0.00049	0.6095	mg/L	0.00049	0.08%
Ti 334.903†	70.7	0.00062	mg/L	0.000366	0.00062	mg/L	0.000366	58.94%
Tl 190.801†	4592.7	1.999	mg/L	0.0158	1.999	mg/L	0.0158	0.79%
V 292.402†	91718.9	0.5171	mg/L	0.00192	0.5171	mg/L	0.00192	0.37%
Zn 206.200†	1337.5	0.4813	mg/L	0.00158	0.4813	mg/L	0.00158	0.33%

Sequence No.: 8
Sample ID: US82 B TWC

Autosampler Location: 319
Date Collected: 5/10/2012 11:47:54 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 B TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US82 B TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2798451.4	109.9	%	0.38				0.35%
ScR 361.383	427628.9	111.5	%	0.91				0.81%
Ag 328.068†	75.4	0.00006	mg/L	0.000075	0.00006	mg/L	0.000075	119.98%
Al 308.215†	4.7	0.00267	mg/L	0.000734	0.00267	mg/L	0.000734	27.45%
As 188.979†	-12.6	-0.00577	mg/L	0.001848	-0.00577	mg/L	0.001848	32.04%
B 249.677†	78.8	0.01306	mg/L	0.000337	0.01306	mg/L	0.000337	2.58%
Ba 233.527†	27.3	0.00331	mg/L	0.000131	0.00331	mg/L	0.000131	3.94%
Be 313.042†	-142.4	-0.00021	mg/L	0.000045	-0.00021	mg/L	0.000045	21.41%
Ca 317.933†	357028.7	33.66	mg/L	0.164	33.66	mg/L	0.164	0.49%
Cd 228.802†	-4.5	-0.00015	mg/L	0.000079	-0.00015	mg/L	0.000079	52.65%
Co 228.616†	8.7	0.00023	mg/L	0.000282	0.00023	mg/L	0.000282	123.15%
Cr 267.716†	5.8	-0.00008	mg/L	0.000348	-0.00008	mg/L	0.000348	461.91%
Cu 324.752†	15112.5	0.06920	mg/L	0.000426	0.06920	mg/L	0.000426	0.62%
Fe 273.955†	2650.6	1.859	mg/L	0.0132	1.859	mg/L	0.0132	0.71%
K 766.490†	4780.0	2.133	mg/L	0.0118	2.133	mg/L	0.0118	0.55%
Mg 279.077†	2677.7	2.073	mg/L	0.0242	2.073	mg/L	0.0242	1.17%
Mn 257.610†	2503.0	0.04869	mg/L	0.000360	0.04869	mg/L	0.000360	0.74%
Mo 202.031†	507.5	0.02427	mg/L	0.000118	0.02427	mg/L	0.000118	0.49%
Na 589.592†	54797.3	4.774	mg/L	0.0422	4.774	mg/L	0.0422	0.88%
Na 330.237†	152.2	4.775	mg/L	0.1813	4.775	mg/L	0.1813	3.80%
Ni 231.604†	6.0	0.00134	mg/L	0.001151	0.00134	mg/L	0.001151	85.78%
Pb 220.353†	-56.7	-0.00532	mg/L	0.000094	-0.00532	mg/L	0.000094	1.78%
Sb 206.836†	-14.0	-0.00418	mg/L	0.000933	-0.00418	mg/L	0.000933	22.33%
Se 196.026†	30.9	0.01902	mg/L	0.002449	0.01902	mg/L	0.002449	12.88%
Si 288.158†	23555.7	10.74	mg/L	0.098	10.74	mg/L	0.098	0.91%
Sn 189.927†	-23.0	-0.00235	mg/L	0.000860	-0.00235	mg/L	0.000860	36.62%
Sr 421.552†	62233.8	0.07962	mg/L	0.000667	0.07962	mg/L	0.000667	0.84%
Ti 334.903†	36.7	0.00006	mg/L	0.000580	0.00006	mg/L	0.000580	893.91%
Tl 190.801†	14.1	0.00648	mg/L	0.001443	0.00648	mg/L	0.001443	22.28%
V 292.402†	155.8	0.00068	mg/L	0.000083	0.00068	mg/L	0.000083	12.22%
Zn 206.200†	8.9	0.00275	mg/L	0.000582	0.00275	mg/L	0.000582	21.13%

Sequence No.: 9
Sample ID: US82 C TWC

Autosampler Location: 320
Date Collected: 5/10/2012 11:52:09 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 C TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 C TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2716890.8	106.7	%	1.19				1.11%
ScR 361.383	418734.2	109.2	%	0.54				0.49%
Ag 328.068†	72.4	-0.00010	mg/L	0.000086	-0.00010	mg/L	0.000086	85.16%
Al 308.215†	4.1	0.00250	mg/L	0.003009	0.00250	mg/L	0.003009	120.23%
As 188.979†	-13.3	-0.00649	mg/L	0.001552	-0.00649	mg/L	0.001552	23.91%
B 249.677†	243.7	0.04032	mg/L	0.000631	0.04032	mg/L	0.000631	1.56%
Ba 233.527†	123.2	0.01498	mg/L	0.000411	0.01498	mg/L	0.000411	2.74%
Be 313.042†	-115.9	-0.00017	mg/L	0.000044	-0.00017	mg/L	0.000044	25.64%
Ca 317.933†	508614.1	47.95	mg/L	0.414	47.95	mg/L	0.414	0.86%
Cd 228.802†	6.9	0.00018	mg/L	0.000133	0.00018	mg/L	0.000133	74.62%
Co 228.616†	25.5	0.00066	mg/L	0.000055	0.00066	mg/L	0.000055	8.41%
Cr 267.716†	12.0	-0.00005	mg/L	0.000628	-0.00005	mg/L	0.000628	>999.9%
Cu 324.752†	17.6	0.00056	mg/L	0.000068	0.00056	mg/L	0.000068	12.13%
Fe 273.955†	11451.1	8.031	mg/L	0.0366	8.031	mg/L	0.0366	0.46%
K 766.490†	15319.8	6.837	mg/L	0.0531	6.837	mg/L	0.0531	0.78%
Mg 279.077†	25852.1	20.02	mg/L	0.100	20.02	mg/L	0.100	0.50%
Mn 257.610†	16936.8	0.3294	mg/L	0.00066	0.3294	mg/L	0.00066	0.20%
Mo 202.031†	86.5	0.00342	mg/L	0.000114	0.00342	mg/L	0.000114	3.35%
Na 589.592†	260046.8	22.66	mg/L	0.049	22.66	mg/L	0.049	0.22%
Na 330.237†	688.4	22.28	mg/L	0.390	22.28	mg/L	0.390	1.75%
Ni 231.604†	13.3	0.00297	mg/L	0.000167	0.00297	mg/L	0.000167	5.63%
Pb 220.353†	-84.1	-0.00812	mg/L	0.000425	-0.00812	mg/L	0.000425	5.23%
Sb 206.836†	0.3	-0.00094	mg/L	0.001557	-0.00094	mg/L	0.001557	165.74%
Se 196.026†	39.7	0.02483	mg/L	0.002830	0.02483	mg/L	0.002830	11.40%
Si 288.158†	34739.0	15.83	mg/L	0.066	15.83	mg/L	0.066	0.42%
Sn 189.927†	-35.9	-0.00378	mg/L	0.000682	-0.00378	mg/L	0.000682	18.04%
Sr 421.552†	81738.2	0.1046	mg/L	0.00055	0.1046	mg/L	0.00055	0.53%
Ti 334.903†	48.3	0.00000	mg/L	0.000656	0.00000	mg/L	0.000656	>999.9%
Tl 190.801†	11.2	0.00597	mg/L	0.000391	0.00597	mg/L	0.000391	6.56%
V 292.402†	271.3	0.00061	mg/L	0.000057	0.00061	mg/L	0.000057	9.36%
Zn 206.200†	6.6	0.00174	mg/L	0.000598	0.00174	mg/L	0.000598	34.40%

Sequence No.: 10
Sample ID: US82 E TWC

Autosampler Location: 321
Date Collected: 5/10/2012 11:56:23 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 E TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US82 E TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2673358.4	105.0	%	0.69				0.66%
ScR 361.383	415822.8	108.4	%	0.41				0.38%
Ag 328.068†	154.4	0.00014	mg/L	0.000035	0.00014	mg/L	0.000035	24.08%
Al 308.215†	1207.6	0.7534	mg/L	0.00675	0.7534	mg/L	0.00675	0.90%
As 188.979†	586.2	0.2657	mg/L	0.00277	0.2657	mg/L	0.00277	1.04%
B 249.677†	196.4	0.03253	mg/L	0.000725	0.03253	mg/L	0.000725	2.23%
Ba 233.527†	755.4	0.09378	mg/L	0.000630	0.09378	mg/L	0.000630	0.67%
Be 313.042†	-123.6	-0.00020	mg/L	0.000039	-0.00020	mg/L	0.000039	19.89%
Ca 317.933†	634339.3	59.80	mg/L	0.167	59.80	mg/L	0.167	0.28%
Cd 228.802†	40.0	0.00035	mg/L	0.000080	0.00035	mg/L	0.000080	23.19%
Co 228.616†	29.5	0.00073	mg/L	0.000166	0.00073	mg/L	0.000166	22.83%
Cr 267.716†	28.4	0.00239	mg/L	0.000447	0.00239	mg/L	0.000447	18.70%
Cu 324.752†	14422.5	0.06679	mg/L	0.000380	0.06679	mg/L	0.000380	0.57%
Fe 273.955†	17759.8	12.45	mg/L	0.070	12.45	mg/L	0.070	0.56%
K 766.490†	47535.7	21.21	mg/L	0.136	21.21	mg/L	0.136	0.64%
Mg 279.077†	6606.2	5.110	mg/L	0.0400	5.110	mg/L	0.0400	0.78%
Mn 257.610†	18337.1	0.3568	mg/L	0.00285	0.3568	mg/L	0.00285	0.80%
Mo 202.031†	558.0	0.02630	mg/L	0.000179	0.02630	mg/L	0.000179	0.68%
Na 589.592†	398226.5	34.69	mg/L	0.254	34.69	mg/L	0.254	0.73%
Na 330.237†	1037.5	33.66	mg/L	0.500	33.66	mg/L	0.500	1.49%
Ni 231.604†	156.3	0.03494	mg/L	0.000923	0.03494	mg/L	0.000923	2.64%
Pb 220.353†	5.4	-0.00030	mg/L	0.000081	-0.00030	mg/L	0.000081	26.56%
Sb 206.836†	13.3	0.00199	mg/L	0.002508	0.00199	mg/L	0.002508	126.30%
Se 196.026†	35.1	0.02250	mg/L	0.001369	0.02250	mg/L	0.001369	6.08%
Si 288.158†	54679.8	24.92	mg/L	0.156	24.92	mg/L	0.156	0.62%
Sn 189.927†	-45.2	-0.00477	mg/L	0.000198	-0.00477	mg/L	0.000198	4.15%
Sr 421.552†	149092.3	0.1908	mg/L	0.00112	0.1908	mg/L	0.00112	0.59%
Ti 334.903†	378.5	0.01099	mg/L	0.000602	0.01099	mg/L	0.000602	5.48%
Tl 190.801†	17.2	0.00919	mg/L	0.001916	0.00919	mg/L	0.001916	20.84%
V 292.402†	3484.7	0.01815	mg/L	0.000174	0.01815	mg/L	0.000174	0.96%
Zn 206.200†	2.5	0.00014	mg/L	0.001861	0.00014	mg/L	0.001861	>999.9%

Sequence No.: 11
Sample ID: US82 MB1SPK TWC

Autosampler Location: 322
Date Collected: 5/10/2012 12:00:37 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US82 MB1SPK TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US82 MB1SPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2757129.5	108.2	%	0.41				0.38%
ScR 361.383	419860.3	109.5	%	1.30				1.19%
Ag 328.068†	132721.2	0.5317	mg/L	0.00146	0.5317	mg/L	0.00146	0.27%
Al 308.215†	3116.7	1.936	mg/L	0.0272	1.936	mg/L	0.0272	1.41%
As 188.979†	4454.7	2.020	mg/L	0.0116	2.020	mg/L	0.0116	0.57%
B 249.677†	-13.6	-0.00373	mg/L	0.000656	-0.00373	mg/L	0.000656	17.58%
Ba 233.527†	16508.9	2.063	mg/L	0.0279	2.063	mg/L	0.0279	1.35%
Be 313.042†	334209.4	0.4948	mg/L	0.00144	0.4948	mg/L	0.00144	0.29%
Ca 317.933†	102663.9	9.678	mg/L	0.0403	9.678	mg/L	0.0403	0.42%
Cd 228.802†	15884.4	0.5281	mg/L	0.00466	0.5281	mg/L	0.00466	0.88%
Co 228.616†	19489.0	0.5077	mg/L	0.00406	0.5077	mg/L	0.00406	0.80%
Cr 267.716†	4315.6	0.5180	mg/L	0.00791	0.5180	mg/L	0.00791	1.53%
Cu 324.752†	113697.9	0.5200	mg/L	0.00277	0.5200	mg/L	0.00277	0.53%
Fe 273.955†	2787.9	1.953	mg/L	0.0328	1.953	mg/L	0.0328	1.68%
K 766.490†	21900.7	9.774	mg/L	0.0199	9.774	mg/L	0.0199	0.20%
Mg 279.077†	12837.4	9.944	mg/L	0.1270	9.944	mg/L	0.1270	1.28%
Mn 257.610†	26026.2	0.5070	mg/L	0.00668	0.5070	mg/L	0.00668	1.32%
Mo 202.031†	6.5	0.00015	mg/L	0.000211	0.00015	mg/L	0.000211	137.10%
Na 589.592†	117178.8	10.21	mg/L	0.076	10.21	mg/L	0.076	0.75%
Na 330.237†	314.7	10.16	mg/L	0.221	10.16	mg/L	0.221	2.17%
Ni 231.604†	2165.5	0.4841	mg/L	0.00580	0.4841	mg/L	0.00580	1.20%
Pb 220.353†	22325.1	2.015	mg/L	0.0089	2.015	mg/L	0.0089	0.44%
Sb 206.836†	-0.0	-0.00511	mg/L	0.000948	-0.00511	mg/L	0.000948	18.56%
Se 196.026†	3318.6	2.023	mg/L	0.0156	2.023	mg/L	0.0156	0.77%
Si 288.158†	146.5	0.06876	mg/L	0.022398	0.06876	mg/L	0.022398	32.58%
Sn 189.927†	-7.3	-0.00070	mg/L	0.001013	-0.00070	mg/L	0.001013	145.47%
Sr 421.552†	395790.4	0.5064	mg/L	0.00098	0.5064	mg/L	0.00098	0.19%
Ti 334.903†	13.0	0.00000	mg/L	0.000165	0.00000	mg/L	0.000165	>999.9%
Tl 190.801†	4671.8	2.033	mg/L	0.0140	2.033	mg/L	0.0140	0.69%
V 292.402†	91750.0	0.5173	mg/L	0.00113	0.5173	mg/L	0.00113	0.22%
Zn 206.200†	1361.1	0.4903	mg/L	0.00722	0.4903	mg/L	0.00722	1.47%

Sequence No.: 12
Sample ID: CV 5

Autosampler Location: 7
Date Collected: 5/10/2012 12:04:37 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
A11	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2752941.0	108.1	%	0.82				0.76%
ScR 361.383	412007.7	107.4	%	0.32				0.30%
Ag 328.068†	256687.9	1.028	mg/L	0.0055	1.028	mg/L	0.0055	0.54%
Al 308.215†	3104.8	1.909	mg/L	0.0132	1.909	mg/L	0.0132	0.69%
As 188.979†	4328.4	1.968	mg/L	0.0133	1.968	mg/L	0.0133	0.68%
B 249.677†	6032.4	0.9962	mg/L	0.00516	0.9962	mg/L	0.00516	0.52%
Ba 233.527†	8156.1	1.019	mg/L	0.0030	1.019	mg/L	0.0030	0.29%
Be 313.042†	659023.7	0.9757	mg/L	0.00382	0.9757	mg/L	0.00382	0.39%
Ca 317.933†	20068.9	1.892	mg/L	0.0063	1.892	mg/L	0.0063	0.33%
Cd 228.802†	30727.1	1.028	mg/L	0.0077	1.028	mg/L	0.0077	0.75%
Co 228.616†	37855.5	0.9854	mg/L	0.00706	0.9854	mg/L	0.00706	0.72%
Cr 267.716†	8549.3	1.027	mg/L	0.0058	1.027	mg/L	0.0058	0.56%
Cu 324.752†	224283.4	1.025	mg/L	0.0075	1.025	mg/L	0.0075	0.73%
Fe 273.955†	2767.8	1.936	mg/L	0.0164	1.936	mg/L	0.0164	0.85%
K 766.490†	43332.8	19.34	mg/L	0.061	19.34	mg/L	0.061	0.32%
Mg 279.077†	2498.4	1.940	mg/L	0.0134	1.940	mg/L	0.0134	0.69%
Mn 257.610†	50231.1	0.9780	mg/L	0.00279	0.9780	mg/L	0.00279	0.29%
Mo 202.031†	19521.4	0.9554	mg/L	0.00708	0.9554	mg/L	0.00708	0.74%
Na 589.592†	586797.3	51.12	mg/L	0.195	51.12	mg/L	0.195	0.38%
Na 330.237†	1530.5	50.25	mg/L	0.555	50.25	mg/L	0.555	1.10%
Ni 231.604†	4425.0	0.9912	mg/L	0.00305	0.9912	mg/L	0.00305	0.31%
Pb 220.353†	22356.5	2.019	mg/L	0.0143	2.019	mg/L	0.0143	0.71%
Sb 206.836†	6935.5	1.949	mg/L	0.0102	1.949	mg/L	0.0102	0.52%
Se 196.026†	3237.7	1.973	mg/L	0.0087	1.973	mg/L	0.0087	0.44%
Si 288.158†	4403.9	2.011	mg/L	0.0290	2.011	mg/L	0.0290	1.44%
Sn 189.927†	6579.9	0.9520	mg/L	0.00548	0.9520	mg/L	0.00548	0.58%
Sr 421.552†	786288.4	1.006	mg/L	0.0029	1.006	mg/L	0.0029	0.29%
Ti 334.903†	26959.4	0.9320	mg/L	0.00350	0.9320	mg/L	0.00350	0.38%
Tl 190.801†	4543.4	1.978	mg/L	0.0197	1.978	mg/L	0.0197	1.00%
V 292.402†	179388.0	1.012	mg/L	0.0087	1.012	mg/L	0.0087	0.86%
Zn 206.200†	2820.0	1.015	mg/L	0.0058	1.015	mg/L	0.0058	0.57%

Sequence No.: 13
Sample ID: CB 5

Autosampler Location: 1
Date Collected: 5/10/2012 12:08:41 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2794299.1	109.7	%	0.29				0.26%
ScR 361.383	419946.7	109.5	%	0.71				0.64%
Ag 328.068†	17.6	0.00007	mg/L	0.000046	0.00007	mg/L	0.000046	64.78%
Al 308.215†	-5.9	-0.00369	mg/L	0.002116	-0.00369	mg/L	0.002116	57.36%
As 188.979†	2.2	0.00100	mg/L	0.000555	0.00100	mg/L	0.000555	55.75%
B 249.677†	-14.9	-0.00246	mg/L	0.001465	-0.00246	mg/L	0.001465	59.59%
Ba 233.527†	1.8	0.00022	mg/L	0.000403	0.00022	mg/L	0.000403	180.50%
Be 313.042†	-129.5	-0.00019	mg/L	0.000025	-0.00019	mg/L	0.000025	13.11%
Ca 317.933†	-19.2	-0.00181	mg/L	0.000292	-0.00181	mg/L	0.000292	16.14%
Cd 228.802†	-6.9	-0.00024	mg/L	0.000170	-0.00024	mg/L	0.000170	72.28%
Co 228.616†	-5.2	-0.00014	mg/L	0.000093	-0.00014	mg/L	0.000093	67.96%
Cr 267.716†	3.0	0.00036	mg/L	0.000516	0.00036	mg/L	0.000516	141.43%
Cu 324.752†	-22.1	-0.00010	mg/L	0.000096	-0.00010	mg/L	0.000096	94.81%
Fe 273.955†	2.9	0.00203	mg/L	0.002143	0.00203	mg/L	0.002143	105.35%
K 766.490†	67.5	0.03012	mg/L	0.007247	0.03012	mg/L	0.007247	24.06%
Mg 279.077†	7.1	0.00550	mg/L	0.004567	0.00550	mg/L	0.004567	83.03%
Mn 257.610†	3.2	0.00006	mg/L	0.000067	0.00006	mg/L	0.000067	107.39%
Mo 202.031†	-22.4	-0.00109	mg/L	0.000297	-0.00109	mg/L	0.000297	27.11%
Na 589.592†	-596.2	-0.05194	mg/L	0.002351	-0.05194	mg/L	0.002351	4.53%
Na 330.237†	0.5	0.01642	mg/L	0.221616	0.01642	mg/L	0.221616	>999.9%
Ni 231.604†	-2.1	-0.00047	mg/L	0.001733	-0.00047	mg/L	0.001733	367.01%
Pb 220.353†	-30.1	-0.00271	mg/L	0.000501	-0.00271	mg/L	0.000501	18.47%
Sb 206.836†	-13.1	-0.00367	mg/L	0.000491	-0.00367	mg/L	0.000491	13.37%
Se 196.026†	10.7	0.00652	mg/L	0.000412	0.00652	mg/L	0.000412	6.33%
Si 288.158†	33.2	0.01513	mg/L	0.007230	0.01513	mg/L	0.007230	47.79%
Sn 189.927†	8.3	0.00119	mg/L	0.000520	0.00119	mg/L	0.000520	43.70%
Sr 421.552†	60.7	0.00008	mg/L	0.000044	0.00008	mg/L	0.000044	56.04%
Ti 334.903†	15.4	0.00054	mg/L	0.000619	0.00054	mg/L	0.000619	115.49%
Tl 190.801†	8.6	0.00376	mg/L	0.001082	0.00376	mg/L	0.001082	28.77%
V 292.402†	-48.0	-0.00027	mg/L	0.000128	-0.00027	mg/L	0.000128	47.58%
Zn 206.200†	3.6	0.00129	mg/L	0.000397	0.00129	mg/L	0.000397	30.79%

Sequence No.: 14
Sample ID: CRI

Autosampler Location: 301
Date Collected: 5/10/2012 12:12:56 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2784747.8	109.3	%	1.20				1.10%
ScR 361.383	422121.0	110.1	%	0.76				0.69%
Ag 328.068†	786.3	0.00315	mg/L	0.000136	0.00315	mg/L	0.000136	4.30%
Al 308.215†	72.1	0.04492	mg/L	0.002840	0.04492	mg/L	0.002840	6.32%
As 188.979†	109.2	0.04956	mg/L	0.000429	0.04956	mg/L	0.000429	0.87%
B 249.677†	103.3	0.01709	mg/L	0.000413	0.01709	mg/L	0.000413	2.42%
Ba 233.527†	22.3	0.00278	mg/L	0.000716	0.00278	mg/L	0.000716	25.75%
Be 313.042†	520.7	0.00077	mg/L	0.000010	0.00077	mg/L	0.000010	1.28%
Ca 317.933†	481.4	0.04538	mg/L	0.001074	0.04538	mg/L	0.001074	2.37%
Cd 228.802†	64.4	0.00200	mg/L	0.000109	0.00200	mg/L	0.000109	5.44%
Co 228.616†	108.7	0.00282	mg/L	0.000028	0.00282	mg/L	0.000028	0.99%
Cr 267.716†	47.2	0.00567	mg/L	0.000574	0.00567	mg/L	0.000574	10.12%
Cu 324.752†	421.8	0.00193	mg/L	0.000073	0.00193	mg/L	0.000073	3.80%
Fe 273.955†	70.5	0.04946	mg/L	0.001003	0.04946	mg/L	0.001003	2.03%
K 766.490†	1130.4	0.5045	mg/L	0.00777	0.5045	mg/L	0.00777	1.54%
Mg 279.077†	77.9	0.06037	mg/L	0.003486	0.06037	mg/L	0.003486	5.78%
Mn 257.610†	51.2	0.00100	mg/L	0.000052	0.00100	mg/L	0.000052	5.19%
Mo 202.031†	70.6	0.00346	mg/L	0.000192	0.00346	mg/L	0.000192	5.55%
Na 589.592†	4904.5	0.4273	mg/L	0.00296	0.4273	mg/L	0.00296	0.69%
Na 330.237†	19.3	0.6321	mg/L	0.16313	0.6321	mg/L	0.16313	25.81%
Ni 231.604†	43.1	0.00967	mg/L	0.001422	0.00967	mg/L	0.001422	14.70%
Pb 220.353†	194.5	0.01756	mg/L	0.000360	0.01756	mg/L	0.000360	2.05%
Sb 206.836†	146.0	0.04104	mg/L	0.001869	0.04104	mg/L	0.001869	4.55%
Se 196.026†	92.8	0.05655	mg/L	0.001480	0.05655	mg/L	0.001480	2.62%
Si 288.158†	144.9	0.06603	mg/L	0.005963	0.06603	mg/L	0.005963	9.03%
Sn 189.927†	67.9	0.00984	mg/L	0.000513	0.00984	mg/L	0.000513	5.22%
Sr 421.552†	819.8	0.00105	mg/L	0.000025	0.00105	mg/L	0.000025	2.43%
Ti 334.903†	143.3	0.00495	mg/L	0.000082	0.00495	mg/L	0.000082	1.65%
Tl 190.801†	115.2	0.05020	mg/L	0.000811	0.05020	mg/L	0.000811	1.62%
V 292.402†	478.1	0.00270	mg/L	0.000080	0.00270	mg/L	0.000080	2.98%
Zn 206.200†	29.9	0.01076	mg/L	0.000375	0.01076	mg/L	0.000375	3.49%

Sequence No.: 15
Sample ID: ICSA

Autosampler Location: 302
Date Collected: 5/10/2012 12:17:11 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2646535.5	103.9	%	0.73				0.71%
ScR 361.383	407755.2	106.3	%	0.60				0.57%
Ag 328.068†	-154.2	-0.00126	mg/L	0.000086	-0.00126	mg/L	0.000086	6.80%
Al 308.215†	306215.0	191.2	mg/L	0.24	191.2	mg/L	0.24	0.13%
As 188.979†	4.6	-0.01298	mg/L	0.002058	-0.01298	mg/L	0.002058	15.85%
B 249.677†	6.9	0.00114	mg/L	0.001888	0.00114	mg/L	0.001888	166.21%
Ba 233.527†	102.4	0.00323	mg/L	0.000250	0.00323	mg/L	0.000250	7.73%
Be 313.042†	-28.0	-0.00006	mg/L	0.000038	-0.00006	mg/L	0.000038	62.27%
Ca 317.933†	1028591.8	96.96	mg/L	0.467	96.96	mg/L	0.467	0.48%
Cd 228.802†	58.5	0.00019	mg/L	0.000173	0.00019	mg/L	0.000173	92.87%
Co 228.616†	84.1	0.00219	mg/L	0.000126	0.00219	mg/L	0.000126	5.77%
Cr 267.716†	-25.4	-0.00041	mg/L	0.000417	-0.00041	mg/L	0.000417	102.48%
Cu 324.752†	-3359.0	-0.00234	mg/L	0.000042	-0.00234	mg/L	0.000042	1.81%
Fe 273.955†	267205.9	187.4	mg/L	0.18	187.4	mg/L	0.18	0.10%
K 766.490†	93.5	0.04174	mg/L	0.008871	0.04174	mg/L	0.008871	21.26%
Mg 279.077†	120906.7	93.54	mg/L	0.402	93.54	mg/L	0.402	0.43%
Mn 257.610†	43.5	0.00001	mg/L	0.000095	0.00001	mg/L	0.000095	973.66%
Mo 202.031†	104.9	0.00348	mg/L	0.000306	0.00348	mg/L	0.000306	8.77%
Na 589.592†	-301.2	-0.02624	mg/L	0.002914	-0.02624	mg/L	0.002914	11.11%
Na 330.237†	19.9	0.02298	mg/L	0.107366	0.02298	mg/L	0.107366	467.21%
Ni 231.604†	-1.1	-0.00016	mg/L	0.000581	-0.00016	mg/L	0.000581	362.53%
Pb 220.353†	-271.3	-0.01025	mg/L	0.000261	-0.01025	mg/L	0.000261	2.55%
Sb 206.836†	326.1	0.00759	mg/L	0.001453	0.00759	mg/L	0.001453	19.14%
Se 196.026†	-13.2	0.01346	mg/L	0.002394	0.01346	mg/L	0.002394	17.78%
Si 288.158†	-11.8	-0.00535	mg/L	0.007031	-0.00535	mg/L	0.007031	131.36%
Sn 189.927†	-108.8	-0.01281	mg/L	0.000812	-0.01281	mg/L	0.000812	6.34%
Sr 421.552†	7984.2	0.01022	mg/L	0.000094	0.01022	mg/L	0.000094	0.92%
Ti 334.903†	91.3	-0.00022	mg/L	0.000086	-0.00022	mg/L	0.000086	38.72%
Tl 190.801†	-25.8	0.01342	mg/L	0.001551	0.01342	mg/L	0.001551	11.55%
V 292.402†	4982.2	0.00533	mg/L	0.000054	0.00533	mg/L	0.000054	1.01%
Zn 206.200†	-31.9	-0.00449	mg/L	0.000689	-0.00449	mg/L	0.000689	15.37%

Sequence No.: 16
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 5/10/2012 12:21:27 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2594630.0	101.9	%	0.21				0.20%
ScR 361.383	403281.9	105.1	%	0.31				0.29%
Ag 328.068†	267478.1	1.071	mg/L	0.0082	1.071	mg/L	0.0082	0.76%
Al 308.215†	309872.8	193.5	mg/L	1.27	193.5	mg/L	1.27	0.66%
As 188.979†	2265.4	1.012	mg/L	0.0059	1.012	mg/L	0.0059	0.58%
B 249.677†	9.6	-0.00125	mg/L	0.000674	-0.00125	mg/L	0.000674	54.04%
Ba 233.527†	8327.1	1.031	mg/L	0.0002	1.031	mg/L	0.0002	0.02%
Be 313.042†	671861.2	0.9947	mg/L	0.00598	0.9947	mg/L	0.00598	0.60%
Ca 317.933†	1033485.4	97.42	mg/L	0.201	97.42	mg/L	0.201	0.21%
Cd 228.802†	31646.8	1.061	mg/L	0.0023	1.061	mg/L	0.0023	0.21%
Co 228.616†	37366.9	0.9740	mg/L	0.00335	0.9740	mg/L	0.00335	0.34%
Cr 267.716†	8613.3	1.038	mg/L	0.0027	1.038	mg/L	0.0027	0.26%
Cu 324.752†	229603.1	1.063	mg/L	0.0021	1.063	mg/L	0.0021	0.20%
Fe 273.955†	271648.3	190.5	mg/L	1.24	190.5	mg/L	1.24	0.65%
K 766.490†	44.2	0.01970	mg/L	0.006785	0.01970	mg/L	0.006785	34.43%
Mg 279.077†	121887.3	94.30	mg/L	0.386	94.30	mg/L	0.386	0.41%
Mn 257.610†	50414.1	0.9804	mg/L	0.00595	0.9804	mg/L	0.00595	0.61%
Mo 202.031†	100.7	0.00327	mg/L	0.000565	0.00327	mg/L	0.000565	17.25%
Na 589.592†	-456.5	-0.03977	mg/L	0.003251	-0.03977	mg/L	0.003251	8.17%
Na 330.237†	34.6	0.2975	mg/L	0.11858	0.2975	mg/L	0.11858	39.86%
Ni 231.604†	4312.1	0.9651	mg/L	0.00083	0.9651	mg/L	0.00083	0.09%
Pb 220.353†	11018.7	1.009	mg/L	0.0028	1.009	mg/L	0.0028	0.28%
Sb 206.836†	3700.1	0.9466	mg/L	0.00414	0.9466	mg/L	0.00414	0.44%
Se 196.026†	1681.0	1.046	mg/L	0.0164	1.046	mg/L	0.0164	1.56%
Si 288.158†	-37.1	-0.01292	mg/L	0.003585	-0.01292	mg/L	0.003585	27.75%
Sn 189.927†	-121.6	-0.01394	mg/L	0.000950	-0.01394	mg/L	0.000950	6.81%
Sr 421.552†	8027.1	0.01027	mg/L	0.000059	0.01027	mg/L	0.000059	0.58%
Ti 334.903†	91.6	-0.00046	mg/L	0.000117	-0.00046	mg/L	0.000117	25.52%
Tl 190.801†	2210.0	0.9833	mg/L	0.00257	0.9833	mg/L	0.00257	0.26%
V 292.402†	181756.2	1.002	mg/L	0.0051	1.002	mg/L	0.0051	0.51%
Zn 206.200†	2603.8	0.9447	mg/L	0.00213	0.9447	mg/L	0.00213	0.23%

Sequence No.: 17
Sample ID: CV

Autosampler Location: 7
Date Collected: 5/10/2012 12:26:15 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2769394.3	108.7	%	0.17				0.16%
ScR 361.383	412516.4	107.6	%	0.87				0.81%
Ag 328.068†	255486.5	1.023	mg/L	0.0020	1.023	mg/L	0.0020	0.19%
Al 308.215†	3132.2	1.927	mg/L	0.0172	1.927	mg/L	0.0172	0.89%
As 188.979†	4326.7	1.967	mg/L	0.0017	1.967	mg/L	0.0017	0.09%
B 249.677†	6022.5	0.9946	mg/L	0.00499	0.9946	mg/L	0.00499	0.50%
Ba 233.527†	8128.7	1.016	mg/L	0.0080	1.016	mg/L	0.0080	0.79%
Be 313.042†	654494.5	0.9690	mg/L	0.00791	0.9690	mg/L	0.00791	0.82%
Ca 317.933†	21165.0	1.995	mg/L	0.0135	1.995	mg/L	0.0135	0.68%
Cd 228.802†	30566.4	1.023	mg/L	0.0129	1.023	mg/L	0.0129	1.26%
Co 228.616†	37708.5	0.9816	mg/L	0.00952	0.9816	mg/L	0.00952	0.97%
Cr 267.716†	8552.0	1.027	mg/L	0.0076	1.027	mg/L	0.0076	0.74%
Cu 324.752†	223080.3	1.020	mg/L	0.0087	1.020	mg/L	0.0087	0.85%
Fe 273.955†	2782.0	1.946	mg/L	0.0183	1.946	mg/L	0.0183	0.94%
K 766.490†	43394.5	19.37	mg/L	0.041	19.37	mg/L	0.041	0.21%
Mg 279.077†	2508.9	1.948	mg/L	0.0149	1.948	mg/L	0.0149	0.76%
Mn 257.610†	50003.9	0.9735	mg/L	0.00858	0.9735	mg/L	0.00858	0.88%
Mo 202.031†	19477.5	0.9533	mg/L	0.00234	0.9533	mg/L	0.00234	0.25%
Na 589.592†	586612.5	51.11	mg/L	0.496	51.11	mg/L	0.496	0.97%
Na 330.237†	1531.8	50.29	mg/L	0.420	50.29	mg/L	0.420	0.84%
Ni 231.604†	4412.9	0.9885	mg/L	0.01036	0.9885	mg/L	0.01036	1.05%
Pb 220.353†	22358.0	2.019	mg/L	0.0035	2.019	mg/L	0.0035	0.17%
Sb 206.836†	6962.0	1.956	mg/L	0.0041	1.956	mg/L	0.0041	0.21%
Se 196.026†	3230.7	1.969	mg/L	0.0052	1.969	mg/L	0.0052	0.26%
Si 288.158†	4346.5	1.985	mg/L	0.0094	1.985	mg/L	0.0094	0.48%
Sn 189.927†	6578.8	0.9519	mg/L	0.00089	0.9519	mg/L	0.00089	0.09%
Sr 421.552†	781504.4	0.9999	mg/L	0.00707	0.9999	mg/L	0.00707	0.71%
Ti 334.903†	26785.9	0.9260	mg/L	0.00527	0.9260	mg/L	0.00527	0.57%
Tl 190.801†	4522.9	1.969	mg/L	0.0054	1.969	mg/L	0.0054	0.28%
V 292.402†	178667.5	1.008	mg/L	0.0026	1.008	mg/L	0.0026	0.25%
Zn 206.200†	2834.3	1.020	mg/L	0.0077	1.020	mg/L	0.0077	0.76%

Sequence No.: 18
Sample ID: CB

Autosampler Location: 1
Date Collected: 5/10/2012 12:30:18 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2796572.6	109.8	%	0.69				0.63%
ScR 361.383	422533.2	110.2	%	1.36				1.23%
Ag 328.068†	26.4	0.00011	mg/L	0.000129	0.00011	mg/L	0.000129	122.12%
Al 308.215†	-2.6	-0.00159	mg/L	0.002156	-0.00159	mg/L	0.002156	135.25%
As 188.979†	-1.2	-0.00053	mg/L	0.000864	-0.00053	mg/L	0.000864	161.99%
B 249.677†	-11.4	-0.00189	mg/L	0.000887	-0.00189	mg/L	0.000887	46.97%
Ba 233.527†	2.0	0.00024	mg/L	0.000179	0.00024	mg/L	0.000179	73.32%
Be 313.042†	-96.2	-0.00014	mg/L	0.000028	-0.00014	mg/L	0.000028	19.99%
Ca 317.933†	-15.8	-0.00149	mg/L	0.000857	-0.00149	mg/L	0.000857	57.50%
Cd 228.802†	-1.9	-0.00006	mg/L	0.000119	-0.00006	mg/L	0.000119	196.95%
Co 228.616†	-7.5	-0.00020	mg/L	0.000170	-0.00020	mg/L	0.000170	86.55%
Cr 267.716†	0.1	0.00001	mg/L	0.000424	0.00001	mg/L	0.000424	>999.9%
Cu 324.752†	6.1	0.00003	mg/L	0.000090	0.00003	mg/L	0.000090	322.02%
Fe 273.955†	6.1	0.00430	mg/L	0.003071	0.00430	mg/L	0.003071	71.43%
K 766.490†	41.2	0.01837	mg/L	0.002504	0.01837	mg/L	0.002504	13.63%
Mg 279.077†	9.6	0.00746	mg/L	0.001069	0.00746	mg/L	0.001069	14.34%
Mn 257.610†	2.3	0.00004	mg/L	0.000052	0.00004	mg/L	0.000052	118.87%
Mo 202.031†	-22.0	-0.00107	mg/L	0.000233	-0.00107	mg/L	0.000233	21.64%
Na 589.592†	-727.2	-0.06335	mg/L	0.000492	-0.06335	mg/L	0.000492	0.78%
Na 330.237†	8.3	0.2730	mg/L	0.29091	0.2730	mg/L	0.29091	106.57%
Ni 231.604†	1.2	0.00026	mg/L	0.000820	0.00026	mg/L	0.000820	312.30%
Pb 220.353†	-23.7	-0.00214	mg/L	0.000588	-0.00214	mg/L	0.000588	27.42%
Sb 206.836†	-9.6	-0.00269	mg/L	0.000926	-0.00269	mg/L	0.000926	34.38%
Se 196.026†	9.4	0.00576	mg/L	0.001090	0.00576	mg/L	0.001090	18.95%
Si 288.158†	4.0	0.00182	mg/L	0.005094	0.00182	mg/L	0.005094	279.88%
Sn 189.927†	8.9	0.00128	mg/L	0.000397	0.00128	mg/L	0.000397	31.07%
Sr 421.552†	76.6	0.00010	mg/L	0.000028	0.00010	mg/L	0.000028	28.42%
Ti 334.903†	15.3	0.00053	mg/L	0.000242	0.00053	mg/L	0.000242	45.36%
Tl 190.801†	10.1	0.00441	mg/L	0.001989	0.00441	mg/L	0.001989	45.13%
V 292.402†	-33.6	-0.00019	mg/L	0.000139	-0.00019	mg/L	0.000139	73.34%
Zn 206.200†	4.9	0.00178	mg/L	0.000323	0.00178	mg/L	0.000323	18.18%

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ICP/MS SAMPLE RUN LOG

PE Sciex ELAN 6000 Serial No. Z13960660

Analysis Date: 5-18-12 **Analyst:** KT **Page:** 1 of 5

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		STD0			^{62}Ni ^{63}Cu high RR
		1			
		2			
		STD0			2936-2
		1			2935-1
		2			4 - 2
		3			2936-3
		4			2935-4
		Rinse Sample			^{62}Ni-1.03
		STD0			
		ICV			2925-2
		ICB			
		CCV1			
		CCB1			
		Low check			^{62}Ni (low) (baseline)
		ICSA			forward to ICSA ?
zzz		zzz zzz ICSAB			
		LR200			
		LR300			
		CCV2			
		CCB2			^{62}Ni low
		STD0			
		CCV3			
		CCB3			

US82 : 00330

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ICP/MS SAMPLE RUN LOG

PE Sciex ELAN 6000 Serial No. Z13960660

Analysis Date: 5.8.12 **Analyst:** AT **Page:** 2 of 5

All corrections made by analyst unless otherwise noted. AT 5-8-12

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		LLL21 MB1	REN	2	
		MB2			
	✓	LLL23 MB2	FRN		Tb high
		MB2XPL		20	
		LLL21 MB2XPL	REN	2	✓
		MB2SPA D			✓
		MB1SPL			
		MB1SPD			
		B			
		C			
		CCV4			
		CCB4			
MB2 ✓		LLL23 MB2	FRN		
5		LLT82 A	REN	2	Ca
		CCV5			
		CCB5			
		LLL07 MB	REN	2	end of pkg
		LLL27 MB			
		MB2			
		MB2SPL			✓
		MB3PL			✓
		LLL07 MB3PL			✓
		LLT84 L			
		LLL23 HDup	FRN		✓

AT 5.24.12

US82 : 66331

ANALYTICAL RESOURCES INCORPORATED

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA **Analysis Date:** 5-18-12

M2 ELAN	Analyst JH 5-21	Peer JW 5.21.12	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	see log
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	see log
ICB/CCB	✓	✓	↓
Samples:			
RSD's & SD's	✓	✓	see log
Internal Standards	✓	✓	↓
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	see log
ICSA/ICSAB	✓	✓	↓
Post Spikes/Serial Dilutions	—	—	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	
Matrix Duplicates	✓	✓	
Method Blanks	✓	✓	
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAFs	—	—	

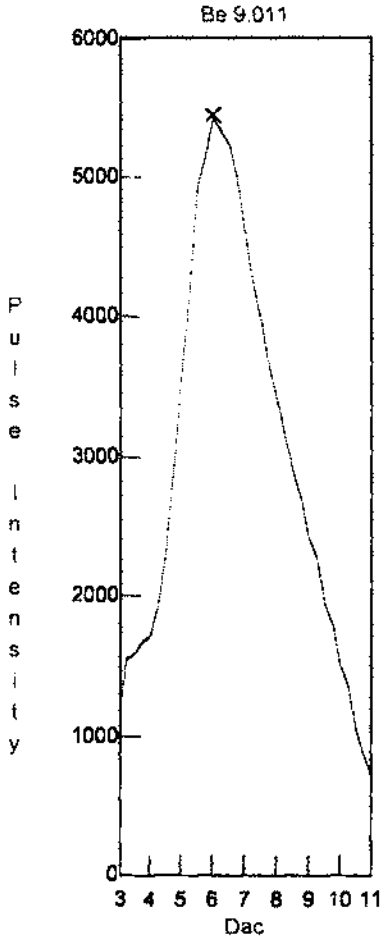
Daily Performance Report

Sample ID: Sample
Sample Date/Time: Friday, May 18, 2012 08:42:19
Sample Description:
Sample File: 1120.sam
Method File: C:\Elandata\Method\aridailyperf.mth
Dataset File: C:\Elandata\Dataset\daily performance\Sample.725
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\Default.dac
Number of Replicates: 5
Dual Detector Mode: Dual

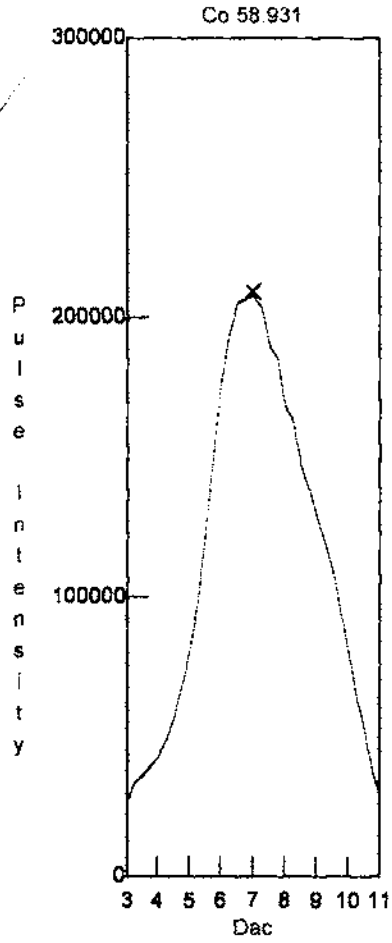
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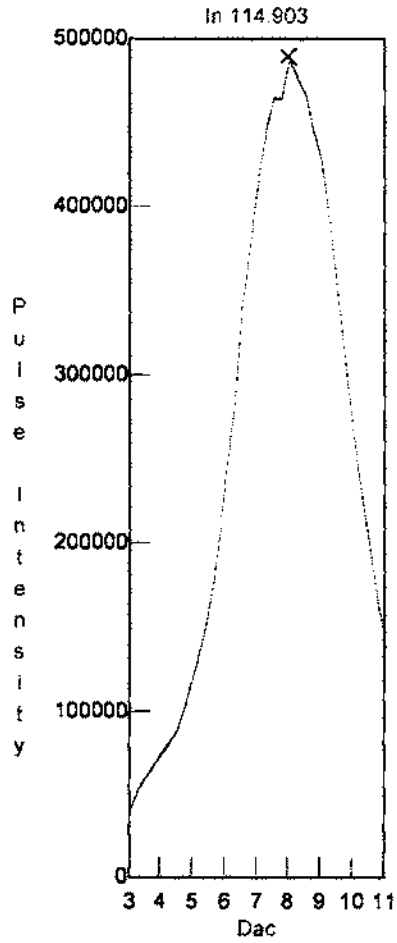
Summary

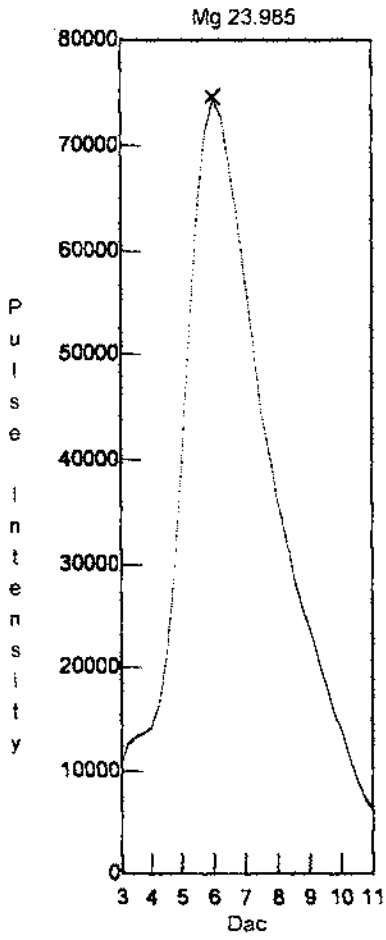
	Analyte	Mass	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
	Mg	24	47591.475	762.191	1.602
	In	115	355790.020	2287.524	0.643
	Pb	208	199999.705	2356.123	1.178
⌈>	Ba	138	258317.898	3113.659	1.205
⌊	Ba++	69	0.015	0.000	2.872
⌈>	Ce	140	313563.793	2312.908	0.738
⌊	CeO	156	0.029	0.001	4.845
	Bkgd	220	4.750	2.405	50.619

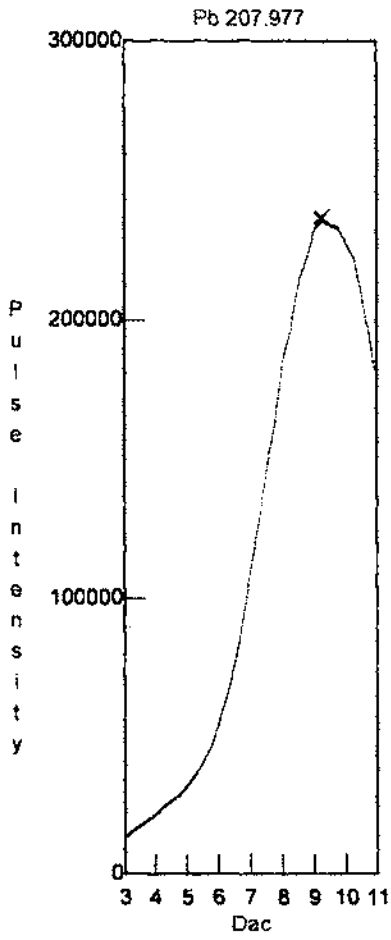


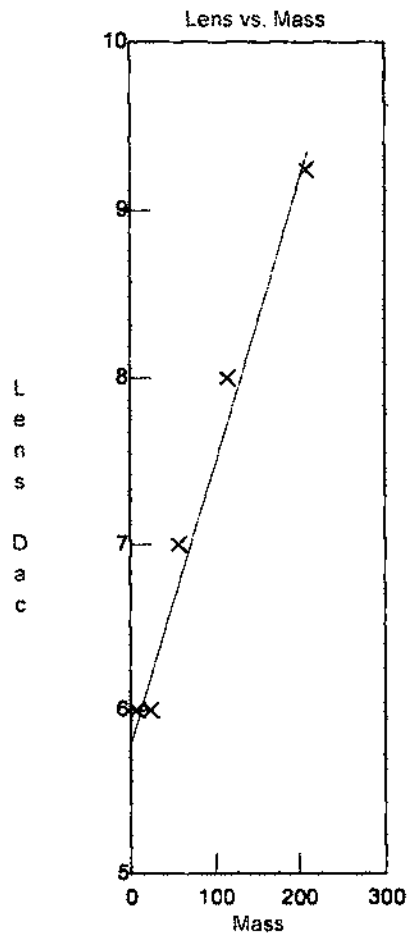
5-18-12











US82:00334

(4)

Instrument Tuning Report

File Name: Default.tun
File Path: C:\Elandata\Tuning\Default.tun

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Be	9.012	8.975	2029	2154	0.686	
Mg	23.985	23.979	5666	2262	0.715	
Co	58.933	58.979	14160	2530	0.696	
In	114.904	114.928	27790	2983	0.679	
Pb	207.977	207.976	50434	3738	0.704	

US82 : 00335

3

Instrument Tuning Report

File Name: Default.tun
File Path: C:\Elandata\Tuning\Default.tun

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Be	9.012	9.076	2038	2154	0.697	
Mg	23.985	24.029	5668	2262	0.705	
Co	58.933	58.929	14150	2530	0.692	
In	114.904	114.879	27785	2983	0.692	
Pb	207.977	207.974	50435	3738	0.704	

US82 : 00336

V

Instrument Tuning Report

File Name: Default.tun
File Path: C:\Elandata\Tuning\Default.tun

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Be	9.012	8.927	2024	2147	0.774	
Mg	23.985	24.029	5658	2262	0.698	
Co	58.933	58.929	14152	2530	0.689	
In	114.904	114.928	27792	2983	0.681	
Pb	207.977	207.976	50436	3738	0.702	

US82 : 00337

Instrument Tuning Report

File Name: Default.tun
File Path: C:\Elandata\Tuning\Default.tun

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width	Custom Res.
Be	9.012	9.077	2044	2147	0.730	
Mg	23.985	23.929	5648	2262	0.700	
Co	58.933	58.929	14154	2530	0.687	
In	114.904	114.928	27787	2983	0.680	
Pb	207.977	207.976	50437	3738	0.700	

US82 : 00338

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 09:04:57
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051712b.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L				368561	0
[	Be	9		ug/L				0	173
	C	13		mg/L				4552	2
	Cl	37		mg/L				2571673	0
[>	Sc	45		ug/L				292728	0
[	V	51		ug/L				2301	12
[	V-1	51		ug/L				10011	0
[	Cr	52		ug/L				8792	0
[	Cr	53		ug/L				3459	2
[	Mn	55		ug/L				462	3
[	Co	59		ug/L				202	3
[>	Ge	72		ug/L				337429	0
[	Ni	60		ug/L				48	8
[	Ni	62		ug/L				1548	4
[	Cu	63		ug/L				1235	2
[	Cu	65		ug/L				95	21
[	Zn	66		ug/L				375	10
[	Zn	67		ug/L				326	8
[	Zn	68		ug/L				11871	1
[	As	75		ug/L				643	8
[	As-1	75		ug/L				12178	0
[	Se	82		ug/L				-1	245
[	Se	78		ug/L				12452	0
[	Mo	98		ug/L				628	10
	Y	89		ug/L				289801	0
	Kr	83		ug/L				379	3
[>	In	115		ug/L				366660	1
[	Ag	107		ug/L				25	8
[	Cd	111		ug/L				190	5
[	Cd	114		ug/L				14	22
[	Sb	121		ug/L				25	20
[	Sb	123		ug/L				13	49
[	Ba	135		ug/L				19	25
[	Ba	137		ug/L				40	11
[>	Tb	159		ug/L				345432	0
[	Tl	205		ug/L				55	9
[	Pb	208		ug/L				354	6
[	Bi	209		ug/L				301280	0
[	Th	232		ug/L				94	6
[	U	238		ug/L				31	30

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 09:11:05
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051712b.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			368561	377189	1
[	Be	9	10.000	ug/L	0.051	0	0	4276	1
	C	13		mg/L			4552	4554	0
	Cl	37		mg/L			2571673	2559423	0
[>	Sc	45		ug/L			292728	294822	0
[	V	51	10.000	ug/L	0.155	1	2301	132518	1
[	V-1	51	10.000	ug/L	0.100	0	10011	142051	1
[	Cr	52	10.000	ug/L	0.097	0	8792	121368	0
[	Cr	53	10.000	ug/L	0.216	2	3459	16763	1
[	Mn	55	10.000	ug/L	0.060	0	462	190409	0
[	Co	59	10.000	ug/L	0.104	1	202	145257	1
[>	Ge	72		ug/L			337429	337823	0
[	Ni	60	10.000	ug/L	0.150	1	48	31086	0
[	Ni	62	10.000	ug/L	0.132	1	1548	6219	0
[	Cu	63	10.000	ug/L	0.122	1	1235	69413	1
[	Cu	65	10.000	ug/L	0.115	1	95	32590	1
[	Zn	66	10.000	ug/L	0.070	0	375	20566	0
[	Zn	67	10.000	ug/L	0.206	2	326	3761	2
[	Zn	68	10.000	ug/L	0.233	2	11871	25977	1
[	As	75	10.000	ug/L	0.128	1	643	18712	0
[	As-1	75	10.000	ug/L	0.129	1	12178	30087	0
[	Se	82	10.000	ug/L	0.326	3	-1	1947	2
[	Se	78	10.000	ug/L	0.201	2	12452	17259	0
[	Mo	98	10.000	ug/L	0.075	0	628	65396	0
	Y	89		ug/L			289801	288233	1
	Kr	83		ug/L			379	386	4
[>	In	115		ug/L			366660	366935	0
[	Ag	107	10.000	ug/L	0.034	0	25	119403	0
[	Cd	111	10.000	ug/L	0.132	1	190	29915	1
[	Cd	114	10.000	ug/L	0.213	2	14	68979	1
[	Sb	121	10.000	ug/L	0.135	1	25	96262	1
[	Sb	123	10.000	ug/L	0.136	1	13	72443	1
[	Ba	135	10.000	ug/L	0.168	1	19	22924	1
[	Ba	137	10.000	ug/L	0.069	0	40	38600	0
[>	Tb	159		ug/L			345432	345691	0
[	Tl	205	10.000	ug/L	0.020	0	55	256434	0
[	Pb	208	10.000	ug/L	0.046	0	354	355270	0
[	Bi	209		ug/L			301280	301093	1
[	Th	232	10.000	ug/L	0.125	1	94	433011	1
[	U	238	10.000	ug/L	0.193	1	31	473909	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 09:17:14
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051712b.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			368561	383503	1
⌊	Be	9	20.037	ug/L	0.068	0	0	8776	1
	C	13		mg/L			4552	4652	0
	Cl	37		mg/L			2571673	2542418	0
⌈>	Sc	45		ug/L			292728	290401	0
⌈	V	51	19.979	ug/L	0.250	1	2301	257401	0
⌈	V-1	51	19.992	ug/L	0.206	1	10011	269387	0
⌈	Cr	52	19.980	ug/L	0.243	1	8792	229270	1
⌈	Cr	53	20.023	ug/L	0.068	0	3459	29740	0
⌈	Mn	55	20.016	ug/L	0.258	1	462	376163	0
⌊	Co	59	20.004	ug/L	0.313	1	202	286235	0
⌈>	Ge	72		ug/L			337429	333094	1
⌈	Ni	60	19.940	ug/L	0.215	1	48	60351	0
⌈	Ni	62	19.920	ug/L	0.198	0	1548	10553	0
⌈	Cu	63	20.025	ug/L	0.120	0	1235	136503	0
⌈	Cu	65	19.978	ug/L	0.244	1	95	63814	0
⌈	Zn	66	20.005	ug/L	0.115	0	375	40236	0
⌈	Zn	67	20.006	ug/L	0.351	1	326	7104	1
⌈	Zn	68	19.972	ug/L	0.298	1	11871	39310	0
⌈	As	75	20.043	ug/L	0.129	0	643	36658	1
⌈	As-1	75	20.060	ug/L	0.161	0	12178	47847	1
⌈	Se	82	20.044	ug/L	0.259	1	-1	3884	0
⌈	Se	78	20.091	ug/L	0.145	0	12452	21962	0
⌊	Mo	98	20.068	ug/L	0.054	0	628	130540	0
	Y	89		ug/L			289801	285767	0
	Kr	83		ug/L			379	373	1
⌈>	In	115		ug/L			366660	359227	1
⌈	Ag	107	20.018	ug/L	0.122	0	25	234830	0
⌈	Cd	111	20.070	ug/L	0.176	0	190	59413	0
⌈	Cd	114	20.070	ug/L	0.418	2	14	137439	1
⌈	Sb	121	20.034	ug/L	0.364	1	25	190036	1
⌈	Sb	123	20.045	ug/L	0.200	0	13	143418	0
⌈	Ba	135	20.040	ug/L	0.436	2	19	45312	1
⌊	Ba	137	20.080	ug/L	0.278	1	40	77070	0
⌈>	Tb	159		ug/L			345432	345679	0
⌈	Tl	205	19.943	ug/L	0.226	1	55	505526	1
⌈	Pb	208	19.962	ug/L	0.090	0	354	703452	1
⌈	Bi	209		ug/L			301280	296244	0
⌈	Th	232	19.988	ug/L	0.200	1	94	863424	1
⌊	U	238	19.955	ug/L	0.179	0	31	937110	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 09:28:50
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051712b.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L				386630	0
[	Be	9		ug/L				1	100
	C	13		mg/L				4332	1
	Cl	37		mg/L				2502345	0
[>	Sc	45		ug/L				284256	1
[	V	51		ug/L				2362	4
[	V-1	51		ug/L				8749	1
[	Cr	52		ug/L				8766	3
[	Cr	53		ug/L				3033	2
[	Mn	55		ug/L				405	1
[	Co	59		ug/L				186	12
[>	Ge	72		ug/L				321282	0
[	Ni	60		ug/L				45	11
[	Ni	62		ug/L				1346	1
[	Cu	63		ug/L				991	4
[	Cu	65		ug/L				81	25
[	Zn	66		ug/L				340	4
[	Zn	67		ug/L				252	7
[	Zn	68		ug/L				10961	0
[	As	75		ug/L				506	6
[	As-1	75		ug/L				11641	0
[	Se	82		ug/L				2	742
[	Se	78		ug/L				11914	0
[	Mo	98		ug/L				114	8
	Y	89		ug/L				280658	0
	Kr	83		ug/L				320	2
[>	In	115		ug/L				354844	0
[	Ag	107		ug/L				49	12
[	Cd	111		ug/L				168	9
[	Cd	114		ug/L				16	21
[	Sb	121		ug/L				95	16
[	Sb	123		ug/L				68	23
[	Ba	135		ug/L				25	18
[	Ba	137		ug/L				42	24
[>	Tb	159		ug/L				345536	1
[	Tl	205		ug/L				78	5
[	Pb	208		ug/L				399	2
[	Bi	209		ug/L				300173	0
[	Th	232		ug/L				510	8
[	U	238		ug/L				85	27

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 09:34:58
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051712b.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			386630	387355	0
⌊	Be	9	10.000	ug/L	0.207	2	1	4425	1
	C	13		mg/L			4332	4377	1
	Cl	37		mg/L			2502345	2479894	0
⌈>	Sc	45		ug/L			284256	283931	1
|	V	51	10.000	ug/L	0.091	0	2362	126885	0
|	V-1	51	10.000	ug/L	0.105	1	8749	136232	0
|	Cr	52	10.000	ug/L	0.149	1	8766	116178	0
|	Cr	53	10.000	ug/L	0.135	1	3033	16117	0
|	Mn	55	10.000	ug/L	0.051	0	405	182190	0
⌊	Co	59	10.000	ug/L	0.113	1	186	138804	0
⌈>	Ge	72		ug/L			321282	321601	0
|	Ni	60	10.000	ug/L	0.030	0	45	29611	0
|	Ni	62	10.000	ug/L	0.319	3	1346	5714	2
|	Cu	63	10.000	ug/L	0.122	1	991	65522	1
|	Cu	65	10.000	ug/L	0.030	0	81	30768	0
|	Zn	66	10.000	ug/L	0.040	0	340	19686	0
|	Zn	67	10.000	ug/L	0.127	1	252	3558	1
|	Zn	68	10.000	ug/L	0.157	1	10961	24396	0
|	As	75	10.000	ug/L	0.081	0	506	18162	0
|	As-1	75	10.000	ug/L	0.206	2	11641	29055	1
|	Se	82	10.000	ug/L	0.162	1	2	1914	1
|	Se	78	10.000	ug/L	0.394	3	11914	16593	0
⌊	Mo	98	10.000	ug/L	0.151	1	114	63688	1
	Y	89		ug/L			280658	280310	1
	Kr	83		ug/L			320	345	4
⌈>	In	115		ug/L			354844	353202	0
|	Ag	107	10.000	ug/L	0.038	0	49	115056	0
|	Cd	111	10.000	ug/L	0.081	0	168	28549	0
|	Cd	114	10.000	ug/L	0.127	1	16	66590	0
|	Sb	121	10.000	ug/L	0.039	0	95	91911	0
|	Sb	123	10.000	ug/L	0.076	0	68	69254	0
|	Ba	135	10.000	ug/L	0.091	0	25	21841	0
⌊	Ba	137	10.000	ug/L	0.118	1	42	37495	0
⌈>	Tb	159		ug/L			345536	340419	0
|	Tl	205	10.000	ug/L	0.033	0	78	251160	0
|	Pb	208	10.000	ug/L	0.036	0	399	348699	0
|	Bi	209		ug/L			300173	293018	0
|	Th	232	10.000	ug/L	0.048	0	510	428795	0
⌊	U	238	10.000	ug/L	0.049	0	85	471664	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 09:41:06
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051712b.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			386630	391540	1
[	Be	9	19.946	ug/L	0.033	0	1	8825	1
	C	13		mg/L			4332	4511	1
	Cl	37		mg/L			2502345	2483915	0
[>	Sc	45		ug/L			284256	283452	0
[	V	51	19.998	ug/L	0.259	1	2362	250872	0
[	V-1	51	19.988	ug/L	0.307	1	8749	262495	0
[	Cr	52	19.975	ug/L	0.324	1	8766	221895	0
[	Cr	53	19.944	ug/L	0.478	2	3033	28790	1
[	Mn	55	20.011	ug/L	0.221	1	405	364344	0
[	Co	59	19.953	ug/L	0.143	0	186	273760	0
[>	Ge	72		ug/L			321282	318919	0
[	Ni	60	20.011	ug/L	0.150	0	45	58848	0
[	Ni	62	19.929	ug/L	0.154	0	1346	9846	0
[	Cu	63	20.047	ug/L	0.092	0	991	130484	0
[	Cu	65	20.023	ug/L	0.197	0	81	61294	0
[	Zn	66	19.959	ug/L	0.322	1	340	38320	1
[	Zn	67	19.962	ug/L	0.263	1	252	6744	1
[	Zn	68	19.976	ug/L	0.107	0	10961	37347	0
[	As	75	19.958	ug/L	0.201	1	506	35154	1
[	As-1	75	19.980	ug/L	0.246	1	11641	45896	0
[	Se	82	19.970	ug/L	0.232	1	2	3766	1
[	Se	78	20.025	ug/L	0.308	1	11914	21141	0
[	Mo	98	20.008	ug/L	0.138	0	114	126460	0
	Y	89		ug/L			280658	278290	1
	Kr	83		ug/L			320	343	4
[>	In	115		ug/L			354844	353215	0
[	Ag	107	19.970	ug/L	0.136	0	49	228366	0
[	Cd	111	20.007	ug/L	0.170	0	168	57029	1
[	Cd	114	20.008	ug/L	0.101	0	16	133453	0
[	Sb	121	20.039	ug/L	0.133	0	95	185549	0
[	Sb	123	20.039	ug/L	0.079	0	68	139794	0
[	Ba	135	20.044	ug/L	0.141	0	25	44142	0
[	Ba	137	19.987	ug/L	0.111	0	42	74715	1
[>	Tb	159		ug/L			345536	343023	0
[	Tl	205	19.926	ug/L	0.386	1	78	496792	1
[	Pb	208	19.970	ug/L	0.216	1	399	697084	0
[	Bi	209		ug/L			300173	292022	1
[	Th	232	19.938	ug/L	0.084	0	510	850486	0
[	U	238	19.925	ug/L	0.286	1	85	932945	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 3
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 09:47:14
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051712b.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			386630	396936	2
[	Be	9	49.851	ug/L	1.052	2	1	22025	0
	C	13		mg/L			4332	5357	1
	Cl	37		mg/L			2502345	2440711	1
[>	Sc	45		ug/L			284256	276257	0
[	V	51	50.212	ug/L	0.201	0	2362	623618	0
[	V-1	51	50.196	ug/L	0.177	0	8749	642138	0
[	Cr	52	50.185	ug/L	0.104	0	8766	540354	0
[	Cr	53	50.139	ug/L	0.123	0	3033	66982	0
[	Mn	55	50.059	ug/L	0.348	0	405	892974	0
[	Co	59	50.122	ug/L	0.075	0	186	678256	0
[>	Ge	72		ug/L			321282	311921	0
[	Ni	60	50.038	ug/L	0.120	0	45	144401	0
[	Ni	62	50.089	ug/L	0.614	1	1346	22414	0
[	Cu	63	49.952	ug/L	0.228	0	991	315051	0
[	Cu	65	50.012	ug/L	0.465	0	81	149795	0
[	Zn	66	50.006	ug/L	0.783	1	340	93457	1
[	Zn	67	49.982	ug/L	0.772	1	252	16119	1
[	Zn	68	50.063	ug/L	0.805	1	10961	75922	0
[	As	75	50.146	ug/L	0.187	0	506	86911	0
[	As-1	75	50.170	ug/L	0.321	0	11641	97096	0
[	Se	82	50.184	ug/L	0.318	0	2	9427	0
[	Se	78	50.230	ug/L	0.754	1	11914	34957	0
[	Mo	98	50.175	ug/L	0.626	1	114	315516	0
	Y	89		ug/L			280658	273361	0
	Kr	83		ug/L			320	340	2
[>	In	115		ug/L			354844	344083	1
[	Ag	107	49.916	ug/L	0.194	0	49	551321	1
[	Cd	111	50.140	ug/L	0.881	1	168	140931	1
[	Cd	114	50.089	ug/L	0.445	0	16	328316	0
[	Sb	121	50.105	ug/L	0.579	1	95	456544	0
[	Sb	123	50.090	ug/L	0.350	0	68	343374	0
[	Ba	135	50.266	ug/L	0.540	1	25	110732	0
[	Ba	137	50.228	ug/L	1.046	2	42	187073	0
[>	Tb	159		ug/L			345536	339876	0
[	Tl	205	49.944	ug/L	0.639	1	78	1226748	0
[	Pb	208	50.014	ug/L	0.236	0	399	1731671	0
[	Bi	209		ug/L			300173	287716	0
[	Th	232	50.525	ug/L	0.320	0	510	2252956	0
[	U	238	50.523	ug/L	0.308	0	85	2473222	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 4
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 09:53:22
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051712b.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			386630	387754	1
	Be	9	100.132	ug/L	1.127	1	1	43413	0
	C	13		mg/L			4332	5102	0
	Cl	37		mg/L			2502345	2440420	0
>	Sc	45		ug/L			284256	273002	0
	V	51	99.465	ug/L	1.166	1	2362	1197266	1
	V-1	51	99.513	ug/L	1.114	1	8749	1229965	1
	Cr	52	99.609	ug/L	1.175	1	8766	1038134	1
	Cr	53	99.750	ug/L	0.984	0	3033	127766	1
	Mn	55	99.332	ug/L	0.742	0	405	1712499	0
	Co	59	99.397	ug/L	1.123	1	186	1302799	0
>	Ge	72		ug/L			321282	311605	0
	Ni	60	99.314	ug/L	0.918	0	45	279859	0
	Ni	62	99.499	ug/L	0.657	0	1346	42503	0
	Cu	63	99.130	ug/L	1.163	1	991	606046	0
	Cu	65	99.165	ug/L	0.464	0	81	288621	0
	Zn	66	99.460	ug/L	0.128	0	340	182096	0
	Zn	67	99.222	ug/L	1.261	1	252	30928	1
	Zn	68	99.289	ug/L	0.488	0	10961	136980	0
	As	75	99.805	ug/L	0.163	0	506	171208	1
	As-1	75	99.786	ug/L	0.231	0	11641	180556	1
	Se	82	99.678	ug/L	0.549	0	2	18505	0
	Se	78	99.586	ug/L	0.124	0	11914	57253	0
	Mo	98	99.823	ug/L	0.454	0	114	623328	1
	Y	89		ug/L			280658	272019	0
	Kr	83		ug/L			320	370	3
>	In	115		ug/L			354844	338317	2
	Ag	107	99.706	ug/L	1.326	1	49	1072071	0
	Cd	111	100.131	ug/L	0.739	0	168	277775	1
	Cd	114	99.860	ug/L	1.511	1	16	640509	0
	Sb	121	99.761	ug/L	1.829	1	95	886507	0
	Sb	123	99.843	ug/L	1.645	1	68	669301	0
	Ba	135	99.956	ug/L	1.530	1	25	216147	0
	Ba	137	100.003	ug/L	1.007	1	42	366234	1
>	Tb	159		ug/L			345536	335535	0
	Tl	205	101.165	ug/L	1.600	1	78	2552208	1
	Pb	208	99.324	ug/L	1.317	1	399	3319640	0
	Bi	209		ug/L			300173	278855	0
	Th	232	100.573	ug/L	1.538	1	510	4512783	0
	U	238	100.445	ug/L	1.623	1	85	4926918	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Rinse Sample
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 10:00:01
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051712b.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			386630	396335	0
[	Be	9	0.007	ug/L	0.009	139	1	4	96
	C	13		mg/L			4332	4279	2
	Cl	37		mg/L			2502345	2449551	0
[>	Sc	45		ug/L			284256	276665	0
[	V	51	0.007	ug/L	0.010	142	2362	2383	5
[	V-1	51	-0.061	ug/L	0.007	11	8749	7755	1
[	Cr	52	-0.009	ug/L	0.005	55	8766	8442	0
[	Cr	53	-0.221	ug/L	0.031	14	3033	2671	1
[	Mn	55	0.008	ug/L	0.004	50	405	530	13
[	Co	59	0.008	ug/L	0.003	39	186	283	14
[>	Ge	72		ug/L			321282	306211	0
[	Ni	60	0.008	ug/L	0.001	11	45	66	3
[	Ni	62	-1.029	ug/L	0.110	10	1346	864	5
[	Cu	63	-0.031	ug/L	0.002	6	991	756	1
[	Cu	65	0.011	ug/L	0.008	75	81	108	21
[	Zn	66	0.013	ug/L	0.014	108	340	347	7
[	Zn	67	0.018	ug/L	0.032	173	252	246	3
[	Zn	68	-0.150	ug/L	0.089	59	10961	10260	1
[	As	75	0.032	ug/L	0.038	121	506	536	11
[	As-1	75	0.004	ug/L	0.019	456	11641	11101	0
[	Se	82	-0.155	ug/L	0.080	51	2	-25	56
[	Se	78	-0.048	ug/L	0.063	131	11914	11333	0
[	Mo	98	0.018	ug/L	0.008	43	114	221	22
	Y	89		ug/L			280658	272698	0
	Kr	83		ug/L			320	343	3
[>	In	115		ug/L			354844	341074	0
[	Ag	107	0.023	ug/L	0.005	22	49	294	19
[	Cd	111	0.011	ug/L	0.004	39	168	193	7
[	Cd	114	0.007	ug/L	0.001	15	16	60	11
[	Sb	121	0.141	ug/L	0.036	25	95	1354	24
[	Sb	123	0.145	ug/L	0.033	23	68	1046	22
[	Ba	135	0.010	ug/L	0.004	39	25	45	17
[	Ba	137	0.010	ug/L	0.004	36	42	79	17
[>	Tb	159		ug/L			345536	333968	0
[	Tl	205	0.014	ug/L	0.004	26	78	430	20
[	Pb	208	0.015	ug/L	0.003	21	399	877	11
[	Bi	209		ug/L			300173	290376	0
[	Th	232	0.069	ug/L	0.016	23	510	3569	19
[	U	238	0.010	ug/L	0.003	27	85	552	22

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 10:07:18
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051712b.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L				395103	0
	Be	9		ug/L				2	89
	C	13		mg/L				4272	0
	Cl	37		mg/L				2410635	0
>	Sc	45		ug/L				270703	0
	V	51		ug/L				2353	17
	V-1	51		ug/L				7633	4
	Cr	52		ug/L				8268	1
	Cr	53		ug/L				2623	1
	Mn	55		ug/L				430	4
	Co	59		ug/L				227	8
>	Ge	72		ug/L				306725	1
	Ni	60		ug/L				46	49
	Ni	62		ug/L				829	4
	Cu	63		ug/L				697	4
	Cu	65		ug/L				87	11
	Zn	66		ug/L				327	2
	Zn	67		ug/L				227	16
	Zn	68		ug/L				10219	0
	As	75		ug/L				531	6
	As-1	75		ug/L				11056	0
	Se	82		ug/L				-21	72
	Se	78		ug/L				11321	0
	Mo	98		ug/L				89	18
	Y	89		ug/L				269144	0
	Kr	83		ug/L				350	2
>	In	115		ug/L				333816	0
	Ag	107		ug/L				119	4
	Cd	111		ug/L				170	12
	Cd	114		ug/L				24	26
	Sb	121		ug/L				390	9
	Sb	123		ug/L				284	14
	Ba	135		ug/L				29	14
	Ba	137		ug/L				44	23
>	Tb	159		ug/L				330855	1
	Tl	205		ug/L				167	9
	Pb	208		ug/L				504	4
	Bi	209		ug/L				286737	0
	Th	232		ug/L				1228	10
	U	238		ug/L				182	15

Quantitative Analysis - Calibration Report

Sample Date/Time: Friday, May 18, 2012 10:07:18

Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth

Tuning File: C:\Elandata\Tuning\default.tun

Optimization File: C:\Elandata\Optimize\default.dac

Calibration File: C:\Elandata\Calibration\051812.cal

Analyte	Mass	r Corr Coeff	Slope	Std 1 Conc	Std 2 Conc	Std 3 Conc	Std 4 Conc	Std 5 Conc
Li	6							
Be	9	1.0000	0.0011	10	20	50	100	
C	13							
Cl	37							
Sc	45							
V	51	0.9999	0.0440	10	20	50	100	
V-1	51	1.0000	0.0450	10	20	50	100	
Cr	52	1.0000	0.0379	10	20	50	100	
Cr	53	1.0000	0.0046	10	20	50	100	
Mn	55	0.9999	0.0631	10	20	50	100	
Co	59	0.9999	0.0480	10	20	50	100	
Ge	72							
Ni	60	0.9999	0.0090	10	20	50	100	
Ni	62	1.0000	0.0013	10	20	50	100	
Cu	63	0.9999	0.0196	10	20	50	100	
Cu	65	0.9999	0.0093	10	20	50	100	
Zn	66	1.0000	0.0059	10	20	50	100	
Zn	67	0.9999	0.0010	10	20	50	100	
Zn	68	0.9999	0.0041	10	20	50	100	
As	75	1.0000	0.0055	10	20	50	100	
As-1	75	1.0000	0.0054	10	20	50	100	
Se	82	1.0000	0.0006	10	20	50	100	
Se	78	1.0000	0.0015	10	20	50	100	
Mo	98	1.0000	0.0200	10	20	50	100	
Y	89							
Kr	83							
In	115							
Ag	107	1.0000	0.0318	10	20	50	100	
Cd	111	1.0000	0.0082	10	20	50	100	
Cd	114	1.0000	0.0190	10	20	50	100	
Sb	121	1.0000	0.0263	10	20	50	100	
Sb	123	1.0000	0.0198	10	20	50	100	
Ba	135	1.0000	0.0064	10	20	50	100	
Ba	137	1.0000	0.0108	10	20	50	100	
Tb	159							
Tl	205	0.9998	0.0752	10	20	50	100	
Pb	208	0.9999	0.0996	10	20	50	100	
Bi	209							
Th	232	0.9999	0.1337	10	20	50	100	
U	238	0.9999	0.1462	10	20	50	100	

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICV
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 10:13:37
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			395103	411039	1
[	Be	9	48.829	ug/L	0.649	1	2	22444	0
	C	13		mg/L			4272	6545	2
	Cl	37		mg/L			2410635	2389604	0
[>	Sc	45		ug/L			270703	279661	0
[	V	51	49.255	ug/L	0.455	0	2353	608612	0
[	V-1	51	49.308	ug/L	0.288	0	7633	627912	0
[	Cr	52	49.062	ug/L	0.099	0	8268	528094	0
[	Cr	53	49.241	ug/L	0.575	1	2623	65846	1
[	Mn	55	49.337	ug/L	0.263	0	430	871601	0
[	Co	59	49.532	ug/L	0.189	0	227	665215	0
[>	Ge	72		ug/L			306725	310550	0
[	Ni	60	50.392	ug/L	0.733	1	46	141547	1
[	Ni	62	50.559	ug/L	0.682	1	829	21704	1
[	Cu	63	50.004	ug/L	0.796	1	697	304911	1
[	Cu	65	49.846	ug/L	0.264	0	87	144633	0
[	Zn	66	48.708	ug/L	0.310	0	327	89045	0
[	Zn	67	49.053	ug/L	0.407	0	227	15348	0
[	Zn	68	48.790	ug/L	0.221	0	10219	72224	0
[	As	75	49.437	ug/L	0.055	0	531	84813	0
[	As-1	75	49.088	ug/L	0.177	0	11056	94179	0
[	Se	82	78.805	ug/L	0.333	0	-21	14558	0
[	Se	78	78.252	ug/L	0.409	0	11321	47250	0
[	Mo	98	50.520	ug/L	0.733	1	89	314414	0
	Y	89		ug/L			269144	276661	0
	Kr	83		ug/L			350	372	0
[>	In	115		ug/L			333816	342764	0
[	Ag	107	50.005	ug/L	0.308	0	119	544930	0
[	Cd	111	48.430	ug/L	0.194	0	170	136229	0
[	Cd	114	49.165	ug/L	0.630	1	24	319581	1
[	Sb	121	49.654	ug/L	0.339	0	390	447496	0
[	Sb	123	49.133	ug/L	0.063	0	284	334029	0
[	Ba	135	49.103	ug/L	0.338	0	29	107617	0
[	Ba	137	49.062	ug/L	0.605	1	44	182082	0
[>	Tb	159		ug/L			330855	342247	0
[	Tl	205	46.726	ug/L	0.566	1	167	1202513	0
[	Pb	208	49.898	ug/L	1.083	2	504	1701308	1
[	Bi	209		ug/L			286737	293007	1
[	Th	232	49.837	ug/L	1.320	2	1228	2281850	1
[	U	238	50.286	ug/L	1.179	2	182	2515965	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICB
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 10:20:15
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			395103	396839	0
[	Be	9	0.003	ug/L	0.004	154	2	4	45
	C	13		mg/L			4272	4405	1
	Cl	37		mg/L			2410635	2382316	0
[>	Sc	45		ug/L			270703	267520	0
[	V	51	-0.006	ug/L	0.008	140	2353	2257	4
[	V-1	51	-0.025	ug/L	0.013	50	7633	7241	2
[	Cr	52	0.007	ug/L	0.010	152	8268	8240	1
[	Cr	53	-0.055	ug/L	0.039	71	2623	2525	1
[	Mn	55	0.001	ug/L	0.003	395	430	435	9
[	Co	59	0.001	ug/L	0.001	136	227	234	5
[>	Ge	72		ug/L			306725	300180	1
[	Ni	60	0.005	ug/L	0.001	23	46	59	4
[	Ni	62	-0.281	ug/L	0.034	12	829	699	1
[	Cu	63	-0.013	ug/L	0.002	16	697	605	3
[	Cu	65	0.003	ug/L	0.005	209	87	92	14
[	Zn	66	0.008	ug/L	0.004	51	327	335	3
[	Zn	67	0.044	ug/L	0.052	117	227	235	7
[	Zn	68	0.003	ug/L	0.058	1830	10219	10005	1
[	As	75	0.007	ug/L	0.021	292	531	531	6
[	As-1	75	0.056	ug/L	0.046	81	11056	10912	0
[	Se	82	0.055	ug/L	0.070	126	-21	-10	113
[	Se	78	0.205	ug/L	0.191	92	11321	11169	0
[	Mo	98	0.006	ug/L	0.001	20	89	122	6
	Y	89		ug/L			269144	268408	1
	Kr	83		ug/L			350	336	1
[>	In	115		ug/L			333816	332147	0
[	Ag	107	0.004	ug/L	0.003	74	119	159	19
[	Cd	111	-0.002	ug/L	0.003	151	170	164	5
[	Cd	114	0.002	ug/L	0.001	28	24	36	9
[	Sb	121	0.003	ug/L	0.008	259	390	414	16
[	Sb	123	0.005	ug/L	0.009	172	284	316	18
[	Ba	135	0.000	ug/L	0.002	452	29	30	14
[	Ba	137	0.002	ug/L	0.004	215	44	50	26
[>	Tb	159		ug/L			330855	333701	1
[	Tl	205	0.003	ug/L	0.001	50	167	234	14
[	Pb	208	0.002	ug/L	0.002	94	504	569	9
[	Bi	209		ug/L			286737	289615	1
[	Th	232	0.015	ug/L	0.006	41	1228	1908	14
[	U	238	0.002	ug/L	0.001	51	182	300	19

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 10:26:03
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			395103	397208	1
[	Be	9	49.475	ug/L	0.510	1	2	21978	1
	C	13		mg/L			4272	5105	0
	Cl	37		mg/L			2410635	2365913	0
[>	Sc	45		ug/L			270703	267542	1
[	V	51	50.209	ug/L	0.773	1	2353	593407	0
[	V-1	51	50.183	ug/L	0.849	1	7633	611148	0
[	Cr	52	49.998	ug/L	0.629	1	8268	514647	0
[	Cr	53	49.930	ug/L	1.004	2	2623	63828	1
[	Mn	55	50.011	ug/L	0.681	1	430	845132	0
[	Co	59	50.069	ug/L	0.692	1	227	643230	0
[>	Ge	72		ug/L			306725	298481	0
[	Ni	60	50.507	ug/L	1.024	2	46	136350	1
[	Ni	62	51.041	ug/L	0.382	0	829	21050	0
[	Cu	63	51.039	ug/L	0.311	0	697	299110	0
[	Cu	65	50.953	ug/L	0.605	1	87	142097	0
[	Zn	66	50.713	ug/L	0.882	1	327	89091	1
[	Zn	67	51.258	ug/L	0.791	1	227	15404	0
[	Zn	68	50.538	ug/L	0.308	0	10219	71551	1
[	As	75	50.715	ug/L	0.310	0	531	83608	0
[	As-1	75	50.787	ug/L	0.274	0	11056	93277	0
[	Se	82	51.036	ug/L	0.693	1	-21	9053	0
[	Se	78	51.167	ug/L	0.566	1	11321	33506	0
[	Mo	98	50.985	ug/L	0.291	0	89	304976	0
	Y	89		ug/L			269144	264373	0
	Kr	83		ug/L			350	346	3
[>	In	115		ug/L			333816	328147	1
[	Ag	107	50.652	ug/L	0.925	1	119	528358	0
[	Cd	111	49.986	ug/L	0.957	1	170	134578	0
[	Cd	114	49.877	ug/L	1.178	2	24	310306	0
[	Sb	121	49.972	ug/L	0.758	1	390	431103	0
[	Sb	123	49.932	ug/L	0.437	0	284	324950	0
[	Ba	135	50.139	ug/L	0.628	1	29	105189	0
[	Ba	137	50.165	ug/L	0.248	0	44	178239	1
[>	Tb	159		ug/L			330855	328558	0
[	Tl	205	48.342	ug/L	0.486	1	167	1194375	0
[	Pb	208	51.407	ug/L	0.181	0	504	1682847	1
[	Bi	209		ug/L			286737	278911	0
[	Th	232	51.211	ug/L	0.271	0	1228	2251228	0
[	U	238	51.867	ug/L	0.355	0	182	2491474	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB1
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 10:32:41
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			395103	396029	0
[	Be	9	-0.005	ug/L	0.002	34	2	0	86
	C	13		mg/L			4272	4173	0
	Cl	37		mg/L			2410635	2374699	0
[>	Sc	45		ug/L			270703	265123	1
[	V	51	0.014	ug/L	0.021	146	2353	2470	8
[	V-1	51	-0.027	ug/L	0.019	69	7633	7147	1
[	Cr	52	0.004	ug/L	0.015	377	8268	8136	0
[	Cr	53	-0.127	ug/L	0.039	30	2623	2415	2
[	Mn	55	0.001	ug/L	0.002	221	430	439	7
[	Co	59	0.002	ug/L	0.003	160	227	242	13
[>	Ge	72		ug/L			306725	296107	0
[	Ni	60	0.009	ug/L	0.006	68	46	69	24
[	Ni	62	-0.341	ug/L	0.085	25	829	666	5
[	Cu	63	-0.019	ug/L	0.002	10	697	565	2
[	Cu	65	0.005	ug/L	0.002	31	87	98	3
[	Zn	66	0.017	ug/L	0.007	41	327	346	3
[	Zn	67	0.091	ug/L	0.042	45	227	246	5
[	Zn	68	-0.119	ug/L	0.088	74	10219	9722	1
[	As	75	0.019	ug/L	0.032	164	531	544	9
[	As-1	75	0.032	ug/L	0.050	158	11056	10724	0
[	Se	82	0.077	ug/L	0.072	94	-21	-6	184
[	Se	78	0.126	ug/L	0.201	158	11321	10984	0
[	Mo	98	0.009	ug/L	0.007	76	89	137	28
	Y	89		ug/L			269144	265125	0
	Kr	83		ug/L			350	338	1
[>	In	115		ug/L			333816	327986	0
[	Ag	107	0.006	ug/L	0.004	63	119	184	23
[	Cd	111	0.002	ug/L	0.009	377	170	174	13
[	Cd	114	0.003	ug/L	0.003	90	24	41	38
[	Sb	121	0.040	ug/L	0.015	36	390	724	17
[	Sb	123	0.041	ug/L	0.018	44	284	546	21
[	Ba	135	0.003	ug/L	0.001	20	29	35	4
[	Ba	137	0.008	ug/L	0.000	4	44	72	1
[>	Tb	159		ug/L			330855	327581	1
[	Tl	205	0.004	ug/L	0.002	50	167	271	19
[	Pb	208	0.005	ug/L	0.001	24	504	668	4
[	Bi	209		ug/L			286737	285260	0
[	Th	232	0.027	ug/L	0.009	34	1228	2374	15
[	U	238	0.004	ug/L	0.002	50	182	350	23

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LOW CHECK
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 10:38:29
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			395103	399271	0
[	Be	9	0.167	ug/L	0.030	17	2	77	17
	C	13		mg/L			4272	4482	1
	Cl	37		mg/L			2410635	2352428	0
[>	Sc	45		ug/L			270703	262978	0
[	V	51	0.202	ug/L	0.029	14	2353	4623	6
[	V-1	51	0.169	ug/L	0.026	15	7633	9409	2
[	Cr	52	0.521	ug/L	0.010	1	8268	13223	0
[	Cr	53	0.395	ug/L	0.023	5	2623	3024	1
[	Mn	55	0.524	ug/L	0.005	1	430	9116	1
[	Co	59	0.198	ug/L	0.003	1	227	2721	0
[>	Ge	72		ug/L			306725	292806	0
[	Ni	60	0.534	ug/L	0.016	2	46	1457	2
[	Ni	62	0.185	ug/L	0.054	29	829	864	3
[	Cu	63	0.546	ug/L	0.014	2	697	3798	1
[	Cu	65	0.550	ug/L	0.015	2	87	1586	2
[	Zn	66	4.293	ug/L	0.075	1	327	7684	0
[	Zn	67	3.640	ug/L	0.232	6	227	1275	5
[	Zn	68	4.078	ug/L	0.190	4	10219	14631	0
[	As	75	0.271	ug/L	0.028	10	531	943	5
[	As-1	75	0.287	ug/L	0.049	17	11056	11012	1
[	Se	82	0.643	ug/L	0.058	9	-21	91	11
[	Se	78	0.772	ug/L	0.166	21	11321	11140	0
[	Mo	98	0.207	ug/L	0.011	5	89	1301	4
	Y	89		ug/L			269144	263394	0
	Kr	83		ug/L			350	344	0
[>	In	115		ug/L			333816	324822	2
[	Ag	107	0.193	ug/L	0.012	6	119	2108	3
[	Cd	111	0.108	ug/L	0.003	2	170	454	0
[	Cd	114	0.108	ug/L	0.003	2	24	688	0
[	Sb	121	0.192	ug/L	0.005	2	390	2014	2
[	Sb	123	0.197	ug/L	0.004	2	284	1546	2
[	Ba	135	0.502	ug/L	0.010	2	29	1071	2
[	Ba	137	0.533	ug/L	0.007	1	44	1915	2
[>	Tb	159		ug/L			330855	324856	0
[	Tl	205	0.207	ug/L	0.001	0	167	5211	0
[	Pb	208	0.111	ug/L	0.002	1	504	4087	1
[	Bi	209		ug/L			286737	284290	0
[	Th	232	0.199	ug/L	0.001	0	1228	9829	0
[	U	238	0.201	ug/L	0.005	2	182	9738	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICSA
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 10:44:17
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			395103	393781	0
[	Be	9	-0.003	ug/L	0.003	116	2	1	86
	C	13		mg/L			4272	17930	0
	Cl	37		mg/L			2410635	3516703	1
[>	Sc	45		ug/L			270703	246516	0
[	V	51	0.055	ug/L	0.040	73	2353	2737	16
[	V-1	51	0.632	ug/L	0.021	3	7633	13955	2
[	Cr	52	0.870	ug/L	0.008	0	8268	15649	0
[	Cr	53	2.626	ug/L	0.067	2	2623	5355	1
[	Mn	55	0.062	ug/L	0.003	4	430	1352	3
[	Co	59	0.011	ug/L	0.001	6	227	335	3
[>	Ge	72		ug/L			306725	280774	1
[	Ni	60	0.748	ug/L	0.012	1	46	1941	0
[	Ni	62	3.567	ug/L	0.275	7	829	2090	5
[	Cu	63	0.578	ug/L	0.010	1	697	3817	2
[	Cu	65	0.640	ug/L	0.023	3	87	1757	3
[	Zn	66	1.539	ug/L	0.036	2	327	2834	1
[	Zn	67	2.658	ug/L	0.024	0	227	948	0
[	Zn	68	0.396	ug/L	0.086	21	10219	9809	1
[	As	75	0.049	ug/L	0.018	37	531	560	4
[	As-1	75	0.089	ug/L	0.060	67	11056	10256	0
[	Se	82	0.071	ug/L	0.012	17	-21	-7	27
[	Se	78	0.353	ug/L	0.215	61	11321	10508	0
[	Mo	98	415.461	ug/L	1.708	0	89	2337220	1
	Y	89		ug/L			269144	252264	0
	Kr	83		ug/L			350	341	1
[>	In	115		ug/L			333816	301852	1
[	Ag	107	0.028	ug/L	0.005	17	119	376	14
[	Cd	111	0.040	ug/L	0.032	80	170	252	30
[	Cd	114	0.679	ug/L	0.015	2	24	3910	2
[	Sb	121	0.032	ug/L	0.004	13	390	604	5
[	Sb	123	0.035	ug/L	0.005	13	284	464	7
[	Ba	135	0.048	ug/L	0.002	4	29	119	4
[	Ba	137	0.041	ug/L	0.006	15	44	174	11
[>	Tb	159		ug/L			330855	318949	1
[	Tl	205	-0.001	ug/L	0.001	74	167	133	16
[	Pb	208	0.039	ug/L	0.003	6	504	1741	5
[	Bi	209		ug/L			286737	262632	1
[	Th	232	0.099	ug/L	0.014	13	1228	5393	11
[	U	238	-0.001	ug/L	0.000	21	182	126	9

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~ICSAB~~ ZZZZZZ
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 10:50:35 Filelo ICSA ?
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			395103	390388	1
[	Be	9	-0.004	ug/L	0.000	1	2	1	0
	C	13		mg/L			4272	17416	0
	Cl	37		mg/L			2410635	3297241	0
[>	Sc	45		ug/L			270703	235964	0
[	V	51	-0.122	ug/L	0.040	32	2353	784	52
[	V-1	51	0.628	ug/L	0.025	3	7633	13321	1
[	Cr	52	6.109	ug/L	0.056	0	8268	61796	0
[	Cr	53	8.047	ug/L	0.172	2	2623	10992	1
[	Mn	55	5.294	ug/L	0.077	1	430	79240	1
[	Co	59	5.159	ug/L	0.052	1	227	58640	0
[>	Ge	72		ug/L			306725	269726	1
[	Ni	60	5.490	ug/L	0.087	1	46	13431	1
[	Ni	62	8.167	ug/L	0.313	3	829	3657	4
[	Cu	63	5.591	ug/L	0.027	0	697	30158	1
[	Cu	65	5.681	ug/L	0.096	1	87	14385	0
[	Zn	66	5.921	ug/L	0.040	0	327	9654	0
[	Zn	67	6.292	ug/L	0.174	2	227	1884	3
[	Zn	68	4.652	ug/L	0.066	1	10219	14112	1
[	As	75	5.177	ug/L	0.056	1	531	8132	0
[	As-1	75	5.285	ug/L	0.035	0	11056	17482	0
[	Se	82	-0.040	ug/L	0.123	307	-21	-25	79
[	Se	78	0.440	ug/L	0.120	27	11321	10130	1
[	Mo	98	417.519	ug/L	4.094	0	89	2256517	2
	Y	89		ug/L			269144	247079	1
	Kr	83		ug/L			350	346	4
[>	In	115		ug/L			333816	292055	1
[	Ag	107	5.129	ug/L	0.093	1	119	47708	0
[	Cd	111	5.135	ug/L	0.021	0	170	12440	1
[	Cd	114	5.765	ug/L	0.029	0	24	31945	1
[	Sb	121	0.026	ug/L	0.006	23	390	544	8
[	Sb	123	0.026	ug/L	0.004	15	284	398	6
[	Ba	135	0.031	ug/L	0.002	7	29	84	6
[	Ba	137	0.037	ug/L	0.004	10	44	154	7
[>	Tb	159		ug/L			330855	312175	0
[	Tl	205	-0.002	ug/L	0.000	4	167	102	3
[	Pb	208	0.034	ug/L	0.002	4	504	1545	3
[	Bi	209		ug/L			286737	255511	1
[	Th	232	0.042	ug/L	0.004	10	1228	2928	6
[	U	238	-0.002	ug/L	0.000	25	182	89	23

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICSAB
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 10:58:49
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			395103	387176	1
⌊	Be	9	-0.005	ug/L	0.003	70	2	0	173
	C	13		mg/L			4272	17545	0
	Cl	37		mg/L			2410635	3164396	0
⌈>	Sc	45		ug/L			270703	228333	0
|	V	51	-0.343	ug/L	0.027	7	2353	-1455	18
|	V-1	51	0.652	ug/L	0.022	3	7633	13127	1
|	Cr	52	20.903	ug/L	0.306	1	8268	187693	0
|	Cr	53	22.603	ug/L	0.439	1	2623	25873	1
|	Mn	55	20.274	ug/L	0.255	1	430	292627	0
⌊	Co	59	19.935	ug/L	0.256	1	227	218694	0
⌈>	Ge	72		ug/L			306725	263283	0
|	Ni	60	19.229	ug/L	0.101	0	46	45818	0
|	Ni	62	21.452	ug/L	0.522	2	829	8216	1
|	Cu	63	19.766	ug/L	0.196	0	697	102542	0
|	Cu	65	19.684	ug/L	0.103	0	87	48466	0
|	Zn	66	19.474	ug/L	0.105	0	327	30350	0
|	Zn	67	18.376	ug/L	0.353	1	227	4996	1
|	Zn	68	18.106	ug/L	0.045	0	10219	28240	0
|	As	75	19.664	ug/L	0.106	0	531	28875	0
|	As-1	75	19.912	ug/L	0.103	0	11056	38028	0
|	Se	82	0.030	ug/L	0.050	168	-21	-13	58
|	Se	78	0.557	ug/L	0.204	36	11321	9934	1
⌊	Mo	98	423.185	ug/L	7.106	1	89	2232335	1
	Y	89		ug/L			269144	243717	1
	Kr	83		ug/L			350	334	0
⌈>	In	115		ug/L			333816	287139	0
|	Ag	107	19.678	ug/L	0.290	1	119	179705	1
|	Cd	111	19.605	ug/L	0.225	1	170	46283	1
|	Cd	114	20.293	ug/L	0.189	0	24	110511	1
|	Sb	121	0.033	ug/L	0.003	8	390	584	4
|	Sb	123	0.031	ug/L	0.002	4	284	423	1
|	Ba	135	0.034	ug/L	0.004	12	29	88	8
⌊	Ba	137	0.035	ug/L	0.006	16	44	145	12
⌈>	Tb	159		ug/L			330855	305166	2
|	Tl	205	-0.003	ug/L	0.000	2	167	95	0
|	Pb	208	0.034	ug/L	0.002	5	504	1505	1
|	Bi	209		ug/L			286737	252265	1
|	Th	232	0.022	ug/L	0.001	5	1228	2031	4
⌊	U	238	-0.001	ug/L	0.000	13	182	102	6

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LR200
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 11:05:06
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			395103	392204	0
⌊	Be	9	185.502	ug/L	2.571	1	2	81358	1
	C	13		mg/L			4272	5341	1
	Cl	37		mg/L			2410635	1968165	0
⌈>	Sc	45		ug/L			270703	236560	1
|	V	51	200.648	ug/L	2.228	1	2353	2090846	1
|	V-1	51	201.087	ug/L	1.782	0	7633	2145576	1
|	Cr	52	196.376	ug/L	1.041	0	8268	1766209	0
|	Cr	53	198.039	ug/L	1.375	0	2623	217084	1
|	Mn	55	198.485	ug/L	1.032	0	430	2964869	1
⌊	Co	59	198.563	ug/L	1.344	0	227	2255272	2
⌈>	Ge	72		ug/L			306725	270691	0
|	Ni	60	191.053	ug/L	1.594	0	46	467662	0
|	Ni	62	193.441	ug/L	1.308	0	829	70310	0
|	Cu	63	186.639	ug/L	1.417	0	697	990347	1
|	Cu	65	188.390	ug/L	1.028	0	87	476262	0
|	Zn	66	187.125	ug/L	2.205	1	327	297349	0
|	Zn	67	189.932	ug/L	0.674	0	227	51225	0
|	Zn	68	188.047	ug/L	0.921	0	10219	216898	0
|	As	75	199.712	ug/L	1.097	0	531	297215	0
|	As-1	75	199.095	ug/L	1.487	0	11056	303124	0
|	Se	82	204.701	ug/L	1.708	0	-21	32991	0
|	Se	78	202.248	ug/L	2.733	1	11321	90608	0
⌊	Mo	98	217.028	ug/L	2.986	1	89	1177158	1
	Y	89		ug/L			269144	249504	2
	Kr	83		ug/L			350	367	5
⌈>	In	115		ug/L			333816	303609	1
|	Ag	107	186.637	ug/L	2.906	1	119	1801118	1
|	Cd	111	192.580	ug/L	4.781	2	170	479300	2
|	Cd	114	191.015	ug/L	2.187	1	24	1099737	1
|	Sb	121	205.765	ug/L	0.793	0	390	1641507	1
|	Sb	123	208.104	ug/L	1.834	0	284	1252237	0
|	Ba	135	200.872	ug/L	3.128	1	29	389821	0
⌊	Ba	137	198.013	ug/L	1.532	0	44	650794	0
⌈>	Tb	159		ug/L			330855	318632	1
|	Tl	205	198.436	ug/L	2.938	1	167	4753822	0
|	Pb	208	202.355	ug/L	3.346	1	504	6421936	0
|	Bi	209		ug/L			286737	258594	1
|	Th	232	201.039	ug/L	2.125	1	1228	8566710	0
⌊	U	238	202.714	ug/L	4.357	2	182	9441575	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LR300
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 11:11:43
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			395103	397946	1
[	Be	9	278.632	ug/L	0.325	0	2	123996	1
	C	13		mg/L			4272	5496	1
	Cl	37		mg/L			2410635	2096800	0
[>	Sc	45		ug/L			270703	248969	1
[	V	51	300.252	ug/L	1.404	0	2353	3291791	0
[	V-1	51	300.196	ug/L	0.641	0	7633	3367533	0
[	Cr	52	295.516	ug/L	1.433	0	8268	2793580	1
[	Cr	53	295.654	ug/L	1.547	0	2623	339896	1
[	Mn	55	296.504	ug/L	1.628	0	430	4661314	1
[	Co	59	295.440	ug/L	0.480	0	227	3531299	0
[>	Ge	72		ug/L			306725	280988	0
[	Ni	60	283.967	ug/L	3.418	1	46	721554	1
[	Ni	62	287.656	ug/L	3.270	1	829	108166	1
[	Cu	63	274.418	ug/L	2.200	0	697	1511202	0
[	Cu	65	276.185	ug/L	2.172	0	87	724751	1
[	Zn	66	274.932	ug/L	2.783	1	327	453377	1
[	Zn	67	279.001	ug/L	1.974	0	227	78012	0
[	Zn	68	275.779	ug/L	1.524	0	10219	325824	0
[	As	75	293.397	ug/L	0.679	0	531	453033	0
[	As-1	75	293.084	ug/L	0.436	0	11056	458428	0
[	Se	82	295.613	ug/L	1.403	0	-21	49465	0
[	Se	78	294.060	ug/L	1.117	0	11321	132050	0
[	Mo	98	322.605	ug/L	0.570	0	89	1816256	0
	Y	89		ug/L			269144	255382	0
	Kr	83		ug/L			350	412	0
[>	In	115		ug/L			333816	310357	0
[	Ag	107	299.658	ug/L	1.329	0	119	2956328	1
[	Cd	111	290.647	ug/L	4.585	1	170	739406	0
[	Cd	114	282.919	ug/L	2.308	0	24	1664935	0
[	Sb	121	328.848	ug/L	2.868	0	390	2681376	0
[	Sb	123	309.595	ug/L	3.463	1	284	1904276	0
[	Ba	135	298.231	ug/L	1.403	0	29	591678	0
[	Ba	137	298.507	ug/L	4.642	1	44	1002869	1
[>	Tb	159		ug/L			330855	324671	0
[	Tl	205	304.712	ug/L	2.921	0	167	7439035	1
[	Pb	208	316.238	ug/L	4.387	1	504	10226766	0
[	Bi	209		ug/L			286737	261780	1
[	Th	232	311.718	ug/L	4.909	1	1228	13534503	1
[	U	238	310.727	ug/L	4.786	1	182	14748536	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 11:18:20
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			395103	408681	0
[	Be	9	47.133	ug/L	0.744	1	2	21542	1
	C	13		mg/L			4272	3257	3
	Cl	37		mg/L			2410635	2184353	0
[>	Sc	45		ug/L			270703	255516	0
[	V	51	50.146	ug/L	0.550	1	2353	566067	0
[	V-1	51	50.149	ug/L	0.269	0	7633	583352	0
[	Cr	52	49.388	ug/L	0.630	1	8268	485630	0
[	Cr	53	49.448	ug/L	0.361	0	2623	60403	1
[	Mn	55	49.947	ug/L	0.615	1	430	806157	0
[	Co	59	49.549	ug/L	0.482	0	227	607994	1
[>	Ge	72		ug/L			306725	284316	0
[	Ni	60	50.241	ug/L	0.217	0	46	129208	1
[	Ni	62	49.053	ug/L	0.734	1	829	19302	2
[	Cu	63	49.973	ug/L	1.032	2	697	278991	2
[	Cu	65	49.952	ug/L	0.917	1	87	132713	2
[	Zn	66	50.427	ug/L	0.143	0	327	84390	0
[	Zn	67	50.538	ug/L	0.931	1	227	14472	2
[	Zn	68	50.090	ug/L	0.224	0	10219	67633	0
[	As	75	50.356	ug/L	0.383	0	531	79086	1
[	As-1	75	50.014	ug/L	0.271	0	11056	87659	1
[	Se	82	51.585	ug/L	0.740	1	-21	8717	1
[	Se	78	50.384	ug/L	0.453	0	11321	31588	0
[	Mo	98	50.914	ug/L	0.510	1	89	290105	1
	Y	89		ug/L			269144	258625	0
	Kr	83		ug/L			350	357	3
[>	In	115		ug/L			333816	318744	0
[	Ag	107	50.154	ug/L	0.094	0	119	508266	0
[	Cd	111	49.389	ug/L	0.204	0	170	129187	0
[	Cd	114	49.529	ug/L	0.252	0	24	299378	0
[	Sb	121	49.445	ug/L	0.305	0	390	414397	0
[	Sb	123	49.397	ug/L	0.419	0	284	312287	0
[	Ba	135	48.946	ug/L	0.603	1	29	99754	1
[	Ba	137	49.853	ug/L	0.182	0	44	172056	0
[>	Tb	159		ug/L			330855	328226	1
[	Tl	205	47.213	ug/L	0.225	0	167	1165389	1
[	Pb	208	50.792	ug/L	0.609	1	504	1660963	1
[	Bi	209		ug/L			286737	276777	0
[	Th	232	51.434	ug/L	0.827	1	1228	2258532	0
[	U	238	51.825	ug/L	0.923	1	182	2486638	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB2
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 11:24:59
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			395103	408815	1
[	Be	9	0.008	ug/L	0.014	170	2	6	92
	C	13		mg/L			4272	3815	1
	Cl	37		mg/L			2410635	2197776	0
[>	Sc	45		ug/L			270703	250189	0
[	V	51	0.007	ug/L	0.013	184	2353	2254	6
[	V-1	51	-0.099	ug/L	0.010	10	7633	5945	1
[	Cr	52	0.004	ug/L	0.006	167	8268	7677	1
[	Cr	53	-0.328	ug/L	0.018	5	2623	2047	0
[	Mn	55	0.017	ug/L	0.002	12	430	660	4
[	Co	59	0.006	ug/L	0.002	41	227	280	9
[>	Ge	72		ug/L			306725	280145	0
[	Ni	60	0.008	ug/L	0.002	24	46	63	8
[	Ni	62	-1.371	ug/L	0.003	0	829	247	1
[	Cu	63	-0.045	ug/L	0.002	4	697	390	2
[	Cu	65	0.010	ug/L	0.003	30	87	106	7
[	Zn	66	-0.032	ug/L	0.007	21	327	247	4
[	Zn	67	-0.083	ug/L	0.052	62	227	184	7
[	Zn	68	-0.400	ug/L	0.006	1	10219	8876	0
[	As	75	0.028	ug/L	0.028	101	531	527	8
[	As-1	75	0.020	ug/L	0.048	235	11056	10128	0
[	Se	82	0.041	ug/L	0.027	66	-21	-12	36
[	Se	78	0.046	ug/L	0.202	441	11321	10358	0
[	Mo	98	0.032	ug/L	0.007	22	89	261	15
	Y	89		ug/L			269144	257862	1
	Kr	83		ug/L			350	324	5
[>	In	115		ug/L			333816	316217	1
[	Ag	107	0.027	ug/L	0.009	33	119	382	22
[	Cd	111	0.010	ug/L	0.003	27	170	188	2
[	Cd	114	0.011	ug/L	0.001	9	24	87	6
[	Sb	121	0.130	ug/L	0.038	29	390	1446	20
[	Sb	123	0.134	ug/L	0.045	33	284	1107	24
[	Ba	135	0.013	ug/L	0.001	8	29	55	4
[	Ba	137	0.014	ug/L	0.001	10	44	90	6
[>	Tb	159		ug/L			330855	324904	0
[	Tl	205	0.018	ug/L	0.004	21	167	602	14
[	Pb	208	0.014	ug/L	0.003	21	504	941	9
[	Bi	209		ug/L			286737	281622	0
[	Th	232	0.047	ug/L	0.009	19	1228	3240	11
[	U	238	0.012	ug/L	0.002	19	182	741	14

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 11:32:24
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L				409920	1
[	Be	9		ug/L				4	62
	C	13		mg/L				3772	3
	Cl	37		mg/L				2208314	0
[>	Sc	45		ug/L				251462	0
[	V	51		ug/L				2258	13
[	V-1	51		ug/L				5812	1
[	Cr	52		ug/L				7623	1
[	Cr	53		ug/L				1998	5
[	Mn	55		ug/L				478	5
[	Co	59		ug/L				159	14
[>	Ge	72		ug/L				279224	0
[	Ni	60		ug/L				48	11
[	Ni	62		ug/L				230	4
[	Cu	63		ug/L				329	8
[	Cu	65		ug/L				82	19
[	Zn	66		ug/L				240	4
[	Zn	67		ug/L				174	8
[	Zn	68		ug/L				8866	1
[	As	75		ug/L				572	4
[	As-1	75		ug/L				10161	0
[	Se	82		ug/L				-26	24
[	Se	78		ug/L				10392	0
[	Mo	98		ug/L				111	4
	Y	89		ug/L				258188	1
	Kr	83		ug/L				356	1
[>	In	115		ug/L				315335	1
[	Ag	107		ug/L				157	16
[	Cd	111		ug/L				157	14
[	Cd	114		ug/L				30	13
[	Sb	121		ug/L				532	17
[	Sb	123		ug/L				415	9
[	Ba	135		ug/L				30	20
[	Ba	137		ug/L				45	20
[>	Tb	159		ug/L				326666	0
[	Tl	205		ug/L				267	6
[	Pb	208		ug/L				503	6
[	Bi	209		ug/L				281825	1
[	Th	232		ug/L				1387	9
[	U	238		ug/L				251	10

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV3
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 11:38:32
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			409920	409251	1
⌊	Be	9	47.962	ug/L	0.530	1	4	21953	1
	C	13		mg/L			3772	3284	1
	Cl	37		mg/L			2208314	2169842	0
⌈>	Sc	45		ug/L			251462	250239	0
|	V	51	50.574	ug/L	0.331	0	2258	559174	0
|	V-1	51	50.458	ug/L	0.362	0	5812	573515	0
|	Cr	52	50.286	ug/L	0.302	0	7623	484083	0
|	Cr	53	49.943	ug/L	0.274	0	1998	59287	0
|	Mn	55	50.489	ug/L	0.286	0	478	798179	0
⌊	Co	59	50.279	ug/L	0.550	1	159	604146	0
⌈>	Ge	72		ug/L			279224	279738	0
|	Ni	60	50.269	ug/L	0.593	1	48	127208	1
|	Ni	62	51.647	ug/L	0.481	0	230	19428	0
|	Cu	63	50.569	ug/L	0.432	0	329	277444	0
|	Cu	65	50.022	ug/L	0.548	1	82	130747	1
|	Zn	66	50.491	ug/L	0.277	0	240	83078	0
|	Zn	67	50.617	ug/L	1.028	2	174	14228	2
|	Zn	68	50.688	ug/L	0.121	0	8866	66790	0
|	As	75	50.476	ug/L	0.088	0	572	78082	0
|	As-1	75	50.307	ug/L	0.076	0	10161	86787	0
|	Se	82	52.117	ug/L	0.687	1	-26	8659	1
|	Se	78	51.278	ug/L	0.702	1	10392	31536	1
⌊	Mo	98	51.628	ug/L	0.924	1	111	289465	1
	Y	89		ug/L			258188	256557	1
	Kr	83		ug/L			356	343	2
⌈>	In	115		ug/L			315335	315890	1
|	Ag	107	50.064	ug/L	0.219	0	157	502869	1
|	Cd	111	49.778	ug/L	0.502	1	157	129020	0
|	Cd	114	49.911	ug/L	0.329	0	30	298976	1
|	Sb	121	49.255	ug/L	0.464	0	532	409228	0
|	Sb	123	49.310	ug/L	0.792	1	415	309041	0
|	Ba	135	49.971	ug/L	0.798	1	30	100917	0
⌊	Ba	137	49.635	ug/L	1.212	2	45	169736	1
⌈>	Tb	159		ug/L			326666	331509	0
|	Tl	205	47.032	ug/L	0.099	0	267	1172601	0
|	Pb	208	50.147	ug/L	0.246	0	503	1656339	0
|	Bi	209		ug/L			281825	279801	0
|	Th	232	48.660	ug/L	3.618	7	1387	2157888	6
⌊	U	238	51.074	ug/L	0.929	1	251	2475498	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB3
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 11:45:10
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	411077	3
[	Be	9	-0.005	ug/L	0.002	34	4	2	34
	C	13		mg/L			3772	3826	1
	Cl	37		mg/L			2208314	2202479	0
[>	Sc	45		ug/L			251462	251178	1
[	V	51	-0.011	ug/L	0.007	61	2258	2135	4
[	V-1	51	-0.008	ug/L	0.015	186	5812	5714	4
[	Cr	52	0.005	ug/L	0.009	169	7623	7664	0
[	Cr	53	0.013	ug/L	0.021	165	1998	2010	2
[	Mn	55	-0.002	ug/L	0.001	47	478	447	4
[	Co	59	-0.000	ug/L	0.001	292	159	155	6
[>	Ge	72		ug/L			279224	280127	1
[	Ni	60	-0.000	ug/L	0.001	592	48	48	7
[	Ni	62	-0.053	ug/L	0.041	76	230	211	6
[	Cu	63	-0.003	ug/L	0.004	168	329	316	7
[	Cu	65	-0.003	ug/L	0.003	82	82	74	9
[	Zn	66	-0.003	ug/L	0.019	725	240	236	11
[	Zn	67	-0.038	ug/L	0.040	106	174	164	6
[	Zn	68	-0.056	ug/L	0.077	138	8866	8830	1
[	As	75	-0.015	ug/L	0.022	149	572	551	4
[	As-1	75	-0.052	ug/L	0.049	95	10161	10115	0
[	Se	82	0.107	ug/L	0.183	170	-26	-8	352
[	Se	78	-0.158	ug/L	0.231	146	10392	10360	0
[	Mo	98	0.005	ug/L	0.004	83	111	141	18
	Y	89		ug/L			258188	259204	0
	Kr	83		ug/L			356	336	4
[>	In	115		ug/L			315335	316030	0
[	Ag	107	0.005	ug/L	0.004	73	157	212	18
[	Cd	111	0.004	ug/L	0.004	104	157	167	5
[	Cd	114	0.001	ug/L	0.001	48	30	37	9
[	Sb	121	0.052	ug/L	0.027	50	532	969	22
[	Sb	123	0.053	ug/L	0.028	52	415	748	23
[	Ba	135	-0.000	ug/L	0.003	12044	30	30	20
[	Ba	137	0.000	ug/L	0.001	971	45	45	6
[>	Tb	159		ug/L			326666	325549	2
[	Tl	205	0.001	ug/L	0.002	132	267	296	14
[	Pb	208	0.003	ug/L	0.001	41	503	595	7
[	Bi	209		ug/L			281825	282536	0
[	Th	232	0.021	ug/L	0.007	34	1387	2302	15
[	U	238	0.002	ug/L	0.001	64	251	350	20

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU21 MB1 REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, May 18, 2012 11:50:58
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	425674	1
[	Be	9	-0.001	ug/L	0.005	431	4	3	66
	C	13		mg/L			3772	5680	0
	Cl	37		mg/L			2208314	2192195	0
[>	Sc	45		ug/L			251462	259221	0
[	V	51	0.014	ug/L	0.019	140	2258	2486	9
[	V-1	51	-0.035	ug/L	0.009	24	5812	5586	1
[	Cr	52	0.055	ug/L	0.009	16	7623	8401	0
[	Cr	53	-0.100	ug/L	0.090	89	1998	1940	5
[	Mn	55	0.018	ug/L	0.003	14	478	793	6
[	Co	59	-0.007	ug/L	0.001	10	159	77	11
[>	Ge	72		ug/L			279224	281813	0
[	Ni	60	0.003	ug/L	0.003	88	48	57	12
[	Ni	62	0.047	ug/L	0.039	82	230	250	6
[	Cu	63	0.132	ug/L	0.005	3	329	1063	2
[	Cu	65	0.133	ug/L	0.013	9	82	433	7
[	Zn	66	0.574	ug/L	0.010	1	240	1191	0
[	Zn	67	0.437	ug/L	0.027	6	174	298	2
[	Zn	68	0.604	ug/L	0.081	13	8866	9643	0
[	As	75	-0.032	ug/L	0.024	75	572	527	6
[	As-1	75	-0.060	ug/L	0.057	94	10161	10163	0
[	Se	82	0.052	ug/L	0.035	67	-26	-17	33
[	Se	78	-0.147	ug/L	0.196	133	10392	10427	0
[	Mo	98	0.021	ug/L	0.013	58	111	232	30
	Y	89		ug/L			258188	265737	1
	Kr	83		ug/L			356	343	1
[>	In	115		ug/L			315335	325840	0
[	Ag	107	0.002	ug/L	0.002	76	157	184	9
[	Cd	111	0.003	ug/L	0.003	106	157	170	4
[	Cd	114	-0.000	ug/L	0.000	89	30	29	5
[	Sb	121	0.001	ug/L	0.006	732	532	558	10
[	Sb	123	0.002	ug/L	0.004	182	415	444	7
[	Ba	135	0.013	ug/L	0.003	22	30	57	10
[	Ba	137	0.012	ug/L	0.003	28	45	88	13
[>	Tb	159		ug/L			326666	337538	0
[	Tl	205	-0.001	ug/L	0.001	82	267	240	12
[	Pb	208	0.012	ug/L	0.001	9	503	935	4
[	Bi	209		ug/L			281825	289309	0
[	Th	232	0.062	ug/L	0.013	21	1387	4244	14
[	U	238	-0.001	ug/L	0.000	24	251	186	9

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU21 MB2 REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, May 18, 2012 11:57:15
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	442970	0
[	Be	9	-0.004	ug/L	0.005	125	4	2	100
	C	13		mg/L			3772	5614	1
	Cl	37		mg/L			2208314	2199807	0
[>	Sc	45		ug/L			251462	271245	0
[	V	51	-0.001	ug/L	0.032	2847	2258	2422	15
[	V-1	51	-0.046	ug/L	0.022	47	5812	5712	3
[	Cr	52	0.003	ug/L	0.015	580	7623	8249	1
[	Cr	53	-0.137	ug/L	0.075	54	1998	1984	4
[	Mn	55	0.015	ug/L	0.003	22	478	780	6
[	Co	59	-0.008	ug/L	0.000	4	159	72	5
[>	Ge	72		ug/L			279224	301105	0
[	Ni	60	0.007	ug/L	0.002	34	48	70	8
[	Ni	62	-0.063	ug/L	0.065	102	230	223	11
[	Cu	63	0.206	ug/L	0.009	4	329	1567	3
[	Cu	65	0.205	ug/L	0.004	2	82	665	1
[	Zn	66	0.348	ug/L	0.011	3	240	873	2
[	Zn	67	0.313	ug/L	0.039	12	174	281	4
[	Zn	68	-0.264	ug/L	0.177	66	8866	9236	2
[	As	75	-0.042	ug/L	0.018	43	572	547	5
[	As-1	75	-0.421	ug/L	0.048	11	10161	10267	0
[	Se	82	0.068	ug/L	0.076	112	-26	-16	84
[	Se	78	-1.560	ug/L	0.184	11	10392	10514	0
[	Mo	98	-0.001	ug/L	0.003	200	111	111	14
	Y	89		ug/L			258188	279826	1
	Kr	83		ug/L			356	343	0
[>	In	115		ug/L			315335	341912	1
[	Ag	107	-0.004	ug/L	0.001	31	157	129	11
[	Cd	111	0.005	ug/L	0.006	103	157	186	8
[	Cd	114	-0.001	ug/L	0.001	76	30	25	20
[	Sb	121	-0.032	ug/L	0.002	6	532	292	4
[	Sb	123	-0.033	ug/L	0.002	7	415	229	6
[	Ba	135	0.004	ug/L	0.003	67	30	42	13
[	Ba	137	0.008	ug/L	0.004	50	45	77	17
[>	Tb	159		ug/L			326666	353412	0
[	Tl	205	-0.005	ug/L	0.000	8	267	147	6
[	Pb	208	0.002	ug/L	0.001	45	503	628	5
[	Bi	209		ug/L			281825	306009	1
[	Th	232	-0.001	ug/L	0.003	237	1387	1443	9
[	U	238	-0.003	ug/L	0.000	8	251	127	9

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU23 MB2 FRN
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 12:03:32
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

Dil

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	514739	3
[	Be	9	0.007	ug/L	0.003	50	4	9	20
	C	13		mg/L			3772	9003	2
	Cl	37		mg/L			2208314	2038388	1
[>	Sc	45		ug/L			251462	305793	1
[	V	51	0.049	ug/L	0.009	17	2258	3407	2
[	V-1	51	-0.099	ug/L	0.021	20	5812	5708	5
[	Cr	52	0.158	ug/L	0.013	8	7623	11095	1
[	Cr	53	-0.315	ug/L	0.067	21	1998	1989	5
[	Mn	55	0.075	ug/L	0.003	3	478	2038	3
[	Co	59	0.011	ug/L	0.002	15	159	354	6
[>	Ge	72		ug/L			279224	307395	0
[	Ni	60	0.014	ug/L	0.003	19	48	93	8
[	Ni	62	-0.109	ug/L	0.021	19	230	209	4
[	Cu	63	0.133	ug/L	0.002	1	329	1161	1
[	Cu	65	0.137	ug/L	0.006	4	82	483	4
[	Zn	66	0.413	ug/L	0.016	3	240	1008	2
[	Zn	67	0.416	ug/L	0.028	6	174	319	2
[	Zn	68	0.134	ug/L	0.027	20	8866	9928	0
[	As	75	-0.068	ug/L	0.017	25	572	514	5
[	As-1	75	-0.121	ug/L	0.047	39	10161	10984	0
[	Se	82	0.187	ug/L	0.063	33	-26	5	217
[	Se	78	-0.307	ug/L	0.158	51	10392	11301	0
[	Mo	98	-0.005	ug/L	0.002	44	111	92	13
	Y	89		ug/L			258188	314221	0
	Kr	83		ug/L			356	337	3
[>	In	115		ug/L			315335	387972	0
[	Ag	107	0.037	ug/L	0.001	2	157	653	2
[	Cd	111	0.007	ug/L	0.001	13	157	216	0
[	Cd	114	0.007	ug/L	0.000	6	30	89	3
[	Sb	121	-0.017	ug/L	0.010	57	532	483	19
[	Sb	123	-0.016	ug/L	0.006	40	415	386	12
[	Ba	135	0.028	ug/L	0.008	29	30	107	18
[	Ba	137	0.026	ug/L	0.003	11	45	165	7
[>	Tb	159		ug/L			326666	406179	1
[	Tl	205	0.004	ug/L	0.001	14	267	465	2
[	Pb	208	0.017	ug/L	0.004	23	503	1316	10
[	Bi	209		ug/L			281825	327164	0
[	Th	232	0.474	ug/L	0.243	51	1387	27353	46
[	U	238	0.008	ug/L	0.001	14	251	813	7

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU23 MB2SPK FRN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Friday, May 18, 2012 12:09:49
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	440265	1
[	Be	9	23.498	ug/L	0.349	1	4	11571	0
	C	13		mg/L			3772	5289	3
	Cl	37		mg/L			2208314	2222271	0
[>	Sc	45		ug/L			251462	272669	0
[	V	51	25.748	ug/L	0.299	1	2258	311402	0
[	V-1	51	25.740	ug/L	0.209	0	5812	321871	0
[	Cr	52	25.979	ug/L	0.428	1	7623	276481	1
[	Cr	53	25.936	ug/L	0.280	1	1998	34590	1
[	Mn	55	26.120	ug/L	0.119	0	478	450197	0
[	Co	59	26.312	ug/L	0.260	0	159	344577	0
[>	Ge	72		ug/L			279224	303990	1
[	Ni	60	26.463	ug/L	0.040	0	48	72794	1
[	Ni	62	26.565	ug/L	0.190	0	230	10982	1
[	Cu	63	27.276	ug/L	0.048	0	329	162790	1
[	Cu	65	27.010	ug/L	0.218	0	82	76756	0
[	Zn	66	79.984	ug/L	0.841	1	240	142858	1
[	Zn	67	72.533	ug/L	0.243	0	174	22072	1
[	Zn	68	78.559	ug/L	0.519	0	8866	107178	1
[	As	75	26.599	ug/L	0.376	1	572	45003	0
[	As-1	75	25.640	ug/L	0.350	1	10161	53487	0
[	Se	82	81.853	ug/L	0.998	1	-26	14793	0
[	Se	78	79.539	ug/L	1.028	1	10392	46917	0
[	Mo	98	-0.008	ug/L	0.001	15	111	69	11
	Y	89		ug/L			258188	281799	0
	Kr	83		ug/L			356	351	1
[>	In	115		ug/L			315335	339773	1
[	Ag	107	26.498	ug/L	0.628	2	157	286301	1
[	Cd	111	25.422	ug/L	0.226	0	157	70959	0
[	Cd	114	25.380	ug/L	0.324	1	30	163535	0
[	Sb	121	-0.044	ug/L	0.002	3	532	178	8
[	Sb	123	-0.044	ug/L	0.003	7	415	150	15
[	Ba	135	25.713	ug/L	0.365	1	30	55876	1
[	Ba	137	26.045	ug/L	0.251	0	45	95846	1
[>	Tb	159		ug/L			326666	351958	1
[	Tl	205	24.966	ug/L	0.132	0	267	660964	0
[	Pb	208	26.865	ug/L	0.072	0	503	942322	0
[	Bi	209		ug/L			281825	308518	1
[	Th	232	24.404	ug/L	0.288	1	1387	1149976	0
[	U	238	24.293	ug/L	0.585	2	251	1250051	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU21 MB2SPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, May 18, 2012 12:16:08
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
⌈>	Li	6		ug/L			409920	426848	1
⌊	Be	9	22.783	ug/L	0.327	1	4	10880	2
	C	13		mg/L			3772	6186	1
	Cl	37		mg/L			2208314	2225460	0
⌈>	Sc	45		ug/L			251462	271293	0
|	V	51	24.716	ug/L	0.318	1	2258	297508	1
|	V-1	51	24.586	ug/L	0.270	1	5812	306176	0
|	Cr	52	24.557	ug/L	0.388	1	7623	260498	1
|	Cr	53	24.162	ug/L	0.105	0	1998	32208	0
|	Mn	55	24.950	ug/L	0.197	0	478	427895	1
⌊	Co	59	24.867	ug/L	0.274	1	159	324021	0
⌈>	Ge	72		ug/L			279224	298224	0
|	Ni	60	25.271	ug/L	0.166	0	48	68201	1
|	Ni	62	25.769	ug/L	0.381	1	230	10458	1
|	Cu	63	26.518	ug/L	0.423	1	329	155269	1
|	Cu	65	26.135	ug/L	0.521	1	82	72867	1
|	Zn	66	76.490	ug/L	0.684	0	240	134037	0
|	Zn	67	70.428	ug/L	0.965	1	174	21030	1
|	Zn	68	74.812	ug/L	0.929	1	8866	100581	0
|	As	75	25.490	ug/L	0.296	1	572	42337	0
|	As-1	75	24.575	ug/L	0.396	1	10161	50747	0
|	Se	82	78.564	ug/L	0.581	0	-26	13929	0
|	Se	78	76.380	ug/L	1.035	1	10392	44642	0
⌊	Mo	98	-0.003	ug/L	0.001	27	111	100	4
	Y	89		ug/L			258188	275840	0
	Kr	83		ug/L			356	348	0
⌈>	In	115		ug/L			315335	338523	0
|	Ag	107	25.036	ug/L	0.104	0	157	269568	1
|	Cd	111	23.829	ug/L	0.135	0	157	66284	1
|	Cd	114	24.069	ug/L	0.385	1	30	154521	1
|	Sb	121	-0.047	ug/L	0.002	5	532	157	13
|	Sb	123	-0.051	ug/L	0.002	4	415	103	15
|	Ba	135	24.500	ug/L	0.111	0	30	53047	0
⌊	Ba	137	24.691	ug/L	0.672	2	45	90521	2
⌈>	Tb	159		ug/L			326666	346943	0
|	Tl	205	24.087	ug/L	0.187	0	267	628625	0
|	Pb	208	25.842	ug/L	0.260	1	503	893533	0
|	Bi	209		ug/L			281825	302618	1
|	Th	232	23.446	ug/L	0.444	1	1387	1089190	1
⌊	U	238	23.498	ug/L	0.370	1	251	1191999	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU21 MB2SPD REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, May 18, 2012 12:22:27
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	432040	1
[	Be	9	22.516	ug/L	0.609	2	4	10878	1
	C	13		mg/L			3772	6372	0
	Cl	37		mg/L			2208314	2227085	0
[>	Sc	45		ug/L			251462	270726	0
|	V	51	24.265	ug/L	0.173	0	2258	291520	0
|	V-1	51	24.141	ug/L	0.165	0	5812	300127	0
|	Cr	52	24.261	ug/L	0.148	0	7623	256912	0
|	Cr	53	23.874	ug/L	0.049	0	1998	31783	0
|	Mn	55	24.641	ug/L	0.138	0	478	421700	0
[	Co	59	24.533	ug/L	0.279	1	159	319001	0
[>	Ge	72		ug/L			279224	311589	5
|	Ni	60	23.954	ug/L	1.442	6	48	67397	0
|	Ni	62	24.320	ug/L	1.254	5	230	10308	0
|	Cu	63	25.205	ug/L	1.429	5	329	153904	0
|	Cu	65	24.915	ug/L	1.542	6	82	72421	0
|	Zn	66	72.998	ug/L	4.080	5	240	133395	0
|	Zn	67	66.074	ug/L	3.432	5	174	20589	0
|	Zn	68	71.892	ug/L	4.538	6	8866	101167	0
|	As	75	24.567	ug/L	1.380	5	572	42572	0
|	As-1	75	23.393	ug/L	1.668	7	10161	50914	0
|	Se	82	74.818	ug/L	4.057	5	-26	13831	0
|	Se	78	71.533	ug/L	5.334	7	10392	44330	0
[	Mo	98	0.286	ug/L	0.018	6	111	1906	2
	Y	89		ug/L			258188	278860	0
	Kr	83		ug/L			356	350	2
[>	In	115		ug/L			315335	338029	0
|	Ag	107	24.843	ug/L	0.474	1	157	267092	1
|	Cd	111	23.746	ug/L	0.400	1	157	65956	1
|	Cd	114	23.808	ug/L	0.025	0	30	152633	0
|	Sb	121	-0.049	ug/L	0.002	4	532	134	13
|	Sb	123	-0.051	ug/L	0.002	4	415	103	14
|	Ba	135	23.959	ug/L	0.178	0	30	51802	0
[	Ba	137	24.386	ug/L	0.230	0	45	89281	0
[>	Tb	159		ug/L			326666	348235	1
|	Tl	205	23.782	ug/L	0.099	0	267	622991	1
|	Pb	208	25.527	ug/L	0.230	0	503	885912	0
|	Bi	209		ug/L			281825	305198	0
|	Th	232	23.132	ug/L	0.262	1	1387	1078622	0
[	U	238	23.289	ug/L	0.456	1	251	1185715	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU21 MB1SPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, May 18, 2012 12:28:46
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	434414	0
[	Be	9	22.037	ug/L	0.294	1	4	10709	0
	C	13		mg/L			3772	6288	3
	Cl	37		mg/L			2208314	2233294	0
[>	Sc	45		ug/L			251462	272280	0
[	V	51	24.281	ug/L	0.115	0	2258	293387	0
[	V-1	51	24.134	ug/L	0.107	0	5812	301767	0
[	Cr	52	24.422	ug/L	0.136	0	7623	260050	0
[	Cr	53	23.953	ug/L	0.088	0	1998	32065	0
[	Mn	55	24.659	ug/L	0.103	0	478	424437	0
[	Co	59	24.556	ug/L	0.145	0	159	321139	0
[>	Ge	72		ug/L			279224	297667	0
[	Ni	60	25.085	ug/L	0.337	1	48	67566	0
[	Ni	62	25.025	ug/L	0.335	1	230	10144	1
[	Cu	63	26.042	ug/L	0.180	0	329	152203	0
[	Cu	65	25.843	ug/L	0.189	0	82	71922	1
[	Zn	66	74.680	ug/L	0.232	0	240	130632	0
[	Zn	67	67.669	ug/L	0.603	0	174	20177	1
[	Zn	68	72.663	ug/L	0.214	0	8866	97785	0
[	As	75	24.906	ug/L	0.288	1	572	41306	1
[	As-1	75	24.049	ug/L	0.417	1	10161	49801	1
[	Se	82	75.031	ug/L	0.246	0	-26	13277	0
[	Se	78	72.946	ug/L	1.301	1	10392	43052	0
[	Mo	98	-0.007	ug/L	0.002	34	111	79	17
	Y	89		ug/L			258188	277485	1
	Kr	83		ug/L			356	341	1
[>	In	115		ug/L			315335	338845	1
[	Ag	107	24.793	ug/L	0.562	2	157	267177	1
[	Cd	111	23.522	ug/L	0.445	1	157	65489	1
[	Cd	114	23.349	ug/L	0.404	1	30	150035	0
[	Sb	121	-0.050	ug/L	0.002	4	532	129	16
[	Sb	123	-0.052	ug/L	0.001	1	415	97	3
[	Ba	135	24.237	ug/L	0.145	0	30	52529	1
[	Ba	137	24.317	ug/L	0.199	0	45	89241	0
[>	Tb	159		ug/L			326666	350934	0
[	Tl	205	23.771	ug/L	0.326	1	267	627504	1
[	Pb	208	25.269	ug/L	0.167	0	503	883801	0
[	Bi	209		ug/L			281825	302953	0
[	Th	232	22.961	ug/L	0.273	1	1387	1079031	1
[	U	238	23.000	ug/L	0.428	1	251	1180236	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU21 MB1SPD REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, May 18, 2012 12:35:04
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	432470	2
[	Be	9	22.363	ug/L	0.625	2	4	10814	0
	C	13		mg/L			3772	6348	2
	Cl	37		mg/L			2208314	2246483	0
[>	Sc	45		ug/L			251462	269168	0
[	V	51	24.936	ug/L	0.149	0	2258	297786	0
[	V-1	51	24.745	ug/L	0.133	0	5812	305695	0
[	Cr	52	25.052	ug/L	0.262	1	7623	263488	0
[	Cr	53	24.444	ug/L	0.212	0	1998	32303	0
[	Mn	55	25.245	ug/L	0.584	2	478	429516	1
[	Co	59	25.226	ug/L	0.405	1	159	326117	1
[>	Ge	72		ug/L			279224	297663	0
[	Ni	60	25.288	ug/L	0.065	0	48	68115	0
[	Ni	62	25.673	ug/L	0.093	0	230	10400	0
[	Cu	63	26.347	ug/L	0.149	0	329	153985	0
[	Cu	65	26.274	ug/L	0.218	0	82	73116	0
[	Zn	66	75.344	ug/L	0.527	0	240	131786	0
[	Zn	67	68.910	ug/L	0.765	1	174	20542	0
[	Zn	68	73.808	ug/L	0.427	0	8866	99174	0
[	As	75	25.369	ug/L	0.163	0	572	42061	0
[	As-1	75	24.515	ug/L	0.210	0	10161	50555	0
[	Se	82	76.307	ug/L	0.651	0	-26	13503	0
[	Se	78	74.397	ug/L	0.839	1	10392	43689	0
[	Mo	98	-0.006	ug/L	0.002	37	111	82	16
	Y	89		ug/L			258188	280425	1
	Kr	83		ug/L			356	367	2
[>	In	115		ug/L			315335	336055	0
[	Ag	107	25.680	ug/L	0.113	0	157	274476	0
[	Cd	111	23.846	ug/L	0.120	0	157	65846	0
[	Cd	114	24.280	ug/L	0.096	0	30	154751	0
[	Sb	121	-0.051	ug/L	0.001	1	532	117	4
[	Sb	123	-0.053	ug/L	0.001	1	415	92	5
[	Ba	135	24.707	ug/L	0.313	1	30	53105	1
[	Ba	137	24.836	ug/L	0.079	0	45	90398	0
[>	Tb	159		ug/L			326666	346992	0
[	Tl	205	24.486	ug/L	0.148	0	267	639136	0
[	Pb	208	25.819	ug/L	0.242	0	503	892898	1
[	Bi	209		ug/L			281825	306151	1
[	Th	232	23.592	ug/L	0.462	1	1387	1096182	1
[	U	238	23.492	ug/L	0.466	1	251	1191981	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU21 B REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, May 18, 2012 12:41:21
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	415647	1
[	Be	9	0.003	ug/L	0.008	306	4	5	66
	C	13		mg/L			3772	11172	0
	Cl	37		mg/L			2208314	2345251	1
[>	Sc	45		ug/L			251462	309121	0
[	V	51	3.992	ug/L	0.014	0	2258	57084	0
[	V-1	51	3.937	ug/L	0.024	0	5812	61863	0
[	Cr	52	1.592	ug/L	0.010	0	7623	28010	0
[	Cr	53	1.578	ug/L	0.026	1	1998	4693	1
[	Mn	55	25.687	ug/L	0.072	0	478	501936	0
[	Co	59	0.449	ug/L	0.007	1	159	6861	1
[>	Ge	72		ug/L			279224	288005	0
[	Ni	60	4.669	ug/L	0.092	1	48	12208	1
[	Ni	62	3.830	ug/L	0.077	2	230	1704	2
[	Cu	63	6.341	ug/L	0.035	0	329	36113	0
[	Cu	65	6.128	ug/L	0.064	1	82	16564	0
[	Zn	66	45.473	ug/L	0.423	0	240	77056	0
[	Zn	67	41.083	ug/L	0.490	1	174	11922	0
[	Zn	68	45.334	ug/L	0.355	0	8866	62466	0
[	As	75	14.056	ug/L	0.034	0	572	22811	0
[	As-1	75	13.935	ug/L	0.069	0	10161	32329	0
[	Se	82	0.487	ug/L	0.125	25	-26	56	37
[	Se	78	-0.439	ug/L	0.186	42	10392	10532	0
[	Mo	98	1.160	ug/L	0.024	2	111	6806	1
	Y	89		ug/L			258188	273176	1
	Kr	83		ug/L			356	357	5
[>	In	115		ug/L			315335	321979	0
[	Ag	107	0.012	ug/L	0.005	43	157	279	18
[	Cd	111	0.039	ug/L	0.014	34	157	264	13
[	Cd	114	0.031	ug/L	0.006	18	30	220	15
[	Sb	121	0.325	ug/L	0.001	0	532	3292	1
[	Sb	123	0.315	ug/L	0.014	4	415	2433	3
[	Ba	135	28.156	ug/L	0.432	1	30	57976	0
[	Ba	137	28.671	ug/L	0.708	2	45	99965	1
[>	Tb	159		ug/L			326666	337981	0
[	Tl	205	0.005	ug/L	0.003	49	267	409	15
[	Pb	208	0.314	ug/L	0.009	3	503	11073	2
[	Bi	209		ug/L			281825	280010	0
[	Th	232	0.073	ug/L	0.019	26	1387	4754	18
[	U	238	0.193	ug/L	0.003	1	251	9796	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU21 C REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, May 18, 2012 12:47:39
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	407315	1
[	Be	9	0.005	ug/L	0.005	104	4	6	34
	C	13		mg/L			3772	10281	2
	Cl	37		mg/L			2208314	2251518	0
[>	Sc	45		ug/L			251462	291515	1
[	V	51	4.446	ug/L	0.036	0	2258	59655	0
[	V-1	51	4.422	ug/L	0.033	0	5812	64699	0
[	Cr	52	2.097	ug/L	0.034	1	7623	31983	1
[	Cr	53	2.178	ug/L	0.034	1	1998	5227	1
[	Mn	55	58.883	ug/L	0.942	1	478	1084238	0
[	Co	59	0.583	ug/L	0.004	0	159	8341	0
[>	Ge	72		ug/L			279224	277228	1
[	Ni	60	5.278	ug/L	0.121	2	48	13278	1
[	Ni	62	5.107	ug/L	0.258	5	230	2109	2
[	Cu	63	9.055	ug/L	0.074	0	329	49503	1
[	Cu	65	8.854	ug/L	0.050	0	82	23003	2
[	Zn	66	70.170	ug/L	0.803	1	240	114320	1
[	Zn	67	62.756	ug/L	0.493	0	174	17438	1
[	Zn	68	70.219	ug/L	0.225	0	8866	88304	1
[	As	75	14.541	ug/L	0.069	0	572	22696	1
[	As-1	75	14.444	ug/L	0.173	1	10161	31885	1
[	Se	82	0.539	ug/L	0.062	11	-26	63	16
[	Se	78	-0.301	ug/L	0.370	123	10392	10193	0
[	Mo	98	1.204	ug/L	0.026	2	111	6794	0
	Y	89		ug/L			258188	266859	1
	Kr	83		ug/L			356	345	3
[>	In	115		ug/L			315335	308414	0
[	Ag	107	0.011	ug/L	0.002	21	157	260	8
[	Cd	111	0.069	ug/L	0.014	19	157	329	10
[	Cd	114	0.060	ug/L	0.003	5	30	379	5
[	Sb	121	0.365	ug/L	0.007	1	532	3475	2
[	Sb	123	0.363	ug/L	0.012	3	415	2621	2
[	Ba	135	36.796	ug/L	0.598	1	30	72567	1
[	Ba	137	37.352	ug/L	0.347	0	45	124747	1
[>	Tb	159		ug/L			326666	329213	0
[	Tl	205	0.002	ug/L	0.000	25	267	315	3
[	Pb	208	1.501	ug/L	0.023	1	503	49707	0
[	Bi	209		ug/L			281825	270583	0
[	Th	232	0.045	ug/L	0.003	7	1387	3360	3
[	U	238	0.194	ug/L	0.006	2	251	9594	2

US82:00374

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV4
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 12:53:57
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	408950	0
[	Be	9	47.075	ug/L	0.277	0	4	21532	0
	C	13		mg/L			3772	3640	1
	Cl	37		mg/L			2208314	2098274	0
[>	Sc	45		ug/L			251462	242137	1
[	V	51	50.420	ug/L	0.342	0	2258	539408	0
[	V-1	51	50.311	ug/L	0.409	0	5812	553311	0
[	Cr	52	49.917	ug/L	0.827	1	7623	464950	0
[	Cr	53	49.608	ug/L	1.005	2	1998	56985	0
[	Mn	55	50.112	ug/L	0.431	0	478	766533	0
[	Co	59	49.793	ug/L	0.811	1	159	578868	0
[>	Ge	72		ug/L			279224	278704	0
[	Ni	60	48.882	ug/L	0.602	1	48	123231	0
[	Ni	62	49.598	ug/L	1.244	2	230	18596	1
[	Cu	63	48.939	ug/L	0.550	1	329	267516	0
[	Cu	65	48.643	ug/L	0.955	1	82	126666	1
[	Zn	66	49.173	ug/L	0.346	0	240	80613	0
[	Zn	67	49.278	ug/L	1.167	2	174	13803	1
[	Zn	68	49.412	ug/L	0.450	0	8866	65088	0
[	As	75	50.408	ug/L	0.654	1	572	77685	0
[	As-1	75	50.112	ug/L	0.669	1	10161	86166	0
[	Se	82	51.769	ug/L	0.751	1	-26	8568	0
[	Se	78	50.584	ug/L	0.873	1	10392	31132	0
[	Mo	98	50.560	ug/L	0.768	1	111	282415	0
	Y	89		ug/L			258188	254632	0
	Kr	83		ug/L			356	362	3
[>	In	115		ug/L			315335	305248	1
[	Ag	107	50.565	ug/L	0.623	1	157	490730	0
[	Cd	111	50.171	ug/L	0.650	1	157	125658	0
[	Cd	114	50.057	ug/L	0.356	0	30	289758	1
[	Sb	121	49.139	ug/L	0.675	1	532	394518	0
[	Sb	123	49.278	ug/L	0.912	1	415	298449	1
[	Ba	135	49.778	ug/L	0.257	0	30	97155	0
[	Ba	137	50.577	ug/L	0.457	0	45	167158	0
[>	Tb	159		ug/L			326666	321291	0
[	Tl	205	47.546	ug/L	0.991	2	267	1148784	1
[	Pb	208	50.989	ug/L	0.244	0	503	1632204	0
[	Bi	209		ug/L			281825	274363	0
[	Th	232	48.000	ug/L	2.966	6	1387	2063351	5
[	U	238	51.281	ug/L	0.432	0	251	2408904	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB4
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 13:00:35
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	418684	1
[	Be	9	-0.000	ug/L	0.002	775	4	4	17
	C	13		mg/L			3772	3899	1
	Cl	37		mg/L			2208314	2122301	0
[>	Sc	45		ug/L			251462	246357	1
|	V	51	0.015	ug/L	0.020	130	2258	2374	8
|	V-1	51	-0.086	ug/L	0.009	10	5812	4741	1
|	Cr	52	-0.009	ug/L	0.016	182	7623	7387	0
|	Cr	53	-0.324	ug/L	0.054	16	1998	1591	4
|	Mn	55	-0.004	ug/L	0.001	29	478	410	4
[	Co	59	-0.000	ug/L	0.002	491	159	151	15
[>	Ge	72		ug/L			279224	280370	1
|	Ni	60	0.002	ug/L	0.003	119	48	55	12
|	Ni	62	0.197	ug/L	0.020	10	230	305	2
|	Cu	63	-0.009	ug/L	0.001	13	329	279	3
|	Cu	65	-0.001	ug/L	0.001	95	82	80	3
|	Zn	66	0.000	ug/L	0.008	5207	240	241	5
|	Zn	67	-0.056	ug/L	0.026	45	174	159	3
|	Zn	68	-0.488	ug/L	0.136	27	8866	8342	1
|	As	75	0.006	ug/L	0.001	15	572	583	1
|	As-1	75	-0.260	ug/L	0.094	36	10161	9805	0
|	Se	82	0.154	ug/L	0.035	22	-26	0	1119
|	Se	78	-0.955	ug/L	0.346	36	10392	10039	0
[	Mo	98	-0.001	ug/L	0.004	451	111	106	20
	Y	89		ug/L			258188	256938	0
	Kr	83		ug/L			356	335	0
[>	In	115		ug/L			315335	312459	1
|	Ag	107	0.001	ug/L	0.003	368	157	165	19
|	Cd	111	0.003	ug/L	0.008	318	157	162	12
|	Cd	114	-0.000	ug/L	0.001	436	30	28	28
|	Sb	121	0.036	ug/L	0.027	75	532	826	28
|	Sb	123	0.030	ug/L	0.019	65	415	596	21
|	Ba	135	0.001	ug/L	0.005	953	30	31	32
[	Ba	137	0.002	ug/L	0.005	272	45	50	30
[>	Tb	159		ug/L			326666	327622	1
|	Tl	205	0.001	ug/L	0.004	289	267	300	30
|	Pb	208	0.002	ug/L	0.002	92	503	581	11
|	Bi	209		ug/L			281825	284084	0
|	Th	232	0.010	ug/L	0.009	93	1387	1820	21
[	U	238	0.001	ug/L	0.001	82	251	315	16

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UU23 MB FRN
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 13:08:07
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	500259	1
[	Be	9	-0.005	ug/L	0.004	80	4	2	86
	C	13		mg/L			3772	8176	2
	Cl	37		mg/L			2208314	1921987	0
[>	Sc	45		ug/L			251462	290015	1
[	V	51	0.032	ug/L	0.022	68	2258	3017	9
[	V-1	51	-0.165	ug/L	0.018	10	5812	4557	5
[	Cr	52	0.146	ug/L	0.024	16	7623	10389	2
[	Cr	53	-0.480	ug/L	0.027	5	1998	1666	3
[	Mn	55	0.110	ug/L	0.005	4	478	2567	3
[	Co	59	-0.005	ug/L	0.001	24	159	117	12
[>	Ge	72		ug/L			279224	293993	0
[	Ni	60	0.021	ug/L	0.002	9	48	106	4
[	Ni	62	0.059	ug/L	0.050	84	230	266	7
[	Cu	63	0.152	ug/L	0.011	7	329	1219	4
[	Cu	65	0.165	ug/L	0.001	0	82	539	0
[	Zn	66	0.459	ug/L	0.015	3	240	1044	2
[	Zn	67	0.374	ug/L	0.048	12	174	292	4
[	Zn	68	-0.003	ug/L	0.101	2898	8866	9331	1
[	As	75	-0.045	ug/L	0.025	54	572	529	7
[	As-1	75	-0.081	ug/L	0.062	76	10161	10569	1
[	Se	82	0.031	ug/L	0.102	328	-26	-22	81
[	Se	78	-0.230	ug/L	0.187	81	10392	10842	0
[	Mo	98	-0.003	ug/L	0.004	121	111	96	24
	Y	89		ug/L			258188	304181	1
	Kr	83		ug/L			356	353	5
[>	In	115		ug/L			315335	362880	1
[	Ag	107	0.033	ug/L	0.005	15	157	562	9
[	Cd	111	0.004	ug/L	0.003	62	157	194	2
[	Cd	114	-0.000	ug/L	0.000	327	30	33	9
[	Sb	121	-0.005	ug/L	0.017	302	532	560	27
[	Sb	123	-0.008	ug/L	0.014	167	415	419	22
[	Ba	135	0.029	ug/L	0.011	38	30	101	24
[	Ba	137	0.027	ug/L	0.006	22	45	160	14
[>	Tb	159		ug/L			326666	392549	0
[	Tl	205	-0.002	ug/L	0.001	78	267	269	14
[	Pb	208	U 0.037	ug/L	0.005	14	503	2045	9
[	Bi	209		ug/L			281825	317694	0
[	Th	232	0.340	ug/L	0.182	53	1387	19464	48
[	U	238	0.002	ug/L	0.000	16	251	408	3

120-2%

5 m 5-21-12

ICP-MS Quantitative Analysis - Summary Report

Sample ID: UT82 A REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Friday, May 18, 2012 13:14:23
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	416925	1
[	Be	9	0.002	ug/L	0.005	326	4	5	50
	C	13		mg/L			3772	6403	1
	Cl	37		mg/L			2208314	2063129	0
[>	Sc	45		ug/L			251462	262591	1
|	V	51	2.579	ug/L	0.027	1	2258	32157	1
|	V-1	51	2.432	ug/L	0.043	1	5812	34791	2
|	Cr	52	0.480	ug/L	0.007	1	7623	12737	1
|	Cr	53	0.162	ug/L	0.049	30	1998	2281	3
|	Mn	55	0.823	ug/L	0.006	0	478	14150	0
[	Co	59	0.202	ug/L	0.005	2	159	2707	1
[>	Ge	72		ug/L			279224	275765	2
|	Ni	60	2.886	ug/L	0.042	1	48	7242	1
|	Ni	62	2.118	ug/L	0.087	4	230	1004	4
|	Cu	63	3.442	ug/L	0.018	0	329	18921	2
|	Cu	65	3.272	ug/L	0.029	0	82	8507	1
|	Zn	66	1.719	ug/L	0.006	0	240	3018	2
|	Zn	67	1.835	ug/L	0.152	8	174	675	8
|	Zn	68	1.691	ug/L	0.080	4	8866	10660	2
|	As	75	1.975	ug/L	0.038	1	572	3554	1
|	As-1	75	1.786	ug/L	0.093	5	10161	12715	0
|	Se	82	0.217	ug/L	0.026	11	-26	9	44
|	Se	78	-0.588	ug/L	0.221	37	10392	10023	1
[	Mo	98	5.715	ug/L	0.039	0	111	31685	2
	Y	89		ug/L			258188	263281	1
	Kr	83		ug/L			356	343	1
[>	In	115		ug/L			315335	306228	1
|	Ag	107	-0.005	ug/L	0.001	28	157	106	14
|	Cd	111	0.025	ug/L	0.008	31	157	214	7
|	Cd	114	0.022	ug/L	0.001	2	30	159	1
|	Sb	121	1.648	ug/L	0.005	0	532	13770	1
|	Sb	123	1.631	ug/L	0.041	2	415	10296	1
|	Ba	135	5.977	ug/L	0.072	1	30	11728	1
[	Ba	137	5.960	ug/L	0.072	1	45	19798	1
[>	Tb	159		ug/L			326666	329073	1
|	Tl	205	-0.003	ug/L	0.000	15	267	203	6
|	Pb	208	0.058	ug/L	0.002	4	503	2419	2
|	Bi	209		ug/L			281825	274651	1
|	Th	232	-0.015	ug/L	0.002	16	1387	750	13
[	U	238	0.213	ug/L	0.003	1	251	10484	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV5
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 13:20:41
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			409920	396447	0
[	Be	9	47.048	ug/L	0.583	1	4	20860	0
	C	13		mg/L			3772	3674	1
	Cl	37		mg/L			2208314	2113404	1
[>	Sc	45		ug/L			251462	235309	0
[	V	51	50.340	ug/L	0.520	1	2258	523367	0
[	V-1	51	50.135	ug/L	0.417	0	5812	535859	0
[	Cr	52	50.106	ug/L	0.496	0	7623	453567	0
[	Cr	53	49.479	ug/L	0.167	0	1998	55247	0
[	Mn	55	49.856	ug/L	0.488	0	478	741121	0
[	Co	59	49.848	ug/L	0.224	0	159	563235	0
[>	Ge	72		ug/L			279224	268129	0
[	Ni	60	48.819	ug/L	0.542	1	48	118405	0
[	Ni	62	49.728	ug/L	1.015	2	230	17937	1
[	Cu	63	49.156	ug/L	0.787	1	329	258513	1
[	Cu	65	48.946	ug/L	0.182	0	82	122628	0
[	Zn	66	49.158	ug/L	0.372	0	240	77536	1
[	Zn	67	50.023	ug/L	0.494	0	174	13479	1
[	Zn	68	49.755	ug/L	0.226	0	8866	62996	0
[	As	75	50.515	ug/L	0.414	0	572	74899	0
[	As-1	75	50.274	ug/L	0.529	1	10161	83135	0
[	Se	82	52.267	ug/L	0.728	1	-26	8323	1
[	Se	78	51.307	ug/L	1.023	1	10392	30236	0
[	Mo	98	50.764	ug/L	0.279	0	111	272809	0
	Y	89		ug/L			258188	246724	1
	Kr	83		ug/L			356	351	5
[>	In	115		ug/L			315335	295287	2
[	Ag	107	50.305	ug/L	0.954	1	157	472199	0
[	Cd	111	50.071	ug/L	1.212	2	157	121294	1
[	Cd	114	49.963	ug/L	0.757	1	30	279724	0
[	Sb	121	49.539	ug/L	1.045	2	532	384668	0
[	Sb	123	49.879	ug/L	0.720	1	415	292206	0
[	Ba	135	50.236	ug/L	1.410	2	30	94816	0
[	Ba	137	50.488	ug/L	1.132	2	45	161381	0
[>	Tb	159		ug/L			326666	311393	1
[	Tl	205	48.129	ug/L	0.288	0	267	1127095	0
[	Pb	208	51.067	ug/L	0.255	0	503	1584424	1
[	Bi	209		ug/L			281825	270009	1
[	Th	232	45.974	ug/L	0.799	1	1387	1915525	0
[	U	238	51.488	ug/L	0.369	0	251	2344074	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB5
Sample Dil Factor:
Comments:
Sample Date/Time: Friday, May 18, 2012 13:27:19
Number of Replicates: 3
Method File: C:\Elandata\Method\2008LoNoMinNoRh.mth
Tuning File: C:\Elandata\Tuning\default.tun
Optimization File: C:\Elandata\Optimize\default.dac
Calibration File: C:\Elandata\Calibration\051812a.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			409920	395047	1
	Be	9	-0.002	ug/L	0.002	69	4	2	24
	C	13		mg/L			3772	3892	1
	Cl	37		mg/L			2208314	2146065	0
>	Sc	45		ug/L			251462	231206	0
	V	51	0.025	ug/L	0.021	85	2258	2327	9
	V-1	51	-0.064	ug/L	0.008	12	5812	4682	2
	Cr	52	0.014	ug/L	0.013	88	7623	7133	1
	Cr	53	-0.262	ug/L	0.047	18	1998	1559	2
	Mn	55	-0.006	ug/L	0.001	15	478	345	4
	Co	59	-0.001	ug/L	0.001	76	159	135	6
>	Ge	72		ug/L			279224	263680	0
	Ni	60	0.000	ug/L	0.004	848	48	47	18
	Ni	62	-0.080	ug/L	0.060	75	230	190	11
	Cu	63	-0.014	ug/L	0.002	13	329	236	3
	Cu	65	-0.005	ug/L	0.003	68	82	65	12
	Zn	66	0.305	ug/L	0.499	163	240	698	110
	Zn	67	0.243	ug/L	0.459	188	174	228	52
	Zn	68	0.175	ug/L	0.389	222	8866	8560	4
	As	75	0.004	ug/L	0.025	576	572	546	6
	As-1	75	0.048	ug/L	0.028	58	10161	9665	0
	Se	82	0.004	ug/L	0.070	1685	-26	-24	45
	Se	78	0.199	ug/L	0.023	11	10392	9891	0
	Mo	98	-0.000	ug/L	0.004	1191	111	102	22
	Y	89		ug/L			258188	242358	0
	Kr	83		ug/L			356	341	0
>	In	115		ug/L			315335	289154	1
	Ag	107	0.001	ug/L	0.004	431	157	154	27
	Cd	111	0.000	ug/L	0.006	1526	157	145	11
	Cd	114	-0.001	ug/L	0.000	79	30	24	10
	Sb	121	0.035	ug/L	0.025	71	532	758	26
	Sb	123	0.035	ug/L	0.022	64	415	581	23
	Ba	135	0.002	ug/L	0.004	199	30	31	20
	Ba	137	0.001	ug/L	0.003	405	45	44	22
>	Tb	159		ug/L			326666	306353	0
	Tl	205	0.001	ug/L	0.002	323	267	264	16
	Pb	208	0.002	ug/L	0.002	106	503	524	10
	Bi	209		ug/L			281825	267223	0
	Th	232	0.009	ug/L	0.007	73	1387	1678	16
	U	238	0.001	ug/L	0.001	59	251	285	10

General Chemistry Analysis
Report and Summary QC Forms

ARI Job ID: US82

SAMPLE RESULTS-CONVENTIONALS
US82-ERM-West

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/23/12

Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Client ID: MW-34S-050312
ARI ID: 12-8016 US82A

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	05/15/12 051512#1	SM 2320	mg/L CaCO3	1.0	121
Carbonate	05/15/12	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	05/15/12	SM 2320	mg/L CaCO3	1.0	121
Hydroxide	05/15/12	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Hexavalent Chromium	05/03/12 050312#1	SW7196A	mg/L	0.010	< 0.010 U
Total Suspended Solids	05/07/12 050712#1	SM2540D	mg/L	1.1	< 1.1 U
Chloride	05/05/12 050512#1	EPA 300.0	mg/L	0.1	4.2
N-Nitrate	05/04/12 050412#1	EPA 300.0	mg-N/L	0.1	0.2
N-Ammonia	05/16/12 051612#1	EPA 350.1M	mg-N/L	0.010	< 0.010 U
Total Phosphorus	05/08/12 050812#1	SM4500-PE	mg-P/L	0.008	< 0.008 U
Sulfate	05/05/12 050512#1	EPA 300.0	mg/L	0.2	6.4
Total Organic Carbon	05/17/12 051712#1	EPA 9060M	mg/L	1.50	1.98

RL Analytical reporting limit
U Undetected at reported detection limit

US82:00382

SAMPLE RESULTS-CONVENTIONALS
US82-ERM-West

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/23/12

Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Client ID: MW-35S-050312
ARI ID: 12-8017 US82B

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	05/15/12 051512#1	SM 2320	mg/L CaCO3	1.0	20.1
Carbonate	05/15/12	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	05/15/12	SM 2320	mg/L CaCO3	1.0	20.1
Hydroxide	05/15/12	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	05/07/12 050712#1	SM2540D	mg/L	1.2	3.6
Chloride	05/04/12 050412#1	EPA 300.0	mg/L	0.1	2.9
N-Nitrate	05/04/12 050412#1	EPA 300.0	mg-N/L	0.1	< 0.1 U
N-Ammonia	05/16/12 051612#1	EPA 350.1M	mg-N/L	0.010	0.091
Total Phosphorus	05/08/12 050812#1	SM4500-PE	mg-P/L	0.008	0.136
Sulfate	05/05/12 050512#1	EPA 300.0	mg/L	0.2	6.7
Total Organic Carbon	05/17/12 051712#1	EPA 9060M	mg/L	1.50	2.21

RL Analytical reporting limit
U Undetected at reported detection limit

US82:00383

SAMPLE RESULTS-CONVENTIONALS
US82-ERM-West

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/23/12

Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Client ID: MW-36S-050312
ARI ID: 12-8018 US82C

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	05/15/12 051512#1	SM 2320	mg/L CaCO3	1.0	220
Carbonate	05/15/12	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	05/15/12	SM 2320	mg/L CaCO3	1.0	220
Hydroxide	05/15/12	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	05/07/12 050712#1	SM2540D	mg/L	1.1	9.3
Chloride	05/05/12 050512#1	EPA 300.0	mg/L	0.2	6.4
N-Nitrate	05/04/12 050412#1	EPA 300.0	mg-N/L	0.1	< 0.1 U
Total Phosphorus	05/08/12 050812#1	SM4500-PE	mg-P/L	0.008	0.126
Sulfate	05/05/12 050512#1	EPA 300.0	mg/L	0.5	14.8
Total Organic Carbon	05/17/12 051712#1	EPA 9060M	mg/L	1.50	2.70

RL Analytical reporting limit
U Undetected at reported detection limit

US82:00384

SAMPLE RESULTS-CONVENTIONALS
US82-ERM-West

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/23/12

Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Client ID: IDW-050312
ARI ID: 12-8019 US82D

Analyte	Date Batch	Method	Units	RL	Sample
pH	05/03/12 050312#1	SM4500H	std units	0.01	5.91

RL Analytical reporting limit
U Undetected at reported detection limit

US82 : 00385

SAMPLE RESULTS-CONVENTIONALS
US82-ERM-West

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/23/12

Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/03/12

Client ID: MW-33S-050212
ARI ID: 12-8020 US82E

Analyte	Date Batch	Method	Units	RL	Sample
Alkalinity	05/15/12 051512#1	SM 2320	mg/L CaCO3	1.0	268
Carbonate	05/15/12	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	05/15/12	SM 2320	mg/L CaCO3	1.0	268
Hydroxide	05/15/12	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	05/07/12 050712#1	SM2540D	mg/L	2.1	36.4
Chloride	05/04/12 050412#1	EPA 300.0	mg/L	0.1	3.0
N-Nitrate	05/04/12 050412#1	EPA 300.0	mg-N/L	0.1	< 0.1 U
Total Phosphorus	05/08/12 050812#1	SM4500-PE	mg-P/L	0.016	1.08
Sulfate	05/05/12 050512#1	EPA 300.0	mg/L	0.2	7.9
Total Organic Carbon	05/17/12 051712#1	EPA 9060M	mg/L	1.50	7.59

RL Analytical reporting limit
U Undetected at reported detection limit

US82:00386

MS/MSD RESULTS-CONVENTIONALS
US82-ERM-West

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/23/12

Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: US82A Client ID: MW-34S-050312							
Hexavalent Chromium	SW7196A	05/03/12	mg/L	< 0.010	0.060	0.063	95.2%
Chloride	EPA 300.0	05/05/12	mg/L	4.2	8.1	4.0	97.5%
N-Nitrate	EPA 300.0	05/04/12	mg-N/L	0.2	2.2	2.0	100.0%
Sulfate	EPA 300.0	05/05/12	mg/L	6.4	10.1	4.0	92.5%
ARI ID: US82B Client ID: MW-35S-050312							
N-Ammonia	EPA 350.1M	05/16/12	mg-N/L	0.091	0.600	0.500	101.8%

US82:00387

REPLICATE RESULTS-CONVENTIONALS
US82-ERM-West

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/23/12

Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/03/12
Date Received: 05/03/12

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: US82A Client ID: MW-34S-050312						
Alkalinity	SM 2320	05/15/12	mg/L CaCO3	121	122	0.8%
Carbonate	SM 2320	05/15/12	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	05/15/12	mg/L CaCO3	121	122	0.8%
Hydroxide	SM 2320	05/15/12	mg/L CaCO3	< 1.0	< 1.0	NA
Hexavalent Chromium	SW7196A	05/03/12	mg/L	< 0.010	< 0.010 < 0.010	NA
Chloride	EPA 300.0	05/05/12	mg/L	4.2	4.2	0.0%
N-Nitrate	EPA 300.0	05/04/12	mg-N/L	0.2	0.1	66.7%
Sulfate	EPA 300.0	05/05/12	mg/L	6.4	6.4	0.0%
ARI ID: US82B Client ID: MW-35S-050312						
Alkalinity	SM 2320	05/15/12	mg/L CaCO3	20.1	20.2	0.5%
Carbonate	SM 2320	05/15/12	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	05/15/12	mg/L CaCO3	20.1	20.2	0.5%
Hydroxide	SM 2320	05/15/12	mg/L CaCO3	< 1.0	< 1.0	NA
N-Ammonia	EPA 350.1M	05/16/12	mg-N/L	0.091	0.091	0.0%
ARI ID: US82D Client ID: IDW-050312						
pH	SM4500H	05/03/12	std units	5.91	5.91	0.00
ARI ID: US82E Client ID: MW-33S-050212						
Total Suspended Solids	SM2540D	05/07/12	mg/L	36.4	37.7	3.5%

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

US82:00388

LAB CONTROL RESULTS-CONVENTIONALS
US82-ERM-West

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/23/12

Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
pH SM4500H	ICVL	05/03/12	std units	7.05	7.00	0.05
Total Suspended Solids SM2540D	ICVL	05/07/12	mg/L	49.5	50.0	99.0%

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

METHOD BLANK RESULTS-CONVENTIONALS
US82-ERM-West

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/23/12

Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Hexavalent Chromium	SW7196A	05/03/12	mg/L	< 0.010 U	
Total Suspended Solids	SM2540D	05/07/12	mg/L	< 1.0 U	
Chloride	EPA 300.0	05/04/12 05/05/12	mg/L	< 0.1 U < 0.1 U	
N-Nitrate	EPA 300.0	05/04/12	mg-N/L	< 0.1 U	
N-Ammonia	EPA 350.1M	05/16/12	mg-N/L	< 0.010 U	FB
Total Phosphorus	SM4500-PE	05/08/12	mg-P/L	< 0.008 U	
Sulfate	EPA 300.0	05/05/12	mg/L	< 0.1 U	
Total Organic Carbon	EPA 9060M	05/17/12	mg/L	< 1.50 U	

FB Filtration Blank

US82:00390

STANDARD REFERENCE RESULTS-CONVENTIONALS
US82-ERM-West

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/23/12

Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity	SM 2320	05/15/12	mg/L CaCO3	32.7	33.1	98.8%
ERA #P114506		05/15/12		34.2	33.1	103.3%
Hexavalent Chromium	SW7196A	05/03/12	mg/L	0.595	0.630	94.4%
ERA #41065						
Chloride	EPA 300.0	05/04/12	mg/L	3.0	3.0	100.0%
ERA #411010		05/05/12		2.9	3.0	96.7%
N-Nitrate	EPA 300.0	05/04/12	mg-N/L	3.1	3.0	103.3%
ERA #230511						
N-Ammonia	EPA 350.1M	05/16/12	mg-N/L	0.505	0.500	101.0%
ERA #15125						
Total Phosphorus	SM4500-PE	05/08/12	mg-P/L	0.098	0.100	98.0%
ERA #3303093						
Sulfate	EPA 300.0	05/05/12	mg/L	2.8	3.0	93.3%
ERA #160111						
Total Organic Carbon	EPA 9060M	05/17/12	mg/L	21.8	20.0	109.0%
ERA 0523-11-05						

US82:00391

Subcontracted Results
Total Organic Halides Analyzed by Columbia Analytical Services Inc.

ARI Job ID: US82

May 29, 2012 Analytical Report for Service Request No: K1204387

Sue Dunnihoo
Analytical Resources, Incorporated
4611 So. 134th Place
Suite 100
Tukwila, WA 98168

RE: RG Spring GW Sampling/US82

Dear Sue:

Enclosed are the results of the samples submitted to our laboratory on May 08, 2012. For your reference, these analyses have been assigned our service request number K1204387.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3363. You may also contact me via Email at Lisa.Domenighini@alsglobal.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lisa Domenighini
Project Chemist

LD/jw

Columbia Analytical Services
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PHONE +1 360 577 7222 ; FAX+1 360 636 1068
Columbia Analytical Services, Inc.
Part of the ALS Group A Campbell Brothers Limited Company
Environmental www.caslab.com • www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

US82 : 00393

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

US82 00394

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

US82 : 00395

Columbia Analytical Services, Inc. - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Louisiana DHH	Not available	LA110003
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
New Mexico ED	http://www.nmenv.state.nm.us/dwb/Index.htm	-
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.caslab.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

USB2 : 00396

Case Narrative

US82 : 00397

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Analytical Resources, Incorporated	**Service Request No.:**	K1204387
Project:	RG Spring GW Sampling/US82	**Date Received:**	05/08/12
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Four water samples were received for analysis at Columbia Analytical Services on 05/08/12. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Approved by Dina A Dymenghini Date 5/30/12

US82 : 00098

Chain of Custody

USA2 : 00399

K1204987

SUBCONTRACTOR ANALYSIS REQUEST
CUSTODY TRANSFER 05/04/12

ANALYTICAL RESOURCES INCORPORATED

ARI Project: US82

Laboratory: Columbia Analytical Services Inc.
Lab Contact: Ed Wallace
Lab Address: 1317 South 13th Street
Kelso, WA 98626
Phone: 360-577-7222
Fax: 360-636-1068

ARI Client: ERM-West
Project ID: RG Spring GW Sampling
ARI PM: Sue Dunnihoo
Phone: 206-695-6207
Fax: 206-695-6201
Email: subdata@arilabs.com

Analytical Protocol: In-house
Special Instructions:

Requested Turn Around:
Email Results (Y/N): **email**

Limits of Liability. *Subcontractor is expected to perform all requested services in accordance with appropriate methodology following Standard Operating Procedures that meet standards for the industry. The total liability of ARI, its officers, agents, employees, or sucessors, arising out of or in connection with the requested services, shall not exceed the negotiated amount for said services. The agreement by the Subcontractor to perform services requested by ARI releases ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Subcontractor.*

ARI ID	Client ID/ Add'l ID	Sampled	Matrix	Bottles	Analyses
12-8016-US82A	MW-34S-050312	05/03/12 09:08	Water	1	Total Organic Halides
Special Instructions: Lv3, Method 9020, 2 EDD's					
12-8017-US82B	MW-35S-050312	05/03/12 11:38	Water	1	Total Organic Halides
Special Instructions: Lv3, Method 9020, 2 EDD's					
12-8018-US82C	MW-36S-050312	05/03/12 14:26	Water	1	Total Organic Halides
Special Instructions: Lv3, Method 9020, 2 EDD's					
12-8020-US82E	MW-33S-050312	05/03/12 16:17	Water	1	Total Organic Halides
Special Instructions: Lv3, Method 9020, 2 EDD's					

Carrier	UPS	Airbill	12 832 695 03 5108 6455	Date	5-7-12
Relinquished by		Company	ARI	Date	5-7-12	Time	1620
Received by		Company	ARI	Date	5/8/12	Time	1020

US82 : 00400

PC Liza

Cooler Receipt and Preservation Form

Client / Project: ARI Service Request K12 4387

Received: 5/8/12 Opened: 5/8/12 By: AT Unloaded: 5/8/12 By: AT

1. Samples were received via? *Mail* *Fed Ex* (*UPS*) *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where?_____

If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID (NA)	Tracking Number	NA	Filed
2.6	—	257		1Z8826950351081955		

7. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) (*Gel Packs*) *Wet Ice* *Dry Ice* *Sleeves* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

General Chemistry Parameters

US82 · 00402

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Report

Client:	Analytical Resources, Incorporated	**Service Request:**	K1204387
Project:	RG Spring GW Sampling/US82	**Date Collected:**	5/3/2012
Sample Matrix:	Water	**Date Received:**	5/8/2012

Halides, Total Organic (TOX)

Prep Method:	NONE	Units:	ug/L (ppb)
Analysis Method:	9020B	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
MW-34S-050312	K1204387-001	10	4	1	NA	5/23/2012	ND	
MW-35S-050312	K1204387-002	10	4	1	NA	5/23/2012	ND	
MW-36S-050312	K1204387-003	10	4	1	NA	5/23/2012	ND	
MW-33S-050312	K1204387-004	10	4	1	NA	5/23/2012	6	J
Method Blank	K1204387-MB	10	4	1	NA	5/23/2012	5	J

US82 : 00409

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Analytical Resources, Incorporated	**Service Request:**	K1204387
Project:	RG Spring GW Sampling/US82	**Date Collected:**	5/3/2012
Sample Matrix:	Water	**Date Received:**	5/8/2012
		Date Extracted:	NA
		Date Analyzed:	5/23/2012

Matrix Spike/Duplicate Matrix Spike Summary
Halides, Total Organic (TOX)

Sample Name:	MW-34S-050312	Units:	ug/L (ppb)
Lab Code:	K1204387-001MS, K1204387-001DMS	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	CAS Acceptance Limits	Relative Percent Difference	Result Notes
Halides, Total Organic (TOX)	NONE	9020B	10	100	100	ND	98	100	98	100	82-121	2	

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Analytical Resources, Incorporated
Project: RG Spring GW Sampling/US82
Sample Matrix: Water

Service Request: K1204387
Date Collected: NA
Date Received: NA
Date Analyzed: 5/23/2012

Calibration and Method Blank Summary
Halides, Total Organic (TOX)
EPA Method 9020

	Halide Check Standard (µg)	Instrument Calibration Standard (µg)	Adsorption Standard (µg/L)	Method Blank (µg/L)
True Value	3.64	10.0	100	ND
Run A	3.65	10.0	98	5 J
Percent Recovery	100	100	98	
Run B	3.56	10.2		
Percent Recovery	98	102		

Work Request # Original K4387 K4389 K4578 792804

Tier: IV IV I (#6)

Date Analyzed: 5/23/12

Analyst: EM

Analysis: TOX 9020B KTOX02

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

K4387 due 5/25
K4389 due 5/25
K4578 due 5/28

See bench sheet for QC failure comments.

Final Approved by: _____ Date: 5/29/12

DOREPORT

USB2 : 00406

AOX/TOX Benchsheet

Service Request #: K1204387, K1204389, K1204578 Method # : TOX-9020B

Analysis For : Total Organic Halides Instrument: Whine

Calibration Date: 7/5/2001 IPR Date: 5/9/2000

Instrument:	Volume	Concentration	Result	Reported Value	% Rec.
Halide Check	Run A = 10 µL	3.64	3.6470	3.6470	100
	Run B = 10 µL	3.64	3.5600	3.5600	98
NO_3 Wash Blank	2 mL	1) 0.3640	2) 0.1960	Average =	0.2800
Inst. Cal. Std.	Run A = 10 µL	10.0	10.2440	9.9640	100
	Run B = 10 µL	10.0	10.5080	10.2280	102

Lab Code	Initial Volume (mls)	Final Volume (mls)	OBS A µg	OBS B µg	Conc. (ppb)	Reported Value (ppb)	% Break-through	% RPD	Head-space	pH	% Recovery
MB	100	100	0.2830	0.2370	5	< 10					
PAR STD	100	100	9.8870	0.4490	98	98	1.7				98
K4387-1	100	100	0.5470	NA	3		2153.8		n	2	
K4387-2	100	100	0.5400	NA	3		1400.0		y	2	
K4387-3	100	100	0.5090	NA	2		549.0		n	2	
K4387-4	25	100	0.3790	NA	4	MRL	154.7		y	2	
K4389-1	100	100	0.5230	0.3770	3		28.5		y	2	
K4389-2	100	100	0.5650	0.3170	3		11.5		y	2	
NO_3 Wash Blank	2 mL		1) 0.1450		2) 0.2810		Average =				0.2130
ICS	10 µl			10.3810	10.381	10.1680					102

Comments: High break through is disregarded if sample concentration is at or near MRL.

NA signifies B column is equal to or less than the nitrate wash blank and should be disregarded as per method.

sulfuric acid: EMD 51299 nitric acid: JTB K23022

Halide Check = 3.64 µg/L **Inst. Cal Std. =** 10.0 µg/L

TOX-9020B (ppb) = $\frac{[(OBS.A - NO_3\ Blank) + (OBS.B - NO_3\ Blank)] \times (DF)}{Volume\ Analyzed\ (L)}$

AOX-506 (ppb)

AOX-1650C (ppb) = $\frac{((OBS.A + OBS.B) - (MB\ OBS.A + MB\ OBS.B))}{Initial\ Volume\ Analyzed\ (L)}$

NO_3 Wash ID #: TOX/3-27-P

Electrolyte ID #: TOX/3-60-AA

Carbon Lot #: 1111136

0.0103 NaCl ID #: TOX/3-70-N

1000 ppm TCP (PAR) ID #: TOX/3-72-G

1000 ppm TCP (ICS) ID #: TOX/3-72-F

% Breakthrough = $\frac{(OBS.B - MB\ OBS.B) \times 100}{(OBS.A - MB\ OBS.A) + (OBS.B - MB\ OBS.B)}$

NO3 = < 1.0

ICS = 90%-110%

Matrix Spike = $\frac{10\ µl \times 1\ µg \times 100\ ml}{1\ µl \times 100ml \times 0.1\ L} = 100\ µg/L$

PAR = 87-113%

MS =82-121%

Analyzed By:	EM	Date:	5/23/12 0857
Reviewed By:	✓	Date:	5/25/12

USB2 : 60407

AOX/TOX Benchsheet

Service Request #: K1204387, K1204389, K1204578 Method # : TOX-9020B

Analysis For : Total Organic Halides Instrument: Whinc

Lab Code	Initial Volume (mls)	Final Volume (mls)	OBS A µg	OBS B µg	Conc. (ppb)	Reported Value (ppb)	% Break-through	% RPD	Head-space	pH	% Recovery
K4389-3	100	100	0.9330	NA	7J		<1			2	
K4389-1D	100	100	0.5920	0.2260	3.9	[illegible]	3.3	-			1+1d
K4389-2D	100	100	0.4560	NA	2	[illegible]	<1	-			2+2d
K4387-MS	100	100	10.0480	0.2140	98	98	<1				98
K4387-MSD	100	100	10.0530	0.4680	101	100	2.5	3			100
K4387-3D	100	100	0.4270	NA	2	[illegible]	<1	-			3+3d
K4387-4D	100	100	0.7250	0.3790	7J		24.5				
K4387-4T	100	100	0.6140	0.2540	4J	[illegible]	9.3	50*			4d+4t
NO3 Wash Blank	2 mL		1)	0.2810	2)	0.3140	Average =				0.2975
ICS	10 µl				10.055	9.7575					98
K4389-1D	100	100	0.4270	NA	1	<4	177.1	-			1+1d
K4389-2D	100	100	0.5650	0.5900	6J	NC	52.2	NC			2+2d
K4389-3D	100	100	0.4260	NA	1	NC	176.0	NC			3+3d
K4578-6	5	100	1.9500	0.3050	332		<1				
K4578-6D	10	100	3.4800	0.6470	353	340	9.9	6			6+6d
LOD	100	100	0.9220	NA	6	6	<1				
LOQ	100	100	1.1300	NA	8	8	<1				
ICS	10 µl				10.251	9.9535					100

Comments: K4387-4d/4t high RPD due to sample concentration less than five times MRL.

Analyzed By: BM	Date: 5/23/12
Reviewed By:	Date: 5/25/12

US82 : 00408

Blank Report

Blank Results

Data ID : AOX205232012.001

Reps.	Mode	Counts(µg)	Total Counts	$\bar{X}$	SD	RSD(%)	ABC No.	Date 08.57
1-1	AOX-2	0.364						
1-2	AOX-2	0.196	0.560	0.560	***.**	***.**	1	05/23/12 ~~20.57~~ (1)
							1	05/23/12 ~~21.03~~ (1)

0903

EM 5/23/12
24
EM 5/24/12

(1) Incorrect time, P.M. changed to A.M
EM 5/24/12

US82 : 00409

Sample Report

Sample All Data

Data ID : AOX205232012.001
Blank : 0.560 µg/2Column

Reps.	Sample ID	Sample Size	Dilution Rate	Counts(µg)	Total Counts	Concentration	ABC No.
1-1	ICS	10.00 µl	1.0000	10.244			1
1-2	ICS	10.00 µl	1.0000	10.508	20.752	0.20 %	1
n = 1	$\bar{X}$ = 0.20 %			SD = ****.**		RSD(%) = ***.**	

BMS 5/24/12

US82 : 00416

Sample Report

Sample All Data

Data ID : AOX205232012.002
Blank : 0.560 µg/2Column

Reps.	Sample ID	Sample Size	Dilution Rate	Counts(µg)	Total Counts	Concentration	ABC No.
1-1	MB	100.00 ml	1.0000	0.283			1
1-2	MB	100.00 ml	1.0000	0.237 NA	0.520	0.00 ppm	1
n = 1	$\bar{X}$ = 0.00 ppm			SD = ****.**		RSD(%) = ***.**	
1-1	PAR	100.00 ml	1.0000	9.887			1
1-2	PAR	100.00 ml	1.0000	0.449	10.336	97.76 ppb	1
n = 1	$\bar{X}$ = 97.76 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	K4387-1	100.00 ml	1.0000	0.547	0.547	0.00 ppm	1
n = 1	$\bar{X}$ = 0.00 ppm			SD = ****.**		RSD(%) = ***.**	

BM 5/24/12

USA2 . 00411

Sample Report

Sample All Data

Data ID : AOX205232012.003
Blank : 0.560 µg/2Column

Reps.	Sample ID	Sample Size	Dilution Rate	Counts(µg)	Total Counts	Concentration	ABC No.
1-2	K4387-1	100.00 ml	1.0000	0.177 NA	0.177	0.00 ppm	1
	n = 1 $\bar{X}$ = 0.00 ppm		SD = ****.**		RSD(%) = ***.**		
1-1	K4387-2	100.00 ml	1.0000	0.540			1
1-2	K4387-2	100.00 ml	1.0000	0.209 NA	0.749	1.89 ppb	1
	n = 1 $\bar{X}$ = 1.89 ppb		SD = ****.**		RSD(%) = ***.**		
1-1	K4387-3	100.00 ml	1.0000	0.509			1
1-2	K4387-3	100.00 ml	1.0000	0.276 NA	0.785	2.25 ppb	1
	n = 1 $\bar{X}$ = 2.25 ppb		SD = ****.**		RSD(%) = ***.**		
1-1	K4387-4	100.00 ml	0.2500	0.379			1
1-2	K4387-4	100.00 ml	0.2500	0.137 NA	0.516	0.00 ppm	1
	n = 1 $\bar{X}$ = 0.00 ppm		SD = ****.**		RSD(%) = ***.**		
1-1	K4389-1	100.00 ml	1.0000	0.523			1
1-2	K4389-1	100.00 ml	1.0000	0.377	0.900	3.40 ppb	1
	n = 1 $\bar{X}$ = 3.40 ppb		SD = ****.**		RSD(%) = ***.**		
1-1	K4389-2	100.00 ml	1.0000	0.565			1
1-2	K4389-2	100.00 ml	1.0000	0.317	0.882	3.22 ppb	1
	n = 1 $\bar{X}$ = 3.22 ppb		SD = ****.**		RSD(%) = ***.**		
1-1	NITRATE WASH BLANK	100.00 ml	1.0000	0.145			1
1-2	NITRATE WASH BLANK	100.00 ml	1.0000	0.281	0.426	0.00 ppm	1
	n = 1 $\bar{X}$ = 0.00 ppm		SD = ****.**		RSD(%) = ***.**		
1-1	ICS	10.00 µl	1.0000	10.381	10.381	982.10 ppm	1
	n = 1 $\bar{X}$ = 982.10 ppm		SD = ****.**		RSD(%) = ***.**		
1-1	K4389-3	100.00 ml	1.0000	0.933			1
1-2	K4389-3	100.00 ml	1.0000	0.141 NA	1.074	5.14 ppb	1
	n = 1 $\bar{X}$ = 5.14 ppb		SD = ****.**		RSD(%) = ***.**		
1-1	K4387-1D	100.00 ml	1.0000	0.592			1
1-2	K4387-1D	100.00 ml	1.0000	0.226	0.818	2.58 ppb	1
	n = 1 $\bar{X}$ = 2.58 ppb		SD = ****.**		RSD(%) = ***.**		
1-1	K4387-2D	100.00 ml	1.0000	0.456			1

EM 5/24/12

US82 : 00412

Sample Report

Sample All Data

Data ID : AOX205232012.003
Blank : 0.560 µg/2Column

Reps.	Sample ID	Sample Size	Dilution Rate	Counts(µg)	Total Counts	Concentration	ABC No.
1-2	K4387-2D	100.00 ml	1.0000	0.109 NA	0.565	0.05 ppb	1
	n = 1 $\bar{X}$ = 0.05 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	K4387-1MS	100.00 ml	1.0000	10.048			1
1-2	K4387-1MS	100.00 ml	1.0000	0.214	10.262	97.02 ppb	1
	n = 1 $\bar{X}$ = 97.02 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	K4387-1MSD	100.00 ml	1.0000	10.053			1
1-2	K4387-1MSD	100.00 ml	1.0000	0.468	10.521	99.61 ppb	1
	n = 1 $\bar{X}$ = 99.61 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	K4387-3D	100.00 ml	1.0000	0.427			1
1-2	K4387-3D	100.00 ml	1.0000	0.184 NA	0.611	0.51 ppb	1
	n = 1 $\bar{X}$ = 0.51 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	K4387-4D	100.00 ml	1.0000	0.725			1
1-2	K4387-4D	100.00 ml	1.0000	0.379	1.104	5.44 ppb	1
	n = 1 $\bar{X}$ = 5.44 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	K4387-4T	100.00 ml	1.0000	0.614			1
1-2	K4387-4T	100.00 ml	1.0000	0.254	0.868	3.08 ppb	1
	n = 1 $\bar{X}$ = 3.08 ppb			SD = ****.**		RSD(%) = ***.**	
2-1	NITRATE WASH BLANK	100.00 ml	1.0000	0.281			1
2-2	NITRATE WASH BLANK	100.00 ml	1.0000	0.314	0.595	0.35 ppb	1
	n = 1 $\bar{X}$ = 0.35 ppb			SD = ****.**		RSD(%) = ***.**	
2-1	ICS	10.00 µl	1.0000	10.055	10.055	949.50 ppm	1
	n = 1 $\bar{X}$ = 949.50 ppm			SD = ****.**		RSD(%) = ***.**	
1-1	K4389-1D	100.00 ml	1.0000	0.427			1
1-2	K4389-1D	100.00 ml	1.0000	0.193 NA	0.620	0.60 ppb	1
	n = 1 $\bar{X}$ = 0.60 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	K4389-2D	100.00 ml	1.0000	0.565			1
1-2	K4389-2D	100.00 ml	1.0000	0.590	1.155	5.95 ppb	1
	n = 1 $\bar{X}$ = 5.95 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	K4389-3D	100.00 ml	1.0000	0.426			1

DM 5/24/12

US82 : 00413

Sample Report

Sample All Data

Data ID : AOX205232012.003
Blank : 0.560 µg/2Column

Reps.	Sample ID	Sample Size	Dilution Rate	Counts(µg)	Total Counts	Concentration	ABC No.
1-2	K4389-3D	100.00 ml	1.0000	0.182 NA	0.608	0.48 ppb	1
	n = 1 $\bar{X}$ = 0.48 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	K4578-6	100.00 ml	0.0500	1.950			1
1-2	K4578-6	100.00 ml	0.0500	0.305	2.255	339.00 ppb	1
	n = 1 $\bar{X}$ = 339.00 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	K4578-6D	100.00 ml	0.1000	3.480			1
1-2	K4578-6D	100.00 ml	0.1000	0.647	4.127	356.70 ppb	1
	n = 1 $\bar{X}$ = 356.70 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	LOD	100.00 ml	1.0000	0.922			1
1-2	LOD	100.00 ml	1.0000	0.026 NA	0.948	3.88 ppb	1
	n = 1 $\bar{X}$ = 3.88 ppb			SD = ****.**		RSD(%) = ***.**	
1-1	LOQ	100.00 ml	1.0000	1.130			1
1-2	LOQ	100.00 ml	1.0000	0.203 NA	1.333	7.73 ppb	1
	n = 1 $\bar{X}$ = 7.73 ppb			SD = ****.**		RSD(%) = ***.**	
3-1	ICS	10.00 µl	1.0000	10.251	10.251	969.10 ppm	1
	n = 1 $\bar{X}$ = 969.10 ppm			SD = ****.**		RSD(%) = ***.**	

EM 5/24/12

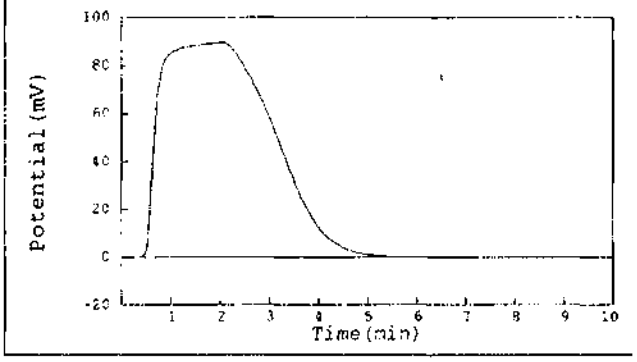
US82:00414

Sample Report

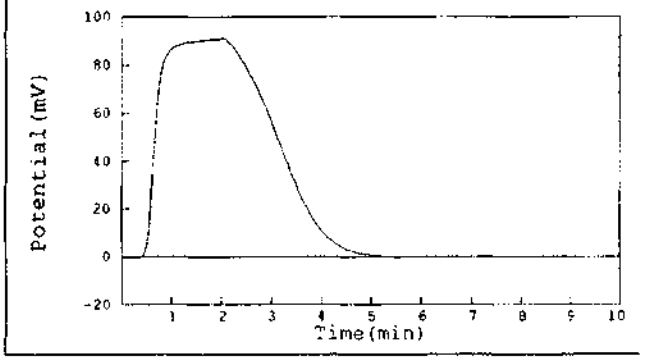
Sample Charts

Data ID : AOX205232012.001

Reps. : 1-1 05/23/12 21:10
Sample ID : ICS
Counts(µg): 10.244



Reps. : 1-2 05/23/12 21:16
Sample ID : ICS
Counts(µg): 10.508



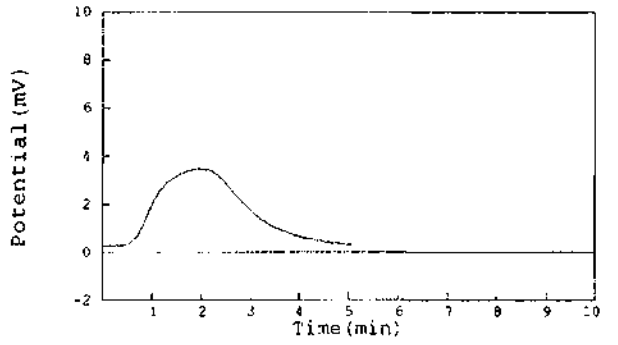
US82:00415

Sample Report

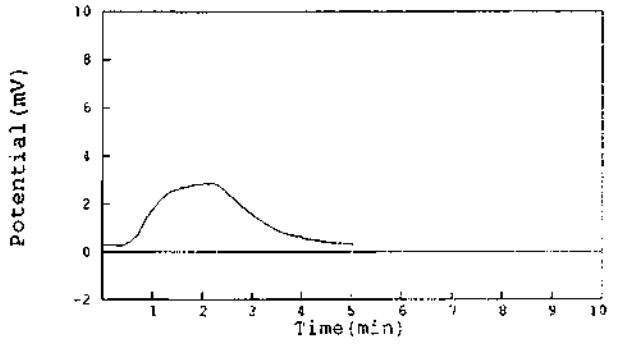
Sample Charts

Data ID : AOX205232012.002

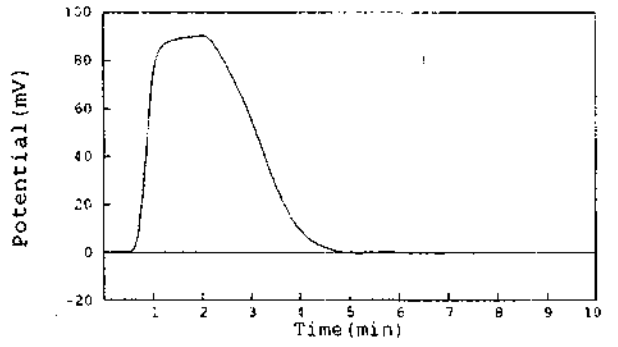
Reps. : 1-1 05/23/12 21:27
Sample ID : MB
Counts(µg): 0.283



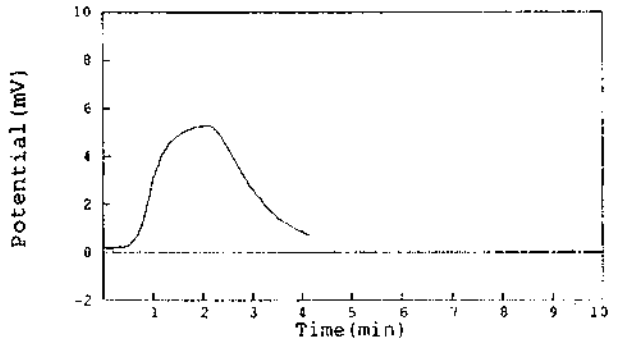
Reps. : 1-2 05/23/12 21:38
Sample ID : MB
Counts(µg): 0.237



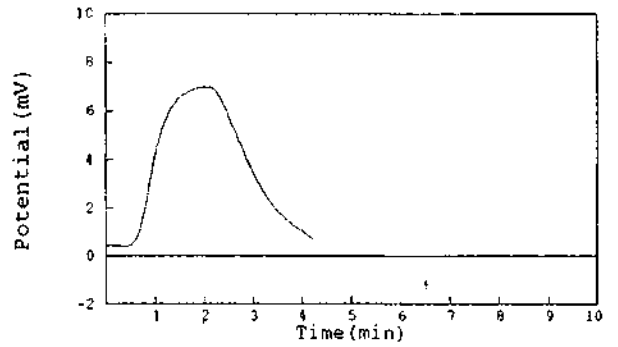
Reps. : 1-1 05/23/12 21:44
Sample ID : PAR
Counts(µg): 9.887



Reps. : 1-2 05/23/12 21:52
Sample ID : PAR
Counts(µg): 0.449



Reps. : 1-1 05/23/12 21:57
Sample ID : K4387-1
Counts(µg): 0.547



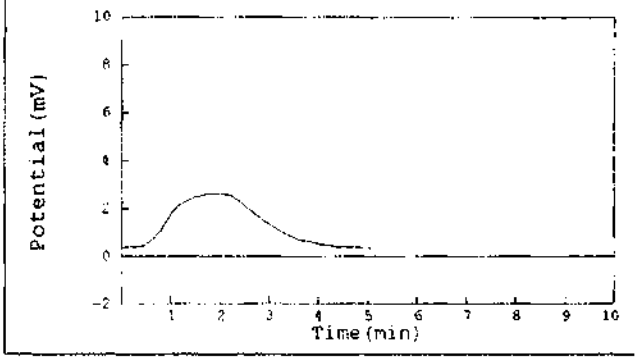
USB2:00415

Sample Report

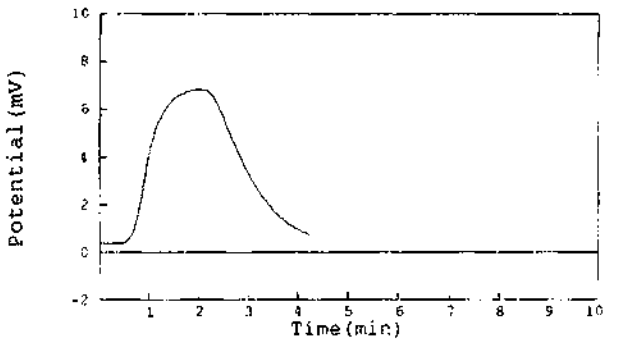
Sample Charts

Data ID : AOX205232012.003

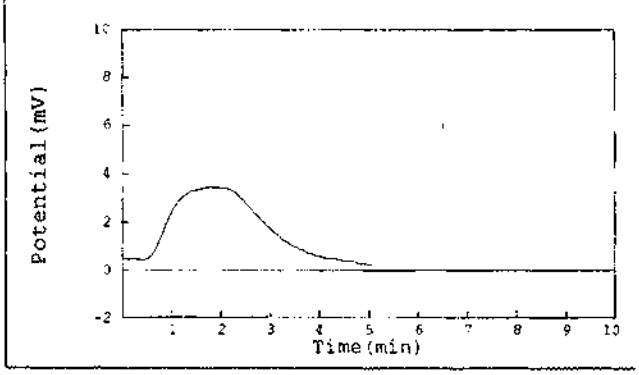
Reps. : 1-2 05/23/12 22:10
Sample ID : K4387-1
Counts(µg): 0.177



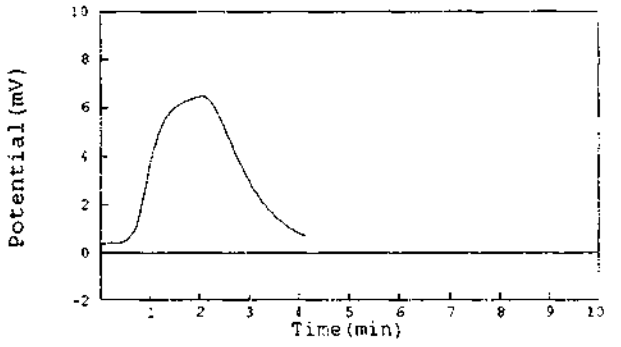
Reps. : 1-1 05/23/12 22:14
Sample ID : K4387-2
Counts(µg): 0.540



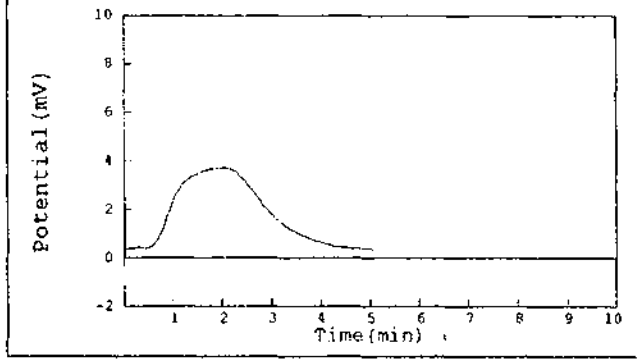
Reps. : 1-2 05/23/12 22:20
Sample ID : K4387-2
Counts(µg): 0.209



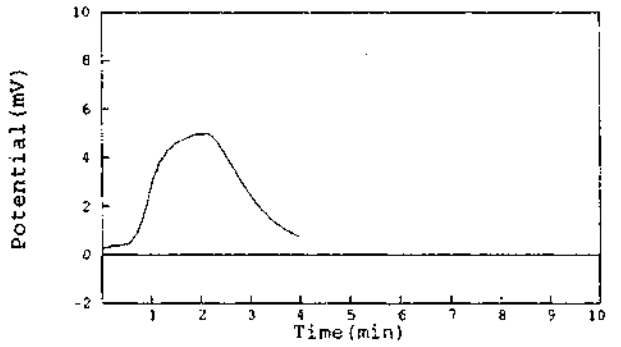
Reps. : 1-1 05/23/12 22:28
Sample ID : K4387-3
Counts(µg): 0.509



Reps. : 1-2 05/23/12 22:36
Sample ID : K4387-3
Counts(µg): 0.276



Reps. : 1-1 05/23/12 22:41
Sample ID : K4387-4
Counts(µg): 0.379



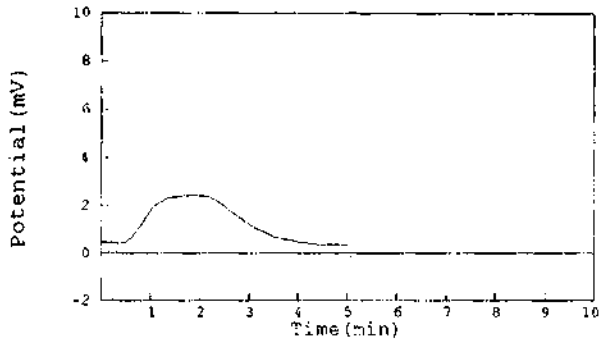
USB2:00417

Sample Report

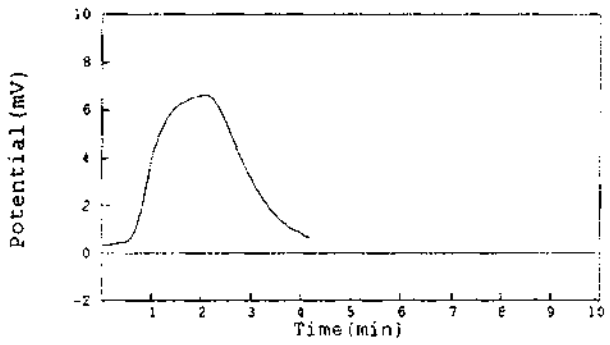
Sample Charts

Data ID : AOX205232012.003

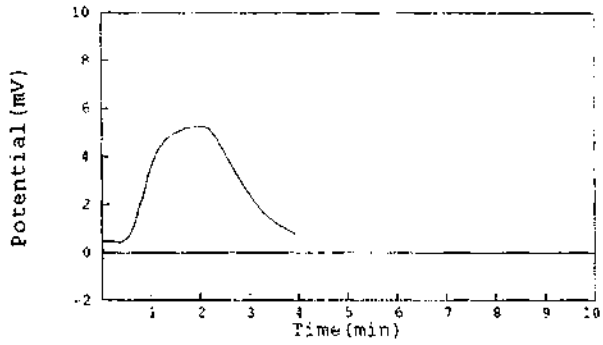
Reps. : 1-2 05/23/12 22:46
Sample ID : K4387-4
Counts(µg): 0.137



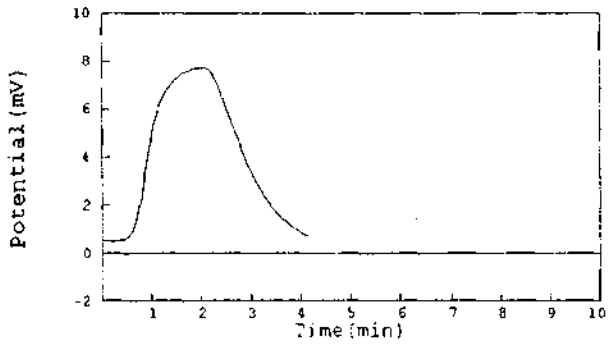
Reps. : 1-1 05/23/12 22:53
Sample ID : K4389-1
Counts(µg): 0.523



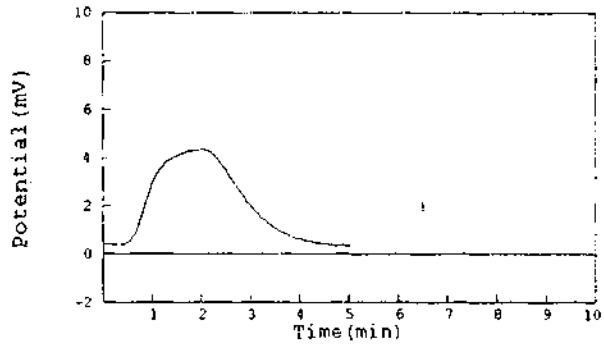
Reps. : 1-2 05/23/12 23:01
Sample ID : K4389-1
Counts(µg): 0.377



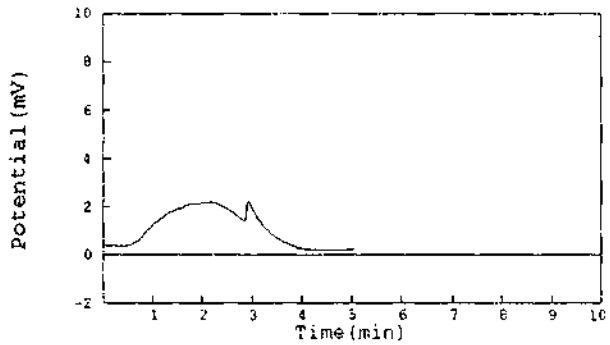
Reps. : 1-1 05/23/12 23:06
Sample ID : K4389-2
Counts(µg): 0.565



Reps. : 1-2 05/23/12 23:12
Sample ID : K4389-2
Counts(µg): 0.317



Reps. : 1-1 05/23/12 23:23
Sample ID : NITRATE WASH BLANK
Counts(µg): 0.145



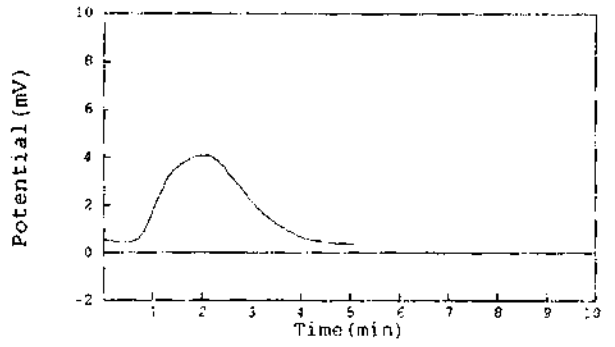
US82:86418

Sample Report

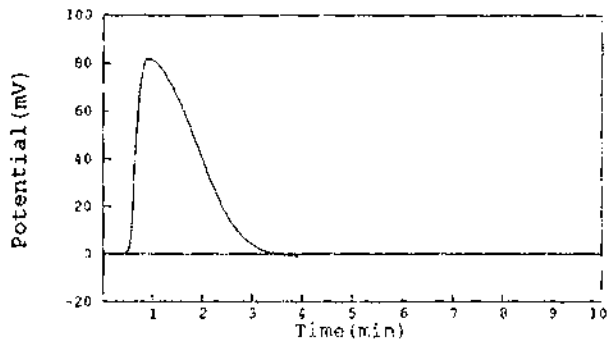
Sample Charts

Data ID : AOX205232012.003

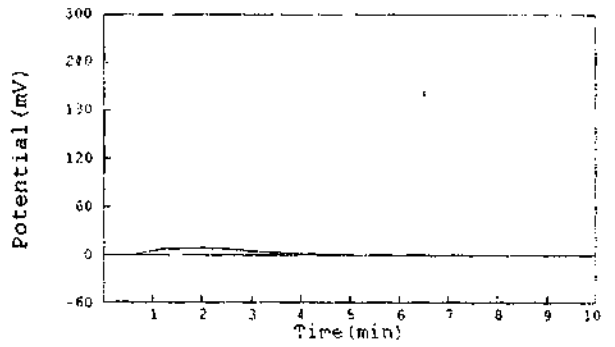
Reps. : 1-2 05/23/12 23:32
Sample ID : NITRATE WASH BLANK
Counts(µg): 0.281



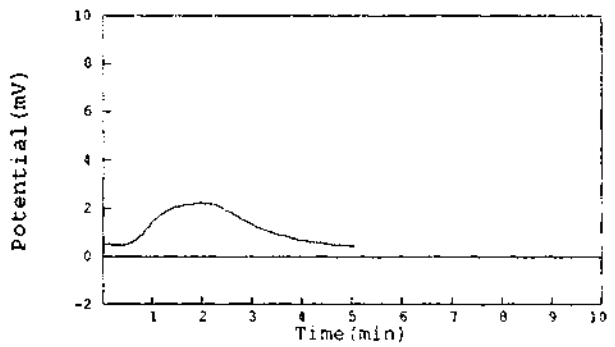
Reps. : 1-1 05/23/12 23:37
Sample ID : ICS
Counts(µg): 10.381



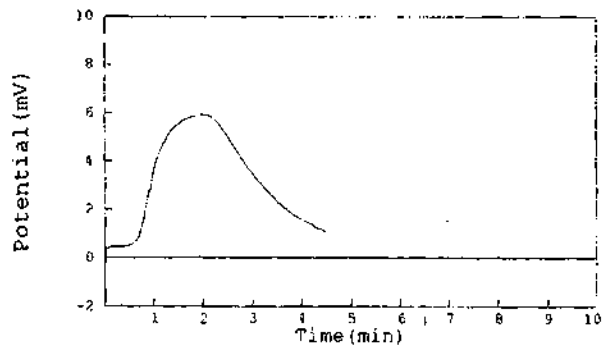
Reps. : 1-1 05/23/12 23:50
Sample ID : K4389-3
Counts(µg): 0.933



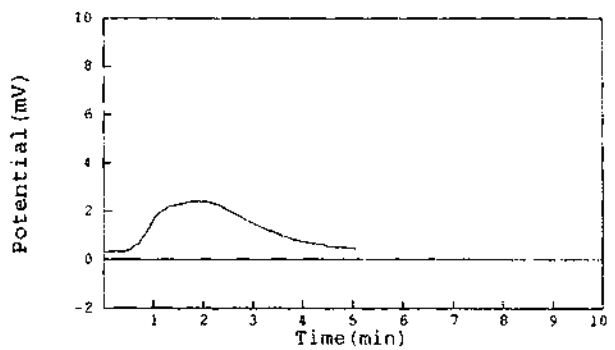
Reps. : 1-2 05/23/12 23:57
Sample ID : K4389-3
Counts(µg): 0.141



Reps. : 1-1 05/24/12 00:03
Sample ID : K4387-1D
Counts(µg): 0.592



Reps. : 1-2 05/24/12 00:11
Sample ID : K4387-1D
Counts(µg): 0.226



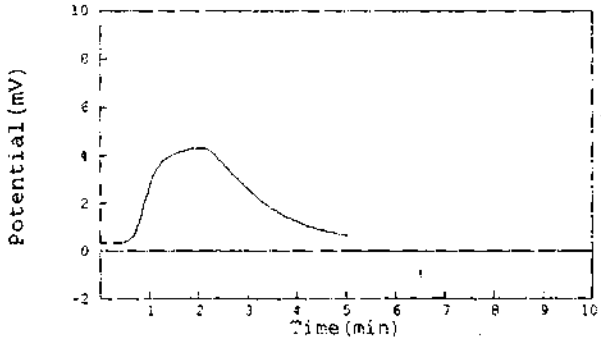
US82:00419

Sample Report

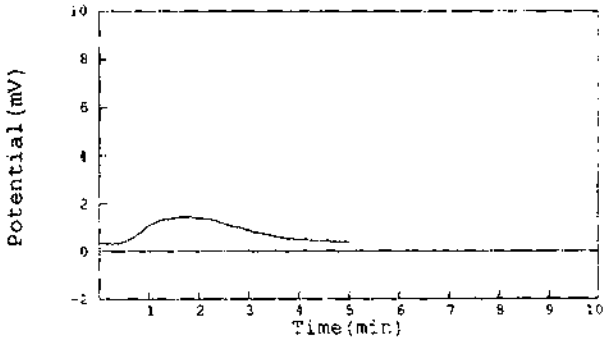
Sample Charts

Data ID : AOX205232012.003

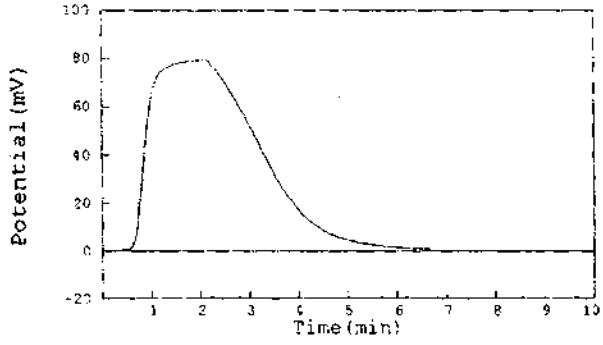
Reps. : 1-1 05/24/12 00:18
Sample ID : K4387-2D
Counts(µg): 0.456



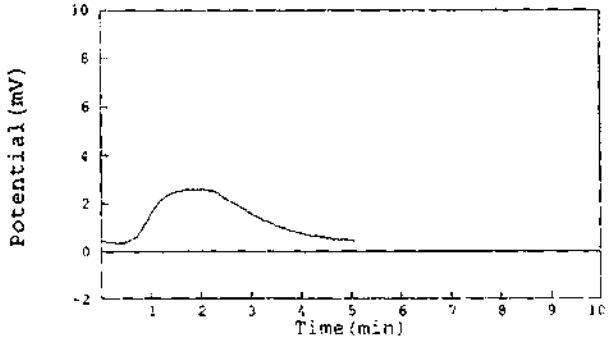
Reps. : 1-2 05/24/12 00:37
Sample ID : K4387-2D
Counts(µg): 0.109



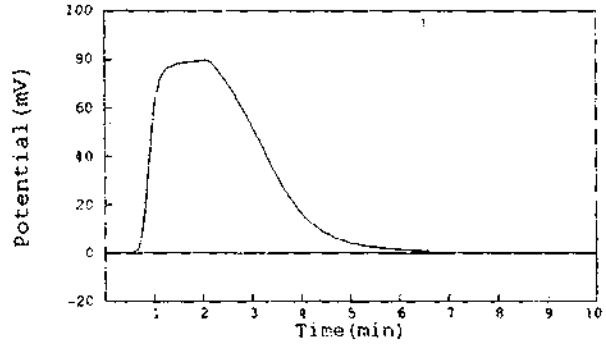
Reps. : 1-1 05/24/12 00:50
Sample ID : K4387-1MS
Counts(µg): 10.048



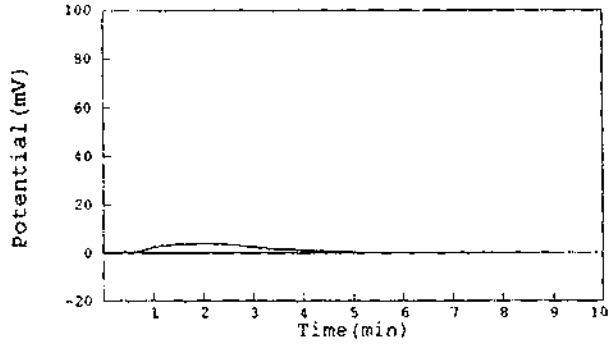
Reps. : 1-2 05/24/12 00:56
Sample ID : K4387-1MS
Counts(µg): 0.214



Reps. : 1-1 05/24/12 01:05
Sample ID : K4387-1MSD
Counts(µg): 10.053



Reps. : 1-2 05/24/12 01:14
Sample ID : K4387-1MSD
Counts(µg): 0.468



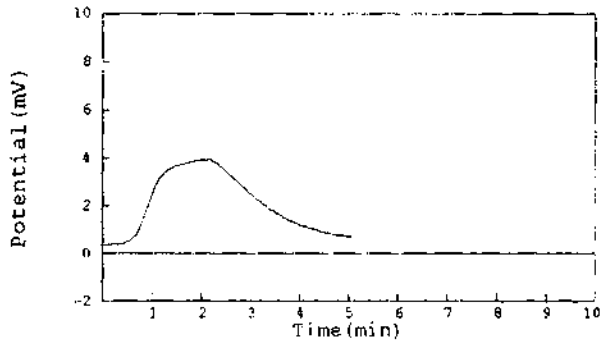
US82:00420

Sample Report

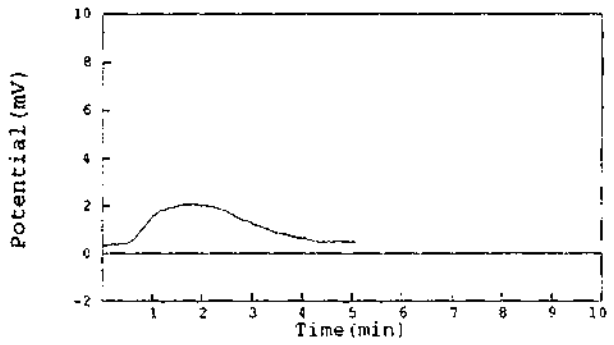
Sample Charts

Data ID : AOX205232012.003

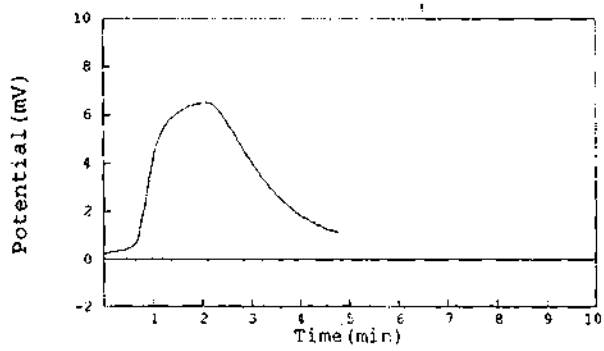
Reps. : 1-1 05/24/12 01:21
Sample ID : K4387-3D
Counts(µg): 0.427



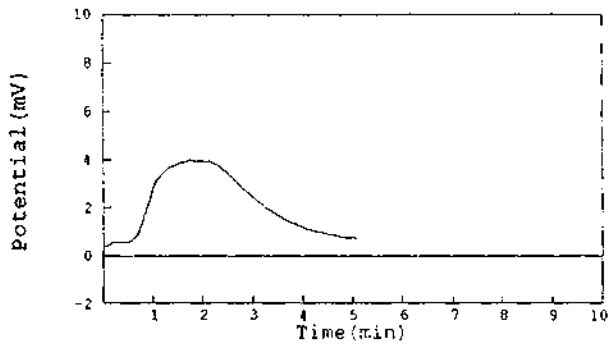
Reps. : 1-2 05/24/12 01:29
Sample ID : K4387-3D
Counts(µg): 0.184



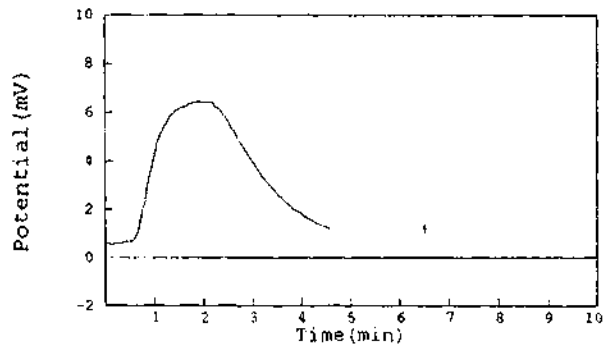
Reps. : 1-1 05/24/12 01:37
Sample ID : K4387-4D
Counts(µg): 0.725



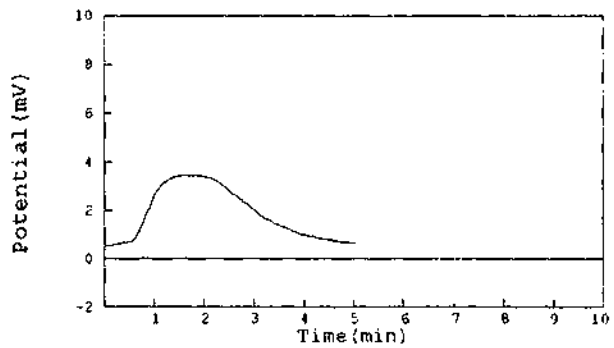
Reps. : 1-2 05/24/12 01:43
Sample ID : K4387-4D
Counts(µg): 0.379



Reps. : 1-1 05/24/12 01:48
Sample ID : K4387-4T
Counts(µg): 0.614



Reps. : 1-2 05/24/12 01:54
Sample ID : K4387-4T
Counts(µg): 0.254



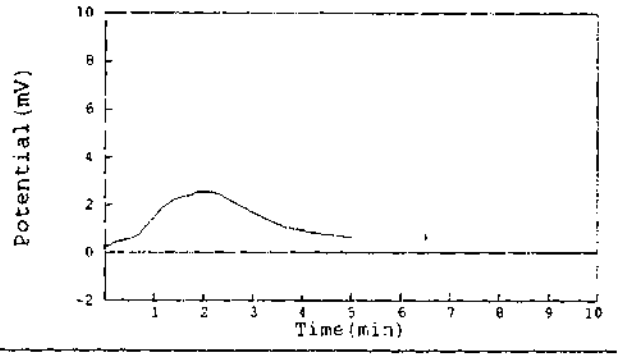
US82:00421

Sample Report

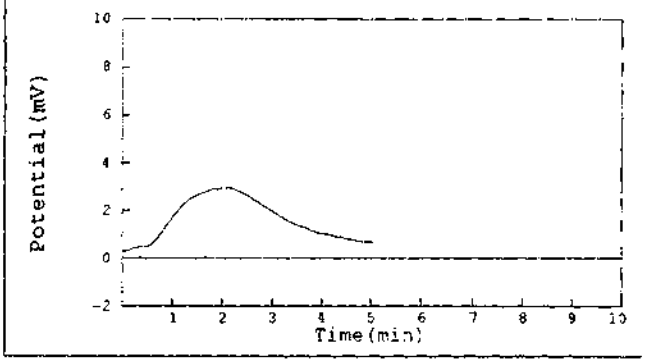
Sample Charts

Data ID : AOX205232012.003

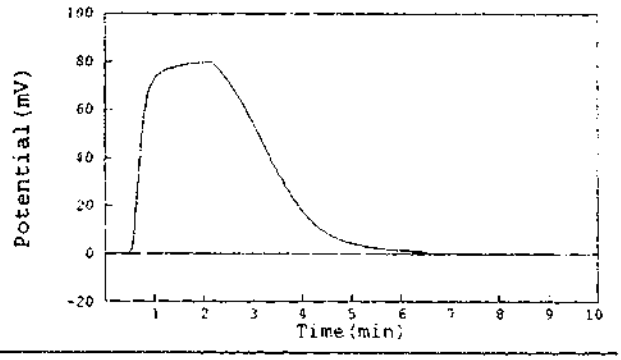
Reps. : 2-1 05/24/12 02:00
Sample ID : NITRATE WASH BLANK
Counts(µg): 0.281



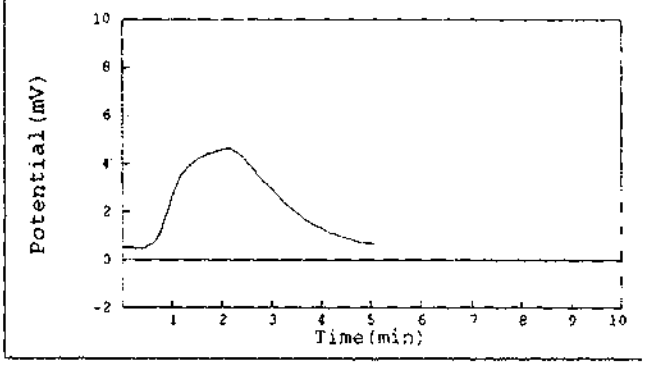
Reps. : 2-2 05/24/12 02:07
Sample ID : NITRATE WASH BLANK
Counts(µg): 0.314



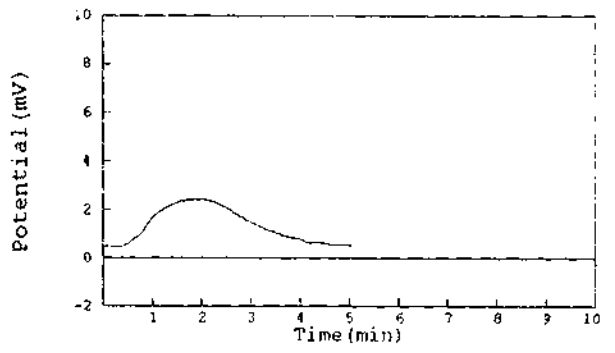
Reps. : 2-1 05/24/12 02:15
Sample ID : ICS
Counts(µg): 10.055



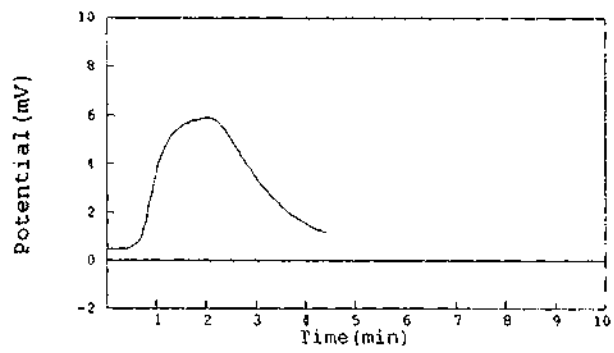
Reps. : 1-1 05/24/12 02:30
Sample ID : K4389-1D
Counts(µg): 0.427



Reps. : 1-2 05/24/12 02:36
Sample ID : K4389-1D
Counts(µg): 0.193



Reps. : 1-1 05/24/12 02:41
Sample ID : K4389-2D
Counts(µg): 0.565



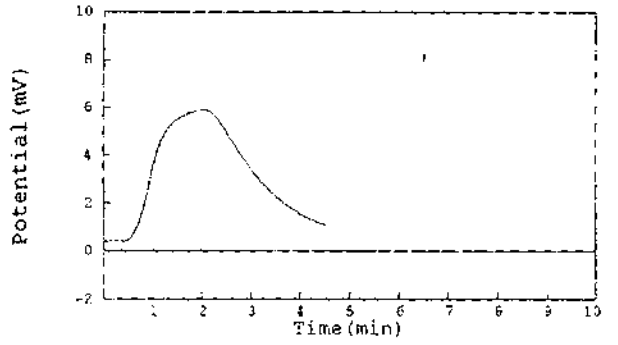
US82 : 00422

Sample Report

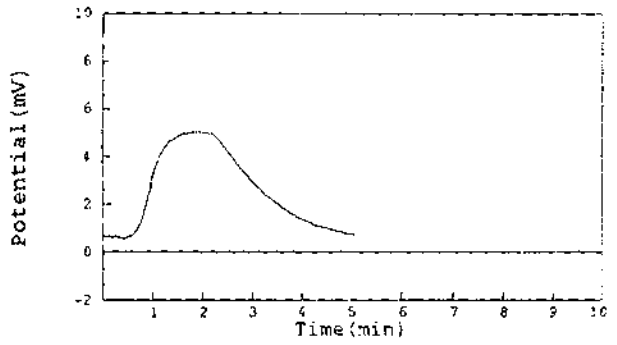
Sample Charts

Data ID : AOX205232012.003

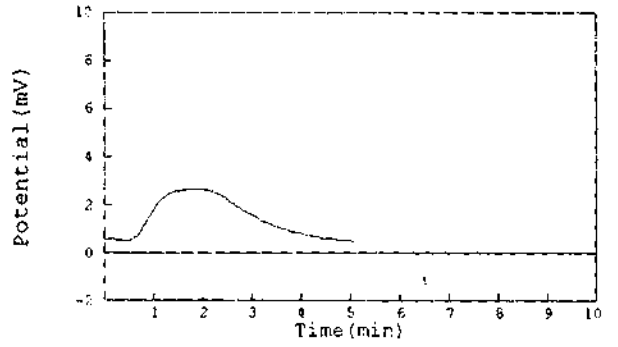
Reps. : 1-2 05/24/12 02:48
Sample ID : K4389-2D
Counts(µg): 0.590



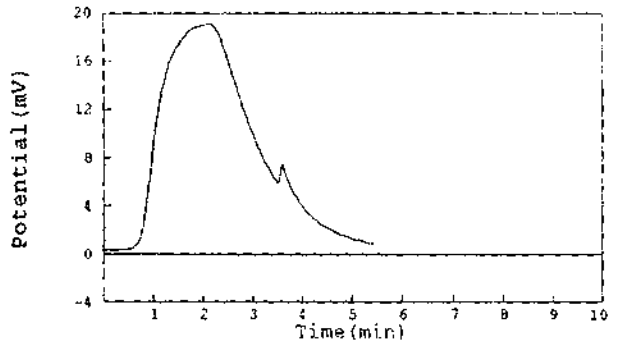
Reps. : 1-1 05/24/12 02:55
Sample ID : K4389-3D
Counts(µg): 0.426



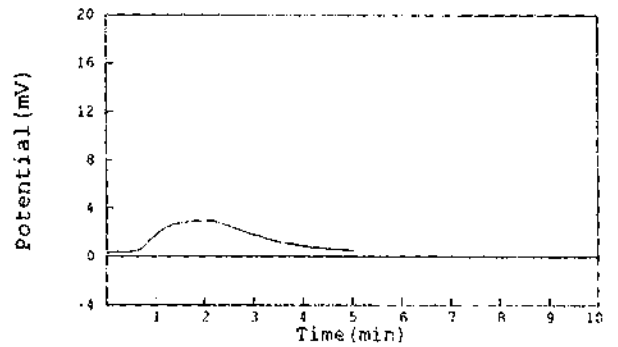
Reps. : 1-2 05/24/12 03:04
Sample ID : K4389-3D
Counts(µg): 0.182



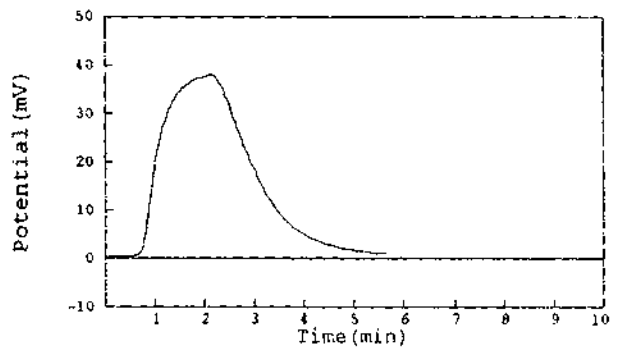
Reps. : 1-1 05/24/12 03:27
Sample ID : K4578-6
Counts(µg): 1.950



Reps. : 1-2 05/24/12 03:35
Sample ID : K4578-6
Counts(µg): 0.305



Reps. : 1-1 05/24/12 03:42
Sample ID : K4578-6D
Counts(µg): 3.480



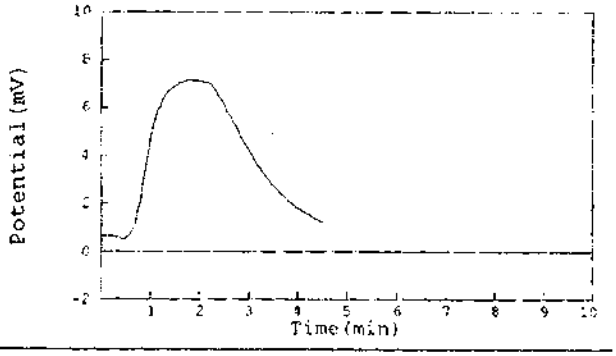
US82:00423

Sample Report

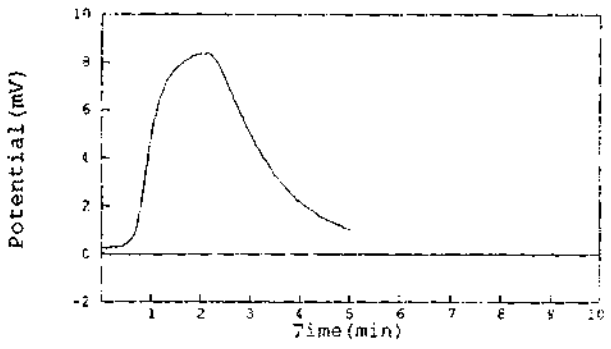
Sample Charts

Data ID : AOX205232012.003

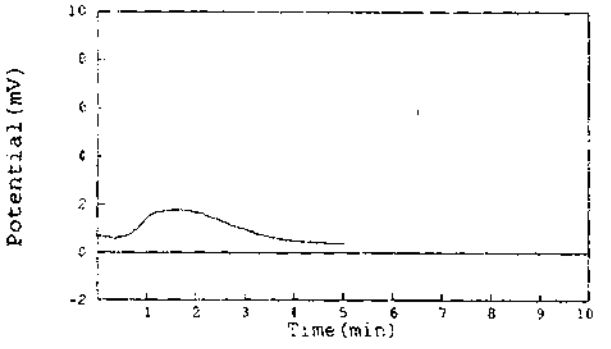
Reps. : 1-2 05/24/12 03:47
Sample ID : K4578-6D
Counts(µg): 0.647



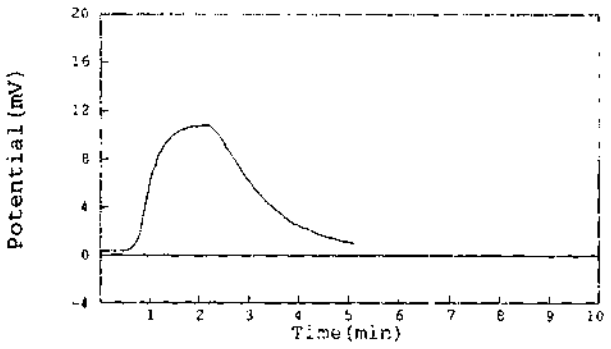
Reps. : 1-1 05/24/12 04:25
Sample ID : LOD
Counts(µg): 0.922



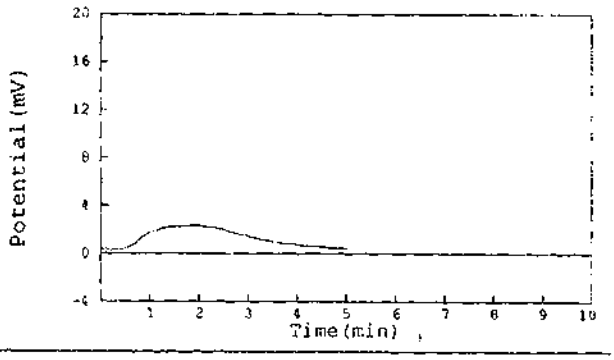
Reps. : 1-2 05/24/12 04:31
Sample ID : LOD
Counts(µg): 0.026



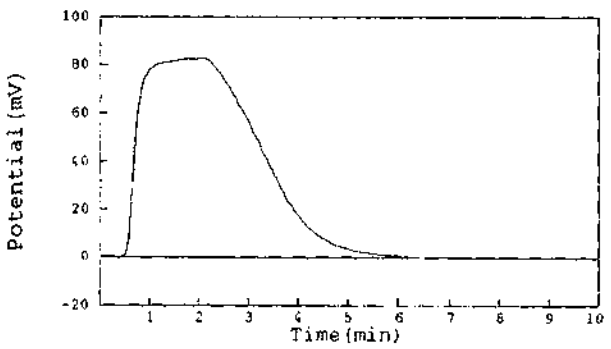
Reps. : 1-1 05/24/12 04:37
Sample ID : LOQ
Counts(µg): 1.130



Reps. : 1-2 05/24/12 04:45
Sample ID : LOQ
Counts(µg): 0.203



Reps. : 3-1 05/24/12 04:53
Sample ID : ICS
Counts(µg): 10.251



US82 80424

Method Detection Limit - LOD Verification

Columbia Analytical Services - Kelso

Analytical Method:	EPA 9020B	Instrument:	K-TOX-02 (Whine)
Extr./Dig. Method:	NA	Analyst(s):	EM
Matrix:	Water		
Units:	ug/L		

		Sample ID:	K1203990							
		Date Analyzed:	5/23/2012							
Analyte	MDL	Spike Level	Result 1	s/n >3	Result 2	s/n >3	Result 3	s/n >3	Result 4	s/n >3
Total Organic Halide	4	5	6	y						
Supervisor Approval:										
QA Approval:										

US82 : 06425

Limit of Quantitation - LOQ Verification

Columbia Analytical Services - Kelso

Analytical Method:	EPA 9020B		
Extr./Dig. Method:	NA	Instrument:	K-TOX-02 (Whine)
Matrix:	water	Analyst(s):	EM
Units:	ug/L		

Analyte	Date Analyzed	5/23/2012				Percent Recovery	Percent RSD	Acceptance Limits
		K1203990						
	Spike Level	Result	Result	Result	Result			
Total Organic Halides	10.000	8.000				80	#DIV/0!	75-125%
						#DIV/0!	#DIV/0!	
						#DIV/0!	#DIV/0!	
						#DIV/0!	#DIV/0!

General Chemistry Raw Data
Analyst Notes and Raw Data

ARI Job ID: US82

5/3/12

HEXAVALENT CHROMIUM BENCHSHEET

Date / Time: 5/3/12 16:40

Diphenyl carbazide colorimetric (SW-846 7196A)

Analyst: CDE

REAGENTS	ID
Sulfuric Acid:	9242c
Acetone:	
Diphenylcarbazide:	9253c

pH METER

Meter ID: ACCUMET XL60

Electrode ID: 9154015P 18

CALIBRATION

Cr+6 Curve Standard

		ARI ID:	124-04		*Date Prepared:*	2/9/2012
Stock	0.0709	*g K2Cr2O7 to*	500	*mL =*	50.1	*mg/L Cr+6*
Intermediate	5	*mL Stock to*	50	*mL =*	5.01	*mg/L Cr+6*

Standard Curve Data *final volume of prepared standards =* 50 *mL*

TIME: *Instrument Used:* SPEC 1

ml Intermediate	Conc (mg/l)	Absorbance @ 540 nm 1	Absorbance @ 540 nm 2	Avg Blk Corr Abs	
0.0	0.00	0.000		0.000	*= blank abs*
0.1	0.01	0.010		0.010	*0.01*
0.5	0.05	0.041		0.041	*0.05*
1.0	0.10	0.082		0.082	*0.10*
5.0	0.50	0.407		0.407	*0.50*
10.0	1.00	0.808		0.808	*1.00*

Regression Data

Conc = (abs-intercept)/slope

intercept =	0.0016
slope =	0.8052
r =	1.000
Comment:	Calibration OK!
maxabs =	0.808

Calibration Verification Standard

Source	*ERA # 0504093*			*Stock Conc*	1,000	*mg/L Cr+6*
DQL Int.=	0.10	*ml stock to*	10	*mL pH2 =*	10.00	*mg/L Cr+6*
DQL =	0.40	*ml DQL Int. to*	100	*mL pH2 =*	0.04	*mg/L Cr+6*
CVS =	0.05	*ml stock to*	200	*mL pH2 =*	**0.25**	***mg/L Cr+6***

Prep Check Standard

Dilution	0.50	*ml stock to*	40.00	*mL DI =*	**0.63**	***mg/L Cr+6***

SAMPLE DATA ***Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL***

mg/L = ((Abs - Blkabs -Bkgabs) - intercept) / slope *NOTE: enter dilution factor as mLfinal/mLsample (e.g. 1mL diluted to 5mL = 5/1 = 2.0)*

SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data: dilution	Background	ABS @ 540nm	(mg/L)	Corrected (mg/L)	NOTES
ICB		1.000	1		0.000	-0.002	**< 0.01**	*Blk OK*
ICV		1.000	1		0.209	0.258	**0.258**	*103.03%*
Prep Blk		1.250	1		-0.001	-0.004	**< 0.01**	*Blk OK*
Prep Chk		1.250	1		0.385	0.595	**0.595**	*94.99%*
DQL		1.250	1		0.027	0.039	**0.039**	
US80 A1		1.250	1		0.002	0.001	**< 0.01**	
US80 B1		1.250	1		0.000	-0.002	**< 0.01**	
US80 D1		1.250	1	0.009	0.011	0.001	**0.001**	
US80 F1		1.250	1		0.002	0.001	**< 0.01**	
US80 H1		1.250	1	0.025	0.026	0.001	**-0.001**	
US80 I 1		1.250	1	0.027	0.028	0.001	**-0.001**	
US82 A2		1.250	1		0.000	-0.002	**< 0.01**	
CCB		1.000	1		-0.001	-0.003	**< 0.01**	*Blk OK*
CCV		1.000	1		0.210	0.259	**0.259**	*103.53%*
US82 A2 dup		1.250	1		0.000	-0.002	**< 0.01**	*RPD NA*
US82 A2 trp		1.250	1		0.000	-0.002	**< 0.01**	*RSD NA*
US82 A2 ms		1.250	1		0.040	0.060	**0.060**	*% Rec. 95.1*
Spike at	0.050	*mL stock to*		40	*mLsample=*	0.063	*mg/L*	*Validated*
CCB		1.000	1		0.000	-0.002	**< 0.01**	*Blk OK*
CCV		1.000	1		0.207	0.255	**0.255**	*102.04%*

A

HEXAVALENT CHROMIUM BENCHSHEET

Diphenyl carbazide colorimetric (SW-846 7196A)

Date / Time: 5-3-12 16:40

Analyst: CMC

REAGENTS

	ID
Sulfuric Acid:	~~9242c~~ 9242c
Acetone:	
Diphenylcarbazide:	9253c

pH METER

Meter ID: ACCUMET XL60

Electrode ID: 915401SP 18

CALIBRATION

Cr+6 Curve Standard		*ARI ID:*	~~+23~~ yo6c 124-04		*Date Prepared:* 2-9-12	
Stock	0.0709	*g K2Cr2O7 to*	500	*mL =*	50.1	*mg/L Cr+6*
Intermediate	5	*mL Stock to*	50	*mL =*	5.01	*mg/L Cr+6*

Standard Curve Data — *final volume of prepared standards =* 50 *mL*

TIME: — *Instrument Used:* SPEC 1

ml Intermediate	Conc (mg/l)	Absorbance @ 540 nm 1	Absorbance @ 540 nm 2	Avg Blk Corr Abs	
0.0	0.00	0.000			= blank abs
0.1	0.01	0.010			
0.5	0.05	0.041			
1.0	0.10	0.082			
5.0	0.50	0.407			
10.0	1.00	0.808			

Regression Data

Conc = (abs-intercept)/slope

intercept =

slope =

r =

Comment:

maxabs =

Calibration Verification Standard

Source	*ERA # 0504093*		*Stock Conc*	1,000	*mg/L Cr+6*
DQL Int.=	0.10	*ml stock to* 10	*mL pH2 =*	10.00	*mg/L Cr+6*
DQL =	0.20	*ml DQL Int. to* 50	*mL pH2 =*	0.04	*mg/L Cr+6*
CVS =	0.05	*ml stock to* 200	*mL pH2 =*	0.25	*mg/L Cr+6*

Prep Check Standard

Dilution	0.50	*ml stock to*	40.00	*mL DI =*	0.63	*mg/L Cr+6*

SAMPLE DATA ***Sample pre-dilution assumes 40 mL of sample are pH adjusted then diluted to 50 mL***

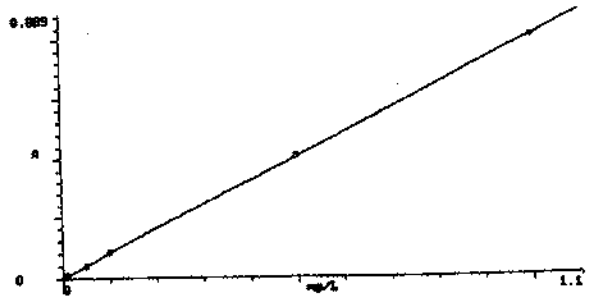
mg/L = ((Abs - Blkabs -Bkgabs) - intercept) / slope NOTE: enter dilution factor as mL.final/mL.sample (e.g. 1mL diluted to 5mL = 5/1 = 2.0)

SAMPLE ID	Time of Analysis	Sample pre-dilution	Spectrophotometric Data: dilution	Background	ABS @ 540nm	(mg/L)	Corrected (mg/L)	NOTES
ICB		1.000	1		0.000			
ICV		1.000	1		0.209			
Prep Blk		1.250	1		-0.001			
Prep Chk		1.250	1		0.385			
DQL		1.250	1		0.027			
US80 A'		1.250	1		0.002			
B'		1.250	1		0.000			
D'		1.250	1	0.009	0.011			
F'		1.250	1		0.002			
H'		1.250	1	0.025	0.026			
I'		1.250	1	0.027	0.028			
US82 A2		1.250	1		0.000			
CCB		1.000	1		-0.0001	5-3-12 CMC		
CCV		1.000	1		0.210			
us82 A3 do		1.250	1		0.000			
A4 +Pest		1.250	1		0.000			
A2 MS		1.250	1		0.040			0.05 ml Spike to 40 ml sample
CCB		1.250	1		0.000			
CCV		1.250	1		0.207			
		1.250	1					
		1.250	1					
		1.250	1	5-3-12 CMC				
		1.250	1					
		1.250	1					
CCB		1.000	1					
CCV		1.000	1					

US82 : 00429

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Standard Curve	18:11 3May12
Test Name	CHROME 6
Date Standards Measured	3May12
Wavelength	540nm
Ref. Wavelength Correction	Off
Curve Fit	Linear
Number of Standards	6
Units	mg/L
ID# (0=OFF)	Off
Low/High Limits	0.000/1.000
Statistics	Off
Auto Print	On



Curve Fit	Linear
Slope	0.808
Intercept	0.00119
Std Dev	0.001
Corr Coeff	1.000

Conc. mg/L	Abs 540nm
0.000	0.000
0.010	0.010
0.050	0.041
0.100	0.082
0.500	0.407
1.000	0.808

3-3-12 (A) CDC

TEST SETUP
GENESYS 10 v2.021 2G2G048006

Advanced A-%T-C	18:13 3May12
Test Name	CHROME 6[Saved]
Measurement Mode	Absorbance
Wavelength	540nm
Ref. Wavelength Correction	Off
Delay Time (min:sec)	0:00
ID# (0=OFF)	1
Low/High Limits	0.000/1.000
Statistics	Off
Auto Print	On

ID#	Abs 540nm
1	0.000
2	0.209
3	-0.001
4	0.385
5	0.027
6	0.002
7	0.000
8	0.011
9	0.002
10	0.026
11	0.028
12	0.000
13	-0.001
14	0.210
15	0.000
16	0.000
17	0.040
18	0.009 – D' USBP Backgrounds
19	0.025 – H'
20	0.027 – I'
21	0.000
22	0.207

TOTAL SUSPENDED SOLIDS / VOLATILE SUSPENDED SOLIDS (TSS / TVSS)

Methods : SM 2540 D-97, 2540 E-97

DATE: 5/7/2012

ANALYST: KE 14:40 (B)

Instrumentation ***Drying Ovens:*** 12 ***Analytical Balance:*** 1123230597

Muffle Furnace: N / A

make no entries to shaded cells

they are calculated !!

TSS (mg/l) calculated as:
Final dry wt (mg) = (minimum Dry Wt - Tare Wt)*1000
TSS = [(Final Dry Wt)/ ml Sample] * 1000
if dy wt < 1mg, TSS = <1mg / mL sample * 1000
with "<" flag

Loss on ignition (LOI) = TVSS (mg/L) calculated as:
LOI (mg) = Dry wt(mg) -((min ash wt - tare wt) * 1000)
TVSS (mg/L) = LOI / mL sample * 1000
if LOI <1mg, TVSS = <1mg / mL sample * 1000
with "<" flag

LCS source: *Cellulose, MP Biomedicals Lot# **6399J*** 0.05 grams to 1000 mL = **50** ***mg/L TSS***

SAMPLE ID	DISH #	filtered (mL)	TARE WT (grams)	DRY WT 104C (grams) 1	2	3	4	DryWT (mg)	TSS (mg/L)	ASH WT 550C (grams) 1	2	3	4	LOI (mg)	TVSS (mg/l)
Cal Weight ID			CV-02	CV-02	CV-02	CV-02	CV-02			CV-02	CV-02	CV-02	CV-02		
Date & Time				5/7/12 16:44 KE	5/7/12 18:32 KE										
Cal Wt (g) 10.0000				10.0000 *Cal OK!*	10.0000 *Cal OK!*										
record weights to 4 places															
BLANK		1000	0.1160	0.1160	0.1160	STOP		0.0	**<1**						
LCS # 00595-2		1000	0.1082	0.1578	0.1577	STOP		49.5	**49.5**	99.0% % Recovery					
US61 A8		170	0.1088	0.1099	0.1099	STOP		1.1	**6.5**						
US61 B8		600	0.1081	0.1172	0.1172	STOP		9.1	**15.2**						
US61 C8		930	0.1198	0.1297	0.1295	STOP		9.7	**10.4**						
US82 A6		940	0.1219	0.1220	0.1220	STOP		0.1	**<1.1**						
US82 B6		810	0.1104	0.1133	0.1133	STOP		2.9	**3.6**						
US82 C6		950	0.1091	0.1180	0.1179	STOP		8.8	**9.3**						
US82 E6		470	0.1189	0.1361	0.1360	STOP		17.1	**36.4**						
US82 E6 dup		470	0.1186	0.1364	0.1363	STOP		17.7	**37.7**						
								RPD =	*3.5%*					*RPD =*	*NA*
US79 A3		50	0.1161	0.1274	0.1274	STOP		11.3	**226.0**						
~~US79 B3~~		~~110~~	~~0.1184~~	~~0.2432~~	~~0.2431~~	~~STOP~~		~~124.7~~	~~1133.6~~						
~~US79 B3 dup~~		~~110~~	~~0.1220~~	~~0.1455~~	~~0.1455~~	~~STOP~~		~~23.5~~	~~213.6~~						
								~~*RPD =*~~	~~*136.6%*~~					~~*RPD =*~~	~~*NA*~~
US79 C3		250	0.1214	0.1513	0.1512	STOP		29.8	**119.2**						
US79 D3		250	0.1204	0.1446	0.1445	STOP		24.1	**96.4**						
US79 E3		50	0.1089	0.1800	0.1798	STOP		70.9	**1418.0**						
UT00 A1		940	0.1225	0.1493	0.1493	STOP		26.8	**28.5**						
UT12 A1		30	0.1207	0.1431	0.1429	STOP		22.2	**740.0**						
UT12 A1 dup		30	0.1210	0.1447	0.1445	STOP		23.5	**783.3**						

TOTAL SUSPENDED SOLIDS / VOLATILE SUSPENDED SOLIDS (TSS / TVSS) DATE: 5/7/2012

Methods : SM 2540 D-97, 2540 E-97 ANALYST: KE 14:40 (B)

Instrumentation ***Drying Ovens:*** 12 ***Analytical Balance:*** 1123230597

Muffle Furnace: N / A

make no entries to shaded cells
they are calculated !!

TSS (mg/l) calculated as:
Final dry wt (mg) = (minimum Dry Wt - Tare Wt)*1000
TSS = [(Final Dry Wt)/ ml Sample] * 1000
if dy wt < 1mg, TSS = <1mg / mL sample * 1000
with "<" flag

Loss on ignition (LOI) = TVSS (mg/L) calculated as:
LOI (mg) = Dry wt(mg) -((min ash wt - tare wt) * 1000)
TVSS (mg/L) = LOI / mL sample * 1000
if LOI <1mg, TVSS = <1mg / mL sample * 1000
with "<" flag

LCS source: *Cellulose, MP Biomedicals Lot# **6399J*** 0.05 grams to 1000 mL = **50** ***mg/L TSS***

SAMPLE ID	DISH #	filtered (mL)	TARE WT (grams)	DRY WT 104C (grams) 1	2	3	4	DryWT (mg)	TSS (mg/L)	ASH WT 550C (grams) 1	2	3	4	LOI (mg)	TVSS (mg/l)
								RPD =	*5.7%*					*RPD =*	*NA*
UT12 B1		15	0.1082	0.1305	0.1303	STOP		22.1	**1473.3**						
UT22 A3		300	0.1222	0.1520	0.1519	STOP		29.7	**99.0**						
UT22 A3 dup		300	0.1225	0.1528	0.1528	STOP		30.3	**101.0**						
								RPD =	*2.0%*					*RPD =*	*NA*
UT22 B3		880	0.1092	0.1238	0.1239	STOP		14.6	**16.6**						
UT22 C3		450	0.1208	0.1735	0.1735	STOP		52.7	**117.1**						
UT26 A3		460	0.1194	0.1272	0.1272	STOP		7.8	**17.0**						
UT26 A3 dup		460	0.1092	0.1169	0.1170	STOP		7.7	**16.7**						
								RPD =	*1.8%*					*RPD =*	*NA*

2Sh08-2351

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TOTAL SUSPENDED (TSS) / TOTAL VOLATILE SUSPENDED SOLID(TVSS) BENCHSHEET

Page 1 of 2

Analyst:	(n)	Date/Time:	5-7-12 / 14:40	Oven #:	12	Muffle Furnance:	N/A	Balance:	1123230597

Dry at 104 °C (12-24 hrs) then combust at 550 °C for 30 min. Record Weights to 4 places

TSS (mg/L) calculated as:
Final Dry Weight (mg) = (Min Dry Weight – Tare Weight) * 1000
TSS = (Final Dry Weight) / (mL Sample) * 1000
If dry wt < 1 mg / mL sample * 1000 use "<" flag

Loss on Ignition (LOI) = TVSS (mg / L) is calculated as:
LOI (mg / L) = Dry Weight (mg) – [(Minimum Ash Weight – Tare Weight) * 1000]
TVSS (mg / L) = LOI / mL sample * 1,000
If LOI < 1 mg, TVSS = < 1 mg / mL sample * 1000 use "<" flag

(B)

LCS (Cellulose from MP Biochemicals) Lott #	6399J	0.0500 Gram to 1000 mL = **50 mg / L TSS**						
Cal Weight ID	CV-02	CV-02	CV-02	CV-02	CV-02		CV-02	CV-02
Date & Time:			5-7-12 16:44	5-7-12 18:32				
Cal Weight (10.0000g):			10.0000 (W)	10.0000 (W)				

Sample ID	Dish #	Filtered mL	Tare	Dry Weight 104°C (grams) 1	Dry Weight 104°C (grams) 2	Dry Weight 104°C (grams) 3	Dry Wt mg	TSS	Ash Weight 550°C 1	Ash Weight 550°C 2	LOI - mg	TVSS mg/L
BLANK	P8090	1000	0.1160	0.1160	0.1160							
LCS 00595-3	P8888	1000	0.1082	0.1578	0.1577							
US61 A8	P8889	170	0.1088	0.1099	0.1099							
↓ B8	P8911	600	0.1081	0.1172	0.1172							
↓ C8	P8913	930	0.1198	0.1297	0.1295							
US82 A6	P8914	940	0.1219	0.1220	0.1220							
B5	P8091	810	0.1104	0.1133	0.1133							
C3	P8092	950	0.1091	0.1180	0.1179							
E3	P8093	470	0.1189	0.1361	0.1360							
↓ DUP E3	P8422	470	0.1186	0.1364	0.1363							
US79 A3	P2172	500 ~~1000~~	0.1161	0.1274	0.1274							
B3	P7791	~~50~~ 110	0.1184	0.2432	0.2431							Rerun
↓ DUP B3	P7792	110	0.1220	0.1455	0.1455							Rerun
C3	P7793	250	0.1214	0.1513	0.1512							
↓ D3	P8915	250	0.1204	0.1446	0.1445							
↓ E3	P8916	50	0.1089	0.1800	~~0.1798~~ 0.1798							
UT00 A1	P8892	940	0.1225	0.1493	~~0.1514~~	0.1493						
UT12 A1	P8890	30	0.1207	0.1431	0.1429							
↓ DUP A1	P8881	30	0.1210	0.1447	0.1445							
↓ B1	P8893	15 →	0.1082	0.1305	0.1303							
UT22 A3	P8873	300	0.1222	0.1520	0.1519							
6054F DUP A3	P8871	300	0.1225	0.1528	0.1528							

SR1009 - 28SU

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TOTAL SUSPENDED (TSS) / TOTAL VOLATILE SUSPENDED SOLID(TVSS) BENCHSHEET

Analyst: (W)	Date/Time: 5-7-12	Oven #: 12	Muffle Furnance: N/A	Balance: 1123230597

Dry at 104 °C (12-24 hrs) then combust at 550 °C for 30 min. Record Weights to 4 places

TSS (mg/L) calculated as:
Final Dry Weight (mg) = (Min Dry Weight – Tare Weight) * 1000
TSS = (Final Dry Weight) / (mL Sample) * 1000
If dry wt < 1 mg / mL sample * 1000 use "<" flag

Loss on Ignition (LOI) = TVSS (mg / L) is calculated as:
LOI (mg / L) = Dry Weight (mg) – [(Minimum Ash Weight – Tare Weight) * 1000]
TVSS (mg / L) = LOI / mL sample * 1,000
If LOI < 1 mg, TVSS = < 1 mg / mL sample * 1000 use "<" flag

(3)

LCS (Cellulose from MP Biochemicals) Lott #	6399J	0.0500 Gram to 1000 mL = **50 mg / L TSS**							
Cal Weight ID	CV-02	CV-02	CV-02	CV-02	CV-02			CV-02	CV-02
Date & Time:			5-7-12 16:44	5-7-12 18:32					
Cal Weight (10.0000g):			10.0002 (W)	10.0000 (W)					

Sample ID	Dish #	Filtered mL	Tare	Dry Weight 104°C (grams) 1	2	3	Dry Wt mg	TSS	Ash Weight 550°C 1	2	LOI - mg	TVSS mg/L
LTT22												
~~BLANK~~ B3	P8894	880	0.1092	0.1239	0.1239							
C3	P8895	450	0.1208	0.1735	0.1735							
LT26 A3	P8884	460	0.1194	0.1272	0.1272							
" A3	P8885	460	0.1092	0.1169	0.1170							

5-7-12 (W)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

pH Logbook

05-3-12 (W)

Meter ID: Accumet AR60

Calibration

Date:	5-3-12		Buffer	Source	Lot #	pH	Temp.
Time:	10:14		2.00	Ricca	1201603	1.98	22.3
Analyst:	(W)		4.00	Fisher	115547	4.00	22.2
			7.00	Ricca	1110297	7.01	22.2
			10.00	Fisher	114767	10.03	22.1
			12.00	Ricca	1110026	11.96	22.1
			Verification	Fisher	111731	7.02	22.1

Sample pH

Analyst Initials	Time	Sample ID	1	2	3	4	Temp-erature
(W)	13:48	ICV	7.03	7.02			22.3
		US75A'	6.79	6.80			23.4
		B'	6.74	6.74			23.4
		C'	7.02	7.03			23.5
		CCV	7.04	7.04			22.5
(W)	17:24	CCV	7.05	7.04			22.4
		US83A'	6.42	6.43			23.1
		dupA'	6.43	6.43			23.1
		US82D'	5.91	5.91			22.9
		dupD'	5.91	5.92			22.9
		US84A2	6.74	6.74			23.5
		① ~~CCV~~ dupA2	6.74	6.75			23.5
		② CCV	7.04	7.04			22.5
(W)	17:49 (W)	~~2~~ CCV	7.04	7.05			22.5
		US85A'	6.72	6.72			22.5
		dupA'	6.73	6.73			22.5
		D'	8.21	8.23			23.8
		CCV	7.03	7.03			22.4
(W)	18:04	CCV	7.03	7.04			22.5
		US54	6.17	6.20	(BoD)		21.0
		CCV	7.03	7.02			22.6
		CCV					

US52 : 00435

Calibration

Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.4957
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9995

No.	Injection Name	Calibration Level	X Value Fluoride	Y Value Fluoride	Amount mg/l Fluoride	Area µS*min Fluoride	Height µS Fluoride
1	STD1	01	0.1000	0.0727	0.1467	0.073	0.387
2	STD2	02	0.5000	0.2635	0.5317	0.264	1.911
3	STD3	03	1.0000	0.5175	1.0441	0.518	3.889
4	STD4	04	2.5000	1.2612	2.5444	1.261	10.077
5	STD5	05	5.0000	2.4610	4.9649	2.461	20.142

Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	n.a.	*Slope (C1)*	0.3076
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9998

No.	Injection Name	Calibration Level	X Value Chloride	Y Value Chloride	Amount mg/l Chloride	Area µS*min Chloride	Height µS Chloride
1	STD1	01	0.1000	0.0341	0.1110	0.034	0.254
2	STD2	02	0.5000	0.1437	0.4671	0.144	1.094
3	STD3	03	1.0000	0.3072	0.9986	0.307	2.316
4	STD4	04	2.5000	0.7556	2.4562	0.756	5.867
5	STD5	05	5.0000	1.5458	5.0252	1.546	12.099

Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.7051
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9994

No.	Injection Name	Calibration Level	X Value Nitrite	Y Value Nitrite	Amount mg/l Nitrite	Area µS*min Nitrite	Height µS Nitrite
1	STD1	01	0.1000	0.0264	0.0374	0.026	0.192
2	STD2	02	0.5000	0.3461	0.4912	0.346	2.214
3	STD3	03	1.0000	0.7292	1.0342	0.729	4.512
4	STD4	04	2.5000	1.8017	2.5563	1.802	10.784
5	STD5	05	5.0000	3.5028	4.9676	3.503	20.045

Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.1313
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9997

No.	Injection Name	Calibration Level	X Value Bromide	Y Value Bromide	Amount mg/l Bromide	Area µS*min Bromide	Height µS Bromide
1	STD1	01	0.1000	0.0119	0.0903	0.012	0.058
2	STD2	02	0.5000	0.0620	0.4723	0.062	0.296
3	STD3	03	1.0000	0.1260	0.9566	0.126	0.604
4	STD4	04	2.5000	0.3227	2.4569	0.323	1.562
5	STD5	06	5.0000	0.6610	5.0326	0.661	3.227

Calibration Details — **Sulfate**

Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2252
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9998

Calibration Points

No.	Injection Name	Calibration Level	X Value Sulfate	Y Value Sulfate	Amount mg/l Sulfate	Area µS*min Sulfate	Height µS Sulfate
1	STD1	01	0.1000	0.0286	0.1270	0.029	0.109
2	STD2	02	0.5000	0.1169	0.5190	0.117	0.438
3	STD3	03	1.0000	0.2249	0.9988	0.226	0.874
4	STD4	04	2.5000	0.5550	2.4651	0.555	2.236
5	STD5	05	5.0000	1.1292	5.0153	1.129	4.617

Calibration Details

Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.7470
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9984

Calibration Points

No.	Injection Name	Calibration Level	X Value Nitrate	Y Value Nitrate	Amount mg/l Nitrate	Area µS*min Nitrate	Height µS Nitrate
1	STD1	01	0.1000	0.0525	0.0703	0.053	0.257
2	STD2	02	0.5000	0.3086	0.4131	0.309	1.361
3	STD3	03	1.0000	0.6754	0.9041	0.675	2.851
4	STD4	04	2.5000	1.8167	2.4320	1.817	7.179
5	STD5	05	5.0000	3.7817	5.0625	3.782	13.644

Calibration Details

Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.3123
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9989

Calibration Points

No.	Injection Name	Calibration Level	X Value Phosphate	Y Value Phosphate	Amount mg/l Phosphate	Area µS*min Phosphate	Height µS Phosphate
1	STD1	01	0.1000	0.0161	0.0515	0.016	0.111
2	STD2	02	0.5000	0.1314	0.4206	0.131	0.835
3	STD3	03	1.0000	0.2926	0.9369	0.293	1.790
4	STD4	04	2.5000	0.7638	2.4455	0.764	4.385
5	STD5	05	5.0000	1.5769	5.0486	1.577	8.176

US82 0043

Amount Summary

Name:	**MAY0412RR**	*Calibration:*	**APRIL2112RR**	**ARI # 593-01**	
Directory:	**Instrument Data\MAY 2012**	*Calibration exp:*	**6/21/2012**		
Data Vault:	**ChromeleonLocal**	*Queue Start:*	**5/4/2012 14:47**		
No. of Injections:	**33.000**	*User:*	**RR**		

		ERA 161110	ERA 411010	ERA 401010	ERA 111109	ERA 160111	ERA 230511	ERA 200610
Name	Dilution	Amount n.a. Fluoride	Amount n.a. Chloride	Amount n.a. Nitrite	Amount n.a. Bromide	Amount n.a. Sulfate	Amount n.a. Nitrate	Amount n.a. Phosphate
RINSE	1.0	n.a.	n.a.	n.a.	n.a.	0.034	n.a.	n.a.
ICV	1.0	2.985	2.960	2.987	2.837	2.876	3.139	2.964
%R=		**99.5%**	**98.7%**	**99.6%**	**94.6%**	**95.9%**	**104.6%**	**98.8%**
ICB	1.0	n.a.	n.a.	n.a.	n.a.	0.060	n.a.	n.a.
		0.082		0.034	n.a.	8.175		n.a.
		0.134	4.206	n.a.	n.a.	6.681		n.a.
		0.123	4.195	n.a.	n.a.	6.671		n.a.
%RPD=		**8.90%**	**0.26%**			**0.14%**	**1.28%**	
		2.102	6.199	1.965	1.703	8.449		1.860
%R=		**98.4%**	**99.7%**	**98.2%**	**85.2%**	**88.4%**	**104.9%**	**93.0%**
SPK=	**0.05mL*200ppm/5mL**		**=2ppm**					
		0.268		n.a.	n.a.	6.877		0.039
		0.229	6.561	n.a.	n.a.	15.694		n.a.
						11.811		0.094
		28.632	7.283			7.764	n.a.	5.545
		0.118	4.727	n.a.	n.a.	9.371		0.046
		0.124	3.260	n.a.	0.053			0.081
CCV	1.0	2.969	2.994	2.996	2.835	2.878	3.135	2.985
%R=		**99.0%**	**99.8%**	**99.9%**	**94.5%**	**95.9%**	**104.5%**	**99.5%**
CCB	1.0	n.a.	n.a.	n.a.	n.a.	0.084	n.a.	n.a.
		n.a.		n.a.	n.a.	0.849	n.a.	n.a.
		n.a.		n.a.	n.a.	0.862	n.a.	n.a.
%RPD=			**1.45%**			**1.60%**		
		1.981		1.972	1.792	2.693	2.111	1.887
%R=		**99.5%**	**99.0%**	**98.6%**	**89.6%**	**92.2%**	**105.6%**	**94.4%**
SPK=	**0.05mL*200ppm/5mL**		**=2ppm**					
			3.704			15.589		0.237
			3.747			15.903		0.216
%RPD=			**1.14%**	**0.08%**		**1.99%**	**5.00%**	
			5.618			16.966		2.019
%R=		**48.6%**	**95.7%**	**101.1%**	**66.9%**	**68.6%**	**103.7%**	**101.0%**
SPK=	**0.05mL*200ppm/5mL**		**=2ppm**					
		16.433	6.340			n.a.	n.a.	n.a.
			6.334			7.010	8.513	0.869
			8.795			n.a.	n.a.	n.a.
		0.184	23.177	n.a.	n.a.	n.a.		n.a.
CCV	1.0	2.926	2.977	2.998	2.837	2.825	3.133	2.971
%R=		**97.5%**	**99.2%**	**99.9%**	**94.6%**	**94.2%**	**104.4%**	**99.0%**
CCB	1.0	n.a.	n.a.	n.a.	n.a.	0.043	n.a.	n.a.
		0.298	28.333	n.a.	0.060			0.163
		0.306	28.470	n.a.	0.063			0.182
			6.601	n.a.	n.a.	8.571		4.687
CCV	1.0	2.954	2.930	2.992	2.830	2.827	3.130	2.988
%R=		**98.5%**	**97.7%**	**99.7%**	**94.3%**	**94.2%**	**104.3%**	**99.6%**
CCB	1.0	n.a.	n.a.	n.a.	n.a.	0.029	n.a.	n.a.
STOP	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Sequence Details

Name:	**MAY0412RR**	*Queue Start:*	**2012-05-04T14:47:03-**
Directory:	**Instrument Data\MAY 2012**	*Created By:*	**pat**
Data Vault:	**ChromeleonLocal**		
No. of Injections:	**33**		

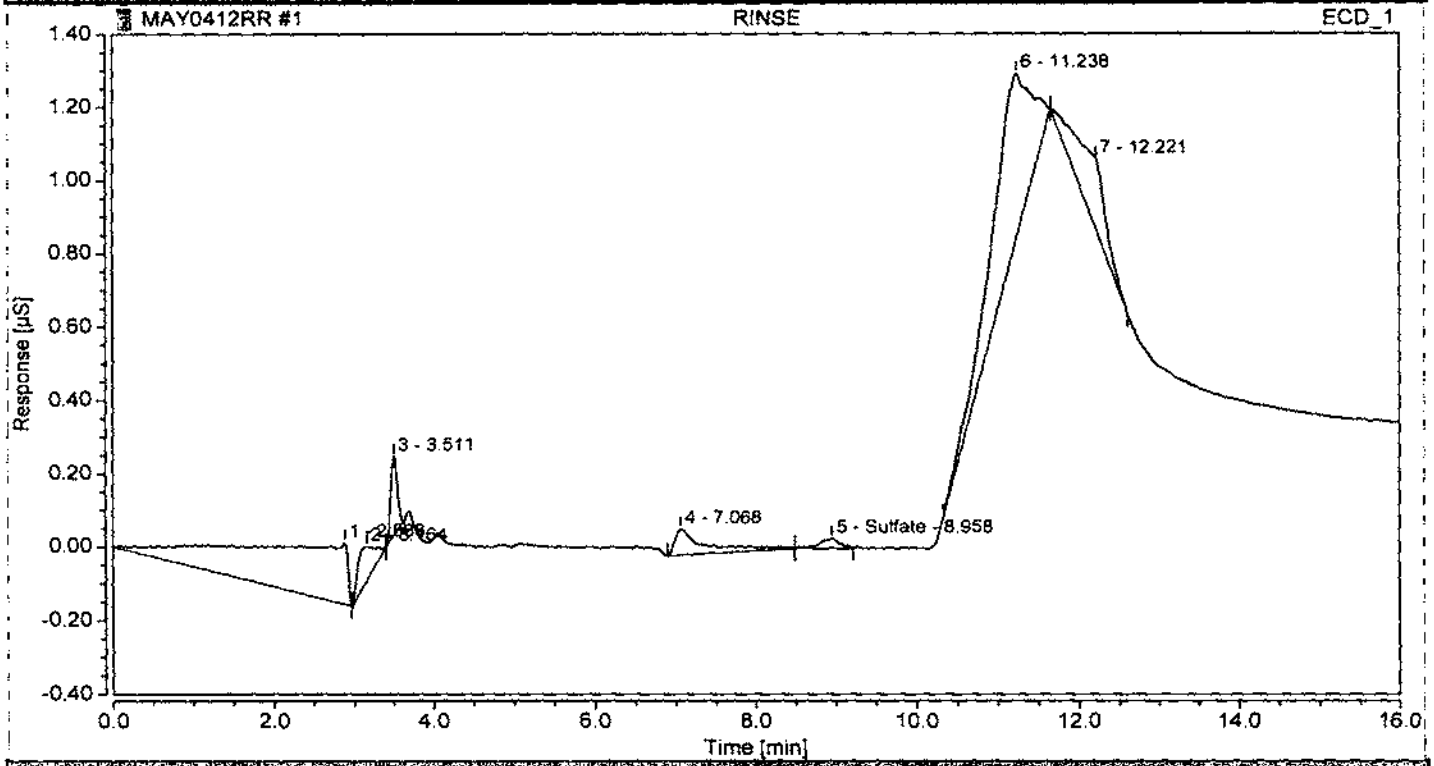
Injection Details

No.	Injection Name	Position	Type	Level	Dilution	Inject Time
1	RINSE	1	Unknown		1.0	04/May/12 14:47:03
2	ICV	2	Check Standard	05	1.0	04/May/12 15:05:58
3	ICB	3	Blank		1.0	04/May/12 15:25:10
4	US82 E1	4	Unknown		1.0	04/May/12 15:44:27
5	US82 A1	5	Unknown		1.0	04/May/12 16:03:50
6	US82 A1 DUP	16	Unknown		1.0	04/May/12 16:23:17
7	US82 A1 MS	7	Unknown		1.0	04/May/12 16:42:51
8	US82 B1	8	Unknown		1.0	04/May/12 17:02:30
9	US82 C1	9	Unknown		1.0	04/May/12 17:22:16
10	US87 A2	10	Unknown		1.0	04/May/12 17:42:05
11	US87 B2	11	Unknown		1.0	04/May/12 18:02:01
12	US83 A7	12	Unknown		1.0	04/May/12 18:22:03
13	US83 B7	13	Unknown		1.0	04/May/12 18:42:10
14	CCV	2	Check Standard	06	1.0	04/May/12 19:02:23
15	CCB	3	Blank		1.0	04/May/12 19:22:59
16	UR25 A5	14	Unknown		1.0	04/May/12 19:43:42
17	UR25 A5 DUP	15	Unknown		1.0	04/May/12 20:04:11
18	UR25 A5 MS	16	Unknown		1.0	04/May/12 20:24:44
19	UT19 A1	17	Unknown		1.0	04/May/12 20:45:23
20	UT19 A1 DUP	18	Unknown		1.0	04/May/12 21:06:07
21	UT19 A1 MS	19	Unknown		1.0	04/May/12 21:26:57
22	UT19 B1	20	Unknown		1.0	04/May/12 21:46:17
23	UT19 C1	21	Unknown		1.0	04/May/12 22:05:44
24	UT19 D1	22	Unknown		1.0	04/May/12 22:25:16
25	UT26 B1	23	Unknown		1.0	04/May/12 22:44:53
26	CCV	2	Check Standard	06	1.0	04/May/12 23:04:36
27	CCB	3	Blank		1.0	04/May/12 23:25:02
28	UT23 D1	24	Unknown		1.0	04/May/12 23:45:36
29	UT23 E1	25	Unknown		1.0	05/May/12 00:05:36
30	US87 B2	26	Unknown		1.0	05/May/12 00:25:37
31	CCV	27	Check Standard	06	1.0	05/May/12 00:45:42
32	CCB	28	Blank		1.0	05/May/12 01:05:50
33	STOP	1	Unknown		1.0	05/May/12 01:26:03

Chromeleon (c) Dionex Version 7.0.1.272

US82 : 00439

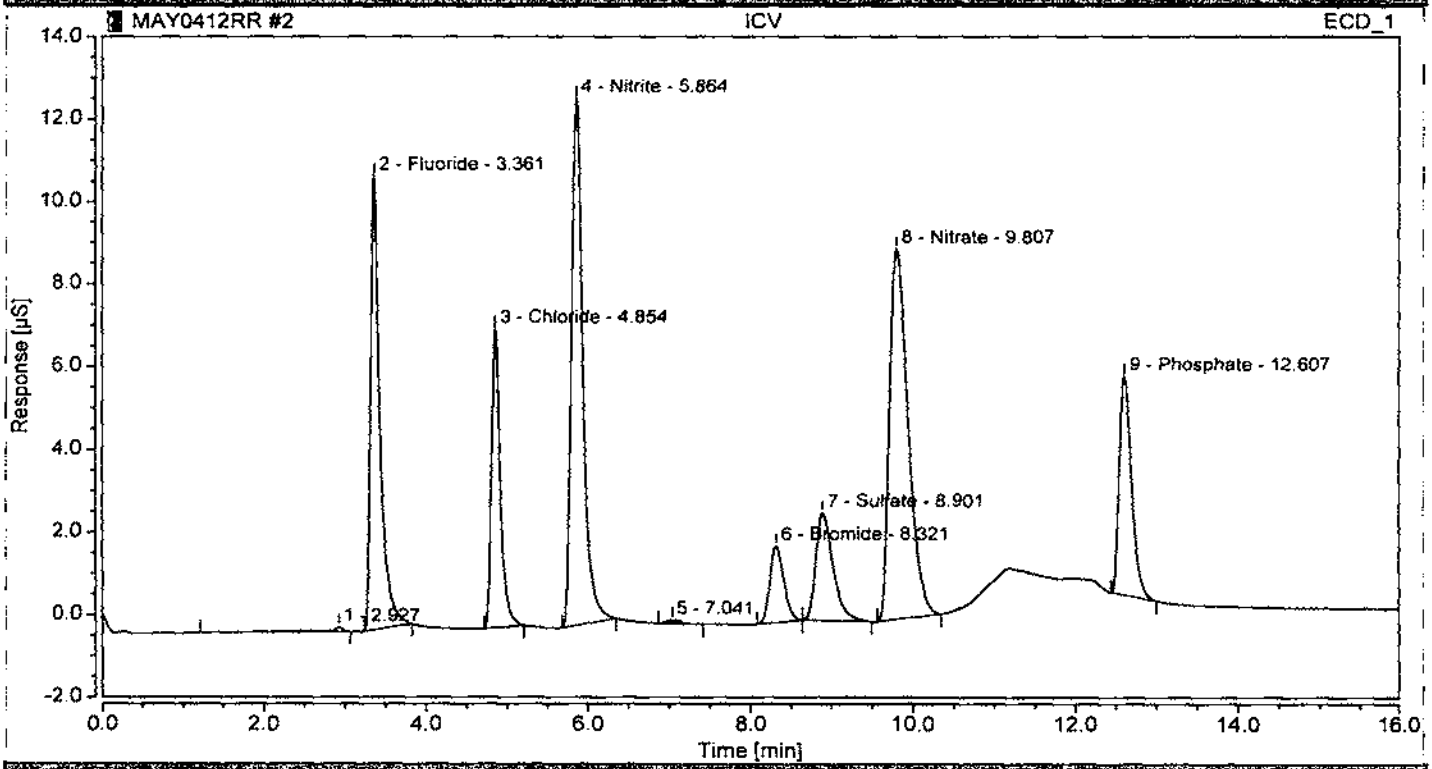
Injection Name:	*RINSE*	Inject Number:	1
Vial Number:	*1*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 14:47*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.69	0.235	0.168	FALSE	n.a.
2		1.0	n.a.	3.16	0.035	0.031	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		1.0	n.a.	3.53	0.420	0.284	FALSE	n.a.
n.a.	Chloride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	7.07	0.091	0.047	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	1.0	0.034	8.96	0.054	0.025	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6		1.0	n.a.	11.24	1.000	0.616	FALSE	n.a.
7		1.0	n.a.	12.22	0.192	0.102	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

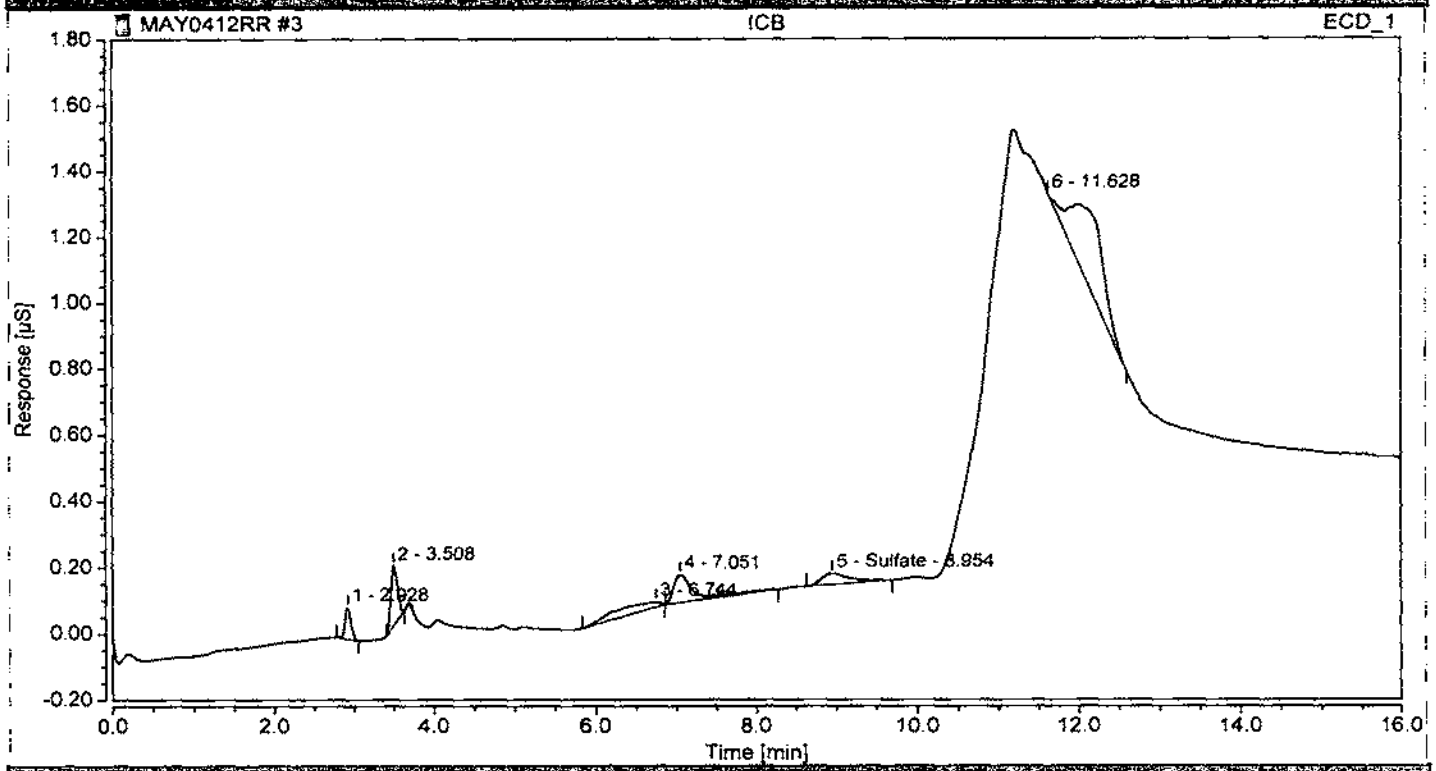
US82 : 00446

Injection Name:	*ICV*	Inject Number:	2
Vial Number:	*2*	User:	pat
Injection Type:	*Check Standard*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 15:05*		



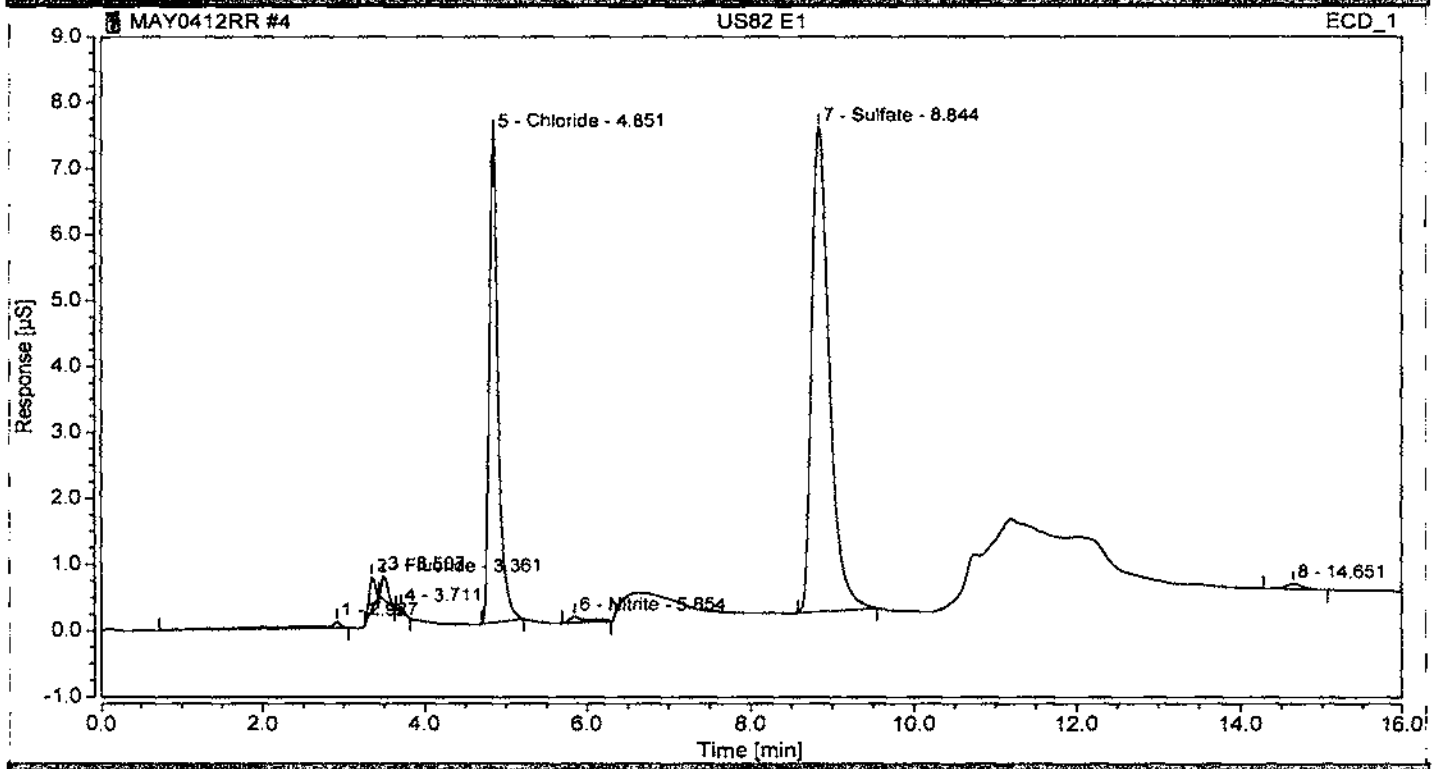
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.98	0.037	0.106	FALSE	n.a.
2	Fluoride	1.0	2.985	3.36	1.480	10.885	FALSE	-0.50
3	Chloride	1.0	2.960	4.85	0.914	7.278	FALSE	-1.32
4	Nitrite	1.0	2.987	5.86	2.705	12.765	FALSE	-0.45
5		1.0	n.a.	7.04	0.017	0.083	FALSE	n.a.
6	Bromide	1.0	2.837	8.32	1.073	1.661	FALSE	5.44
7	Sulfate	1.0	2.875	8.90	0.847	2.609	FALSE	4.15
8	Nitrate	1.0	3.139	9.81	32.345	8.923	FALSE	4.65
9	Phosphate	1.0	2.964	12.61	0.926	5.284	FALSE	-1.19

Injection Name:	*ICB*	Inject Number:	3
Vial Number:	*3*	User:	pat
Injection Type:	*Blank*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 15:25*		



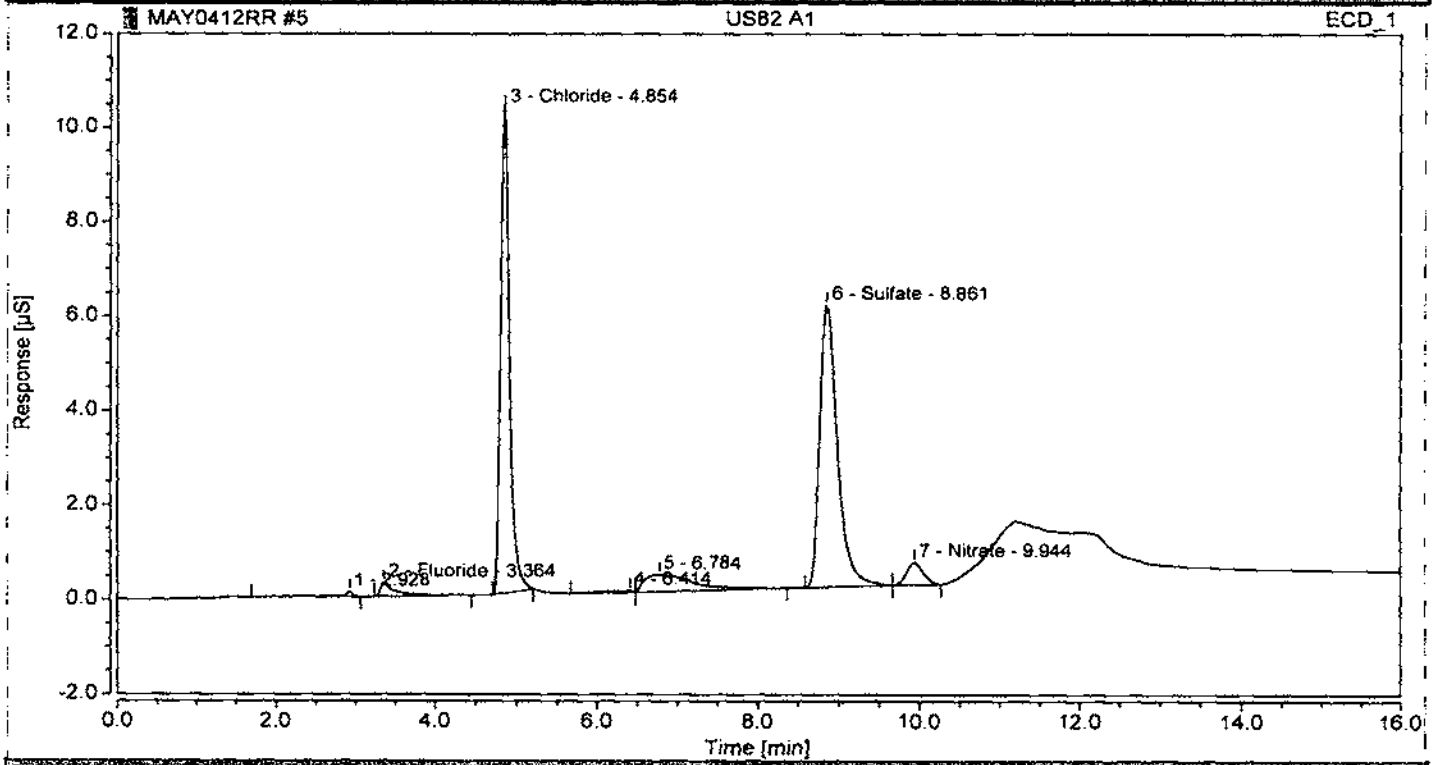
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.95	0.009	0.0097	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		1.0	n.a.	3.51	0.017	0.179	FALSE	n.a.
n.a.	Chloride	1.0	0.041	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		1.0	n.a.	6.74	0.018	0.015	FALSE	n.a.
4		1.0	n.a.	7.05	0.024	0.083	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	1.0	19.050	8.95	0.614	0.004	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6		1.0	n.a.	11.63	0.108	0.000	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*US82 E1*	Inject Number:	4
Vial Number:	*4*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 15:44*		



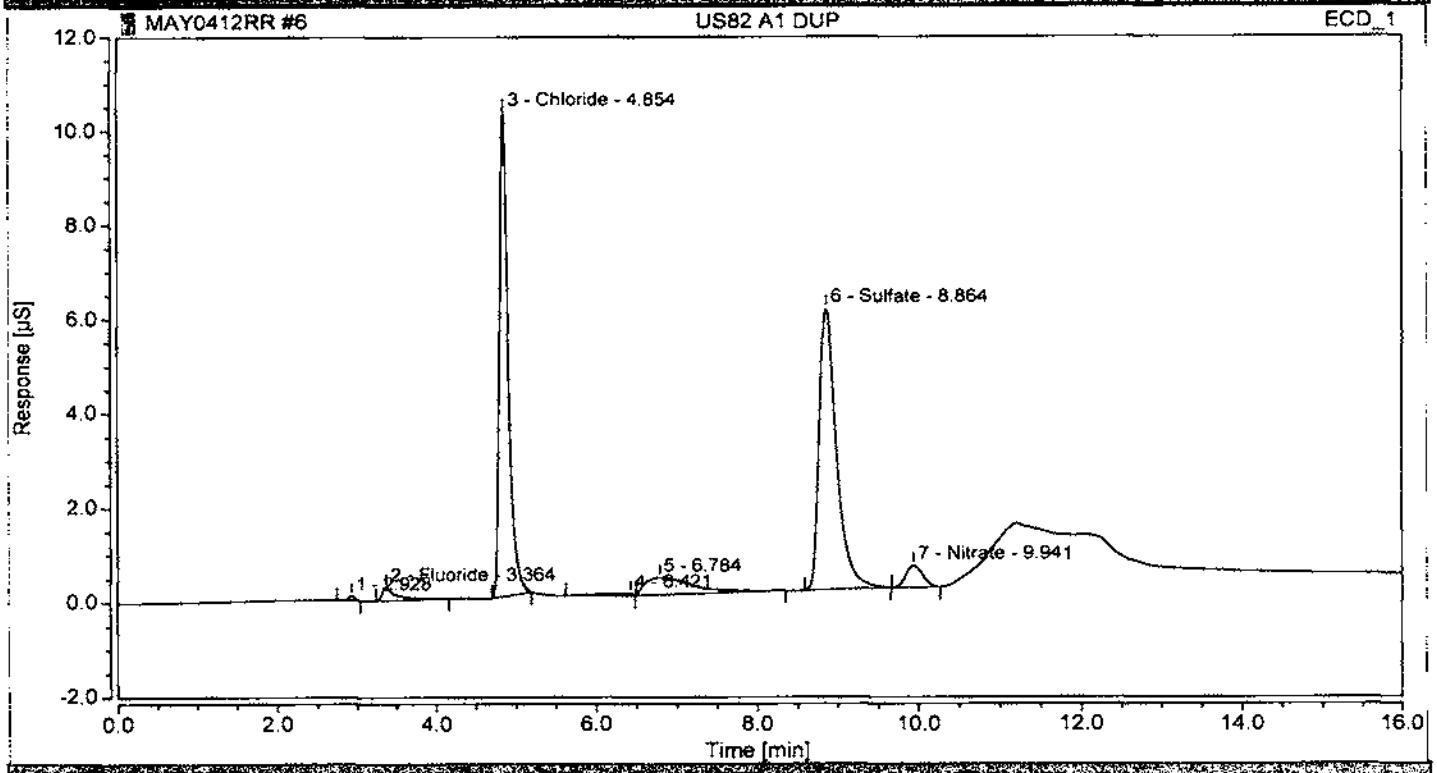
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.045	0.093	FALSE	n.a.
2	Fluoride	1.0	0.082	3.36	0.081	0.476	FALSE	n.a.
3		1.0	n.a.	3.681	0.633	5.361	FALSE	n.a.
4		1.0	n.a.	3.71	0.058	0.289	FALSE	n.a.
5	Chloride	1.0	3.033	4.85	0.835	7.800	FALSE	n.a.
6	Nitrite	1.0	0.014	5.85	0.024	0.098	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	Sulfate	1.0	3.175	8.84	1.841	7.390	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8		1.0	n.a.	14.65	0.019	0.078	FALSE	n.a.

Injection Name:	*US82 A1*	Inject Number:	5
Vial Number:	*5*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 16:03*		



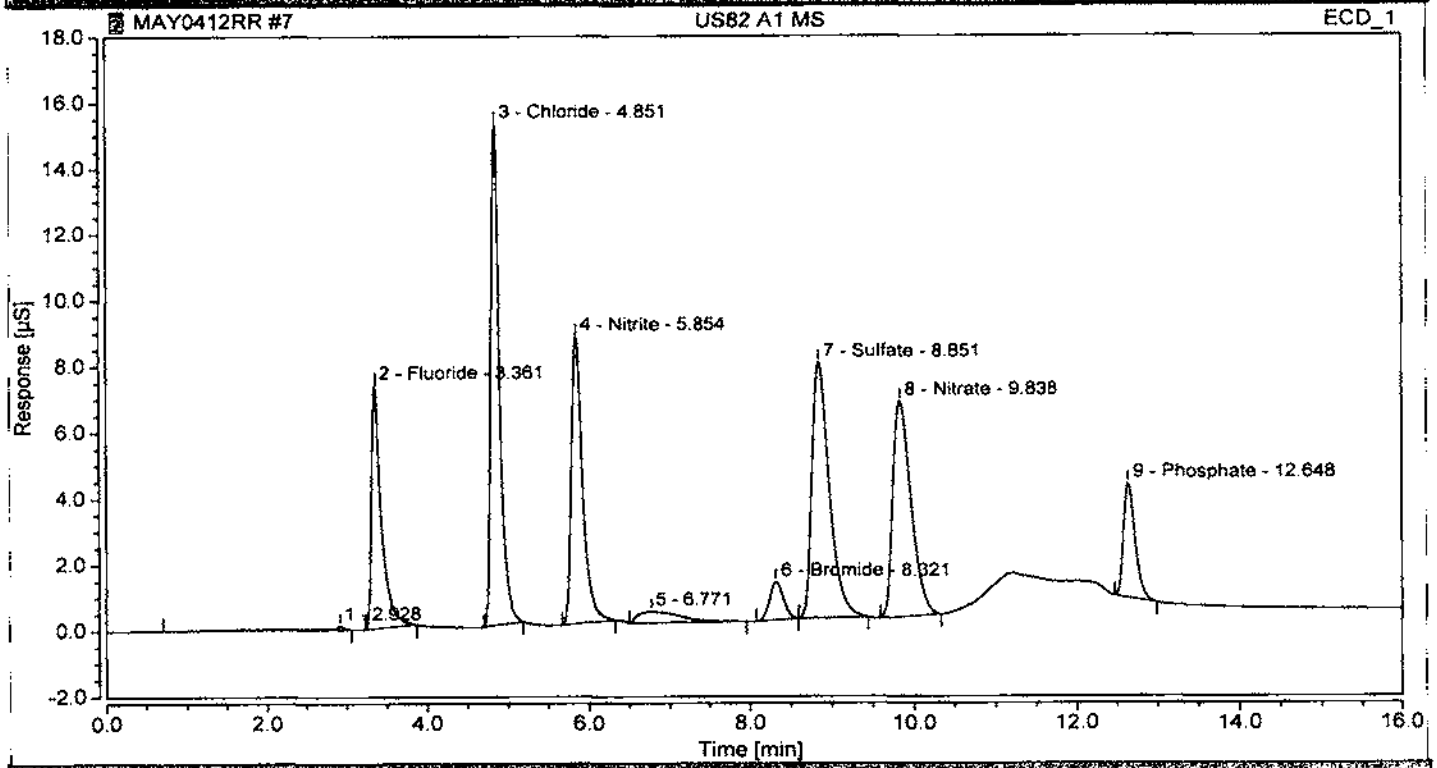
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.83	0.025	0.100	FALSE	n.a.
2	Fluoride	1.0	0.134	3.36	0.037	0.286	FALSE	n.a.
3	Chloride	1.0	0.206	4.85	1.294	10.281	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	6.41	0.021	0.042	FALSE	n.a.
5		1.0	n.a.	6.78	0.255	0.359	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6	Sulfate	1.0	0.951	8.86	1.304	5.965	FALSE	n.a.
7	Nitrate	1.0	0.150	9.94	0.112	0.266	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*US82 A1 DUP*	Inject Number:	6
Vial Number:	*6*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 16:23*		



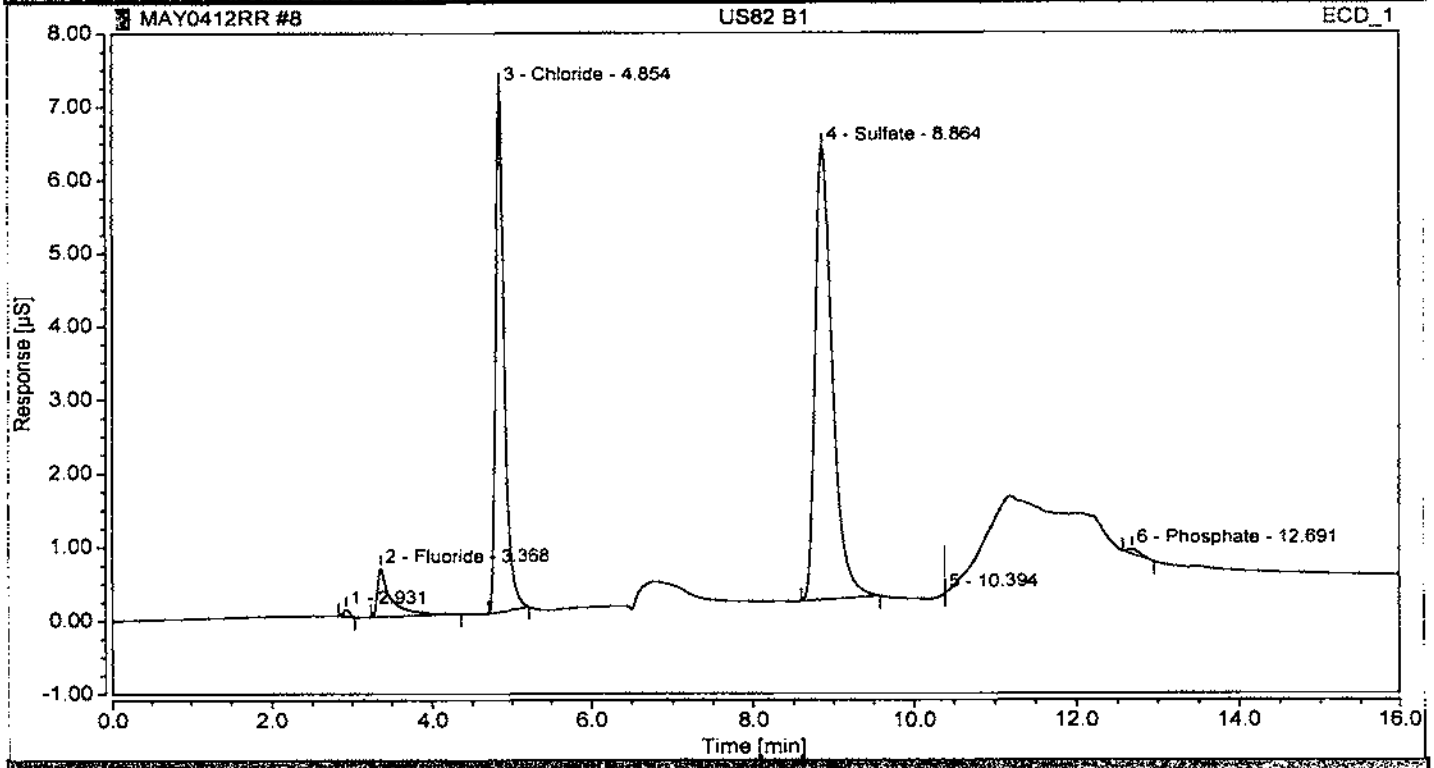
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.018	0.092	FALSE	n.a.
2	Fluoride	1.0	0.123	3.36	0.051	0.284	FALSE	n.a.
3	Chloride	1.0	1.195	4.85	1.286	10.280	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	6.42	0.023	0.043	FALSE	n.a.
5		1.0	n.a.	6.78	0.058	0.359	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6	Sulfate	1.0	5.867	8.86	1.102	5.961	FALSE	n.a.
7	Nitrate	1.0	10.149	9.94	0.191	0.461	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*US82 A1 MS*	Inject Number:	7
Vial Number:	*7*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 16:42*		



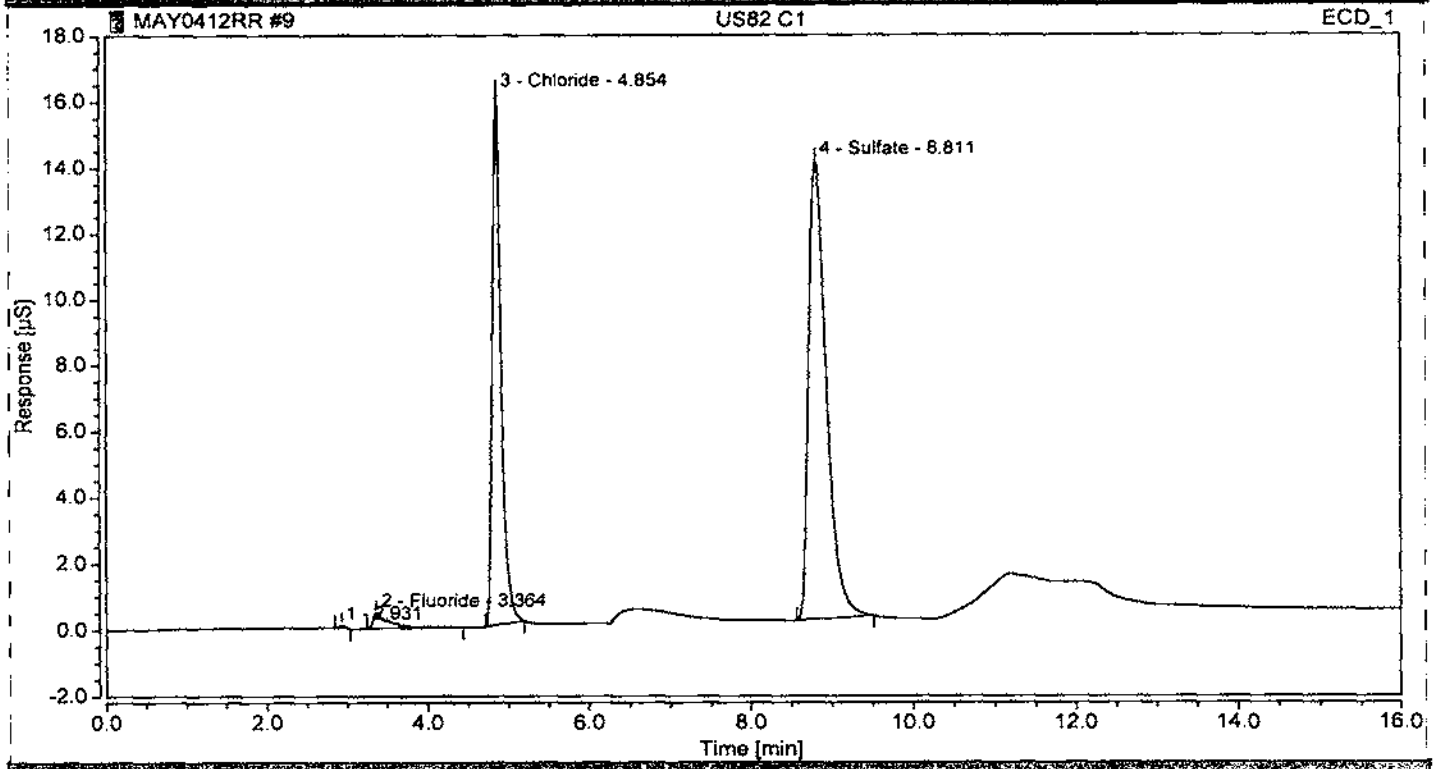
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.047	0.405	FALSE	n.a.
2	Fluoride	1.0	2.192	3.36	1.042	7.347	FALSE	n.a.
3	Chloride	1.0	6.139	4.85	1.907	15.176	FALSE	n.a.
4	Nitrite	1.0	1.983	5.86	1.385	9.884	FALSE	n.a.
5		1.0	n.a.	6.77	0.297	0.938	FALSE	n.a.
6	Bromide	1.0	3.793	8.32	0.264	1.137	FALSE	n.a.
7	Sulfate	1.0	5.239	8.85	1.902	7.778	FALSE	n.a.
8	Nitrate	1.0	4.278	9.84	1.679	10.520	FALSE	n.a.
9	Phosphate	1.0	1.860	12.65	0.581	3.463	FALSE	n.a.

Injection Name:	*US82 B1*	Inject Number:	8
Vial Number:	*8*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 17:02*		



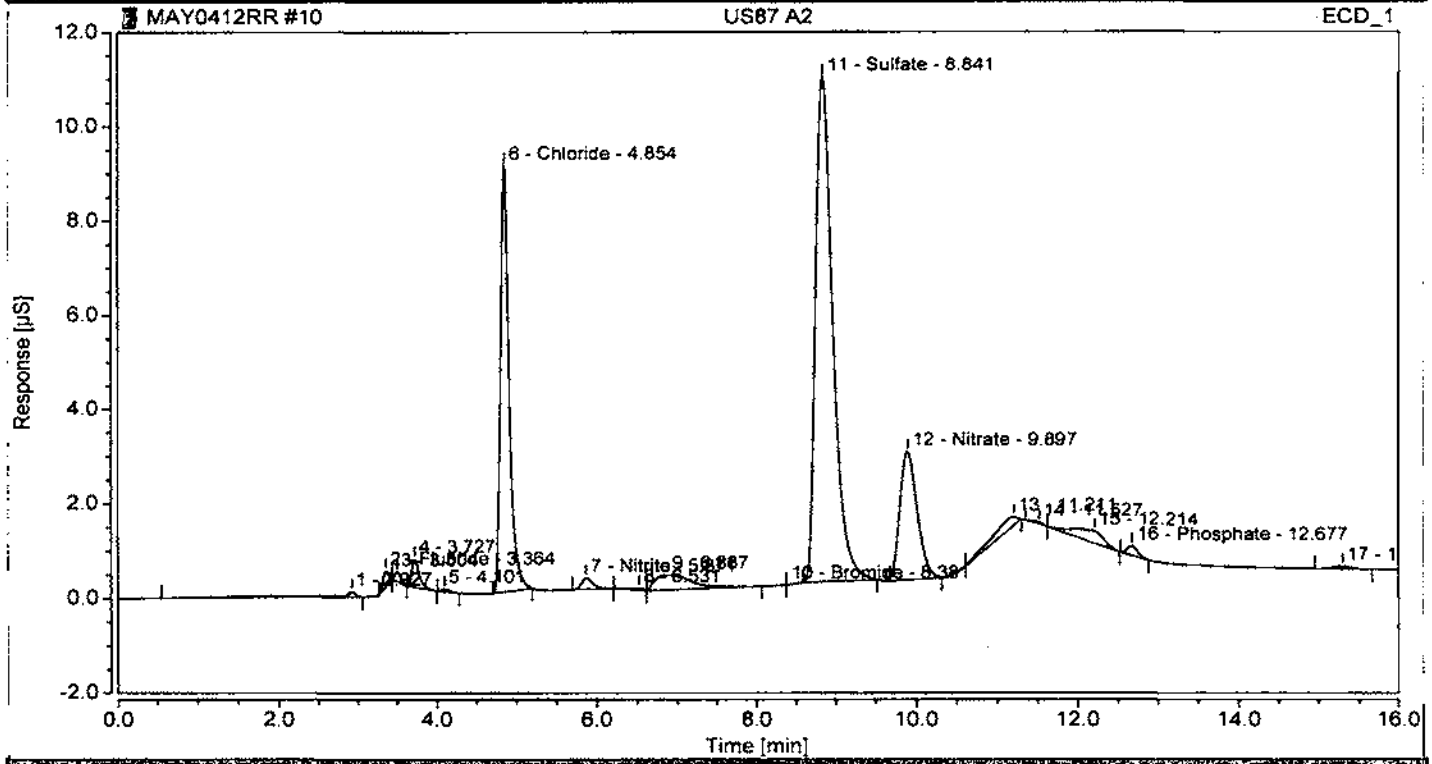
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.008	0.094	FALSE	n.a.
2	Fluoride	1.0	0.360	3.37	0.033	0.464	FALSE	n.a.
3	Chloride	1.0	2.926	4.85	0.690	7.150	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	Sulfate	1.0	6.877	8.86	1.548	16.175	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		1.0	n.a.	10.39	0.002	0.047	FALSE	n.a.
6	Phosphate	1.0	0.039	12.69	0.012	0.086	FALSE	n.a.

Injection Name:	*US82 C1*	Inject Number:	9
Vial Number:	*9*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 17:22*		



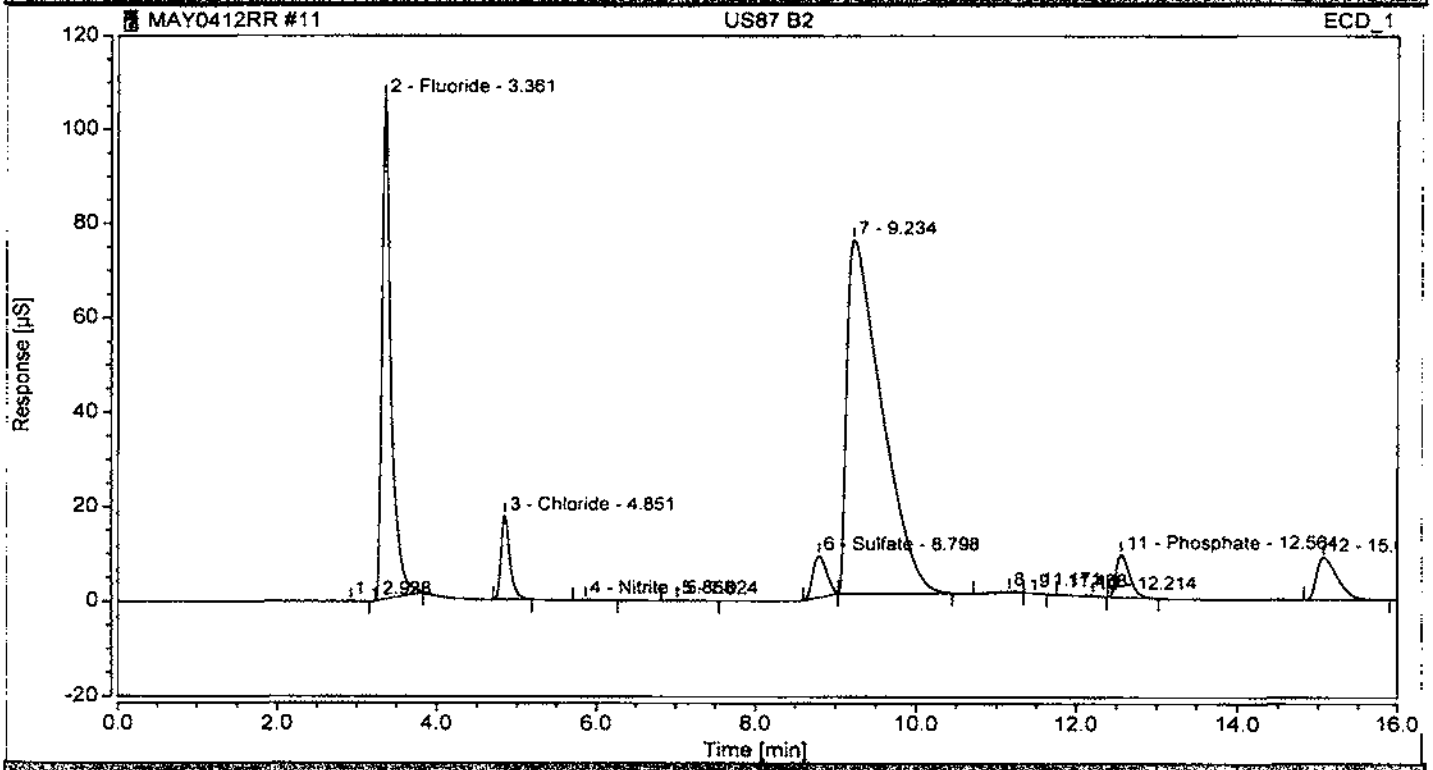
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	< 2.48	0.082	0.088	FALSE	n.a.
2	Fluoride	1.0	0.228	3.36	0.113	0.469	FALSE	n.a.
3	Chloride	1.0	5.051	4.85	2.018	16.098	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	Sulfate	1.0	5.894	8.81	3.635	13.578	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*US87 A2*	Inject Number:	10
Vial Number:	*10*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 17:42*		



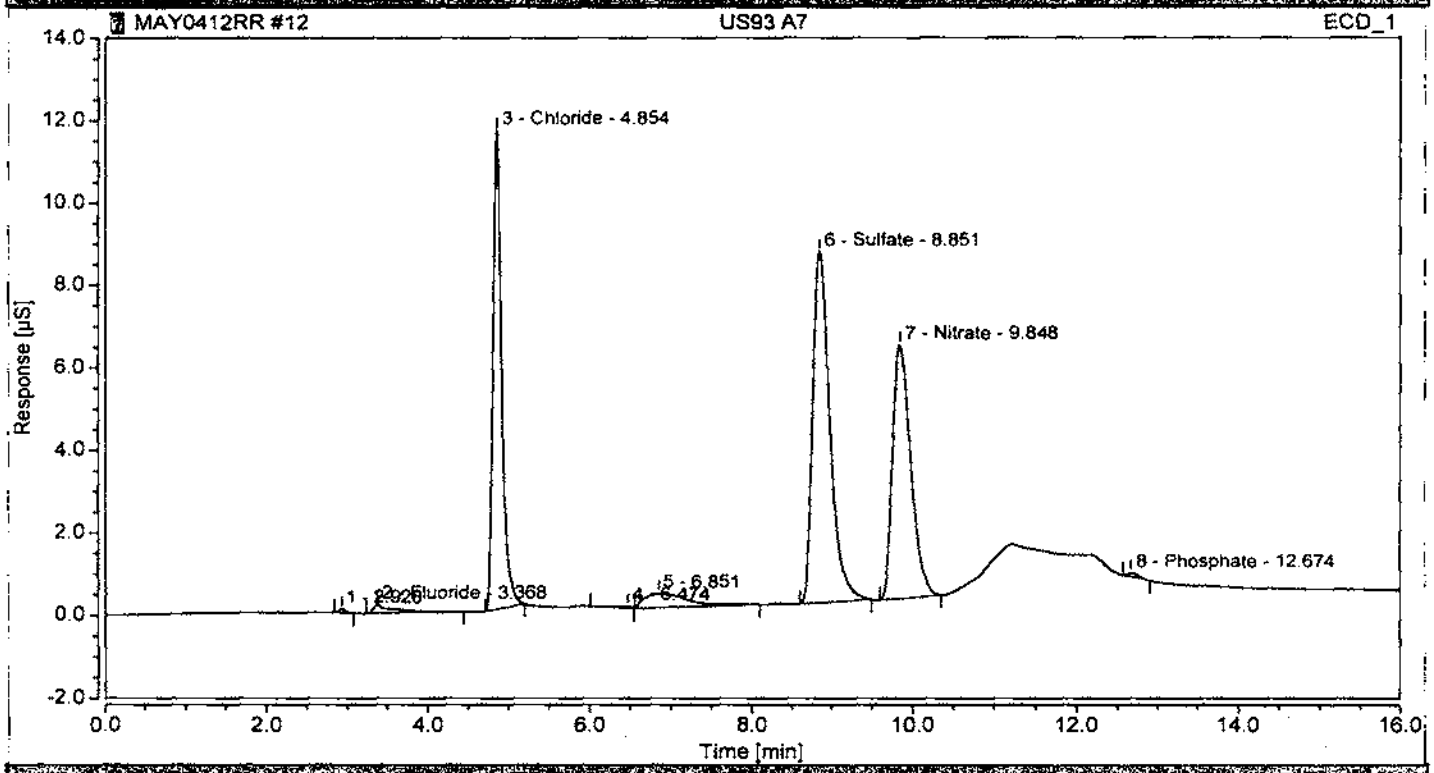
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.0069	0.181	FALSE	n.a.
2	Fluoride	1.0	0.0	3.36	0.0028	0.062	FALSE	n.a.
3		1.0	n.a.	3.72	0.0016	0.038	FALSE	n.a.
4		1.0	n.a.	4.01	0.0060	0.0907	FALSE	n.a.
5		1.0	n.a.	4.27	0.0036	0.0881	FALSE	n.a.
6	Chloride	1.0	0.0	4.85	0.1165	2.5	FALSE	n.a.
7	Nitrite	1.0	0.0	5.53	0.0245	0.427	FALSE	n.a.
8		1.0	n.a.	5.89	0.0037	0.0917	FALSE	n.a.
9		1.0	n.a.	6.39	0.0	0.0	FALSE	n.a.
10	Bromide	1.0	0.0	6.84	0.0000	0.0000	FALSE	n.a.
11	Sulfate	1.0	0.0	8.84	0.0000	0.0000	FALSE	n.a.
12	Nitrate	1.0	0.0	9.90	0.0000	0.0000	FALSE	n.a.
13		1.0	n.a.	11.21	0.0032	0.0000	FALSE	n.a.
14		1.0	n.a.	11.53	0.0084	0.0000	FALSE	n.a.
15		1.0	n.a.	12.21	0.0118	0.263	FALSE	n.a.
16	Phosphate	1.0	0.0	12.68	0.0026	0.204	FALSE	n.a.
17		1.0	n.a.	15.30	0.013	0.052	FALSE	n.a.

Injection Name:	*US87 B2*	Inject Number:	11
Vial Number:	*11*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 18:02*		



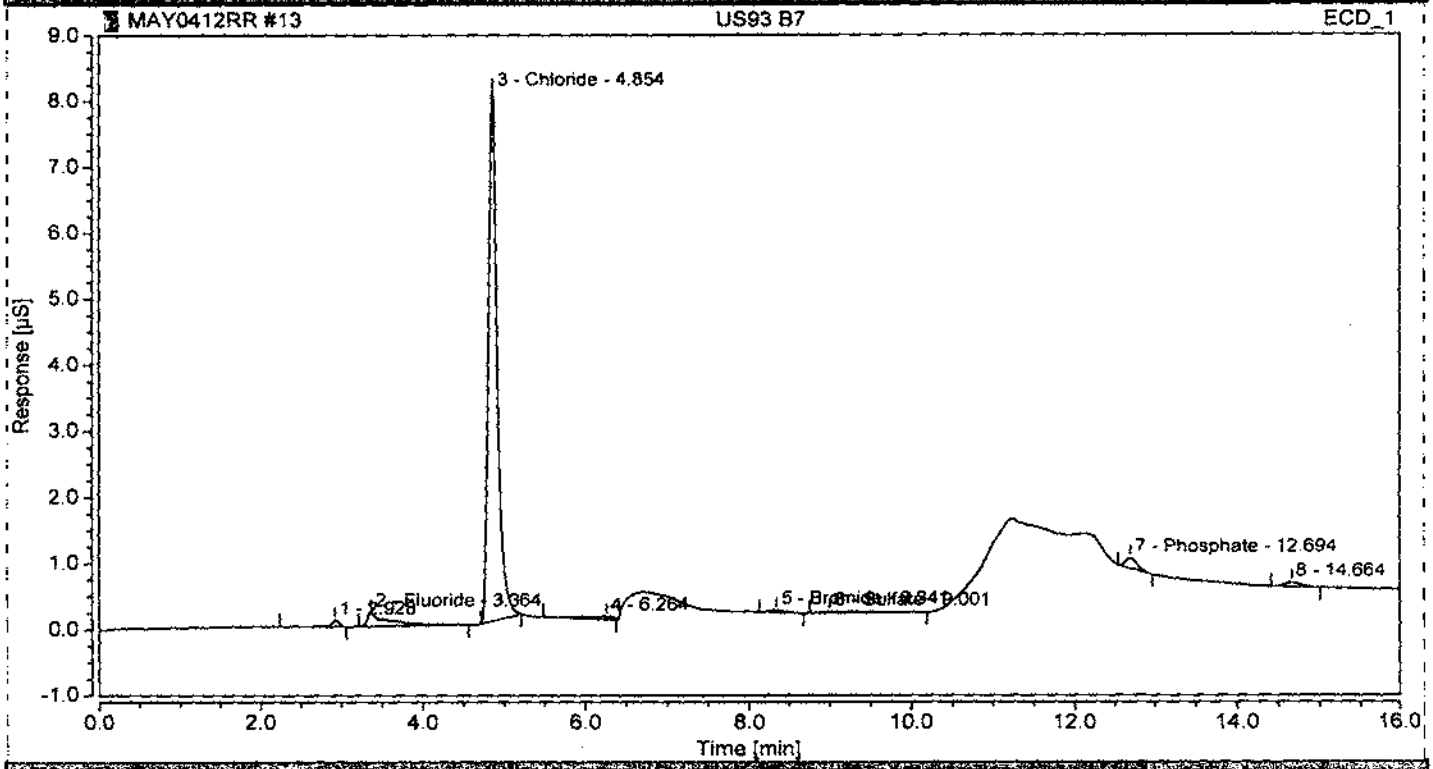
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.928	0.168	0.151	FALSE	n.a.
2	Fluoride	1.0	28.69	3.361	5.124	1.166	FALSE	n.a.
3	Chloride	1.0	17.35	4.851	2.240	0.660	FALSE	n.a.
4	Nitrite	1.0	n.a.	5.824	0.032	0.016	FALSE	n.a.
5		1.0	0.87	7.187	0.137	0.106	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	7.798	0.000	0.000	n.a.	n.a.
6	Sulfate	1.0	7.82	8.798	1.740	0.314	FALSE	n.a.
7		1.0	29.6	9.234	5.137	1.000	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	11.172	0.000	0.000	n.a.	n.a.
8		1.0	n.a.	11.498	0.000	0.000	FALSE	n.a.
9		1.0	2.80	12.214	0.000	0.000	FALSE	n.a.
10		1.0	n.a.	12.214	0.156	0.103	FALSE	n.a.
11	Phosphate	1.0	5.845	12.56	0.763	0.356	FALSE	n.a.
12		1.0	n.a.	15.07	2.661	0.852	FALSE	n.a.

Injection Name:	*US93 A7*	Inject Number:	12
Vial Number:	*12*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 18:22*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.007	0.084	FALSE	n.a.
2	Fluoride	1.0	0.118	3.367	0.056	0.295	FALSE	n.a.
3	Chloride	1.0	4.727	4.855	1.254	1.307	FALSE	n.a.
n.a.	Nitrite?	1.0	n.a.	5.19	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	6.477	0.016	0.064	FALSE	n.a.
5		1.0	n.a.	6.855	0.012	0.055	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6	Sulfate	1.0	9.371	8.85	2.100	3.499	FALSE	n.a.
7	Nitrate	1.0	4.611	9.85	1.681	0.146	FALSE	n.a.
8	Phosphate	1.0	0.046	12.67	0.008	0.092	FALSE	n.a.

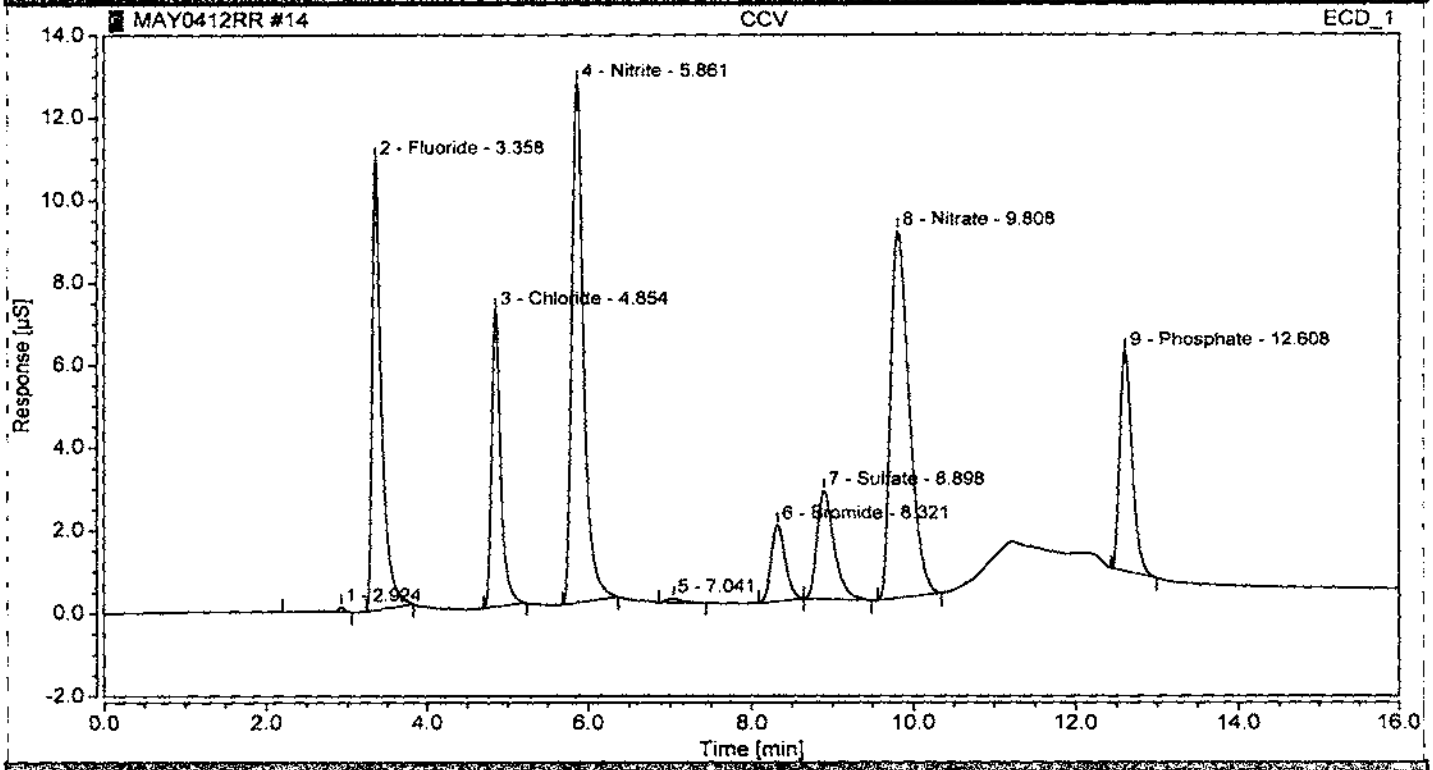
Injection Name:	*US93 B7*	Inject Number:	13
Vial Number:	*13*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 18:42*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.928	0.0078	0.056	FALSE	n.a.
2	Fluoride	1.0	0.424	3.064	0.0261	0.207	FALSE	n.a.
3	Chloride	1.0	9.268	4.854	1.1962	8.069	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	6.264	0.0078	0.040	FALSE	n.a.
5	Bromide	1.0	0.0084	9.001	0.0007	0.004	FALSE	n.a.
6	Sulfate	1.0	0.0000	9.841	0.0013	0.002	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	Phosphate	1.0	0.0000	12.694	0.0025	0.164	FALSE	n.a.
8		1.0	n.a.	14.664	0.0016	0.065	FALSE	n.a.

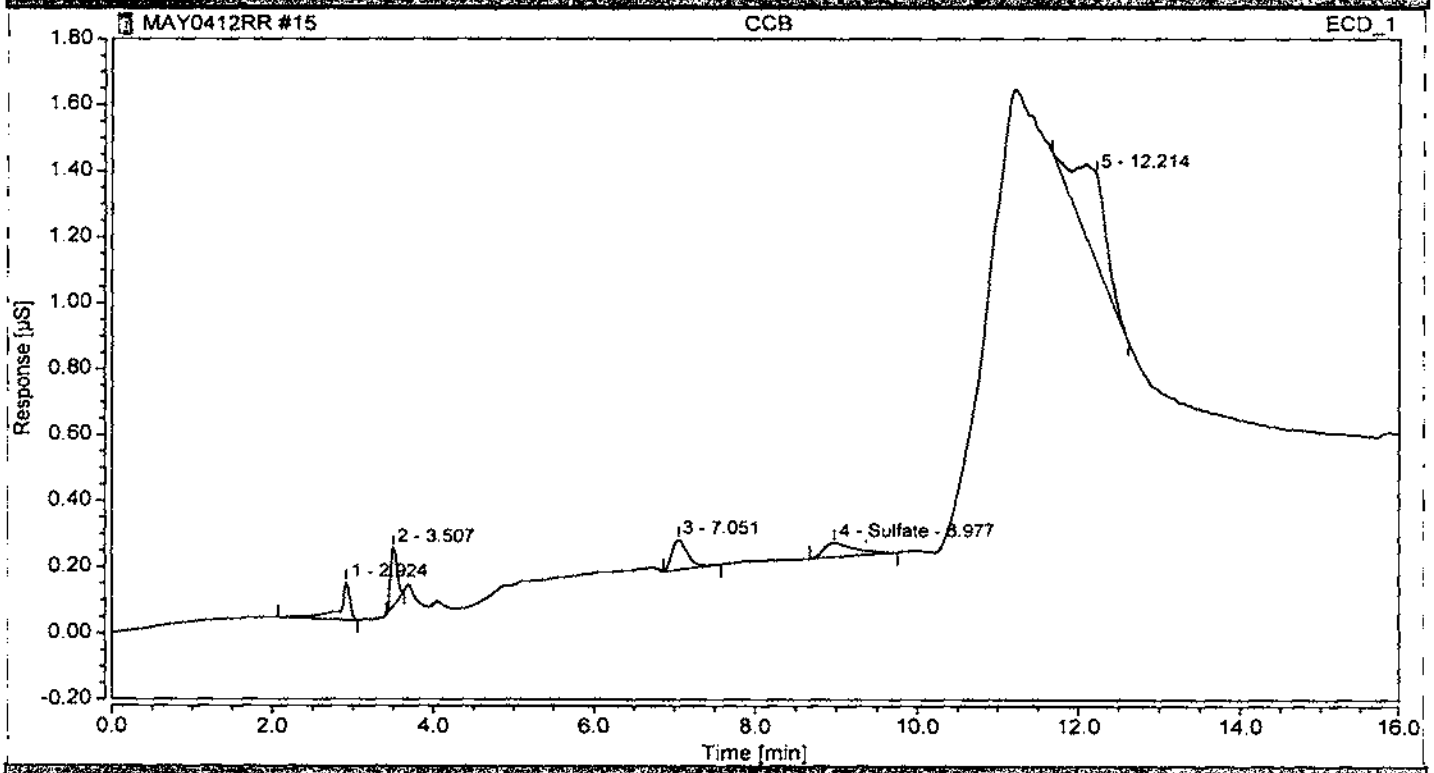
US82 : 96452 Chromeleon (c) Dionex Version 7.0.1.272

Injection Name:	*CCV*	Inject Number:	14
Vial Number:	*2*	User:	pat
Injection Type:	*Check Standard*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 19:02*		



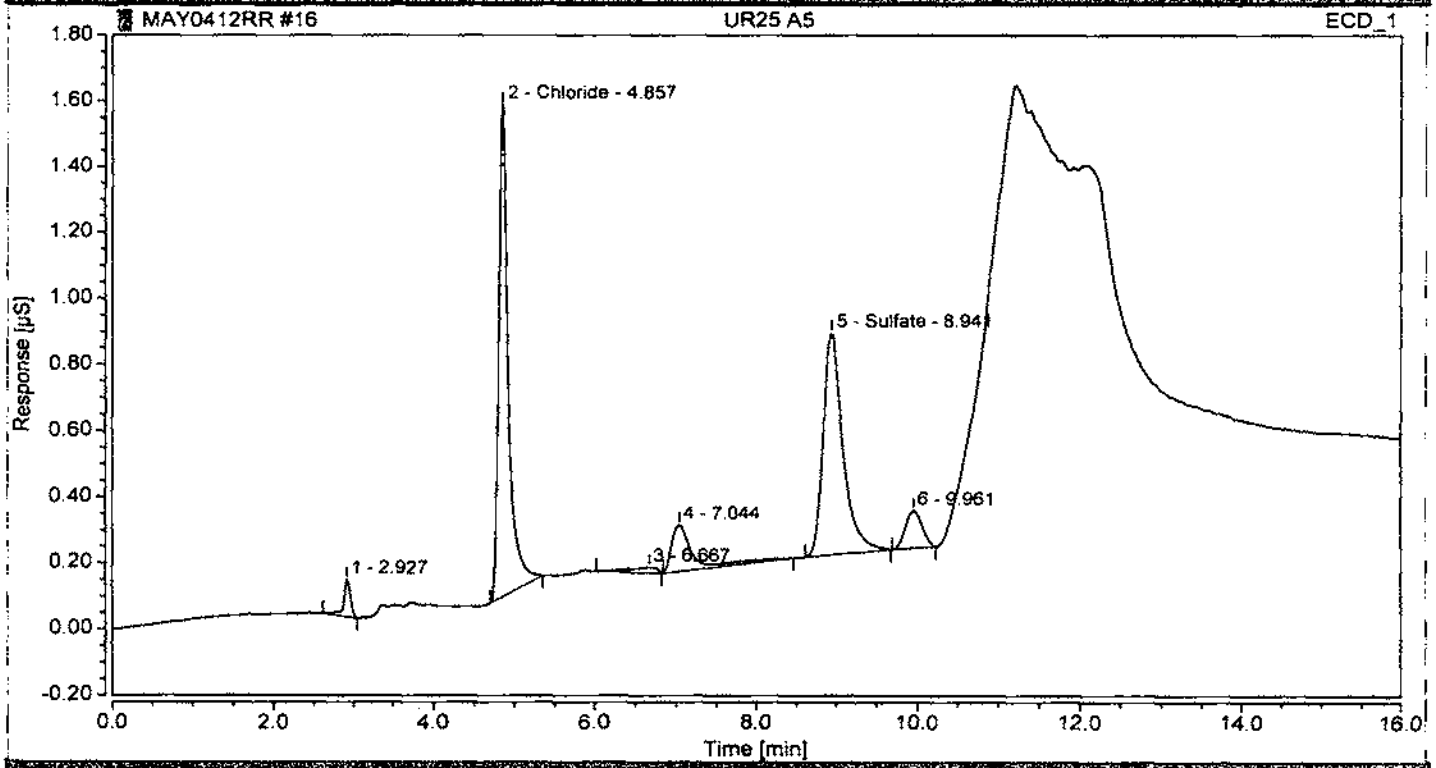
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.924	0.0014	0.107	FALSE	n.a.
2	Fluoride	1.0	2.968	3.358	1.272	10.893	FALSE	-1.03
3	Chloride	1.0	2.992	4.854	0.924	7.911	FALSE	-0.20
4	Nitrite	1.0	3.006	5.861	2.113	18.380	FALSE	0.12
5		1.0	n.a.	7.041	0.0120	0.094	FALSE	n.a.
6	Bromide	1.0	2.835	8.321	0.372	1.536	FALSE	-5.50
7	Sulfate	1.0	2.979	8.898	0.564	2.511	FALSE	-0.06
8	Nitrate	1.0	3.135	9.808	1.312	6.273	FALSE	4.51
9	Phosphate	1.0	2.965	12.61	0.982	5.311	FALSE	-0.49

Injection Name:	*CCB*	Inject Number:	15
Vial Number:	*3*	User:	pat
Injection Type:	*Blank*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 19:22*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.92	[illegible]	0.112	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		1.0	n.a.	3.51	[illegible]	0.173	FALSE	n.a.
n.a.	Chloride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		1.0	n.a.	7.05	[illegible]	[illegible]	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	Sulfate	1.0	n.a.	8.98	[illegible]	[illegible]	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		1.0	n.a.	12.21	[illegible]	[illegible]	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

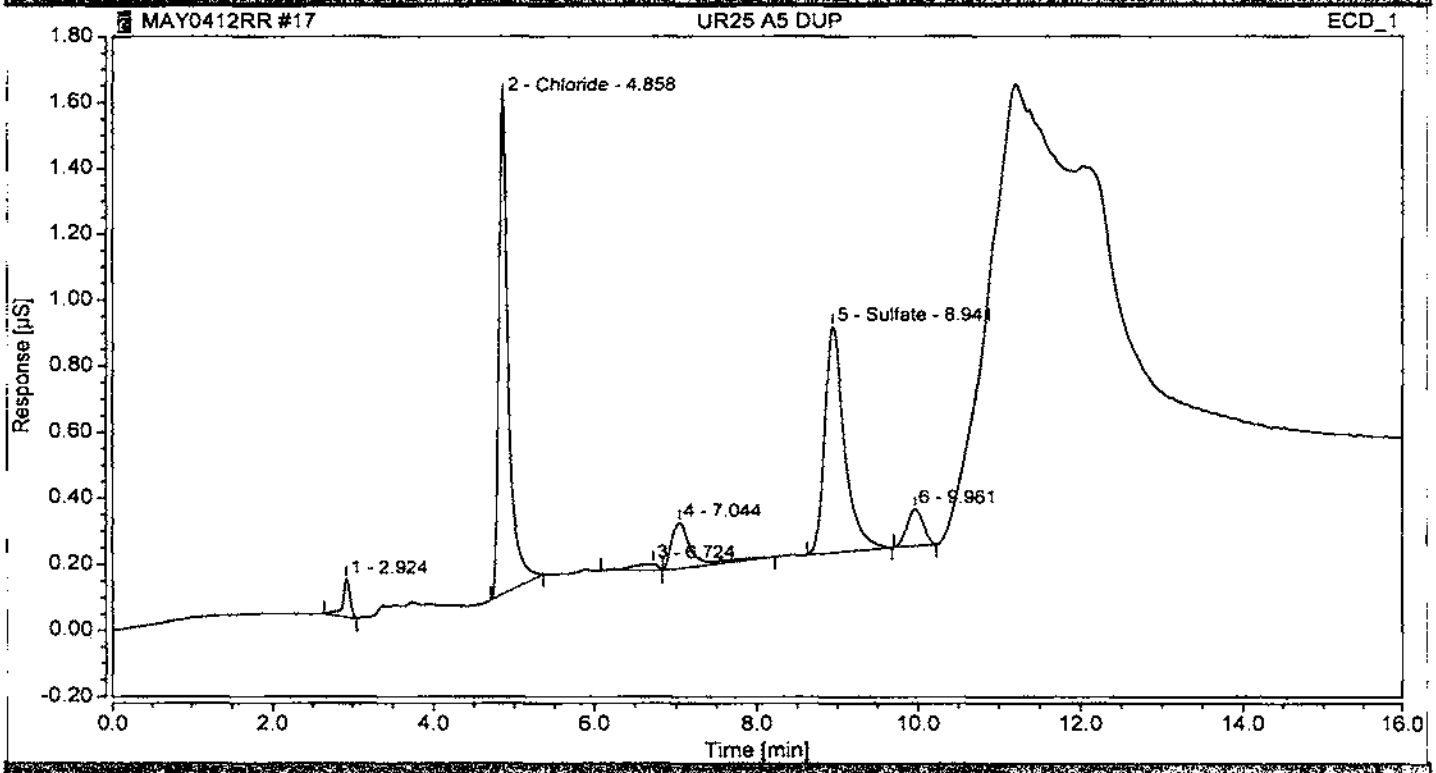
Injection Name:	*UR25 A5*	Inject Number:	16
Vial Number:	*14*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 19:43*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.014	0.112	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	Chloride	1.0	0.884	4.86	0.258	1.982	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		1.0	n.a.	6.67	0.007	0.046	FALSE	n.a.
4		1.0	n.a.	7.04	0.048	0.341	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	1.0	0.619	8.94	0.401	1.672	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6		1.0	n.a.	9.96	0.027	0.114	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

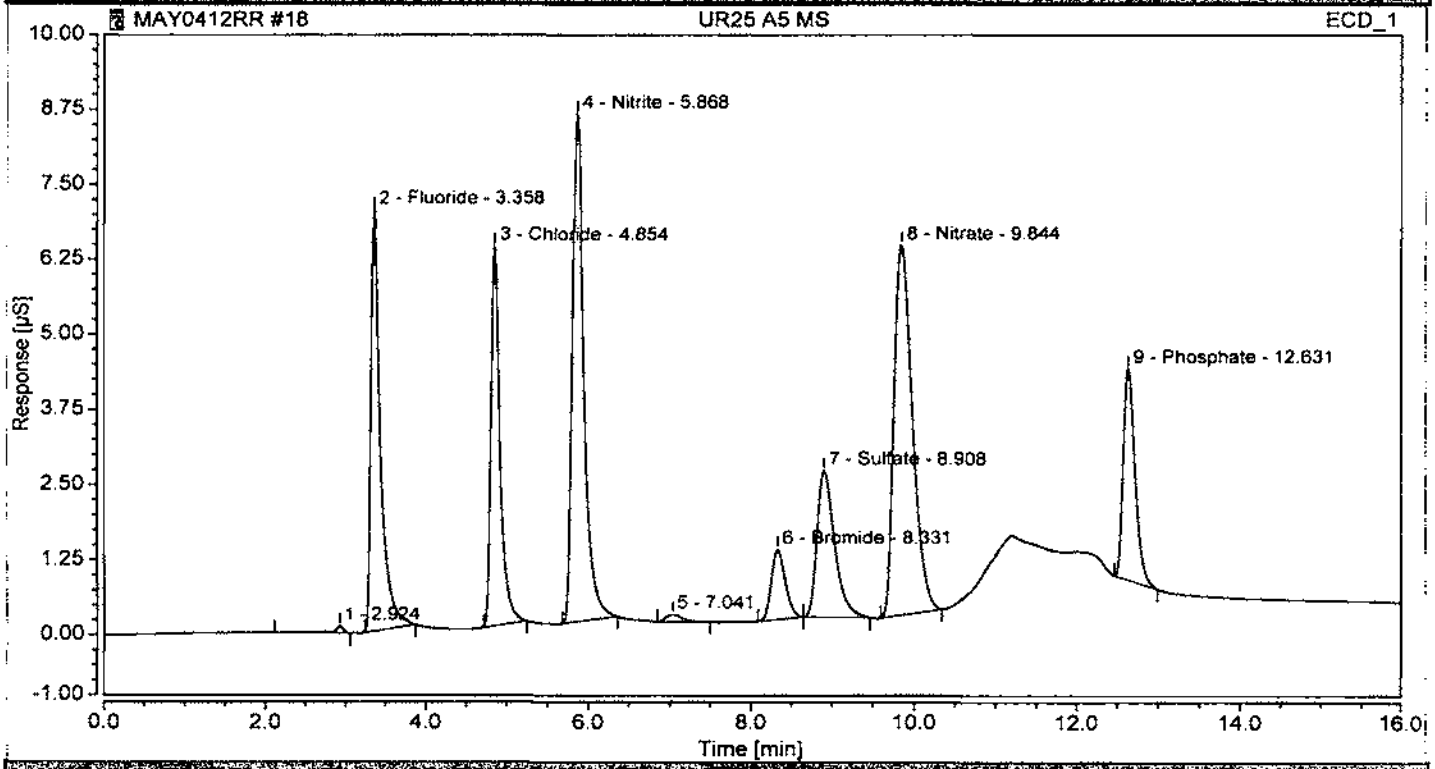
US82 - 0045

Injection Name:	*UR25 A5 DUP*	Inject Number:	17
Vial Number:	*15*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 20:04*		



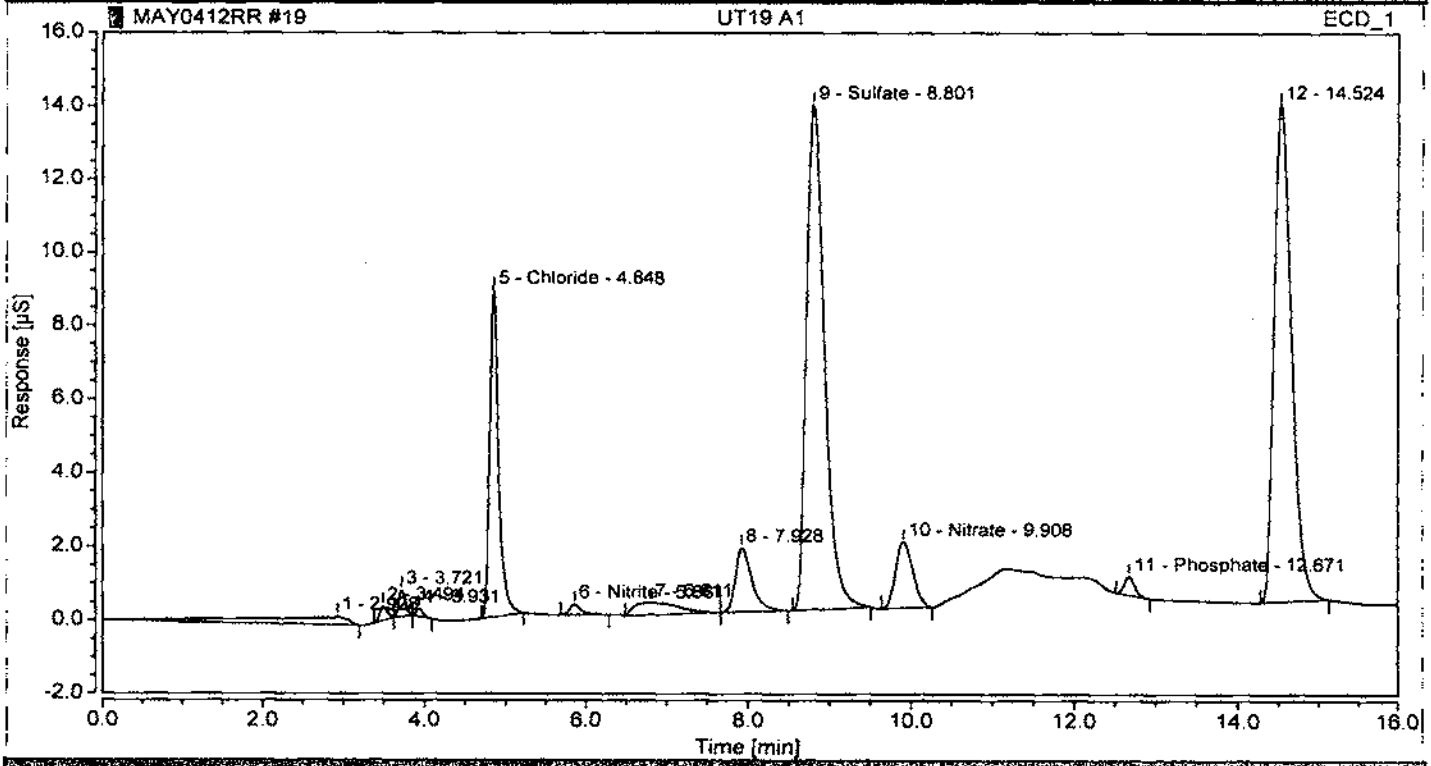
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.92	0.012	0.114	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	Chloride	1.0	0.654	4.85	0.207	1.606	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		1.0	n.a.	6.72	0.007	0.013	FALSE	n.a.
4		1.0	0.214	7.04	0.039	0.138	FALSE	n.a.
n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	1.0	0.862	8.94	0.354	0.584	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6		1.0	n.a.	9.96	0.022	0.111	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*UR25 A5 MS*	Inject Number:	18
Vial Number:	*16*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 20:24*		



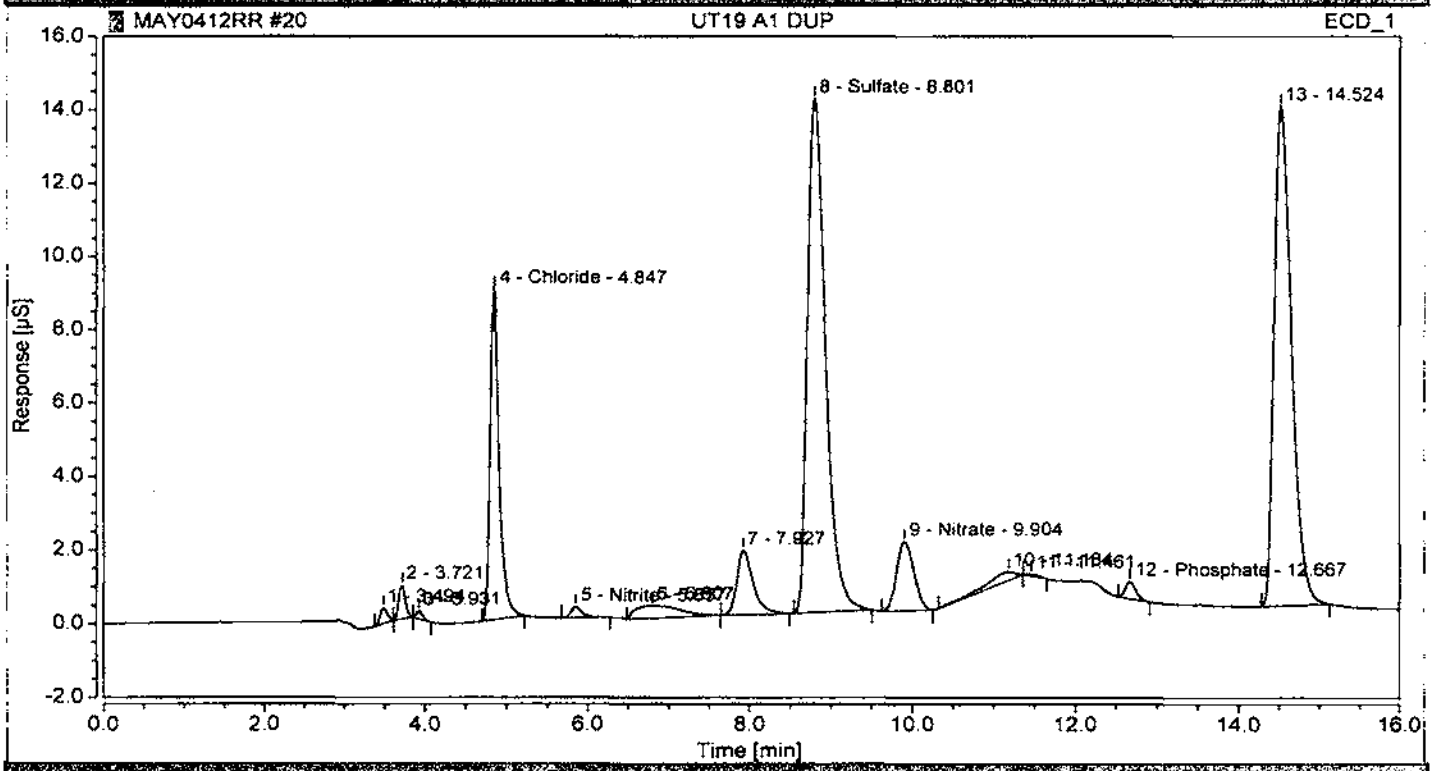
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.92	0.017	0.116	FALSE	n.a.
2	Fluoride	1.0	1.991	3.36	0.387	7.019	FALSE	n.a.
3	Chloride	1.0	1.4[illegible]	4.85	0.313	5.514	FALSE	n.a.
4	Nitrite	1.0	4.97[illegible]	5.87	1.391	8.745	FALSE	n.a.
5		1.0	n.a.	7.04	0.029	0.126	FALSE	n.a.
6	Bromide	1.0	2.79[illegible]	8.33	0.238	1.159	FALSE	n.a.
7	Sulfate	1.0	2.[illegible]	8.91	0.616	2.434	FALSE	n.a.
8	Nitrate	1.0	2.11[illegible]	9.84	1.517	5.151	FALSE	n.a.
9	Phosphate	1.0	1.887	12.63	0.589	3.511	FALSE	n.a.

Injection Name:	*UT19 A1*	Inject Number:	19
Vial Number:	*17*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 20:45*		



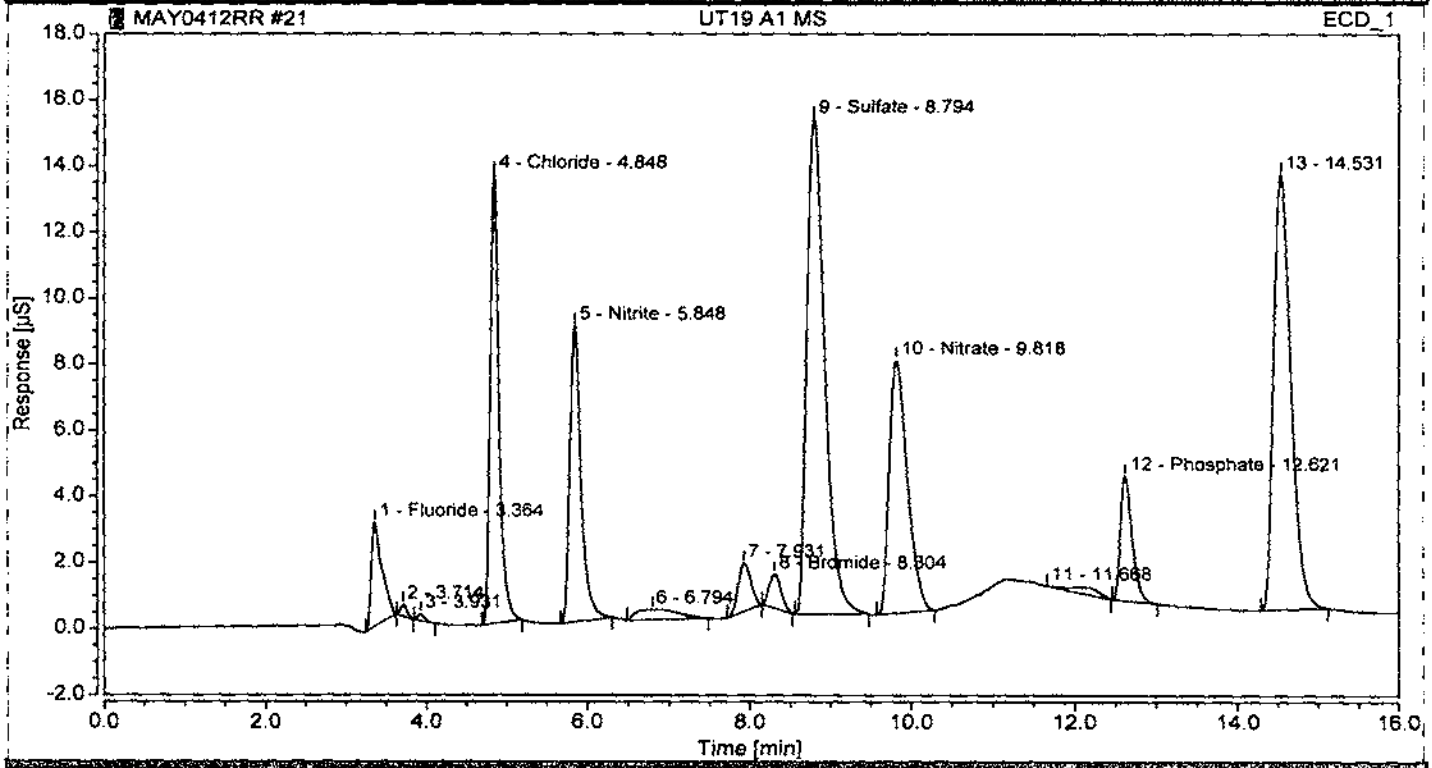
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt Dev.
			mg/l	min	µS*min	µS		mg/l
1								
n.a.	Fluoride							
2								
3								
4								
5	Chloride							
6	Nitrite							
7								
8								
n.a.	Bromide							
9	Sulfate							
10	Nitrate							
11	Phosphate							
12								

Injection Name:	*UT19 A1 DUP*	Inject Number:	20
Vial Number:	*18*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 21:06*		



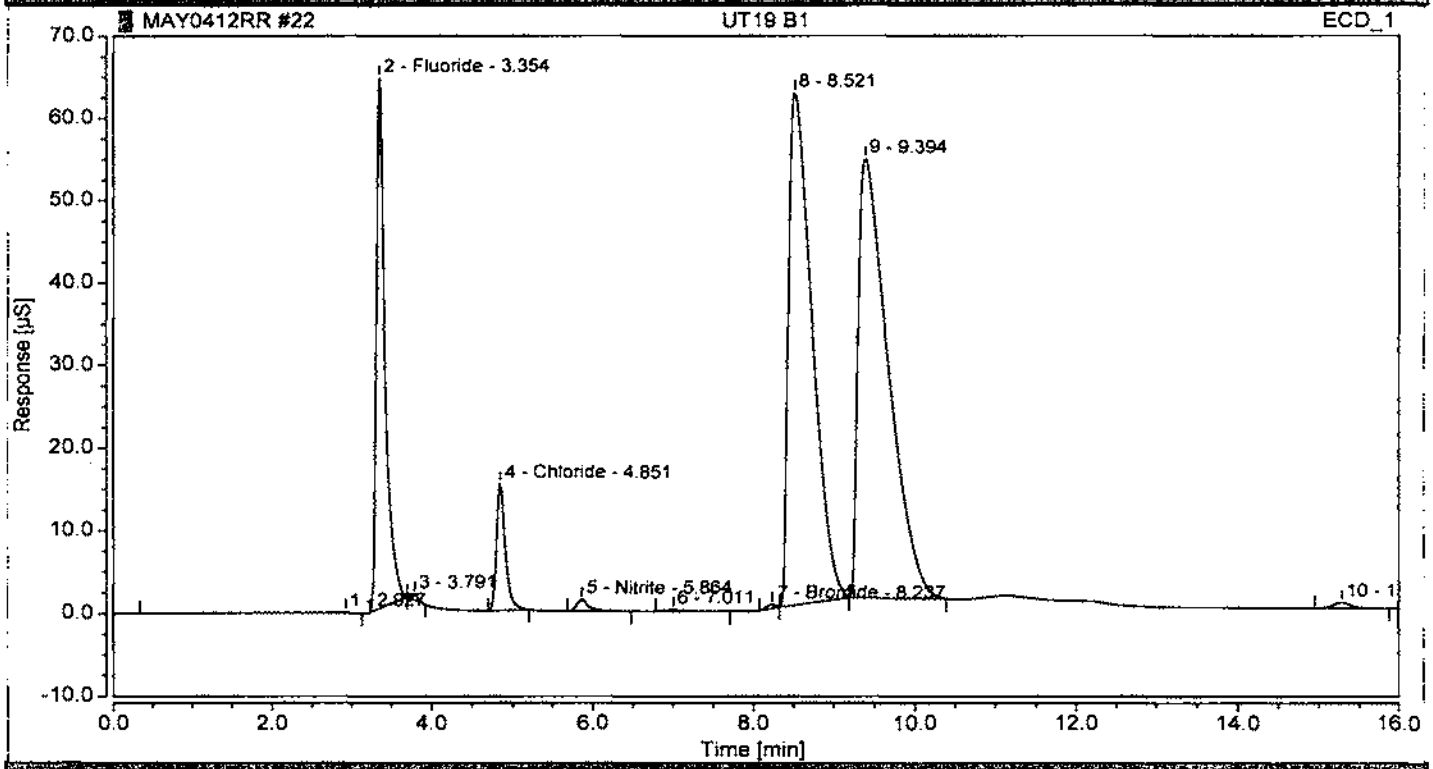
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1		1.0	n.a.	3.249	0.043	0.412	FALSE	n.a.
2		1.0	n.a.	3.721	0.067	0.814	FALSE	n.a.
3		1.0	n.a.	4.231	0.013	0.241	FALSE	n.a.
4	Chloride	1.0	22.47	4.847	4.165	9.997	FALSE	n.a.
5	Nitrite	1.0	0.000	5.881	0.000	0.000	FALSE	n.a.
6		1.0	n.a.	6.591	0.000	0.000	FALSE	n.a.
7		1.0	n.a.	7.927	0.000	0.000	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8	Sulfate	1.0	5.280	8.801	2.081	14.960	FALSE	n.a.
9	Nitrate	1.0	0.000	9.904	0.000	0.000	FALSE	n.a.
10		1.0	n.a.	10.705	0.005	0.215	FALSE	n.a.
11		1.0	n.a.	11.461	0.003	0.048	FALSE	n.a.
12	Phosphate	1.0	0.215	12.667	0.048	0.460	FALSE	n.a.
13		1.0	n.a.	14.524	3.392	13.589	FALSE	n.a.

Injection Name:	*UT19 A1 MS*	Inject Number:	21
Vial Number:	*19*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 21:26*		



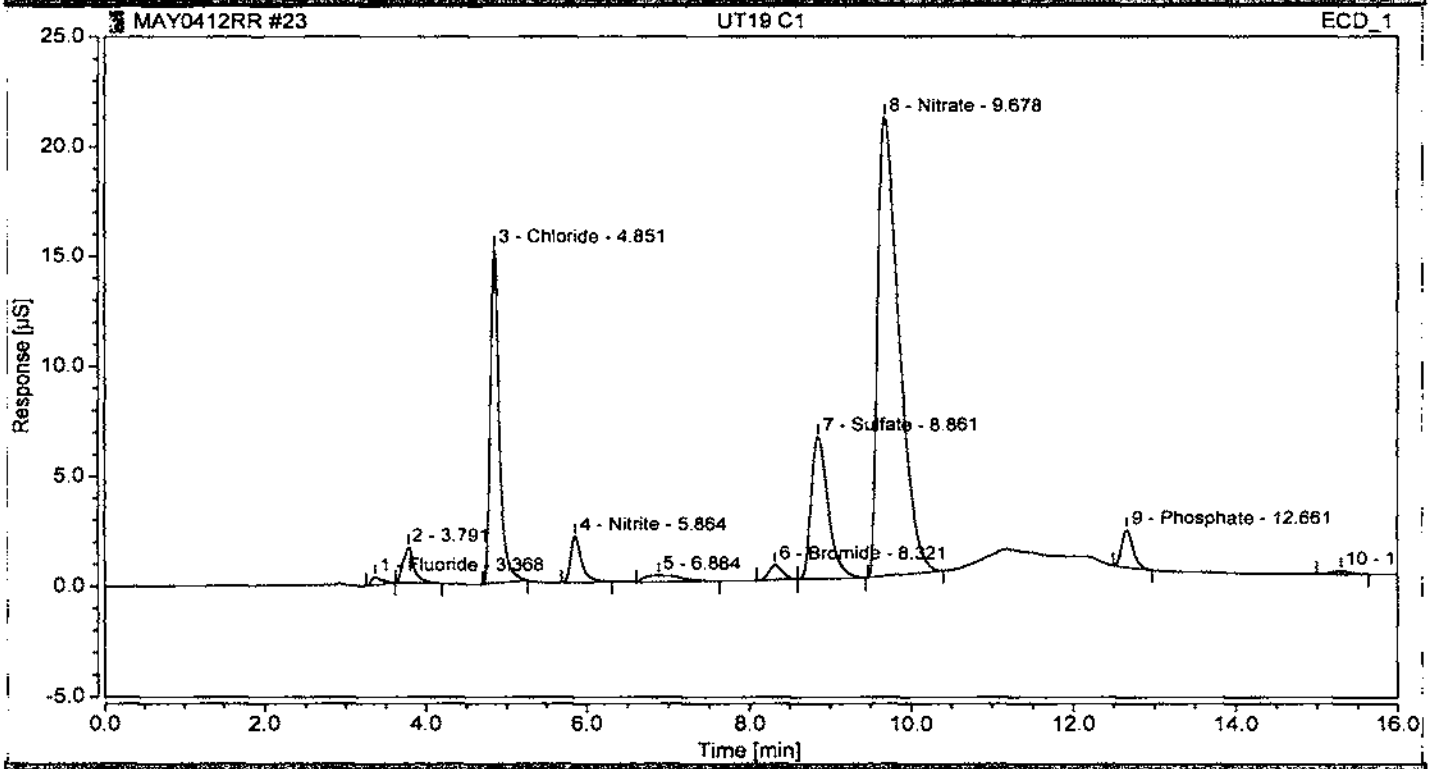
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt Dev.
			mg/l	min	µS*min	µS		mg/l
1	Fluoride	1.0	0.0979	3.36	0.182	3.119	FALSE	n.a.
2		1.0	n.a.	3.71	0.021	0.347	FALSE	n.a.
3		1.0	n.a.	3.93	0.021	0.212	FALSE	n.a.
4	Chloride	1.0	5.0167	4.85	1.728	13.868	FALSE	n.a.
5	Nitrite	1.0	2.02	5.85	1.126	8.980	FALSE	n.a.
6		1.0	n.a.	6.79	0.164	0.324	FALSE	n.a.
7		1.0	n.a.	7.93	0.266	1.491	FALSE	n.a.
8	Bromide	1.0	n.a.	8.30	0.705	4.008	FALSE	n.a.
9	Sulfate	1.0	10.59	8.79	3.606	31.353	FALSE	n.a.
10	Nitrate	1.0	2.0	9.82	1.126	7.668	FALSE	n.a.
11		1.0	n.a.	11.67	0.084	0.630	FALSE	n.a.
12	Phosphate	1.0	2.0619	12.62	0.853	3.763	FALSE	n.a.
13		1.0	n.a.	14.53	3.267	13.147	FALSE	n.a.

Injection Name:	*UT19 B1*	Inject Number:	22
Vial Number:	*20*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 21:46*		



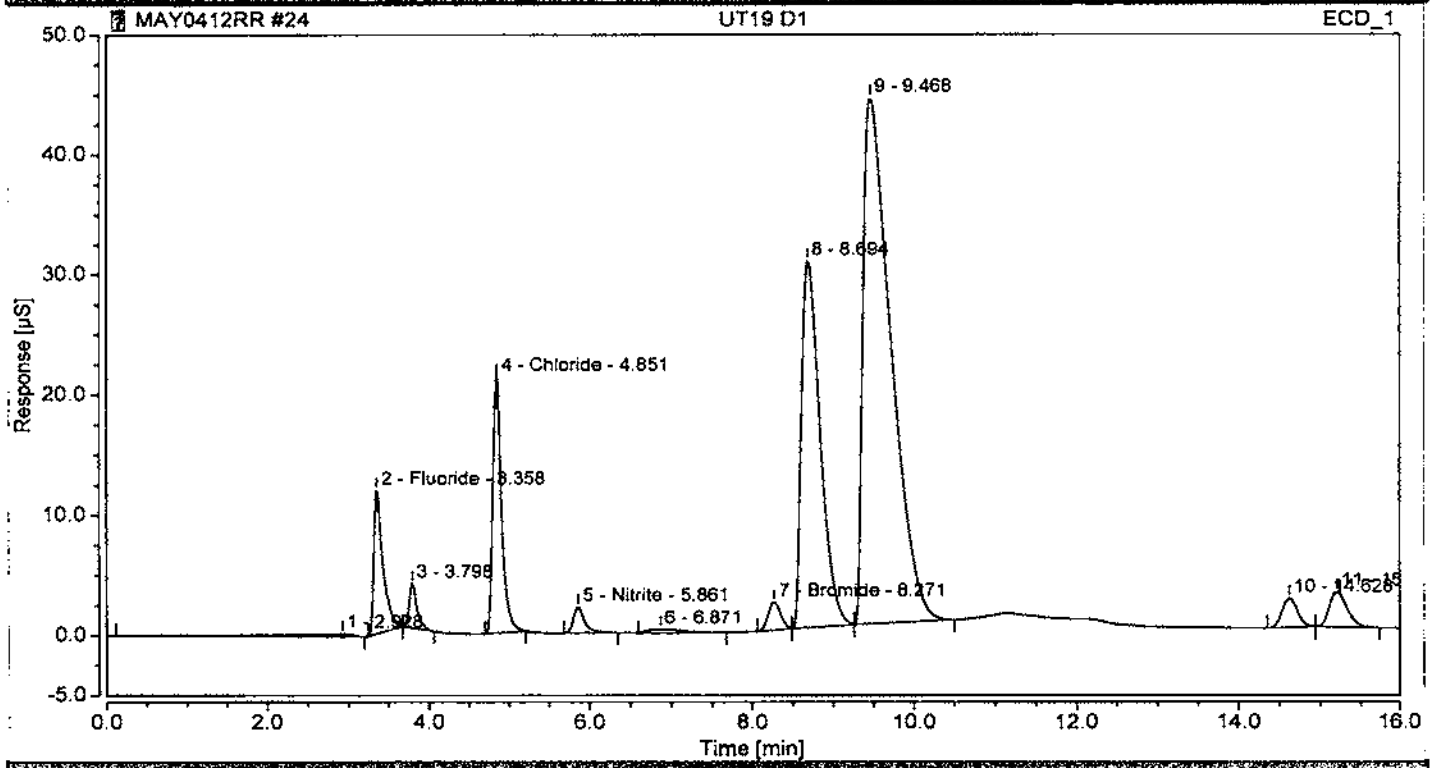
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.69	0.103	0.131	FALSE	n.a.
2	Fluoride	1.0	1.918	3.35	5.746	64.272	FALSE	n.a.
3		1.0	n.a.	3.79	0.186	0.858	FALSE	n.a.
4	Chloride	1.0	3.420	4.85	10.247	19.307	FALSE	n.a.
5	Nitrite	1.0	n.a.	5.86	0.240	1.379	FALSE	n.a.
6		1.0	n.a.	7.01	0.195	0.195	FALSE	n.a.
7	Bromide	1.0	0.187	8.24	0.560	0.457	FALSE	n.a.
8		1.0	n.a.	8.52	21.888	62.681	FALSE	n.a.
n.a.	Sulfate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9		1.0	n.a.	9.39	24.220	43.179	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10		1.0	n.a.	15.28	0.171	0.674	FALSE	n.a.

Injection Name:	*UT19 C1*	Inject Number:	23
Vial Number:	*21*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 22:05*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1	Fluoride	1.0	0.118	3.37	0.0059	0.354	FALSE	n.a.
2		1.0	n.a.	3.79	0.0021	0.160	FALSE	n.a.
3	Chloride	1.0	6.84	4.85	1.0485	16.138	FALSE	n.a.
4	Nitrite	1.0	0.923	5.86	0.0615	2.598	FALSE	n.a.
5		1.0	n.a.	6.88	0.0134	0.295	FALSE	n.a.
6	Bromide	1.0	0.000	8.32	0.0000	0.000	FALSE	n.a.
7	Sulfate	1.0	7.16	8.86	1.5376	20.451	FALSE	n.a.
8	Nitrate	1.0	3.08	9.68	0.6636	11.220	FALSE	n.a.
9	Phosphate	1.0	0.301	12.66	0.0776	1.695	FALSE	n.a.
10		1.0	n.a.	16.30	0.0361	0.151	FALSE	n.a.

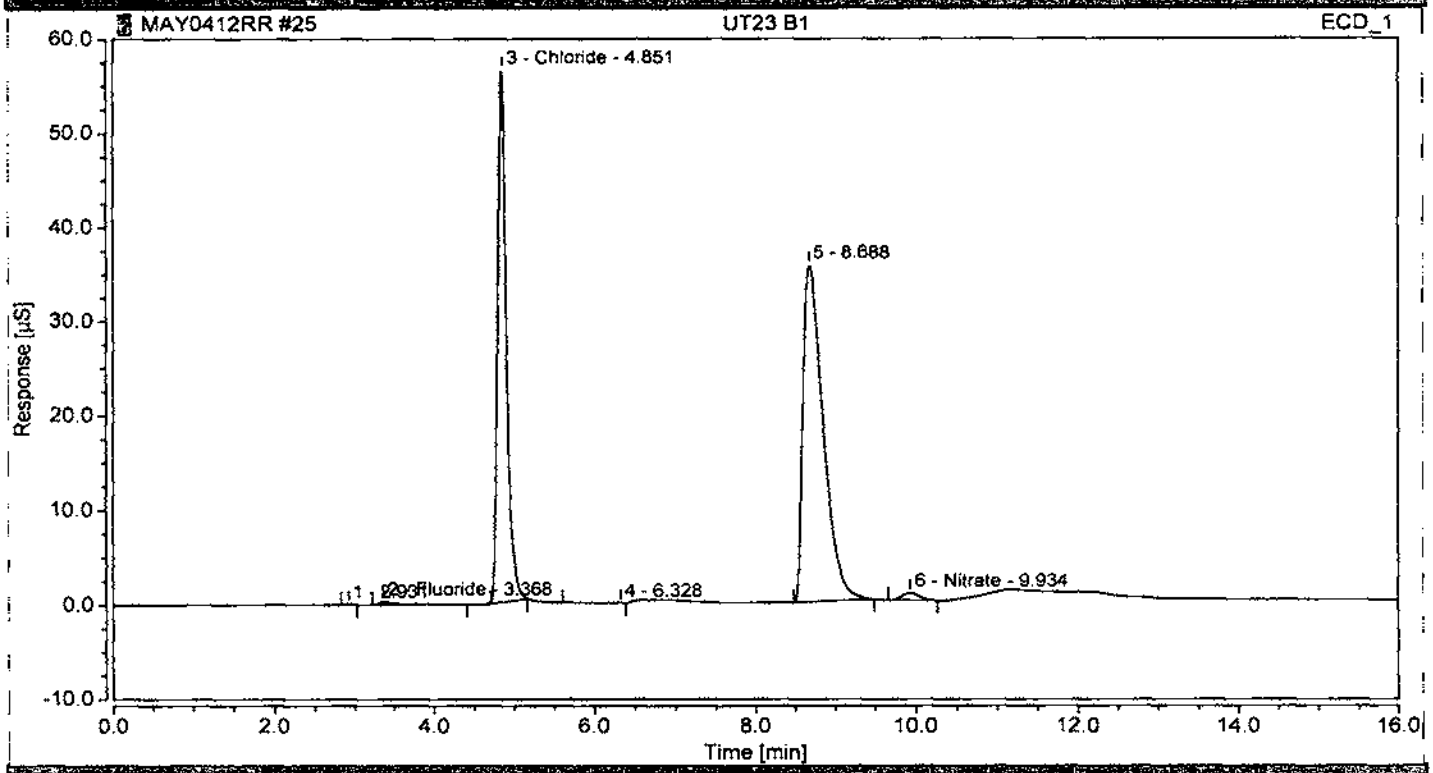
Injection Name:	*UT19 D1*	Inject Number:	24
Vial Number:	*22*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 22:25*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.928	0.281	0.228	FALSE	n.a.
2	Fluoride	1.0	0.207	3.358	1.585	11.393	FALSE	n.a.
3		1.0	n.a.	3.798	0.241	1.340	FALSE	n.a.
4	Chloride	1.0	0.475	4.851	2.705	21.278	FALSE	n.a.
5	Nitrite	1.0	0.108	5.861	0.343	2.153	FALSE	n.a.
6		1.0	n.a.	6.871	0.241	0.991	FALSE	n.a.
7	Bromide	1.0	0.156	8.271	0.719	4.229	FALSE	n.a.
8		1.0	n.a.	8.694	5.207	31.395	FALSE	n.a.
n.a.	Sulfate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9		1.0	n.a.	9.468	4.284	45.267	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10		1.0	n.a.	14.628	0.836	2.453	FALSE	n.a.
11		1.0	n.a.	15.211	0.749	2.061	FALSE	n.a.

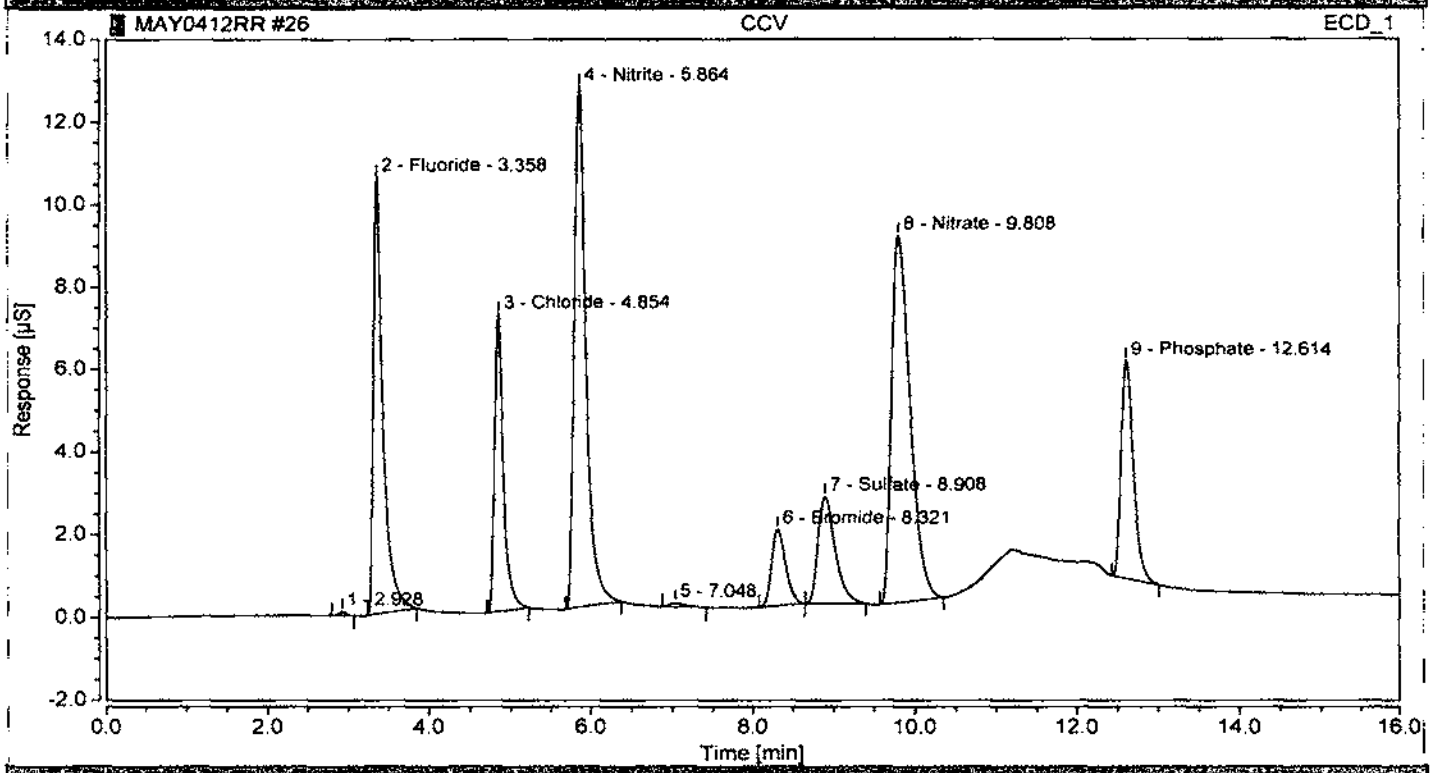
US82 : 9645 Chromeleon (c) Dionex Version 7.0.1.272

Injection Name:	*UT23 B1*	Inject Number:	25
Vial Number:	*23*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 22:44*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.99	0.0067	0.082	FALSE	n.a.
2	Fluoride	1.0	0.053	3.37	0.091	0.782	FALSE	n.a.
3	Chloride	1.0	0.127	4.85	0.190	0.889	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	6.33	n.a.	0.057	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		1.0	n.a.	8.69	0.0916	0.566	FALSE	n.a.
n.a.	Sulfate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6	Nitrate	1.0	0.248	9.93	0.186	0.775	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

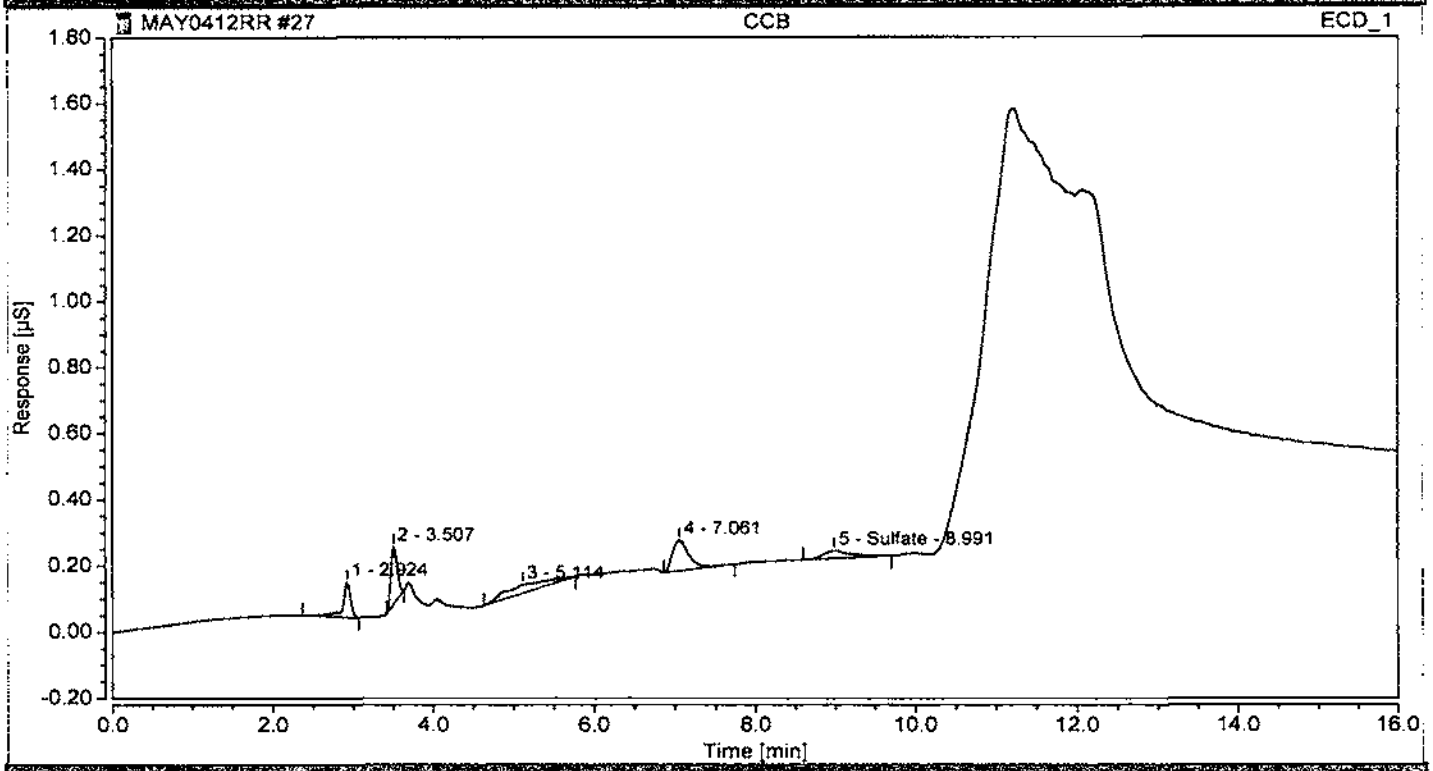
Injection Name:	*CCV*	Inject Number:	26
Vial Number:	*2*	User:	pat
Injection Type:	*Check Standard*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 23:04*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.008	0.084	FALSE	n.a.
2	Fluoride	1.0	2.026	3.36	0.0[illegible]	0.3[illegible]	FALSE	-2.47
3	Chloride	1.0	2.1[illegible]	4.86	0.01[illegible]	0.[illegible]	FALSE	-0.78
4	Nitrite	1.0	6.[illegible]	5.86	0.0[illegible]	0.[illegible]	FALSE	-8.05
5		1.0	n.a.	7.05	0.00[illegible]	0.00[illegible]	FALSE	n.a.
6	Bromide	1.0	2.0[illegible]	8.32	0.01[illegible]	0.[illegible]	FALSE	-5.44
7	Sulfate	1.0	5.[illegible]	8.91	0.0[illegible]	0.[illegible]	FALSE	-5.83
8	Nitrate	1.0	10.[illegible]	9.81	0.0[illegible]	0.[illegible]	FALSE	4.43
9	Phosphate	1.0	2.971	12.61	0.028	0.269	FALSE	-0.97

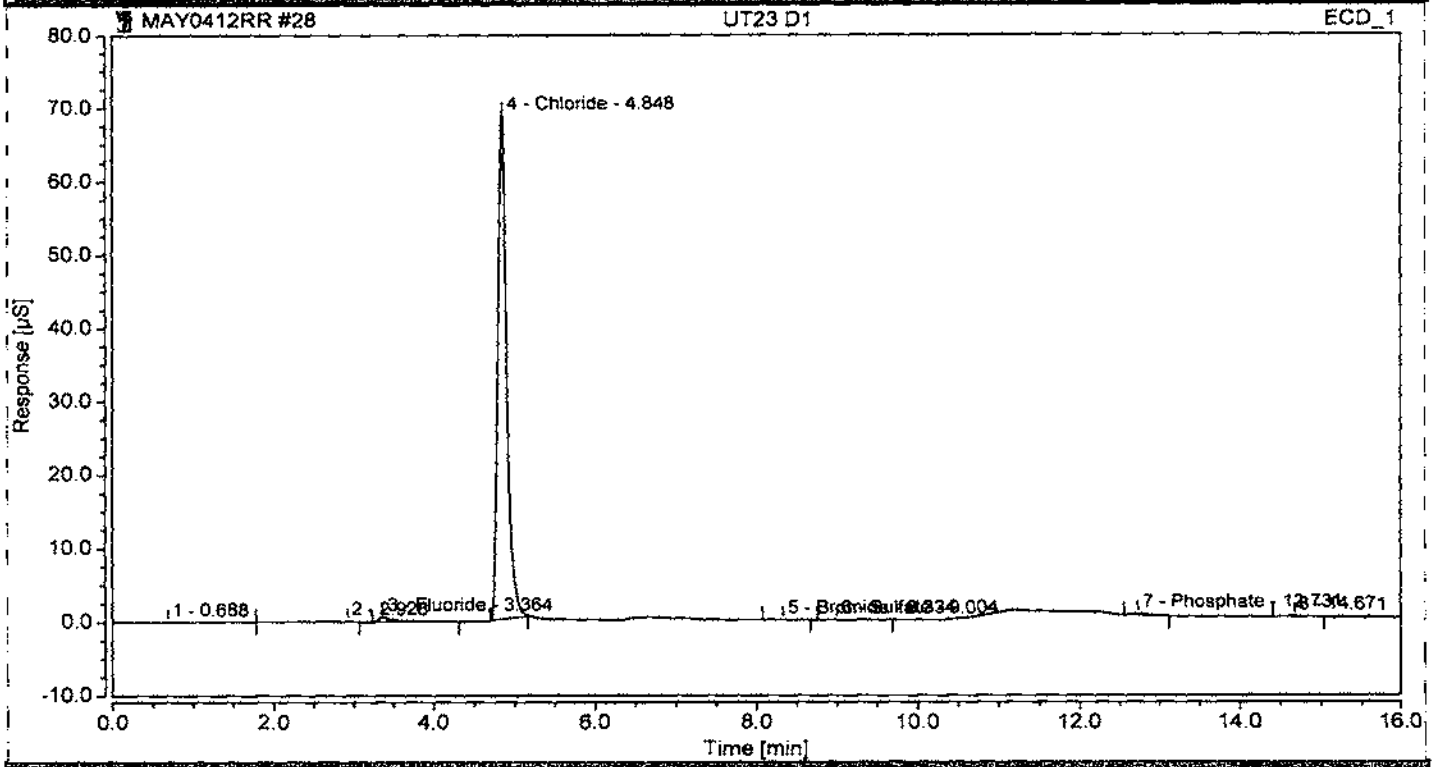
US82 : 0045

Injection Name:	*CCB*	Inject Number:	27
Vial Number:	*3*	User:	pat
Injection Type:	*Blank*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*04/05/12 23:25*		



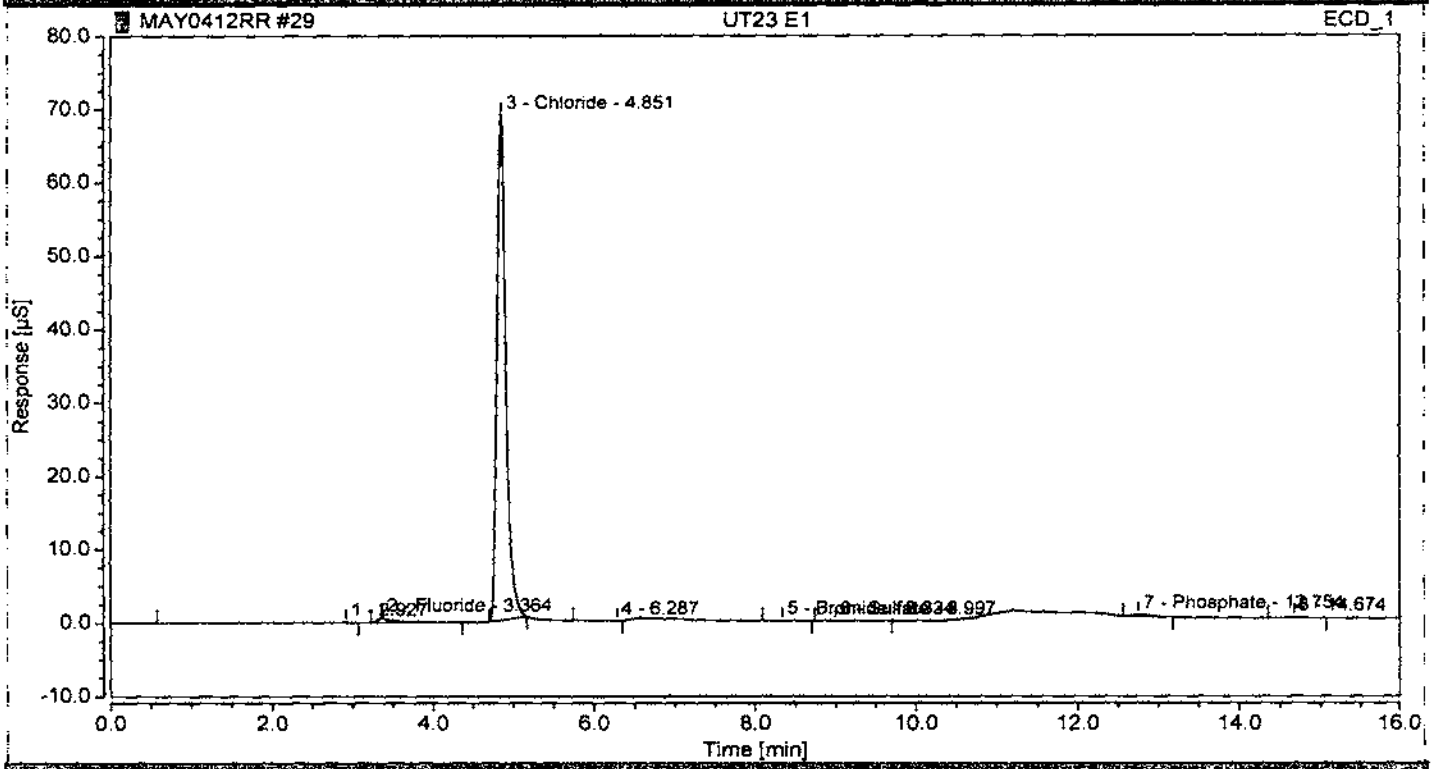
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.92	0.0018	0.105	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		1.0	n.a.	3.51	0.0018	0.172	FALSE	n.a.
n.a.	Chloride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		1.0	n.a.	5.11	0.0026	0.0926	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	7.06	0.0022	0.0923	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	1.0	n.a.	8.99	0.0010	0.0353	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*UT23 D1*	Inject Number:	28
Vial Number:	*24*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*04/05/12 23:45*		



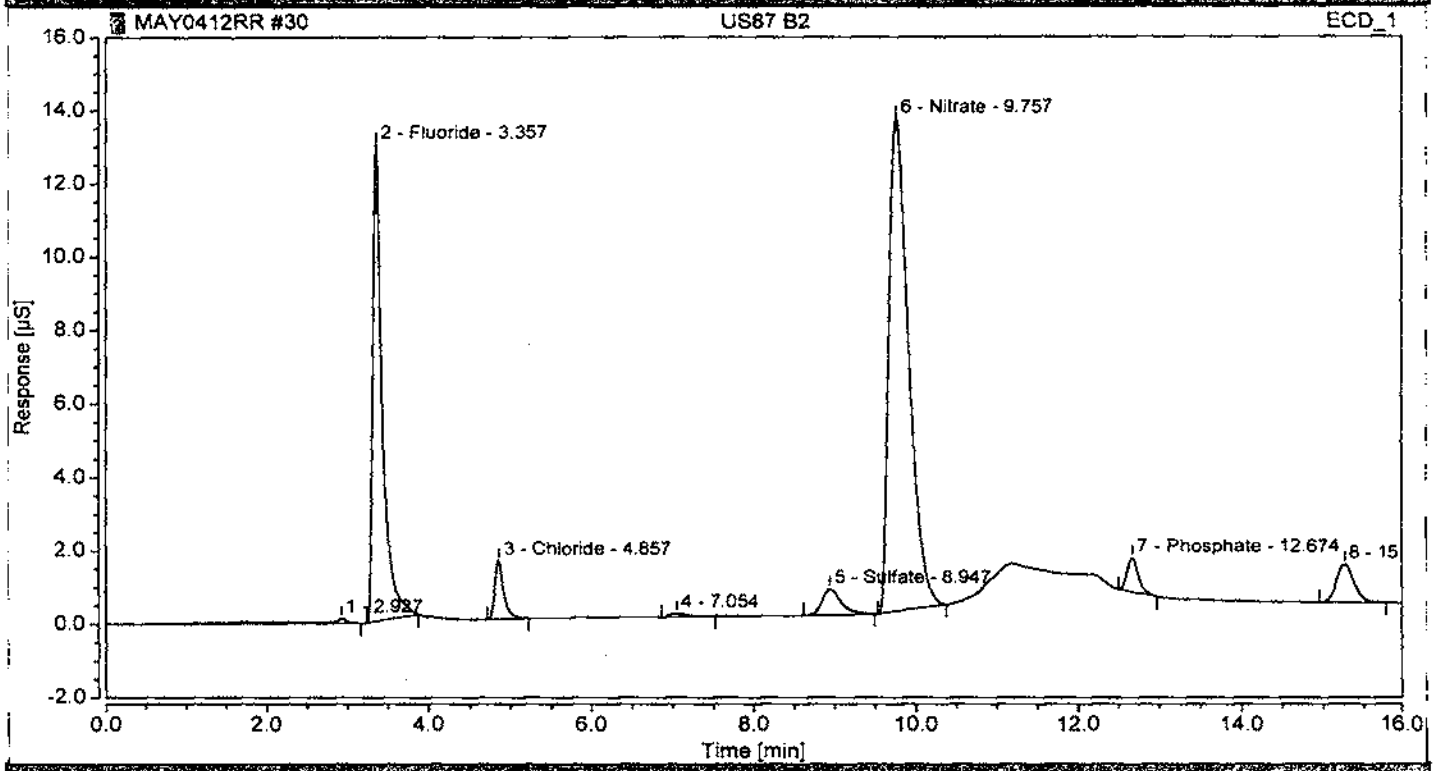
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	0.689	0.015	0.013	FALSE	n.a.
2		1.0	n.a.	2.66	0.021	0.005	FALSE	n.a.
3	Fluoride	1.0	0.208	3.364	0.045	0.040	FALSE	n.a.
4	Chloride	1.0	16.267	4.848	0.219	0.208	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Bromide	1.0	0.160	9.004	0.006	0.006	FALSE	n.a.
6	Sulfate	1.0	0.307	11.834	0.008	0.007	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	Phosphate	1.0	0.353	12.73	0.051	0.020	FALSE	n.a.
8		1.0	n.a.	14.67	0.027	0.115	FALSE	n.a.

Injection Name:	*UT23 E1*	Inject Number:	29
Vial Number:	25	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*05/05/12 00:05*		



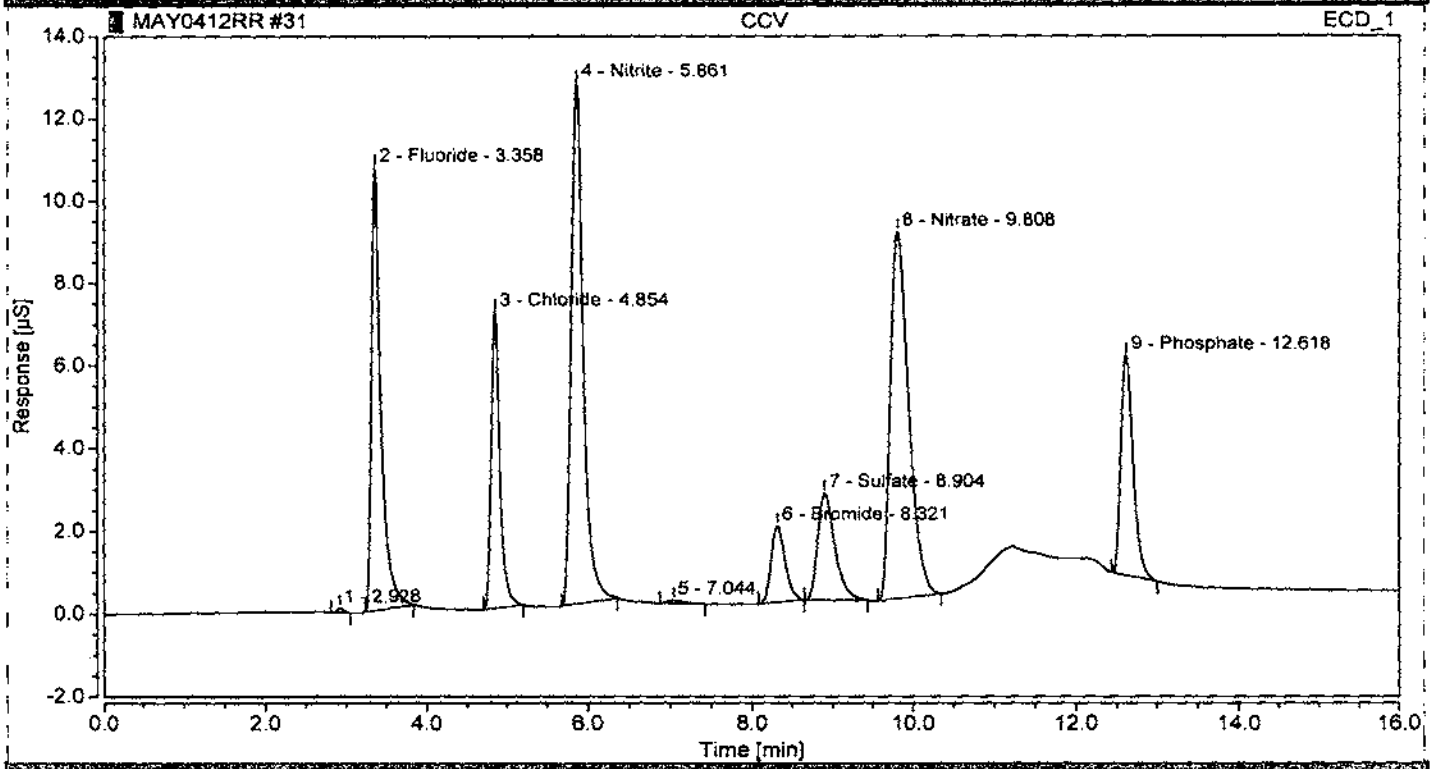
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.050	0.100	FALSE	n.a.
2	Fluoride	1.0	0.304	3.36	0.152	0.857	FALSE	n.a.
3	Chloride	1.0	26.470	4.85	5.756	60.340	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	5.12	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	6.29	0.035	0.035	FALSE	n.a.
5	Bromide	1.0	0.000	8.00	0.000	0.000	FALSE	n.a.
6	Sulfate	1.0	0.000	8.99	0.000	0.020	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	Phosphate	1.0	0.000	13.67	0.000	0.011	FALSE	n.a.
8		1.0	n.a.	14.57	0.026	0.111	FALSE	n.a.

Injection Name:	*US87 B2*	Inject Number:	30
Vial Number:	*26*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*10.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 00:25*		



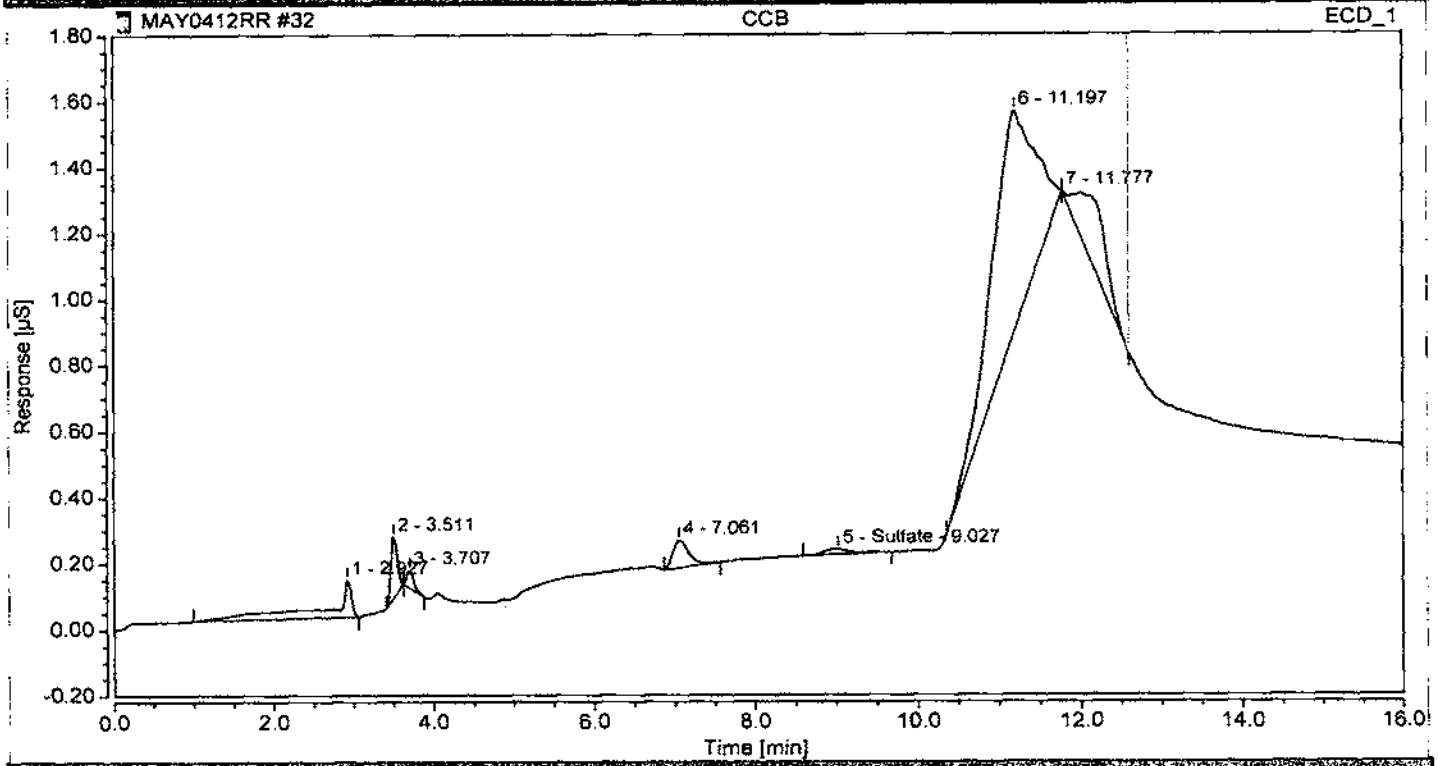
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		10.0	n.a.	2.99	0.095	0.130	FALSE	n.a.
2	Fluoride	10.0	25.027	3.36	2.736	12.982	FALSE	n.a.
3	Chloride	10.0	6.501	4.86	0.903	1.994	FALSE	n.a.
n.a.	Nitrite	10.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		10.0	n.a.	7.06	0.510	0.088	FALSE	n.a.
n.a.	Bromide	10.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	10.0	32.367	8.96	0.193	0.780	FALSE	n.a.
6	Nitrate	10.0	40.185	9.76	3.724	13.415	FALSE	n.a.
7	Phosphate	10.0	4.654	12.67	0.135	0.827	FALSE	n.a.
8		10.0	n.a.	15.27	0.260	1.037	FALSE	n.a.

Injection Name:	*CCV*	Inject Number:	31
Vial Number:	*27*	User:	pat
Injection Type:	*Check Standard*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*05/05/12 00:45*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.008	0.095	FALSE	n.a.
2	Fluoride	1.0	2.954	3.36	0.457	10.737	FALSE	-1.54
3	Chloride	1.0	2.930	4.85	0.301	7.156	FALSE	-2.32
4	Nitrite	1.0	9.852	5.86	0.574	12.883	FALSE	-0.26
5				7.04	0.016	0.078	FALSE	n.a.
6	Bromide	1.0	12.830	8.32	0.372	6.537	FALSE	-5.66
7	Sulfate	1.0	9.427	8.90	0.607	12.548	FALSE	-5.77
8	Nitrate	1.0	5.130	9.81	0.305	8.871	FALSE	4.32
9	Phosphate	1.0	2.966	12.62	0.033	5.306	FALSE	-0.40

Injection Name:	*CCB*	Inject Number:	32
Vial Number:	*28*	User:	pat
Injection Type:	*Blank*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 01:05*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.013	0.112	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		1.0	n.a.	3.51	0.017	0.183	FALSE	n.a.
3		1.0	n.a.	3.71	0.005	0.058	FALSE	n.a.
n.a.	Chloride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	7.06	0.013	0.093	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5 -	Sulfate	1.0	0.029	9.03	0.016	0.115	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6		1.0	n.a.	11.20	0.407	0.837	FALSE	n.a.
7		1.0	n.a.	11.78	0.076	0.180	FALSE	n.a.
n.a.	Phosphate	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

US82 : 00471

Injection Name:	*STOP*	Inject Number:	33
Vial Number:	*1*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0412RR
Dilution Factor:	*1.0*		
Instrument Method:	*SHUTDOWN*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*05/05/12 01:26*		

Can't read channel ECD_1 from injection #33 - STOP.
Channel is not available.

No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			n.a.	min	natogram in con	matogram in		n.a.

US82 : 08472

[redacted]

Name:	**MAY0512RR**	*Calibration:*	**APRIL2112RR**	**ARI # 593-01**
Directory:	**Instrument Data\MAY 2012**	*Calibration exp:*	**6/21/2012**	
Data Vault:	**ChromeleonLocal**	*Queue Start:*	5/5/2012 18:40	
No. of Injections:	**37.000**	*User:*	**RR**	

[redacted]

		ERA 161110	ERA 411010	ERA 401010	ERA 111108	ERA 160111	ERA 230511	ERA 200610
Name	Dilution	Amount n.a. Fluoride	Amount n.a. Chloride	Amount n.a. Nitrite	Amount n.a. Bromide	Amount n.a. Sulfate	Amount n.a. Nitrate	Amount n.a. Phosphate
RINSE	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ICV	1.0	2.959	2.945	2.972	2.854	2.852	3.135	2.978
%R=		**98.6%**	**98.2%**	**99.1%**	**95.1%**	**95.1%**	**104.5%**	**99.3%**
ICB	1.0	n.a.	0.076	n.a.	n.a.	0.056	n.a.	n.a.
[redacted]			5.981	0.395	0.854	94.294		n.a.
[redacted]		3.412	8.409	0.493	2.971	35.179		n.a.
[redacted]		n.a.		0.069	n.a.	15.457	0.550	0.232
[redacted]		n.a.		0.068	n.a.	15.403	0.550	0.211
%RPD=			**0.58%**	**1.16%**		**0.36%**	**0.06%**	
[redacted]		2.707		4.036	2.964	18.739	4.760	3.981
%R=		**67.7%**	**96.5%**	**98.2%**	**74.1%**	**82.1%**	**105.2%**	**93.7%**
SPK=	**0.1mL*200ppm/5mL**		**=4ppm**					
[redacted]		n.a.	3.300	n.a.	n.a.	[redacted]	0.468	0.216
[redacted]		n.a.	3.315	0.098	n.a.	[redacted]	0.455	0.215
%RPD=			**0.47%**			**0.54%**	**2.77%**	**0.45%**
[redacted]		9.405	12.873	9.670	7.899	[redacted]	10.705	9.662
%R=		**94.1%**	**95.7%**	**96.7%**	**79.0%**	**85.7%**	**102.4%**	**94.5%**
SPK=	**0.25mL*200ppm/5mL**		**=10ppm**					
[redacted]		19.714	5.438	0.346	0.883	[redacted]	29.741	n.a.
[redacted]		16.768	[redacted]	0.303	0.789	n.a.	n.a.	n.a.
CCV	1.0	2.916	2.955	2.967	2.820	2.835	3.114	2.960
%R=		**97.2%**	**98.5%**	**98.9%**	**94.0%**	**94.5%**	**103.8%**	**98.7%**
CCB	1.0	n.a.	n.a.	n.a.	n.a.	0.023	n.a.	n.a.
[redacted]		0.035	[redacted]	0.448	0.954	[redacted]	[redacted]	0.813
[redacted]		3.097	8.221	0.431	2.884	[redacted]	21.994	n.a.
[redacted]		3.382	[redacted]	0.465	3.136	36.486	n.a.	n.a.
[redacted]		0.117	[redacted]	n.a.	n.a.	6.592	0.148	n.a.
[redacted]		0.130	[redacted]	n.a.	n.a.	6.625	0.146	n.a.
%RPD=		**9.84%**	**0.15%**			**0.51%**	**1.33%**	
[redacted]		4.115	[redacted]	3.931	3.483	10.071	4.308	3.804
%R=		**205.8%**	**193.3%**	**196.6%**	**174.1%**	**174.0%**	**208.0%**	**190.2%**
SPK=	**0.05mL*200ppm/5mL**		**=2ppm**					
[redacted]		0.026	4.131	n.a.	n.a.	[redacted]	0.137	n.a.
[redacted]		0.026	4.102	n.a.	n.a.	[redacted]	0.136	n.a.
%RPD=		**0.44%**	**0.69%**			**0.11%**	**1.02%**	
[redacted]		4.158	8.065	3.951	3.480	[redacted]	4.317	3.818
%R=		**207.9%**	**196.7%**	**197.5%**	**174.0%**	**187.4%**	**209.0%**	**190.9%**
SPK=	**0.05mL*200ppm/5mL**		**=2ppm**					
[redacted]		0.068	2.848	n.a.	n.a.	[redacted]	n.a.	n.a.
CCV	1.0	2.944	2.941	2.970	2.820	2.828	3.110	2.986
%R=		**98.1%**	**98.0%**	**99.0%**	**94.0%**	**94.3%**	**103.7%**	**99.5%**
CCB	1.0	n.a.	n.a.	n.a.	n.a.	0.037	n.a.	n.a.
[redacted]		n.a.	6.053	n.a.	n.a.	[redacted]	n.a.	n.a.
[redacted]		0.053	[redacted]	n.a.	n.a.	15.408	n.a.	n.a.
[redacted]		0.069	3.396	0.020	n.a.	[redacted]	n.a.	n.a.
[redacted]		n.a.	3.344	0.153	n.a.	[redacted]	0.748	n.a.
[redacted]		31.920	[redacted]	0.030	n.a.	[redacted]	n.a.	5.406
[redacted]		0.022	4.651	n.a.	n.a.	[redacted]	2.018	0.056
[redacted]		n.a.	21.807	n.a.	n.a.	[redacted]	n.a.	n.a.
CCV	1.0	2.940	2.942	2.973	2.805	2.815	3.108	2.976

US82 : 00473

%R=		98.0%	98.1%	99.1%	93.5%	93.8%	103.6%	99.2%
CCB	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
STOP	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

US82 : 80174

[redacted]

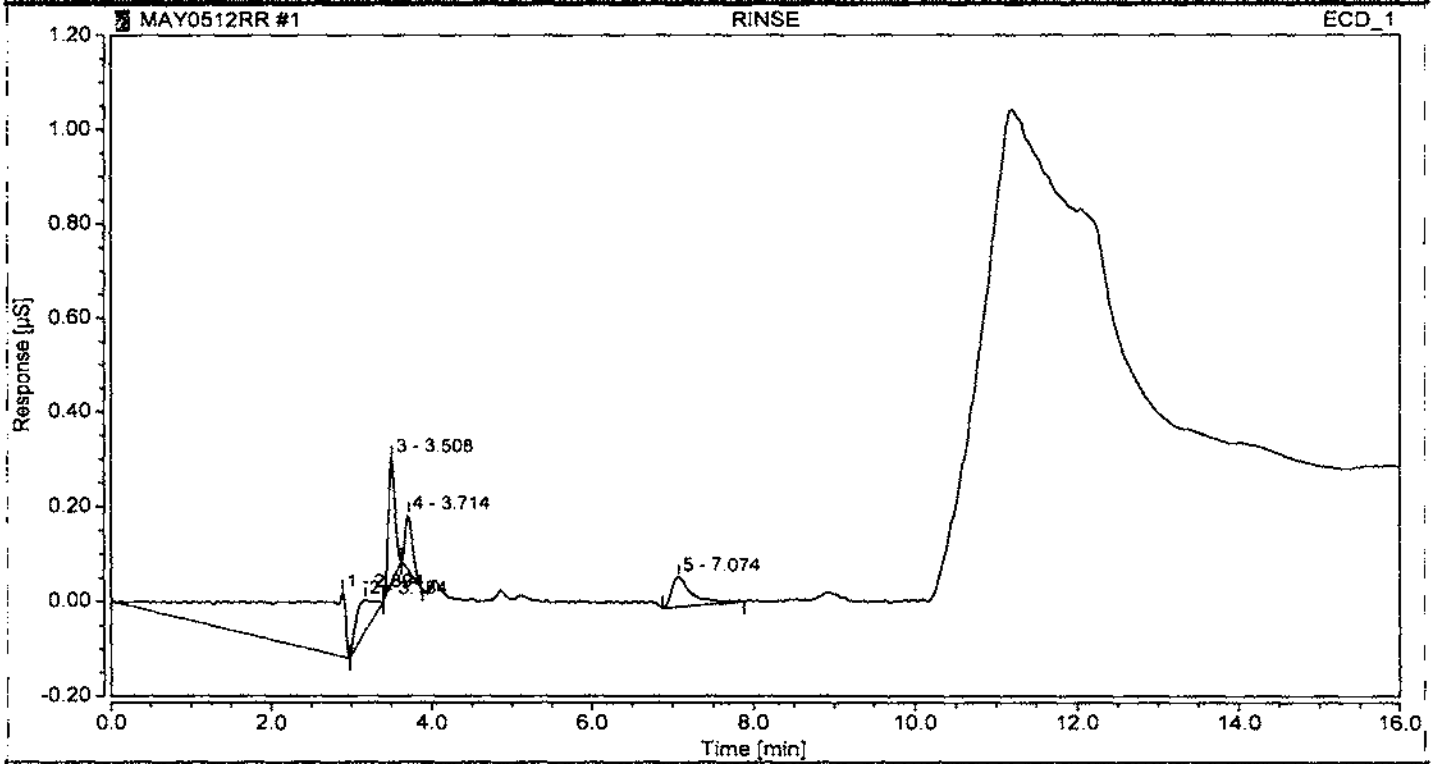
Name:	**MAY0512RR**	*Queue Start:*	**2012-05-05T18:40:58-**
Directory:	**Instrument Data\MAY 2012**	*Created By:*	**pat**
Data Vault:	**ChromeleonLocal**		
No. of Injections:	**37**		

[redacted]

No.	Injection Name	Position	Type	Level	Dilution	Inject Time
1	RINSE	1	Unknown		1.0	05/May/12 18:40:58
2	ICV	2	Check Standard	05	1.0	05/May/12 18:59:54
3	ICB	3	Blank		1.0	05/May/12 19:19:06
4	UT19 B1	4	Unknown		10.0	05/May/12 19:38:23
5	UT19 D1	5	Unknown		5.0	05/May/12 19:57:46
6	UT19 A1	6	Unknown		1.0	05/May/12 20:17:14
7	UT19 A1 DUP	7	Unknown		1.0	05/May/12 20:36:46
8	UT19 A1 MS	8	Unknown		2.0	05/May/12 20:56:27
9	UT19 A1	9	Unknown		5.0	05/May/12 21:16:12
10	UT19 A1 DUP	10	Unknown		5.0	05/May/12 21:36:03
11	UT19 A1 MS	11	Unknown		5.0	05/May/12 21:55:59
12	UT19 B1	12	Unknown		20.0	05/May/12 22:16:01
13	UT19 B1	13	Unknown		2.0	05/May/12 22:36:07
14	CCV	2	Check Standard	06	1.0	05/May/12 22:56:19
15	CCB	3	Blank		1.0	05/May/12 23:16:55
16	UT18 C1	14	Unknown		5.0	05/May/12 23:37:36
17	UT19 D1	15	Unknown		10.0	05/May/12 23:58:06
18	UT19 D1	16	Unknown		2.0	06/May/12 00:18:41
19	US82 A1	17	Unknown		1.0	06/May/12 00:39:20
20	US82 A1 DUP	18	Unknown		1.0	06/May/12 01:00:04
21	US82 A1 MS	19	Unknown		2.0	06/May/12 01:20:54
22	US82 A1	20	Unknown		2.0	06/May/12 01:40:15
23	US82 A1 DUP	21	Unknown		2.0	06/May/12 01:58:41
24	US82 A1 MS	19	Unknown		2.0	06/May/12 02:19:13
25	US82 B1	22	Unknown		2.0	06/May/12 02:39:13
26	CCV	2	Check Standard	06	1.0	06/May/12 02:59:00
27	CCB	3	Blank		1.0	06/May/12 03:19:26
28	US82 C1	23	Unknown		5.0	06/May/12 03:40:01
29	US82 C1	24	Unknown		2.0	06/May/12 04:00:02
30	US82 C1	25	Unknown		2.0	06/May/12 04:20:03
31	US87 A2	26	Unknown		5.0	06/May/12 04:40:08
32	US87 B2	27	Unknown		2.0	06/May/12 05:00:17
33	US83 A7	28	Unknown		2.0	06/May/12 05:20:31
34	UT23 B1	29	Unknown		10.0	06/May/12 05:40:47
35	CCV	30	Check Standard	06	1.0	06/May/12 06:01:08
36	CCB	31	Blank		1.0	06/May/12 06:21:33
37	STOP	1	Unknown		1.0	06/May/12 06:42:01

US82 : 00475

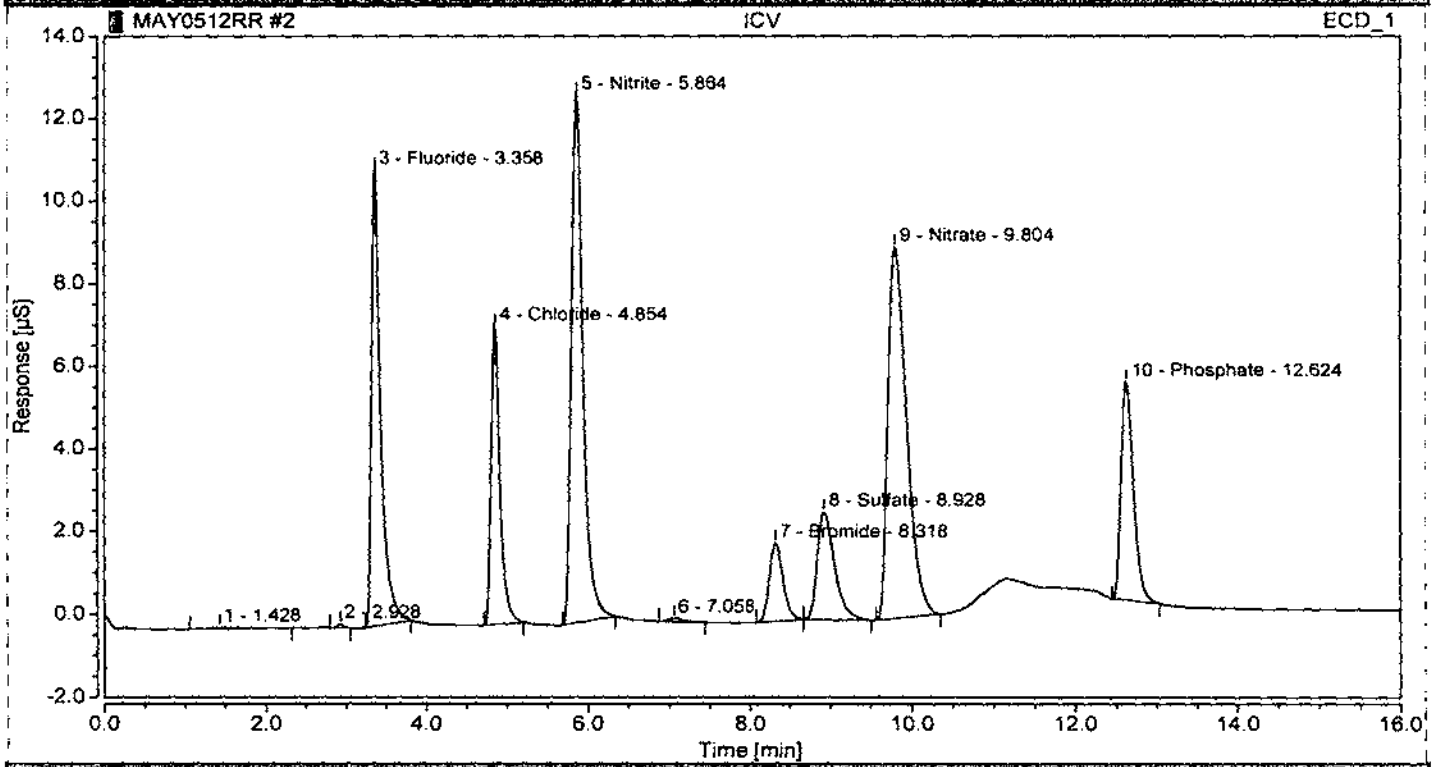
Injection Name:	*RINSE*	Inject Number:	1
Vial Number:	*1*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 18:40*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n/a	2.89	0.169	0.134	FALSE	n.a.
2		1.0	n.a.	3.18	0.018	0.064	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		1.0	n.a.	3.51	0.025	0.262	FALSE	n.a.
4		1.0	n.a.	3.73	0.012	0.117	FALSE	n.a.
n.a.	Chloride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		1.0	n.a.	7.07	0.019	0.063	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Sulfate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

USB2 : 00475

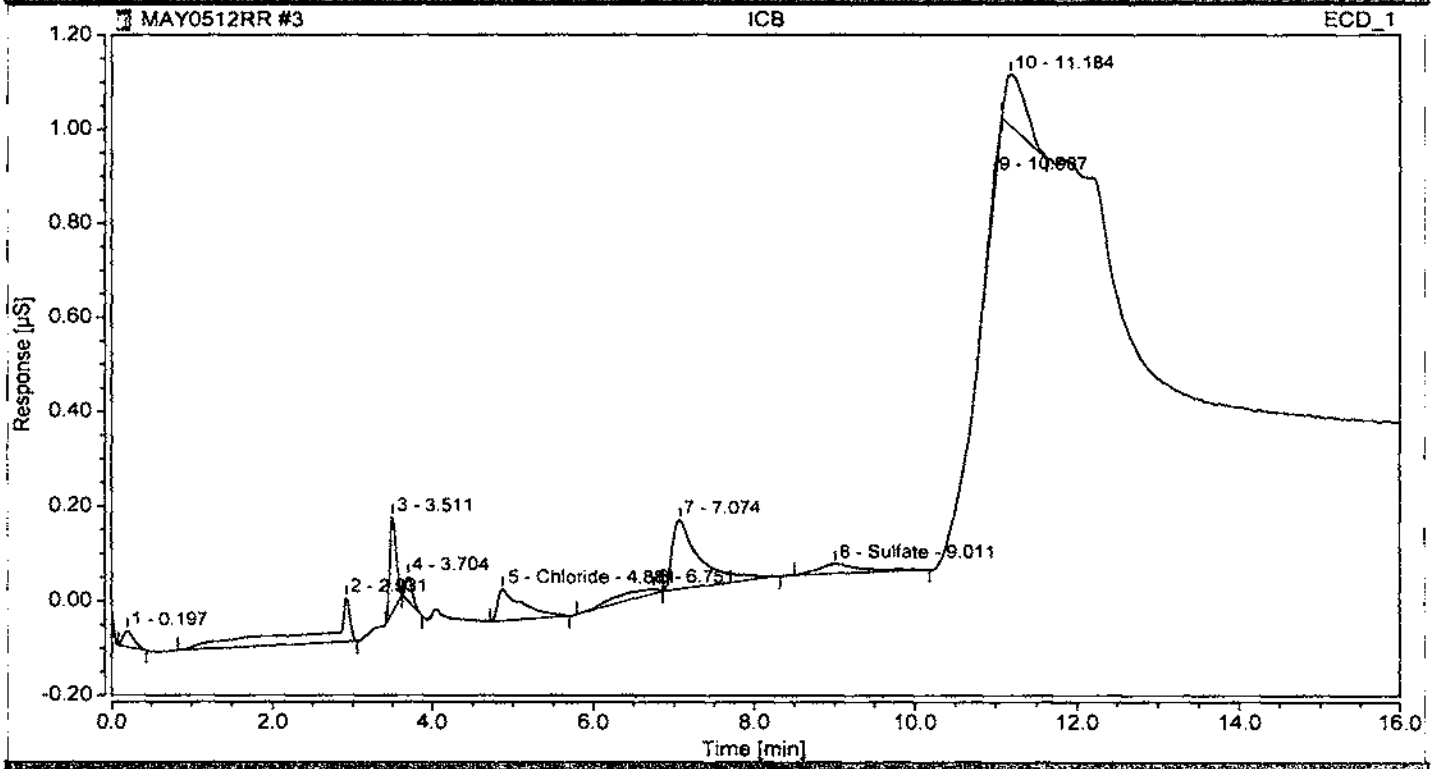
Injection Name:	*ICV*	Inject Number:	2
Vial Number:	*2*	User:	pat
Injection Type:	*Check Standard*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*05/05/12 18:59*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	1.43	0.014	0.028	FALSE	n.a.
2		1.0	n.a.	2.93	0.007	0.085	FALSE	n.a.
3	Fluoride	1.0	2.959	3.36	1.467	1.023	FALSE	-1.37
4	Chloride	1.0	2.985	4.85	0.805	0.213	FALSE	-1.83
5	Nitrite	1.0	9.972	5.86	2.096	12.747	FALSE	-0.92
6		1.0	n.a.	7.06	0.007	0.075	FALSE	n.a.
7	Bromide	1.0	2.826	8.32	0.375	1.871	FALSE	-4.87
8	Sulfate	1.0	2.892	8.93	0.642	2.890	FALSE	-4.94
9	Nitrate	1.0	10.135	9.80	2.342	8.976	FALSE	4.49
10	Phosphate	1.0	2.978	12.62	0.930	5.275	FALSE	-0.73

USB2 : 00477

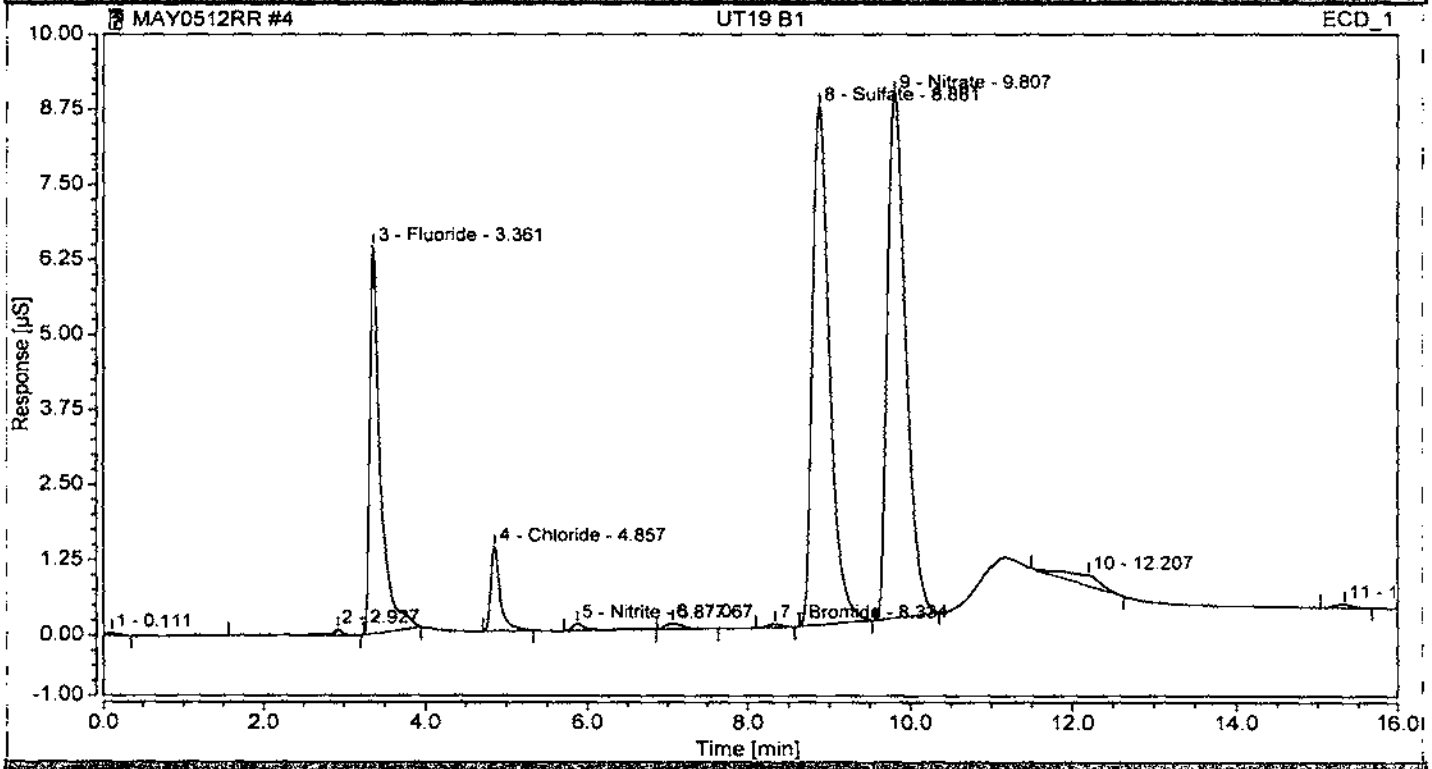
Injection Name:	*ICB*	Inject Number:	3
Vial Number:	*3*	User:	pat
Injection Type:	*Blank*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 19:19*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	0.20	0.005	0.034	FALSE	n.a.
2		1.0	n.a.	2.93	0.021	0.092	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		1.0	0.087	3.51	0.019	0.199	FALSE	n.a.
4		1.0	n.a.	3.70	0.016	0.063	FALSE	n.a.
5	Chloride	1.0	0.076	4.85	0.023	0.067	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6		1.0	n.a.	9.01	0.009	0.010	FALSE	n.a.
7		1.0	n.a.	7.07	0.036	0.146	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8	Sulfate	1.0	0.056	9.01	0.013	0.020	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9		1.0	n.a.	10.68	0.008	0.005	FALSE	n.a.
10		1.0	n.a.	11.18	0.032	0.108	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

US82 : 00478

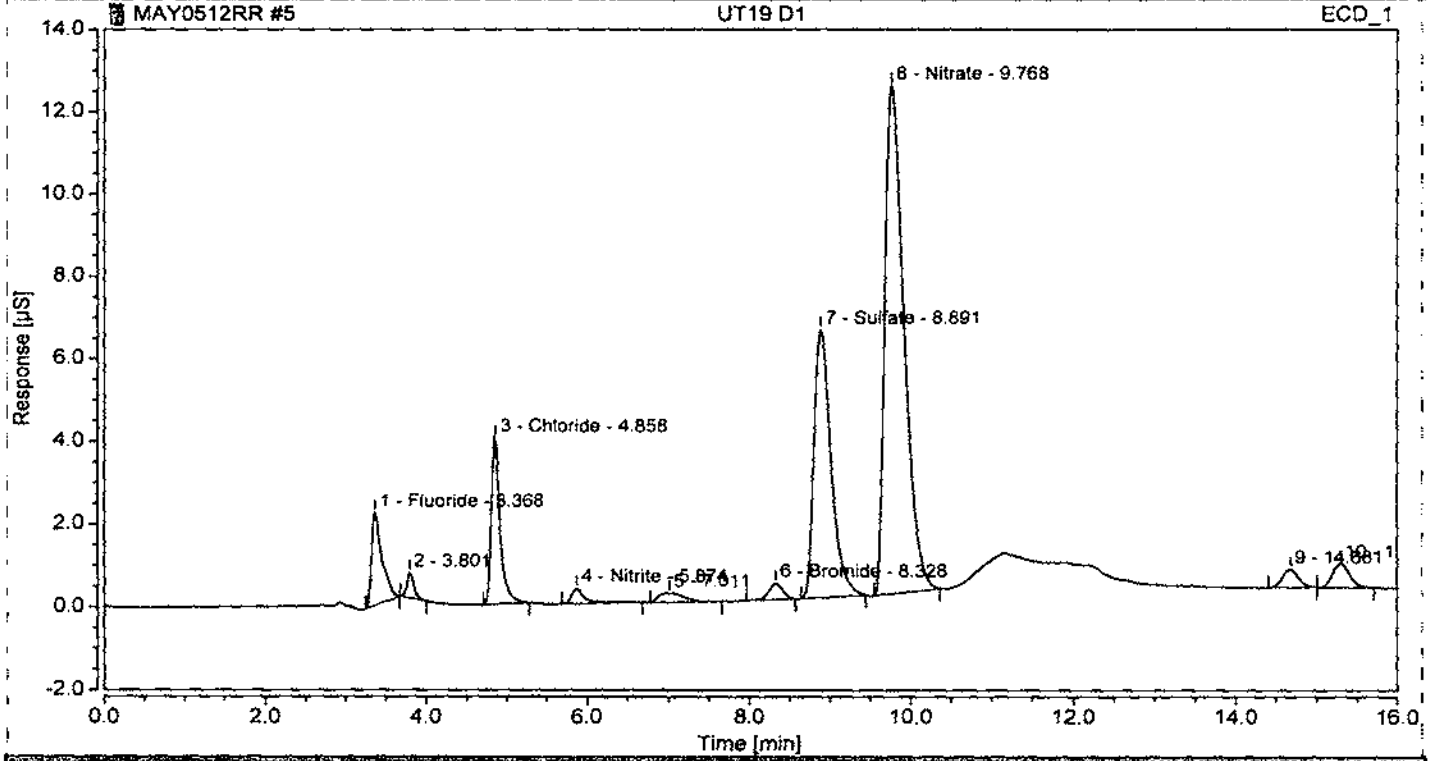
Injection Name:	*UT19 B1*	Inject Number:	4
Vial Number:	*4*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*10.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 19:38*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		10.0	n.a.	0.11	0.006	0.038	FALSE	n.a.
2		10.0	n.a.	2.93	0.026	0.105	FALSE	n.a.
3	Fluoride	10.0	1.9708	3.36	0.977	6.436	FALSE	n.a.
4	Chloride	10.0	5.911	4.86	0.184	1.385	FALSE	n.a.
5	Nitrite	10.0	0.396	6.88	0.028	0.115	FALSE	n.a.
6		10.0	n.a.	7.07	0.022	0.091	FALSE	n.a.
7	Bromide	10.0	n.a.	8.33	0.011	0.057	FALSE	n.a.
8	Sulfate	10.0	9.822	8.88	2.128	15.511	FALSE	n.a.
9	Nitrate	10.0	3.703	9.81	2.272	8.703	FALSE	n.a.
10		10.0	n.a.	12.21	0.095	0.180	FALSE	n.a.
n.a.	Phosphate	10.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
11		10.0	n.a.	15.33	0.015	0.061	FALSE	n.a.

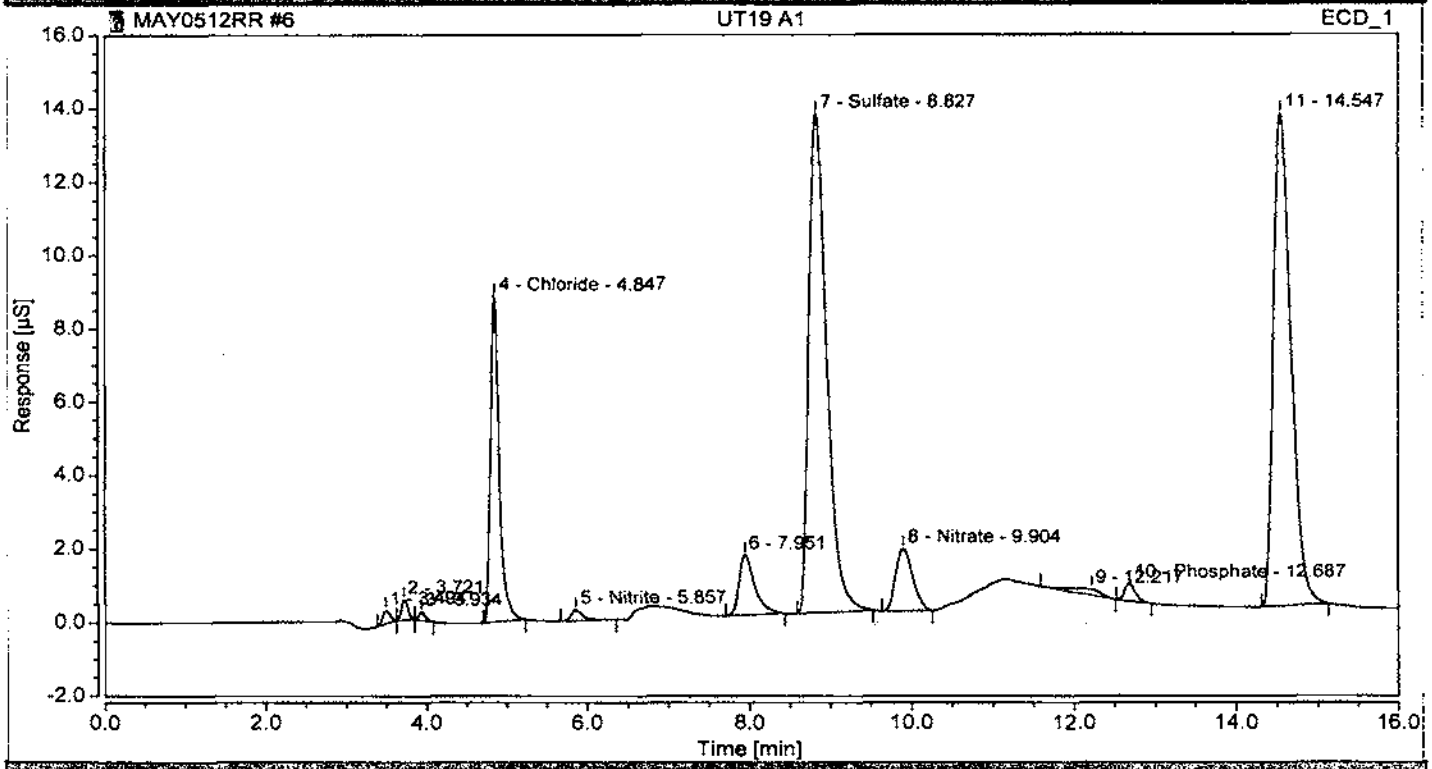
US82 : 00479

Injection Name:	*UT19 D1*	Inject Number:	5
Vial Number:	*5*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*5.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 19:57*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1	Fluoride	5.0	3.212	3.367	0.338	2.233	FALSE	n.a.
2		5.0	n.a.	3.80	0.061	0.607	FALSE	n.a.
3	Chloride	5.0	5.409	4.86	0.517	4.015	FALSE	n.a.
4	Nitrite	5.0	3.493	5.87	0.070	0.375	FALSE	n.a.
5		5.0	n.a.	7.61	0.062	0.227	FALSE	n.a.
6	Bromide	5.0	2.871	8.33	0.078	0.393	FALSE	n.a.
7	Sulfate	5.0	35.179	8.89	0.764	6.479	FALSE	n.a.
8	Nitrate	5.0	22.502	9.78	3.382	12.310	FALSE	n.a.
n.a.	Phosphate	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9		5.0	n.a.	14.88	0.098	0.439	FALSE	n.a.
10		5.0	n.a.	15.90	0.142	0.579	FALSE	n.a.

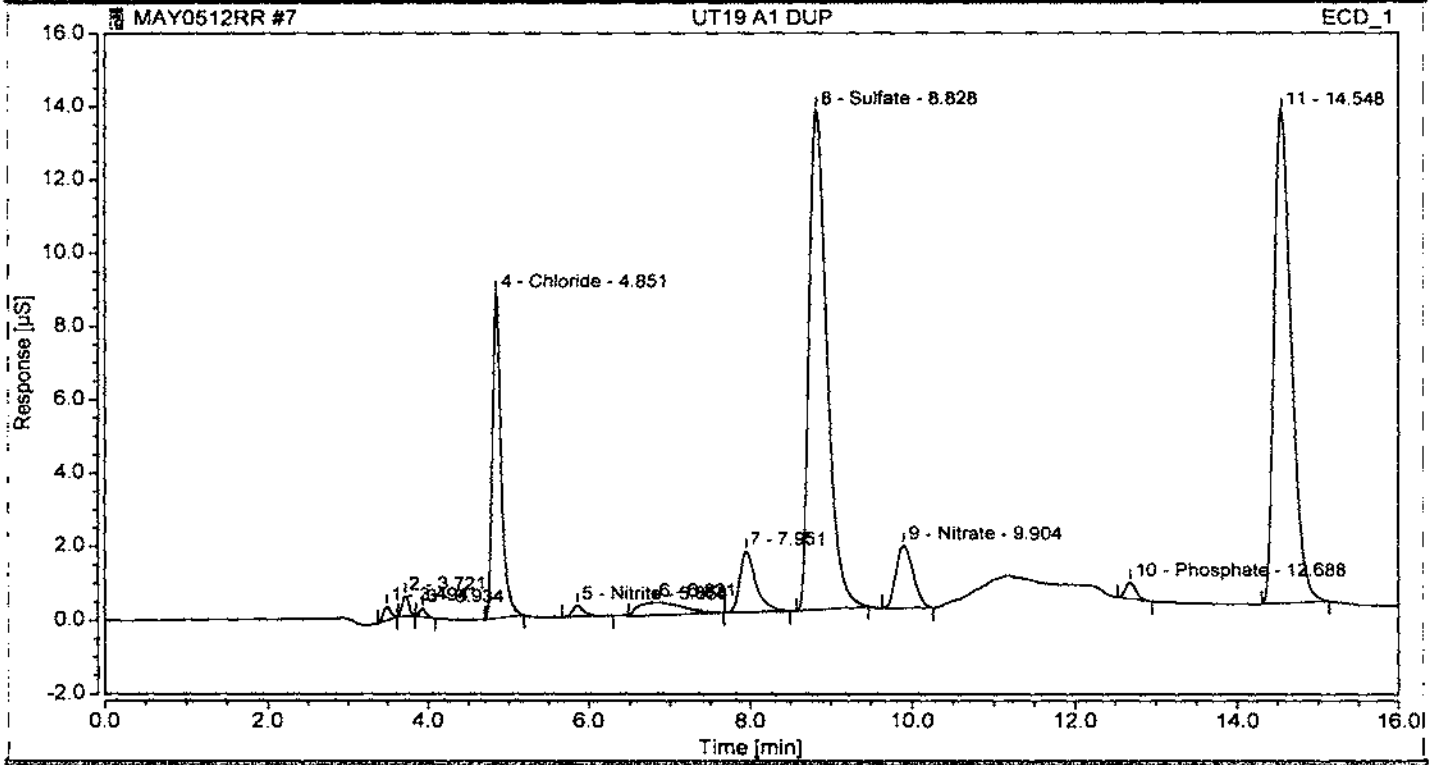
Injection Name:	*UT19 A1*	Inject Number:	6
Vial Number:	*6*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*05/05/12 20:17*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1		1.0	n.a.	3.89	0.039	0.361	FALSE	n.a.
2		1.0	n.a.	3.72	0.051	0.552	FALSE	n.a.
3		1.0	n.a.	3.93	0.021	0.226	FALSE	n.a.
4	Chloride	1.0	0.[illegible]	4.85	0.123	0.886	FALSE	n.a.
5	Nitrite	1.0	0.089	5.86	0.040	0.280	FALSE	n.a.
6		1.0	n.a.	7.95	0.075	0.624	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	Sulfate	1.0	1.357	8.63	0.[illegible]	16.678	FALSE	n.a.
8	Nitrate	1.0	0.550	9.90	0.[illegible]	3.995	FALSE	n.a.
9		1.0	n.a.	12.22	0.012	0.155	FALSE	n.a.
10	Phosphate	1.0	0.232	12.69	0.072	0.481	FALSE	n.a.
11		1.0	n.a.	14.55	3.345	13.389	FALSE	n.a.

US82 : 00481

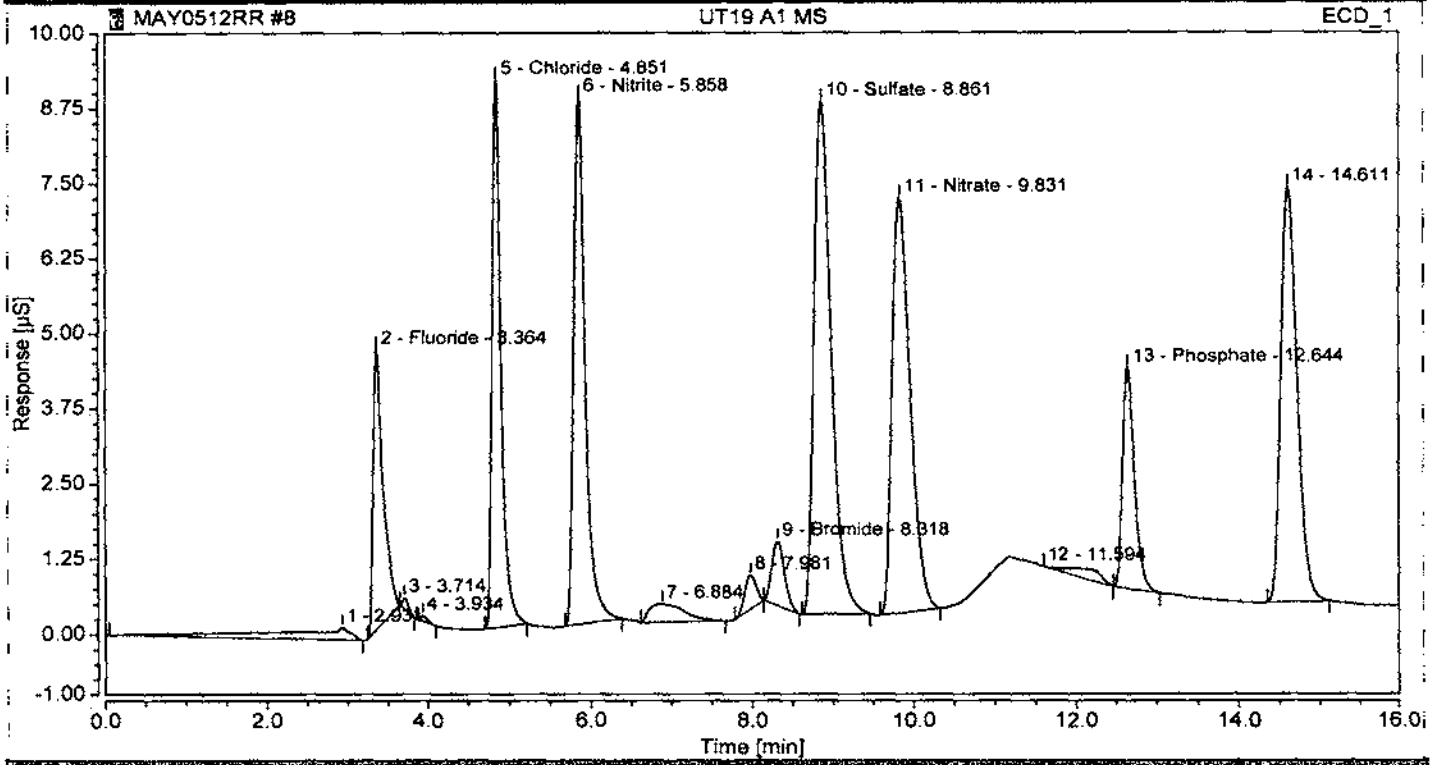
Injection Name:	*UT19 A1 DUP*	Inject Number:	7
Vial Number:	*7*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*05/05/12 20:36*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt Dev.
			mg/l	min	µS*min	µS		mg/l
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1		1.0	n.a.	3.49	0.0039	0.634	FALSE	n.a.
2		1.0	n.a.	3.72	0.051	0.649	FALSE	n.a.
3		1.0	n.a.	3.98	0.021	0.323	FALSE	n.a.
4	Chloride	1.0	3.649	4.85	1.0110	8.941	FALSE	n.a.
5	Nitrite	1.0	0.048	5.75	0.016	0.096	FALSE	n.a.
6		1.0	n.a.	6.82	0.216	0.324	FALSE	n.a.
7		1.0	n.a.	7.96	0.038	1.546	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8	Sulfate	1.0	5.400	8.83	3.345	13.598	FALSE	n.a.
9	Nitrate	1.0	0.450	9.90	0.411	1.694	FALSE	n.a.
10	Phosphate	1.0	0.211	12.69	0.068	0.445	FALSE	n.a.
11		1.0	n.a.	14.55	3.345	13.366	FALSE	n.a.

USB2 : 60482

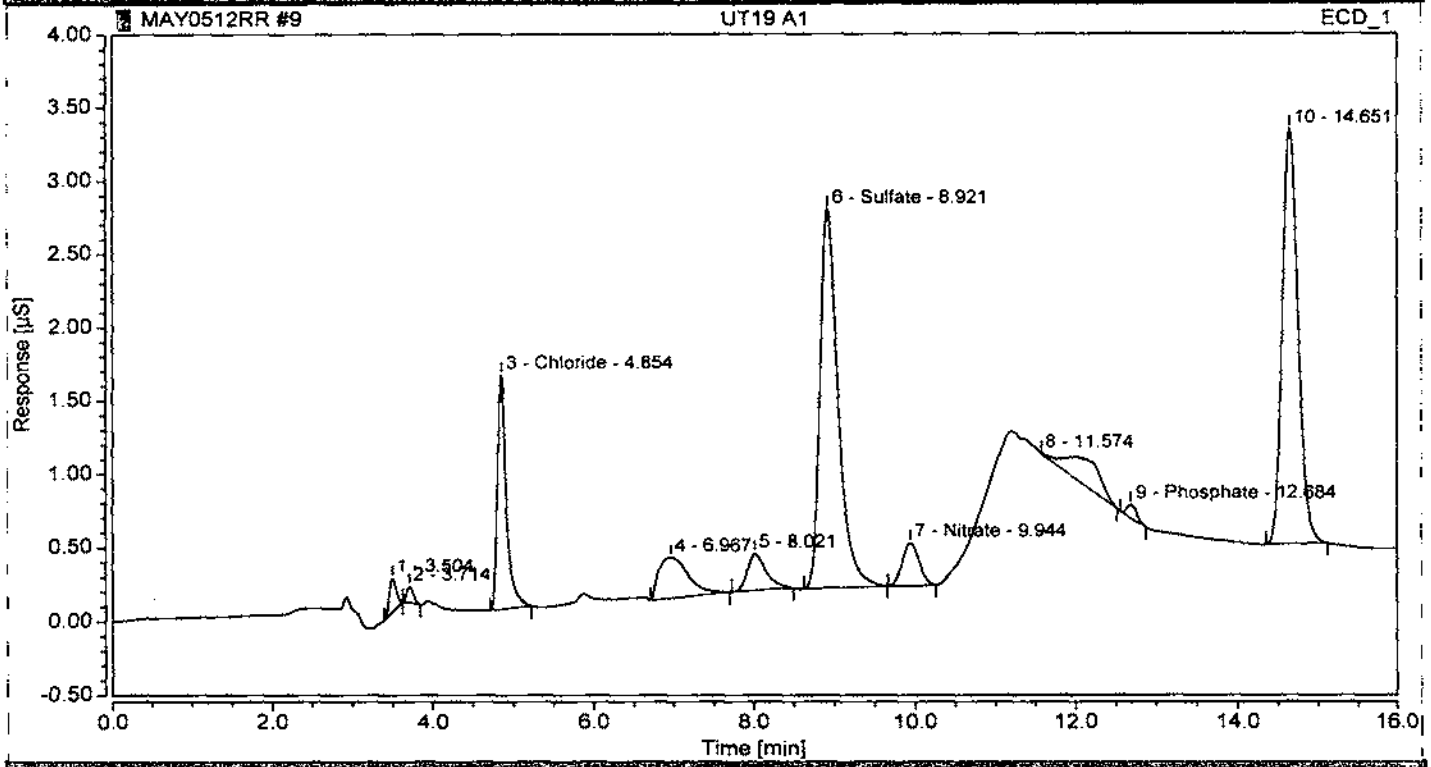
Injection Name:	*UT19 A1 MS*	Inject Number:	8
Vial Number:	*8*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 20:56*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.93	0.233	0.200	FALSE	n.a.
2	Fluoride	2.0	2.707	3.36	0.671	4.680	FALSE	n.a.
3		2.0	n.a.	3.71	0.015	0.198	FALSE	n.a.
4		2.0	n.a.	3.93	0.008	0.089	FALSE	n.a.
5	Chloride	2.0	4.199	4.85	1.045	8.702	FALSE	n.a.
6	Nitrite	2.0	4.059	5.86	1.023	8.755	FALSE	n.a.
7		2.0	n.a.	6.88	0.156	0.268	FALSE	n.a.
8		2.0	n.a.	7.98	0.092	0.540	FALSE	n.a.
9	Bromide	2.0	2.063	8.32	0.105	1.062	FALSE	n.a.
10	Sulfate	2.0	10.700	8.86	2.176	18.515	FALSE	n.a.
11	Nitrate	2.0	4.100	9.83	0.778	6.908	FALSE	n.a.
12		2.0	n.a.	11.59	0.073	0.000	FALSE	n.a.
13	Phosphate	2.0	13.991	12.64	0.622	6.897	FALSE	n.a.
14		2.0	n.a.	14.61	1.603	6.891	FALSE	n.a.

US82 : 00483

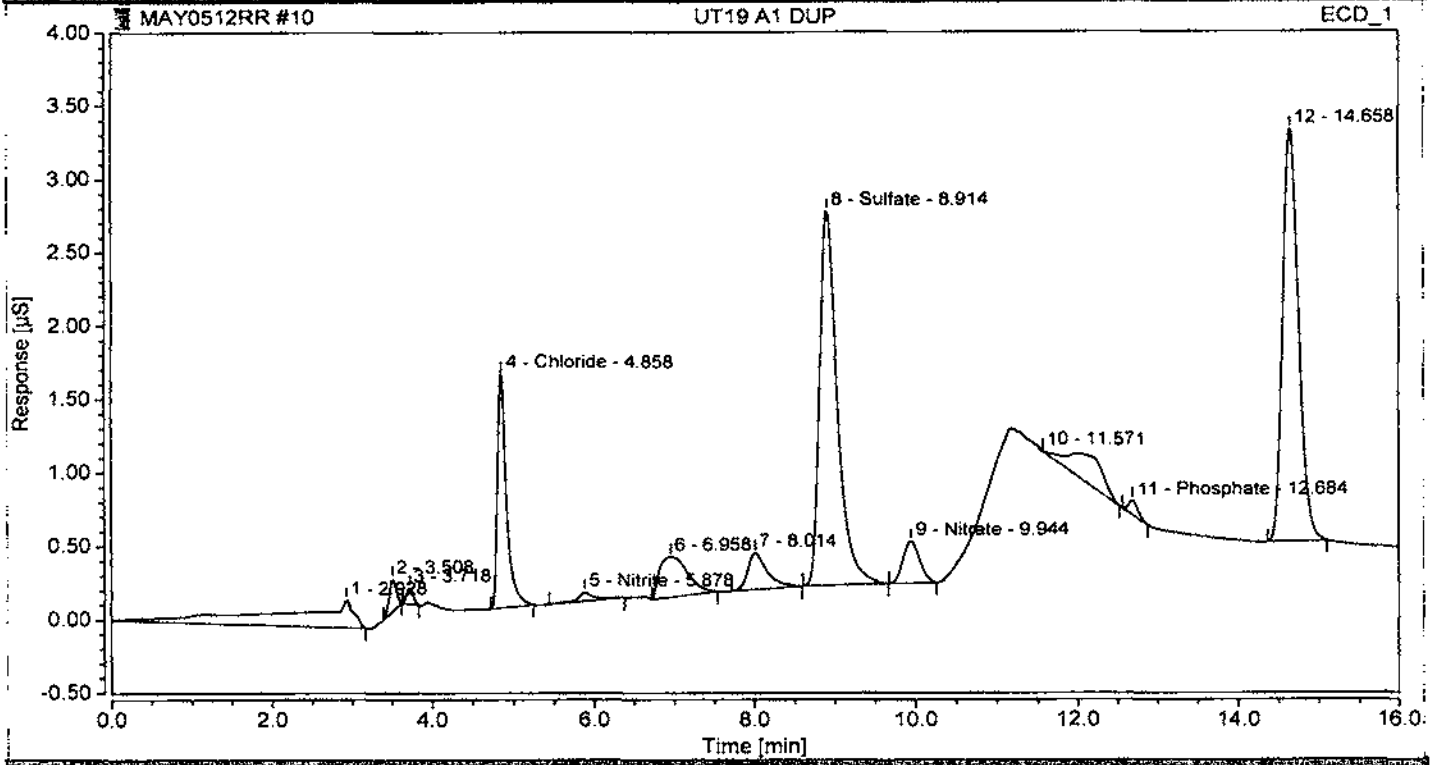
Injection Name:	*UT19 A1*	Inject Number:	9
Vial Number:	*9*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*5.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 21:16*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipuiated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
n.a.	Fluoride	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1		5.0	n.a.	3.50	0.024	0.225	FALSE	n.a.
2		5.0	n.a.	3.71	0.011	0.110	FALSE	n.a.
3	Chloride	5.0	2.000	4.65	0.203	1.993	FALSE	n.a.
n.a.	Nitrite	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		5.0	n.a.	6.97	0.018	0.173	FALSE	n.a.
5		5.0	n.a.	8.02	0.035	0.345	FALSE	n.a.
n.a.	Bromide	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6	Sulfate	5.0	3.535	8.92	0.358	2.678	FALSE	n.a.
7	Nitrate	5.0	0.458	9.94	0.070	0.290	FALSE	n.a.
8		5.0	n.a.	11.57	0.090	0.000	FALSE	n.a.
9	Phosphate	5.0	0.216	12.68	0.014	0.093	FALSE	n.a.
10		5.0	n.a.	14.65	0.639	2.623	FALSE	n.a.

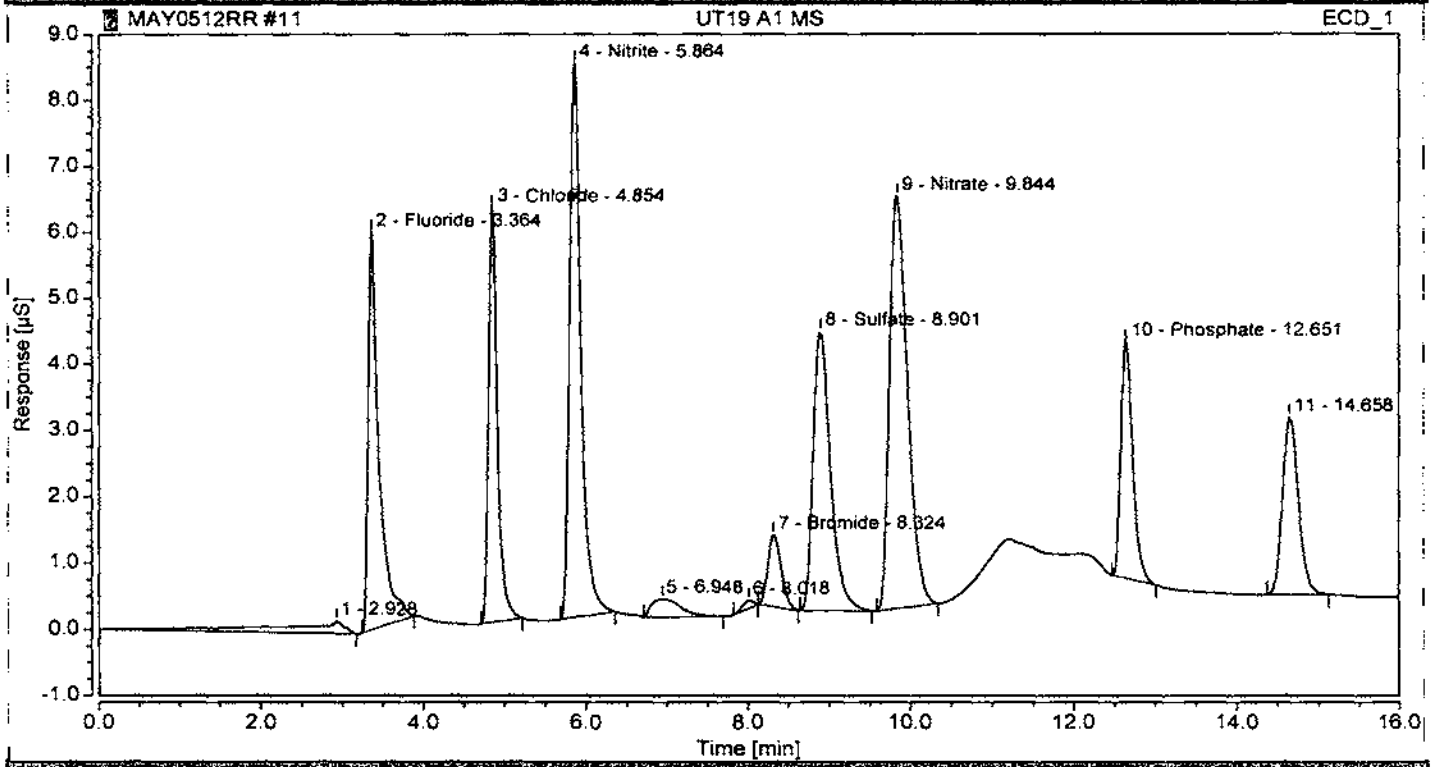
US82 : 00484

Injection Name:	*UT19 A1 DUP*	Inject Number:	10
Vial Number:	*10*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*5.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*05/05/12 21:36*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		5.0	n.a.	2.93	0.203	0.189	FALSE	n.a.
n.a.	Fluoride	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.0	n.a.	3.51	0.023	0.222	FALSE	n.a.
3		5.0	n.a.	3.72	0.010	0.108	FALSE	n.a.
4	Chloride	5.0	0.961	4.86	0.204	1.592	FALSE	n.a.
5	Nitrite	5.0	0.021	5.88	0.014	0.086	FALSE	n.a.
6		5.0	n.a.	6.96	0.112	0.273	FALSE	n.a.
7		5.0	n.a.	8.01	0.076	0.248	FALSE	n.a.
n.a.	Bromide	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8	Sulfate	5.0	0.915	8.91	0.536	2.647	FALSE	n.a.
9	Nitrate	5.0	0.036	9.94	0.058	0.282	FALSE	n.a.
10		5.0	n.a.	11.57	0.095	0.090	FALSE	n.a.
11	Phosphate	5.0	0.215	12.68	0.613	0.695	FALSE	n.a.
12		5.0	0.a.	14.66	0.634	2.804	FALSE	n.a.

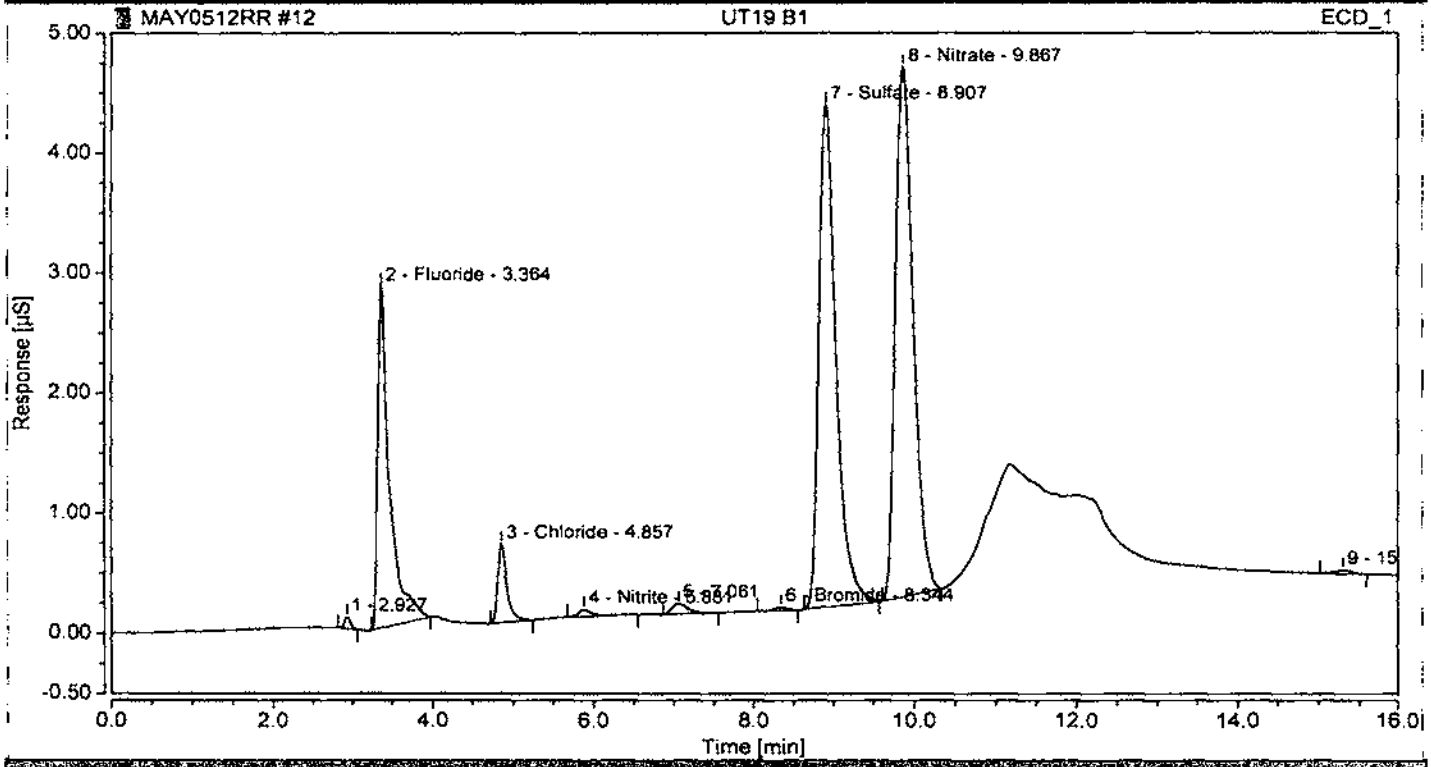
Injection Name:	*UT19 A1 MS*	Inject Number:	11
Vial Number:	*11*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*5.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*05/05/12 21:55*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		5.0	n.a.	2.93	0.185	0.186	FALSE	n.a.
2	Fluoride	5.0	3.405	3.36	0.892	6.985	FALSE	n.a.
3	Chloride	5.0	12.873	4.85	0.792	6.297	FALSE	n.a.
4	Nitrite	5.0	23.70	5.86	1.441	8.686	FALSE	n.a.
5		5.0	n.a.	6.95	0.178	0.270	FALSE	n.a.
6		5.0	n.a.	8.02	0.618	10.114	FALSE	n.a.
7	Bromide	5.0	2.859	8.82	0.267	1.978	FALSE	n.a.
8	Sulfate	5.0	20.185	8.90	1.048	8.213	FALSE	n.a.
9	Nitrate	5.0	10.795	9.84	0.595	6.202	FALSE	n.a.
10	Phosphate	5.0	9.562	12.65	0.903	4.570	FALSE	n.a.
11		5.0	n.a.	14.66	0.603	2.666	FALSE	n.a.

USB2 : 00486

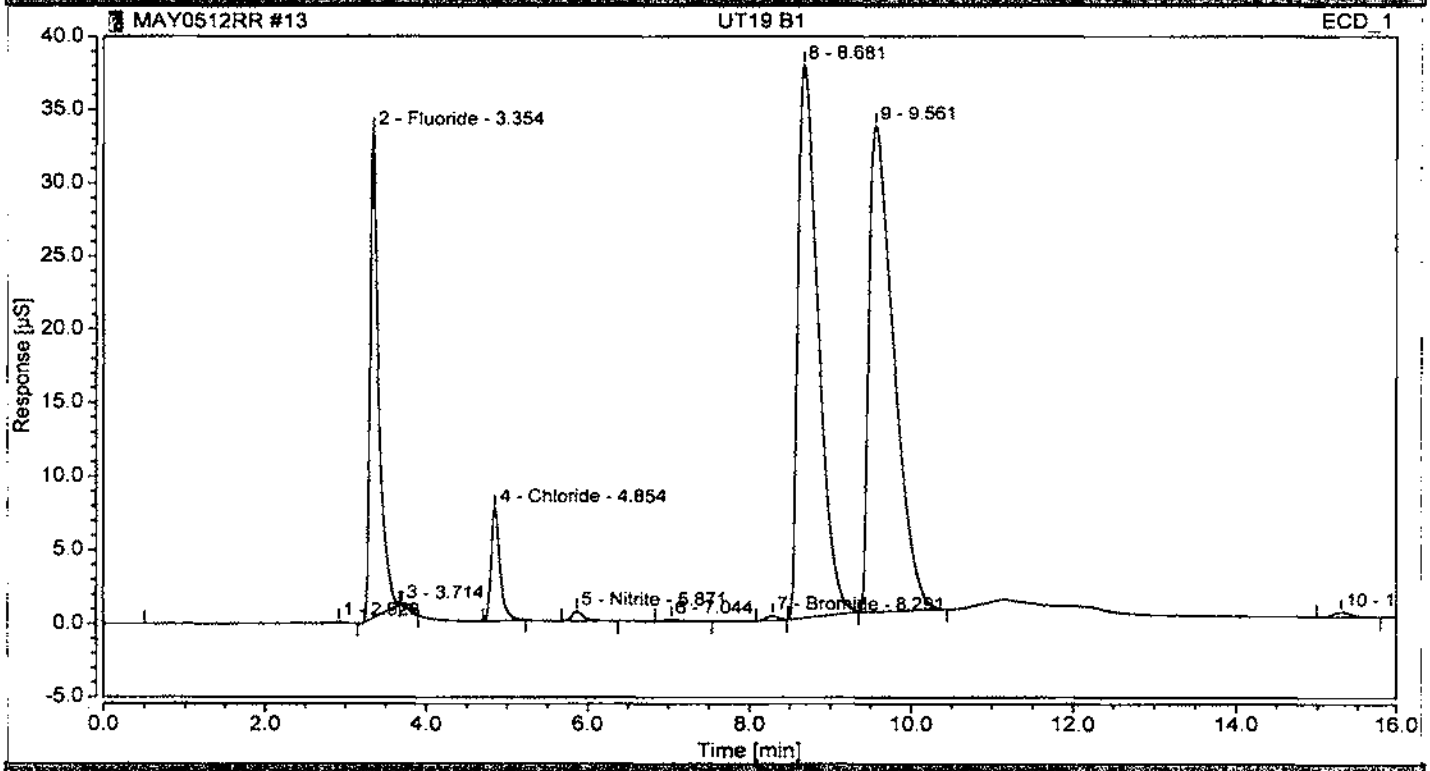
Injection Name:	*UT19 B1*	Inject Number:	12
Vial Number:	*12*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*20.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 22:16*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		20.0	n.a.	2.93	0.008	0.095	FALSE	n.a.
2	Fluoride	20.0	1.9	3.36	0.389	2.842	FALSE	n.a.
3	Chloride	20.0	5.438	4.86	0.084	0.650	FALSE	n.a.
4	Nitrite	20.0	1.028	5.86	0.009	0.061	FALSE	n.a.
5		20.0	n.a.	7.06	0.019	0.093	FALSE	n.a.
6	Bromide	20.0	0.364	8.54	0.006	0.029	FALSE	n.a.
7	Sulfate	20.0	9.282	8.91	1.050	4.178	FALSE	n.a.
8	Nitrate	20.0	20.734	9.87	1.111	4.409	FALSE	n.a.
n.a.	Phosphate	20.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9		20.0	n.a.	15.30	0.008	0.031	FALSE	n.a.

USB2 : 00487

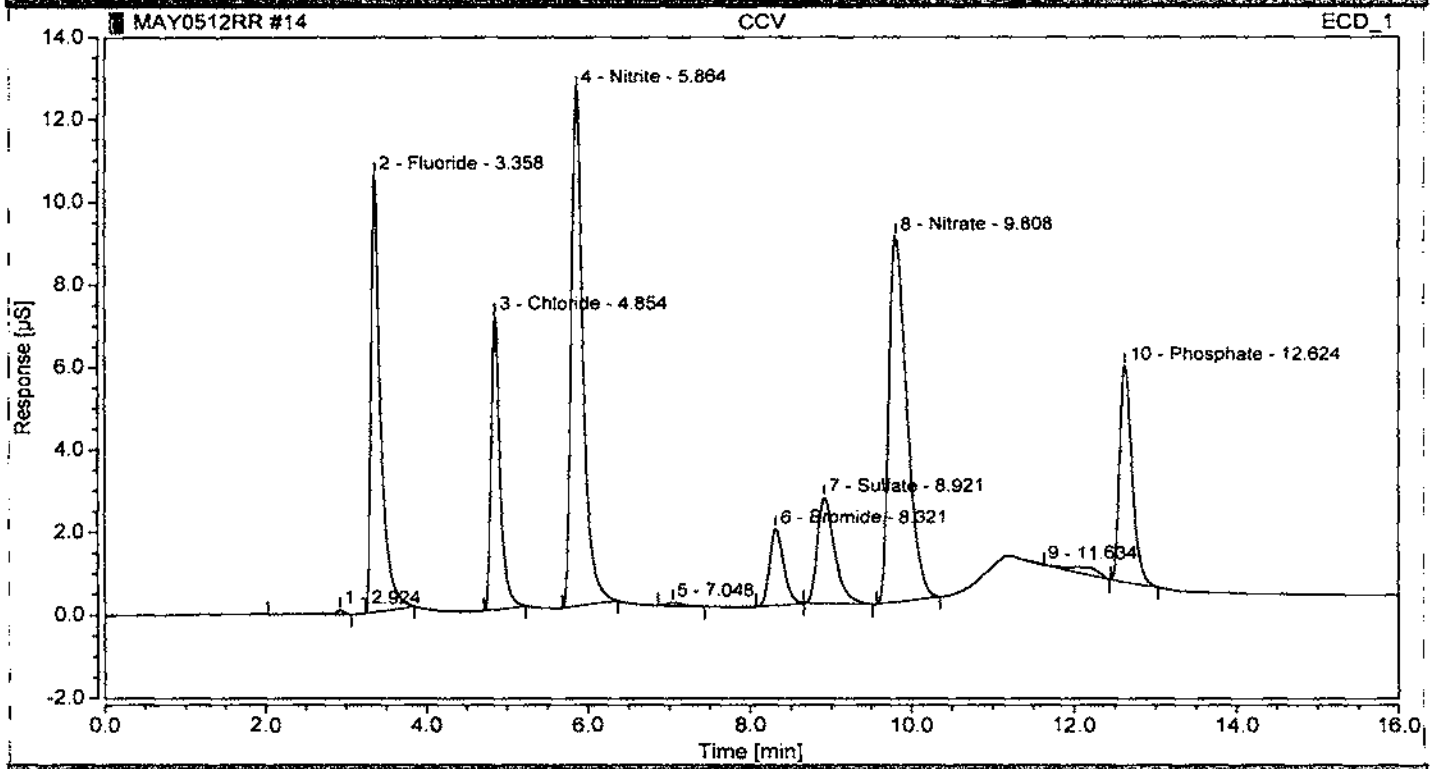
Injection Name:	*UT19 B1*	Inject Number:	13
Vial Number:	*13*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 22:36*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.98	0.062	0.119	FALSE	n.a.
2	Fluoride	2.0	16.758	3.35	4.156	33.169	FALSE	n.a.
3		2.0	n.a.	3.71	0.034	0.145	FALSE	n.a.
4	Chloride	2.0	6.440	4.85	0.778	7.552	FALSE	n.a.
5	Nitrite	2.0	0.000	5.87	0.000	0.550	FALSE	n.a.
6		2.0	n.a.	7.04	0.027	0.109	FALSE	n.a.
7	Bromide	2.0	0.739	8.25	0.052	0.302	FALSE	n.a.
8		2.0	n.a.	8.68	10.878	87.634	FALSE	n.a.
n.a.	Sulfate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9		2.0	n.a.	9.56	4.757	33.075	FALSE	n.a.
n.a.	Nitrate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10		2.0	n.a.	15.30	0.082	0.325	FALSE	n.a.

US82 : 86488

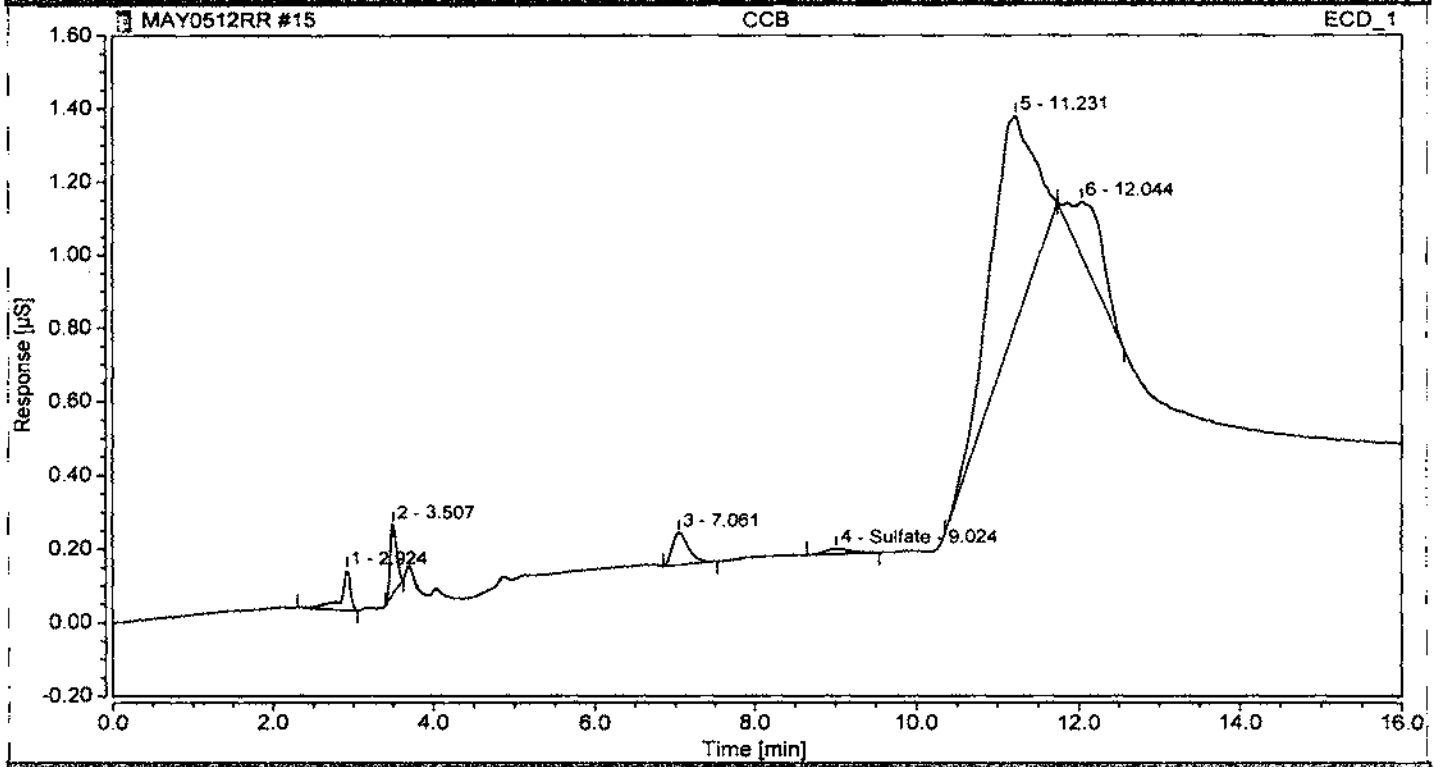
Injection Name:	*CCV*	Inject Number:	14
Vial Number:	*2*	User:	pat
Injection Type:	*Check Standard*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*05/05/12 22:56*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.82	0.014	0.100	FALSE	n.a.
2	Fluoride	1.0	2.019	3.46	0.435	10.574	FALSE	-2.80
3	Chloride	1.0	1.955	4.85	0.900	7.119	FALSE	-1.51
4	Nitrite	1.0	3.956	5.86	2.092	12.611	FALSE	-1.09
5		1.0	0.019	7.05	0.019	0.086	FALSE	n.a.
6	Bromide	1.0	2.769	8.32	0.376	1.831	FALSE	-6.01
7	Sulfate	1.0	2.939	8.92	0.736	2.849	FALSE	-5.51
8	Nitrate	1.0	3.112	9.81	2.826	8.852	FALSE	3.61
9		1.0	n.a.	11.63	0.068	0.000	FALSE	n.a.
10	Phosphate	1.0	2.950	12.62	0.925	5.234	FALSE	-1.33

US82 : 00489

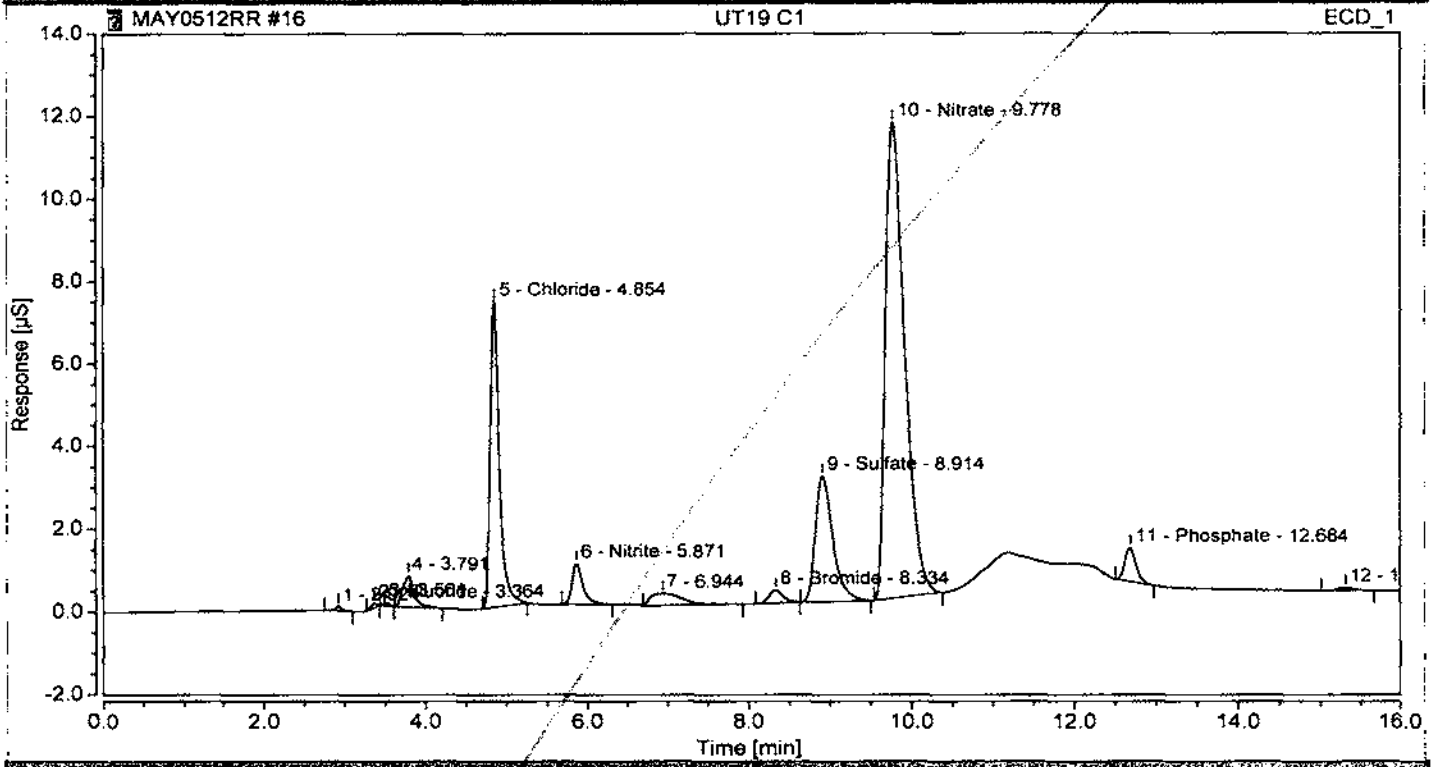
Injection Name:	*CCB*	Inject Number:	15
Vial Number:	*3*	User:	pat
Injection Type:	*Blank*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 23:16*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	0.6	2.93	0.015	0.108	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		1.0	n.a.	3.51	0.015	0.155	FALSE	n.a.
n.a.	Chloride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		1.0	n.a.	7.06	0.021	0.087	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	Sulfate	1.0	0.023	9.02	0.005	0.014	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		1.0	n.a.	11.23	0.058	0.571	FALSE	n.a.
6		1.0	n.a.	12.04	0.079	0.149	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

US82 : 00490

Injection Name:	*UT19 C1*	Inject Number:	16
Vial Number:	*14*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*05/05/12 23:37*		

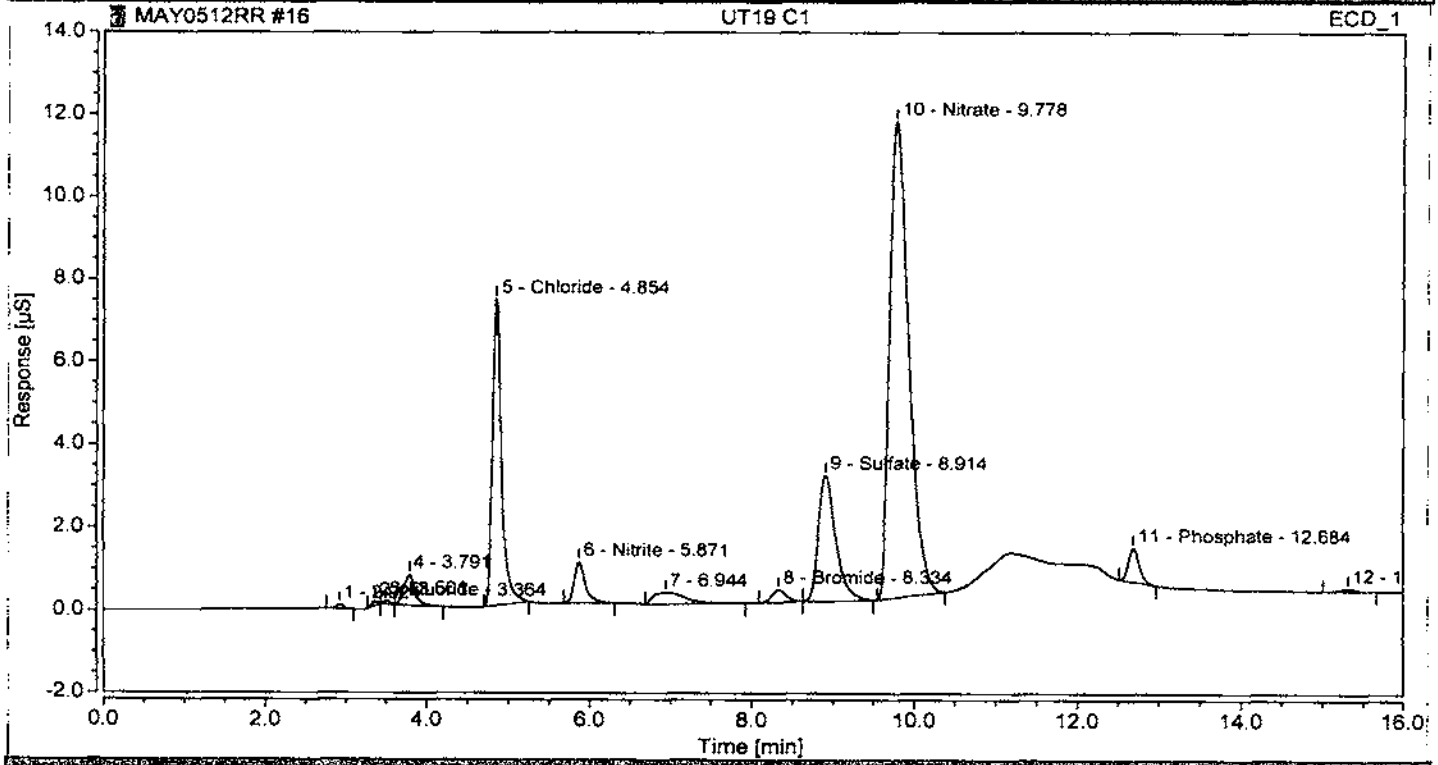


No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.92	0.009	0.099	FALSE	n.a.
2	Fluoride	1.0	0.016	3.66	0.009	0.100	FALSE	n.a.
3		1.0	n.a.	3.90	0.007	0.082	FALSE	n.a.
4		1.0	n.a.	4.79	0.121	0.745	FALSE	n.a.
5	Chloride	1.0	0.079	4.88	0.947	7.397	FALSE	n.a.
6	Nitrite	1.0	0.024	5.87	0.168	0.990	FALSE	n.a.
7		1.0	n.a.	6.95	0.136	0.788	FALSE	n.a.
8	Bromide	1.0	0.017	8.33	0.063	0.308	FALSE	n.a.
9	Sulfate	1.0	0.076	8.91	0.750	3.037	FALSE	n.a.
10	Nitrate	1.0	n.a.	9.78	0.125	11.514	FALSE	n.a.
11	Phosphate	1.0	0.067	12.68	0.127	0.811	FALSE	n.a.
12		1.0	n.a.	15.31	0.018	0.073	FALSE	n.a.

USA2 : 00491

[illegible]

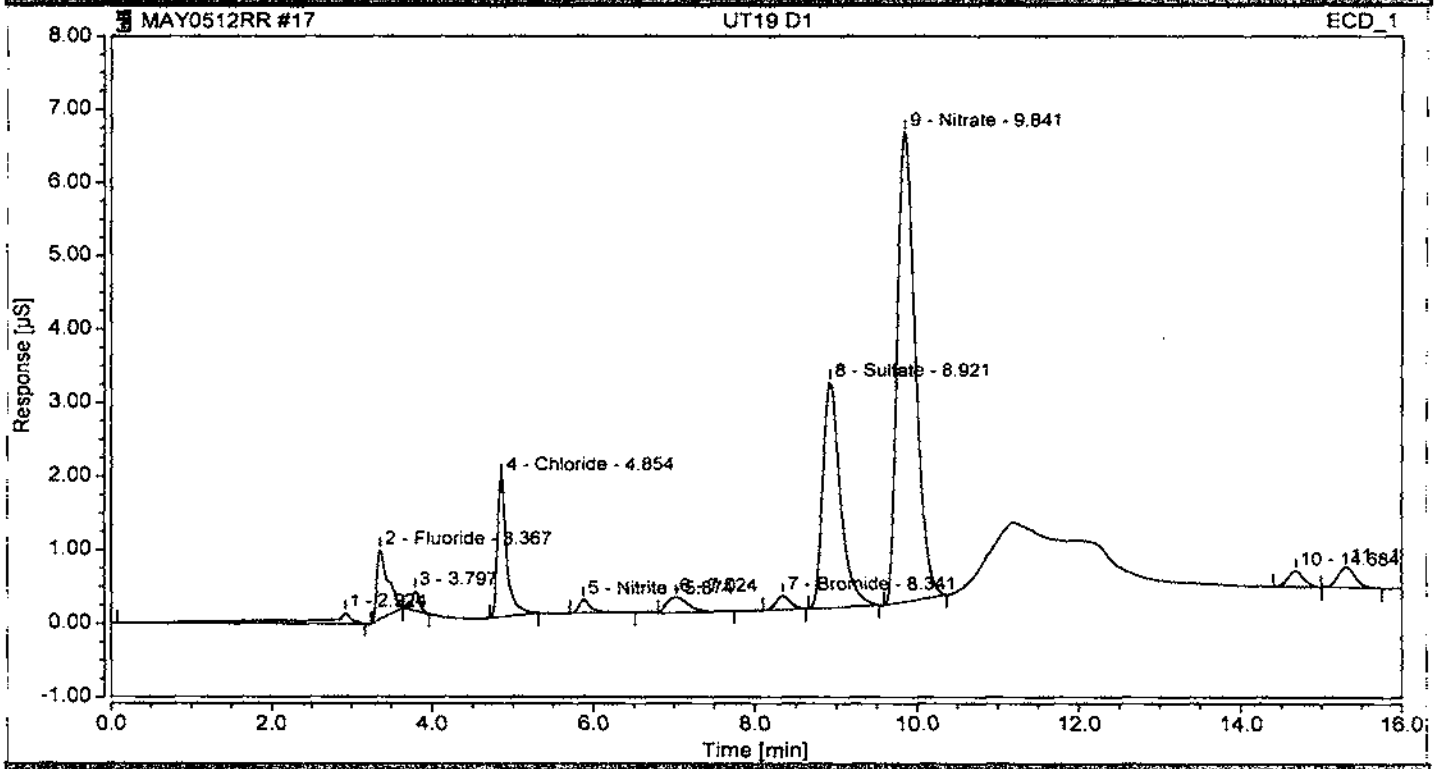
Injection Name:	*UT19 C1*	Inject Number:	16
Vial Number:	*14*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*05/05/12 23:37*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.92	0.009	0.099	FALSE	n.a.
2	Fluoride	2.0	0.035	3.86	0.069	0.100	FALSE	n.a.
3		2.0	n.a.	3.50	0.007	0.082	FALSE	n.a.
4		2.0	n.a.	3.79	0.121	0.748	FALSE	n.a.
5	Chloride	2.0	5.159	4.85	0.947	7.097	FALSE	n.a.
6	Nitrite	2.0	0.448	5.87	0.158	0.980	FALSE	n.a.
7		2.0	n.a.	6.94	0.108	0.285	FALSE	n.a.
8	Bromide	2.0	0.954	8.33	0.068	0.306	FALSE	n.a.
9	Sulfate	2.0	6.251	8.91	0.760	3.037	FALSE	n.a.
10	Nitrate	2.0	8.263	9.78	3.125	11.514	FALSE	n.a.
11	Phosphate	2.0	0.813	12.68	0.127	0.811	FALSE	n.a.
12		2.0	n.a.	15.31	0.018	0.073	FALSE	n.a.

US82 : 00492

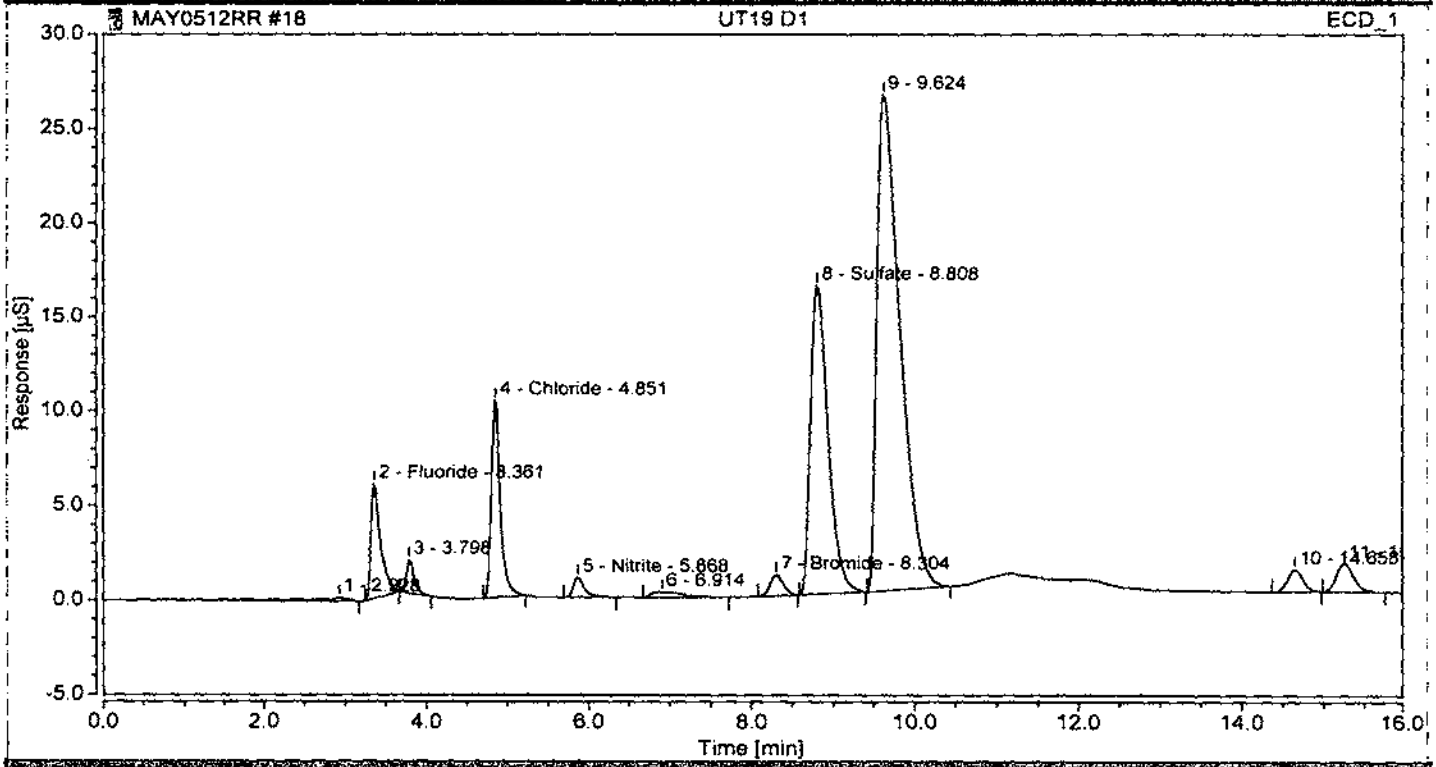
Injection Name:	*UT19 D1*	Inject Number:	17
Vial Number:	*15*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*10.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*05/05/12 23:58*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		10.0	n.a.	2.92	0.100	0.147	FALSE	n.a.
2	Fluoride	10.0	3.097	3.37	0.154	0.932	FALSE	n.a.
3		10.0	n.a.	3.80	0.027	0.267	FALSE	n.a.
4	Chloride	10.0	9.227	4.85	0.383	1.911	FALSE	n.a.
5	Nitrite	10.0	0.453	6.87	0.030	0.174	FALSE	n.a.
6		10.0	n.a.	7.92	0.038	0.207	FALSE	n.a.
7	Bromide	10.0	2.601	8.34	0.098	0.396	FALSE	n.a.
8	Sulfate	10.0	12.483	8.92	0.774	3.963	FALSE	n.a.
9	Nitrate	10.0	21.064	9.84	1.043	6.396	FALSE	n.a.
n.a	Phosphate	10.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10		10.0	n.a.	11.68	0.045	0.246	FALSE	n.a.
11		10.0	n.a.	15.31	0.069	0.279	FALSE	n.a.

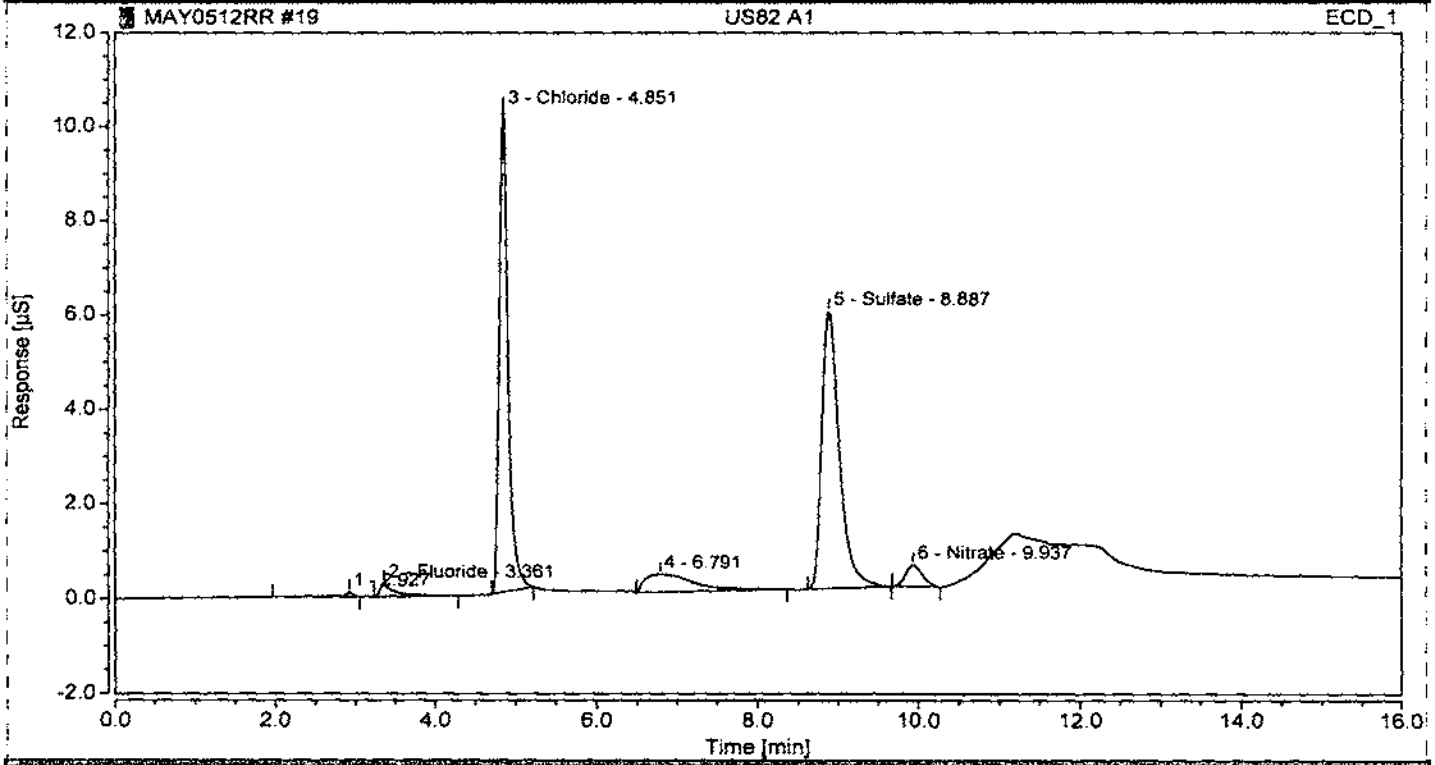
US82 : 86493

Injection Name:	*UT19 D1*	Inject Number:	18
Vial Number:	*16*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*06/05/12 00:18*		



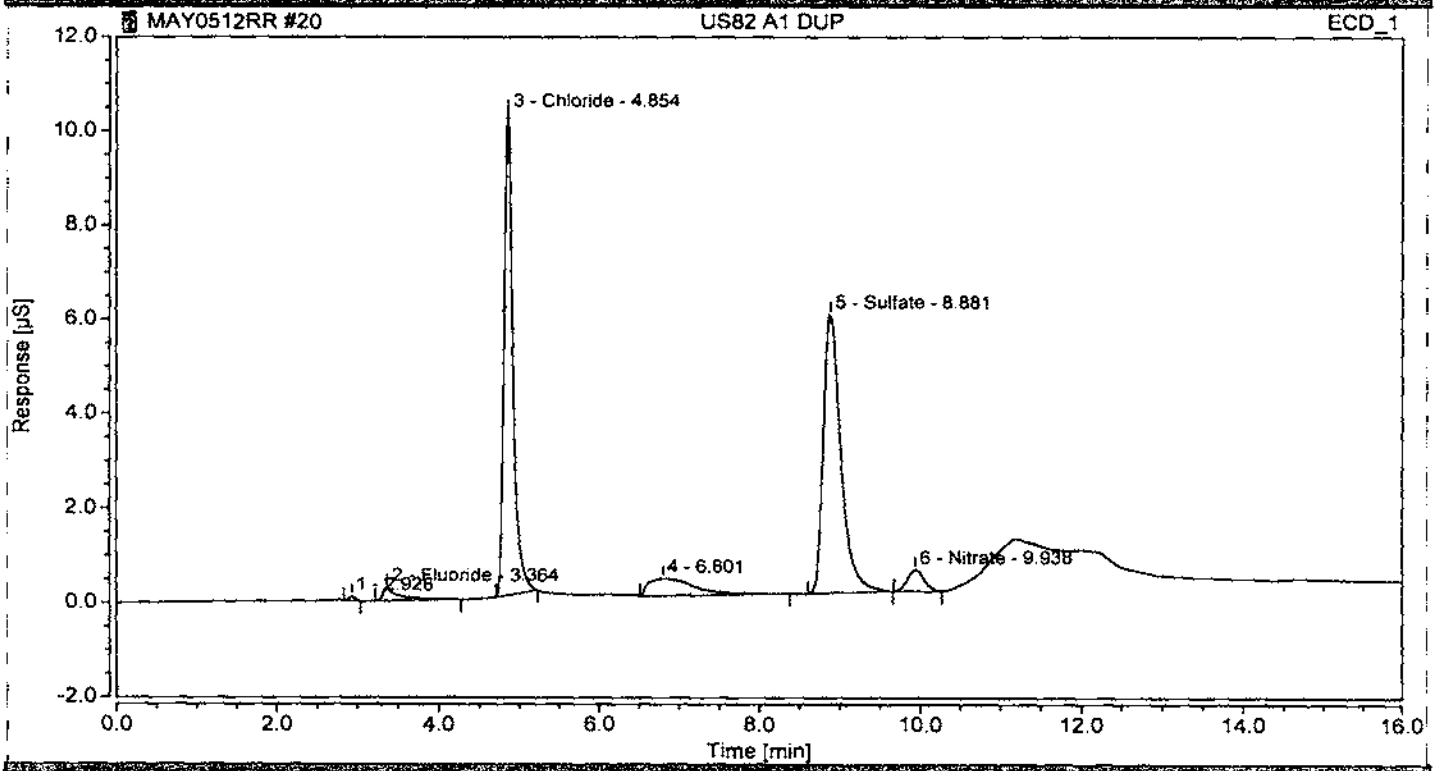
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.93	0.181	0.189	FALSE	n.a.
2	Fluoride	2.0	0.352	3.36	0.688	6.046	FALSE	n.a.
3		2.0	n.a.	3.80	0.188	1.249	FALSE	n.a.
4	Chloride	2.0	0.982	4.85	1.312	10.310	FALSE	n.a.
5	Nitrite	2.0	0.165	5.87	0.154	1.019	FALSE	n.a.
6		2.0	n.a.	6.91	0.181	0.892	FALSE	n.a.
7	Bromide	2.0	0.781	8.30	0.396	2.939	FALSE	n.a.
8	Sulfate	2.0	3.106	8.81	2.108	16.351	FALSE	n.a.
9		2.0	n.a.	9.62	3.307	26.251	FALSE	n.a.
n.a.	Nitrate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
10		2.0	n.a.	14.86	0.254	1.764	FALSE	n.a.
11		2.0	n.a.	15.25	0.366	1.481	FALSE	n.a.

Injection Name:	*US82 A1*	Inject Number:	19
Vial Number:	*17*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*06/05/12 00:39*		



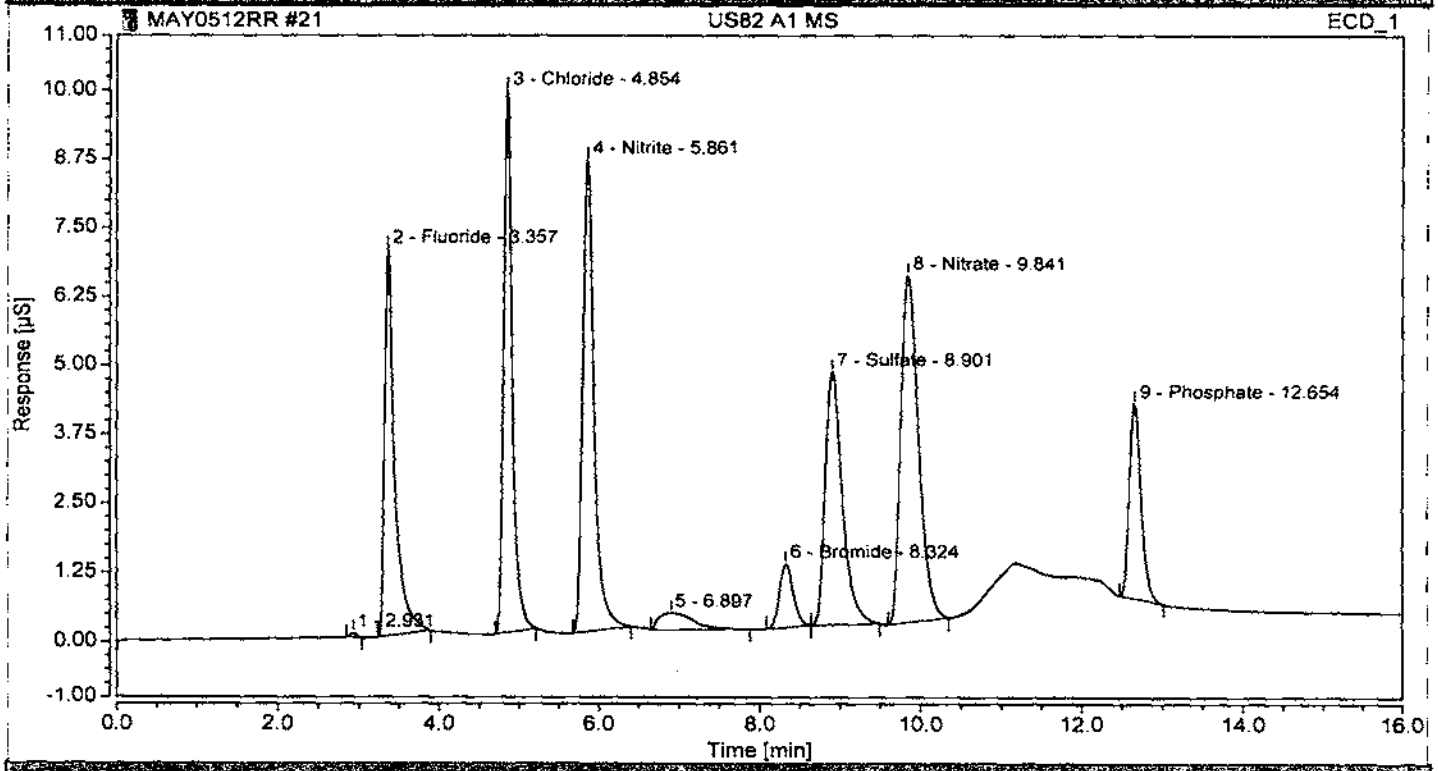
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.9a	0.018	0.099	FALSE	n.a.
2	Fluoride	1.0	0.117	3.36	0.035	0.268	FALSE	n.a.
3	Chloride	1.0	2.217	4.85	1.497	10.218	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	6.79	0.262	0.369	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	1.0	3.692	8.89	1.484	5.867	FALSE	n.a.
6	Nitrate	1.0	0.148	9.94	0.110	0.456	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*US82 A1 DUP*	Inject Number:	20
Vial Number:	*18*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*06/05/12 01:00*		



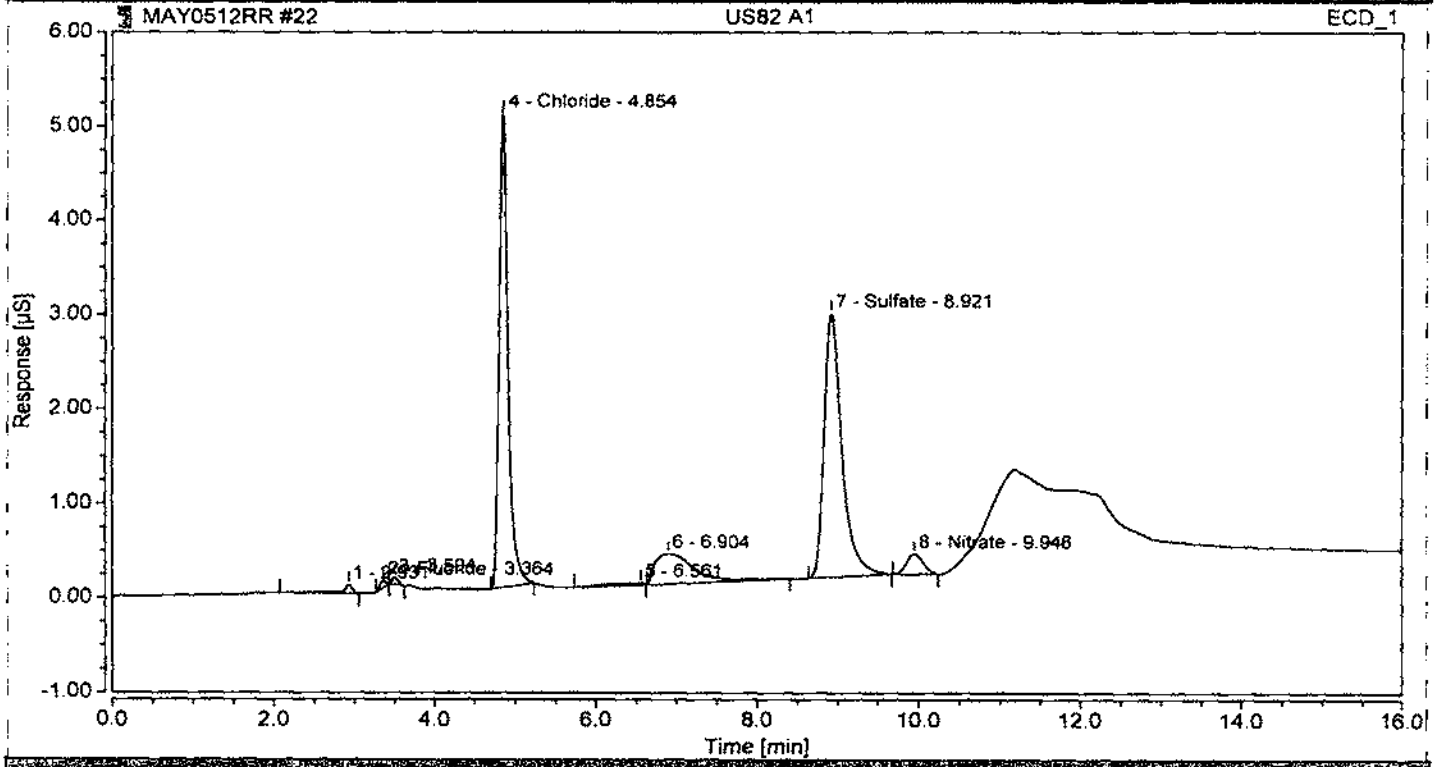
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.98	0.007	0.089	FALSE	n.a.
2	Fluoride	1.0	0.130	3.36	0.064	0.282	FALSE	n.a.
3	Chloride	1.0	10.223	4.85	0.299	10.223	FALSE	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	6.60	0.248	0.364	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	1.0	5.835	8.88	0.302	5.697	FALSE	n.a.
6	Nitrate	1.0	0.156	9.94	0.108	0.454	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*US82 A1 MS*	Inject Number:	21
Vial Number:	*19*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodaf*		
Injection Date/Time:	*06/05/12 01:20*		



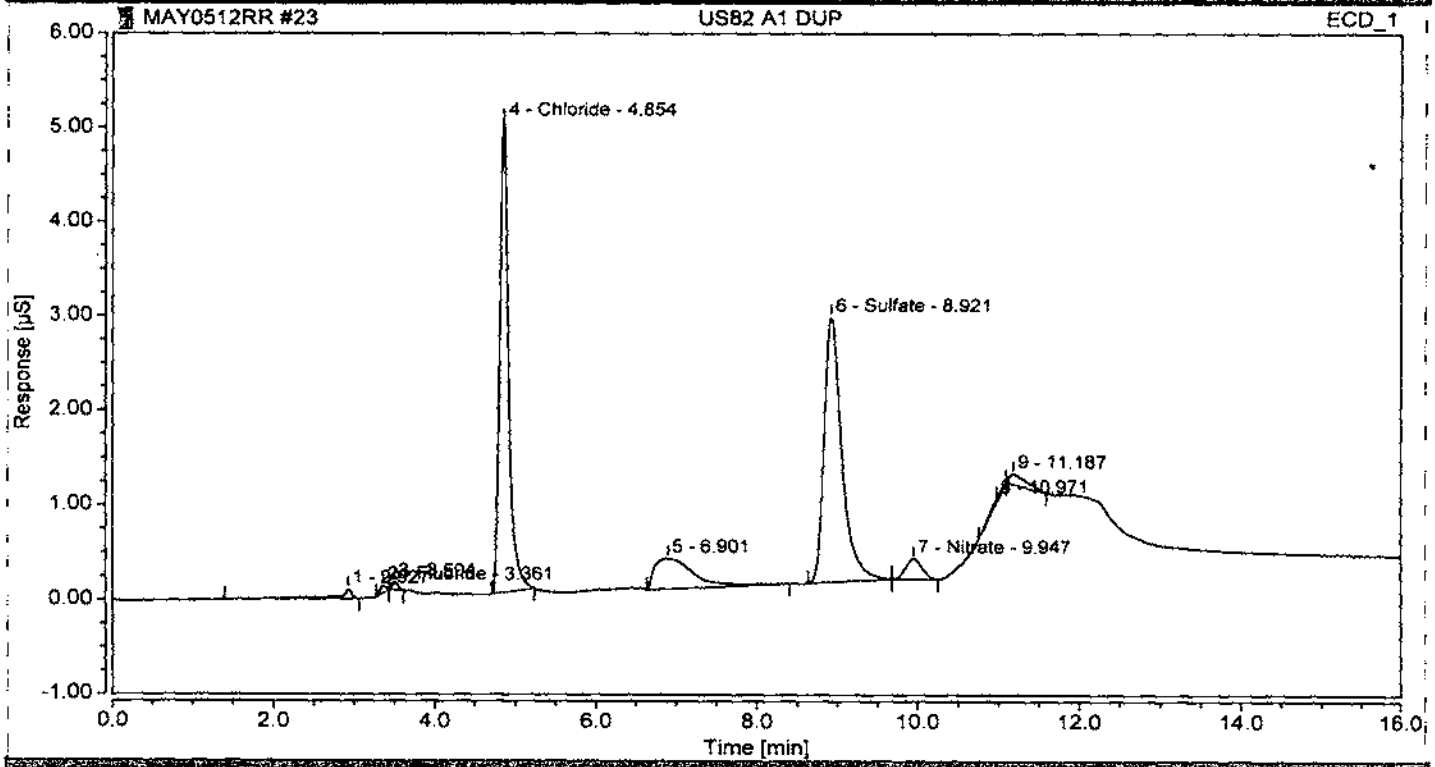
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.93	0.007	0.079	FALSE	n.a.
2	Fluoride	2.0	1.4418	3.36	3.020	7.005	FALSE	n.a.
3	Chloride	2.0	6.081	4.85	7.43	9.822	FALSE	n.a.
4	Nitrite	2.0	2.951	5.86	4.305	6.530	FALSE	n.a.
5		2.0	n.a.	6.90	0.150	0.302	FALSE	n.a.
6	Bromide	2.0	0.483	8.32	0.285	1.145	FALSE	n.a.
7	Sulfate	2.0	8.001	8.90	11.84	4.677	FALSE	n.a.
8	Nitrate	2.0	4.308	9.84	1.309	6.280	FALSE	n.a.
9	Phosphate	2.0	3.804	12.65	0.594	3.523	FALSE	n.a.

Injection Name:	*US82 A1*	Inject Number:	22
Vial Number:	*20*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*06/05/12 01:40*		



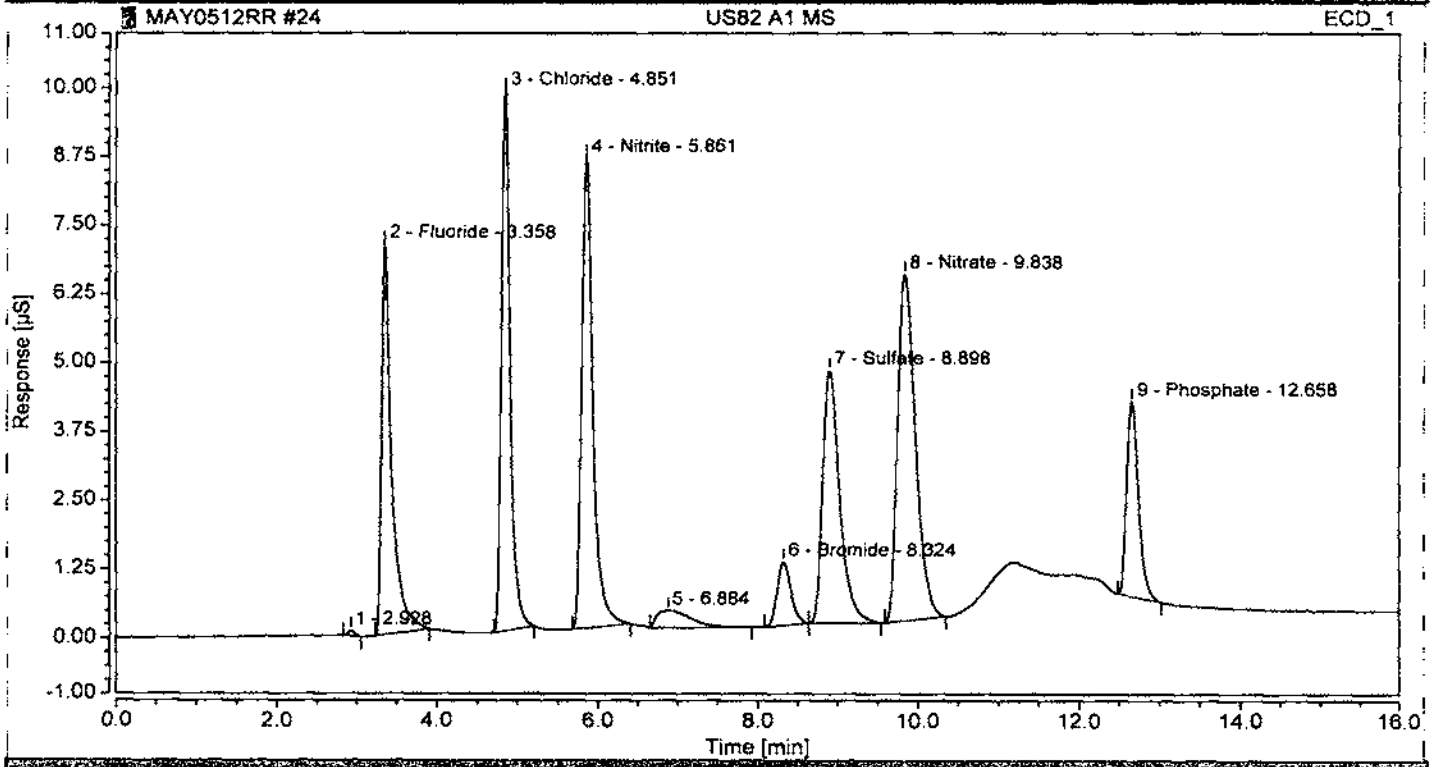
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.58	0.015	0.094	FALSE	n.a.
2	Fluoride	2.0	0.026	3.36	0.006	0.076	FALSE	n.a.
3		2.0	n.a.	3.50	0.007	0.079	FALSE	n.a.
4	Chloride	2.0	4.704	4.85	0.835	5.029	FALSE	n.a.
n.a.	Nitrite	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		2.0	n.a.	6.56	0.014	0.032	FALSE	n.a.
6		2.0	n.a.	6.90	0.078	0.320	FALSE	n.a.
n.a.	Bromide	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	Sulfate	2.0	6.702	8.92	0.721	3.707	FALSE	n.a.
8	Nitrate	2.0	0.137	9.95	0.001	0.215	FALSE	n.a.
n.a.	Phosphate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*US82 A1 DUP*	Inject Number:	23
Vial Number:	*21*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*06/05/12 01:59*		



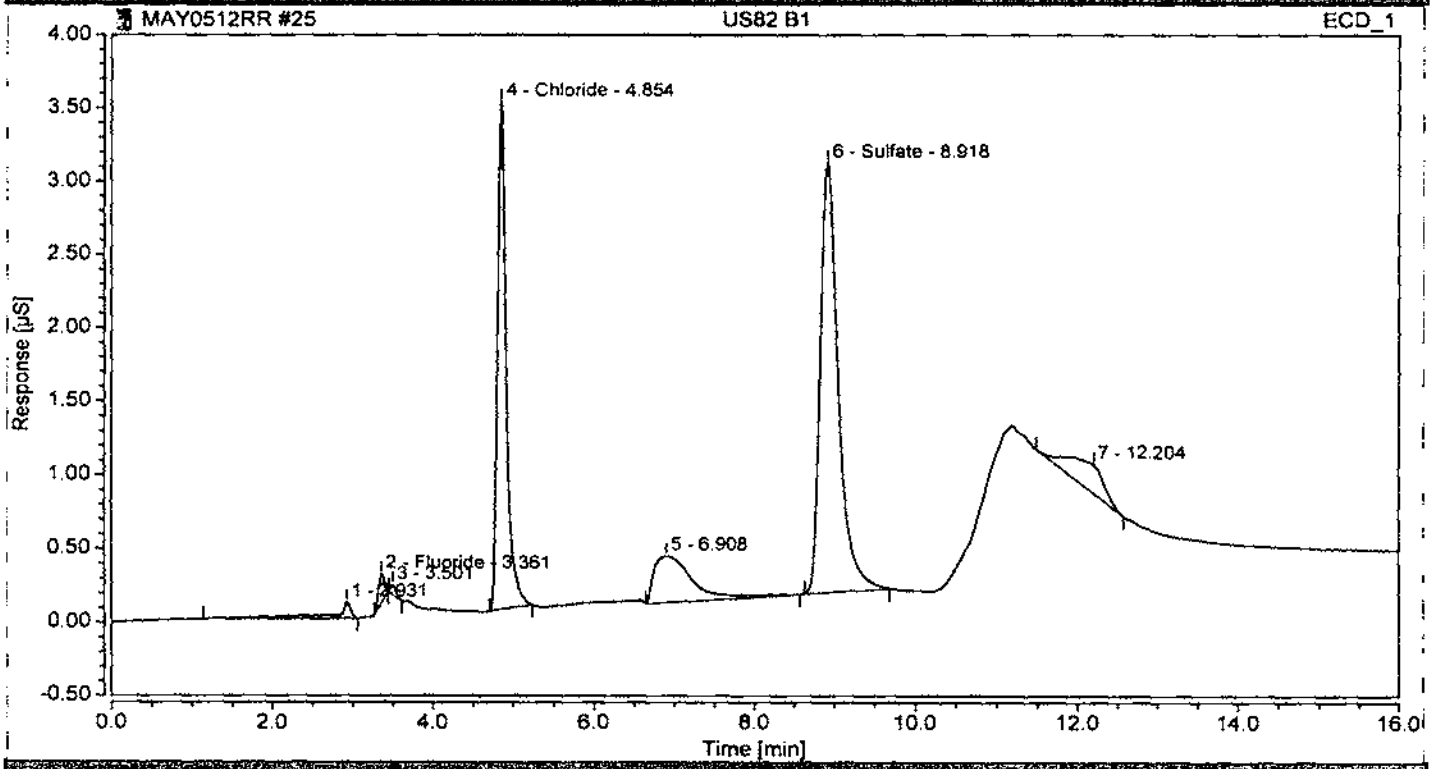
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.93	0.026	0.099	FALSE	n.a.
2	Fluoride	2.0	0.026	3.361	0.006	0.076	FALSE	n.a.
3		2.0	n.a.	3.70	0.007	0.079	FALSE	n.a.
4	Chloride	2.0	4.182	4.85	0.631	4.957	FALSE	n.a.
n.a.	Nitrite	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		2.0	n.a.	6.90	0.182	0.621	FALSE	n.a.
n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6	Sulfate	2.0	22.06	8.92	2.71	2.796	FALSE	n.a.
7	Nitrate	2.0	0.195	9.95	0.051	0.213	FALSE	n.a.
8		2.0	n.a.	10.97	0.008	0.047	FALSE	n.a.
9		2.0	n.a.	11.19	0.029	0.107	FALSE	n.a.
n.a.	Phosphate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*US82 A1 MS*	Inject Number:	24
Vial Number:	*19*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*06/05/12 02:19*		



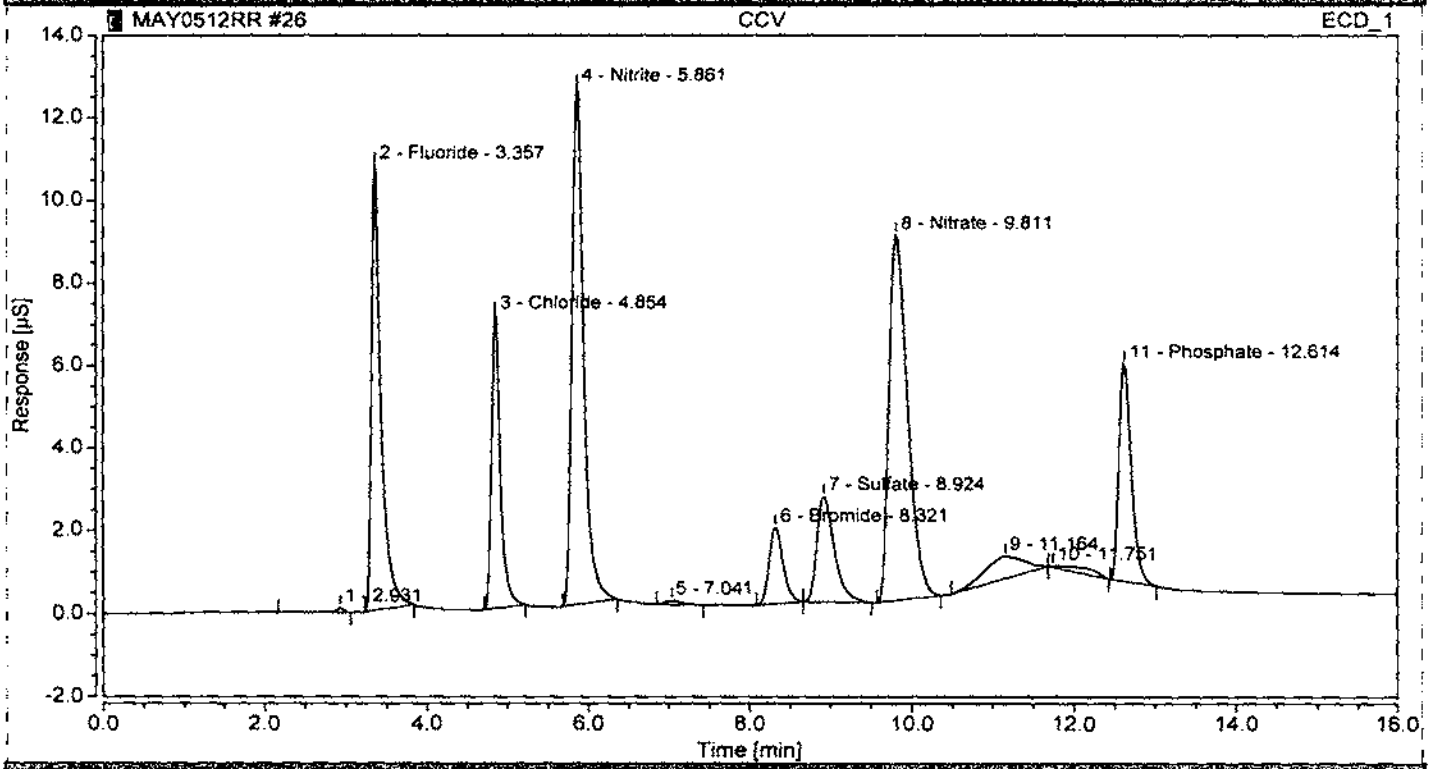
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.93	0.008	0.094	FALSE	n.a.
2	Fluoride	2.0	4.108	3.36	1.030	7.091	FALSE	n.a.
3	Chloride	2.0	8.065	4.85	1.240	9.815	FALSE	n.a.
4	Nitrite	2.0	3.870	5.86	1.393	8.624	FALSE	n.a.
5		2.0	n.a.	6.88	0.079	0.306	FALSE	n.a.
6	Bromide	2.0	2.080	8.32	0.629	1.196	FALSE	n.a.
7	Sulfate	2.0	10.419	8.90	1.133	4.698	FALSE	n.a.
8	Nitrate	2.0	9.512	9.84	1.610	5.293	FALSE	n.a.
9	Phosphate	2.0	3.518	12.66	0.596	3.543	FALSE	n.a.

Injection Name:	*US82 B1*	Inject Number:	25
Vial Number:	*22*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*06/05/12 02:39*		



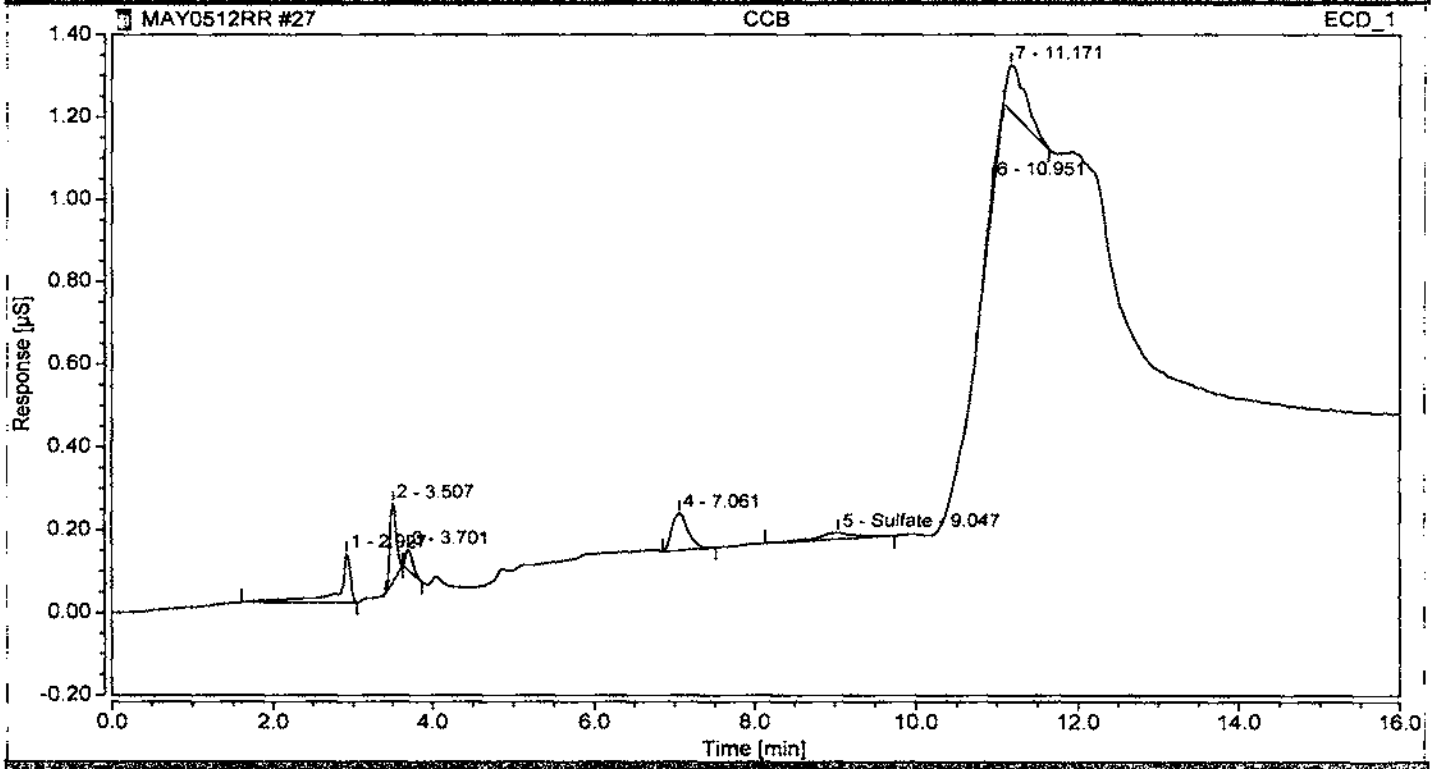
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.93	0.032	0.105	FALSE	n.a.
2	Fluoride	2.0	0.038*	3.36	0.017	0.103	FALSE	n.a.
3		2.0	n.a.	3.50	0.006	0.054	FALSE	n.a.
4	Chloride	2.0	2.449	4.85	0.428	3.852	FALSE	n.a.
n.a.	Nitrite	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		2.0	n.a.	6.91	0.176*	0.514	FALSE	n.a.
n.a.	Bromide	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6	Sulfate	2.0	0.958	8.92	0.752	2.921	FALSE	n.a.
n.a.	Nitrate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7		2.0	n.a.	12.20	0.100	0.195	FALSE	n.a.
n.a.	Phosphate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*CCV*	Inject Number:	26
Vial Number:	*2*	User:	pat
Injection Type:	*Check Standard*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*06/05/12 02:59*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.614	0.110	FALSE	n.a.
2	Fluoride	1.0	2.04	3.36	7.455	1.077	FALSE	-1.88
3	Chloride	1.0	3.01	4.85	7.945	1.110	FALSE	-1.98
4	Nitrite	1.0	4.90	5.86	20.041	2.913	FALSE	-1.00
5		1.0	n.a.	7.04	10.870	0.698	FALSE	n.a.
6	Bromide	1.0	2.10	8.32	10.340	1.492	FALSE	-5.99
7	Sulfate	1.0	2.06	8.92	9.855	1.349	FALSE	-5.74
8	Nitrate	1.0	3.61	9.81	22.423	3.066	FALSE	3.66
9		1.0	n.a.	11.16	8.405	0.635	FALSE	n.a.
10		1.0	n.a.	11.75	0.855	0.081	FALSE	n.a.
11	Phosphate	1.0	2.05	12.61	0.869	5.270	FALSE	-0.48

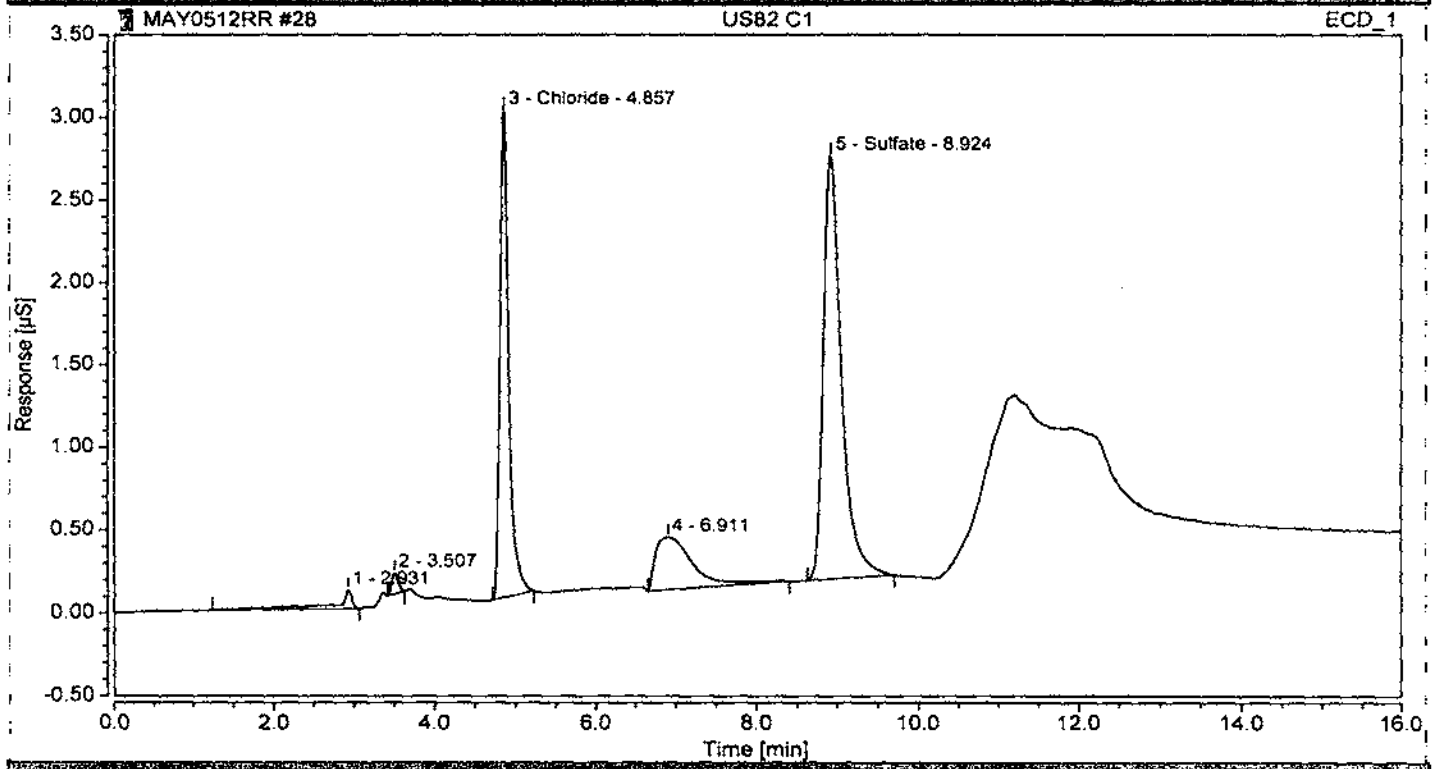
Injection Name:	*CCB*	Inject Number:	27
Vial Number:	*3*	User:	pat
Injection Type:	*Blank*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*06/05/12 03:19*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.82	0.022	0.118	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		1.0	n.a.	3.51	0.018	0.187	FALSE	n.a.
3		1.0	n.a.	3.78	0.005	0.050	FALSE	n.a.
n.a.	Chloride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		1.0	n.a.	7.06	0.02	0.090	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	1.0	0.030	9.05	0.008	0.018	FALSE	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6		1.0	n.a.	10.95	0.007	0.039	FALSE	n.a.
7		1.0	n.a.	11.17	0.032	0.112	FALSE	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

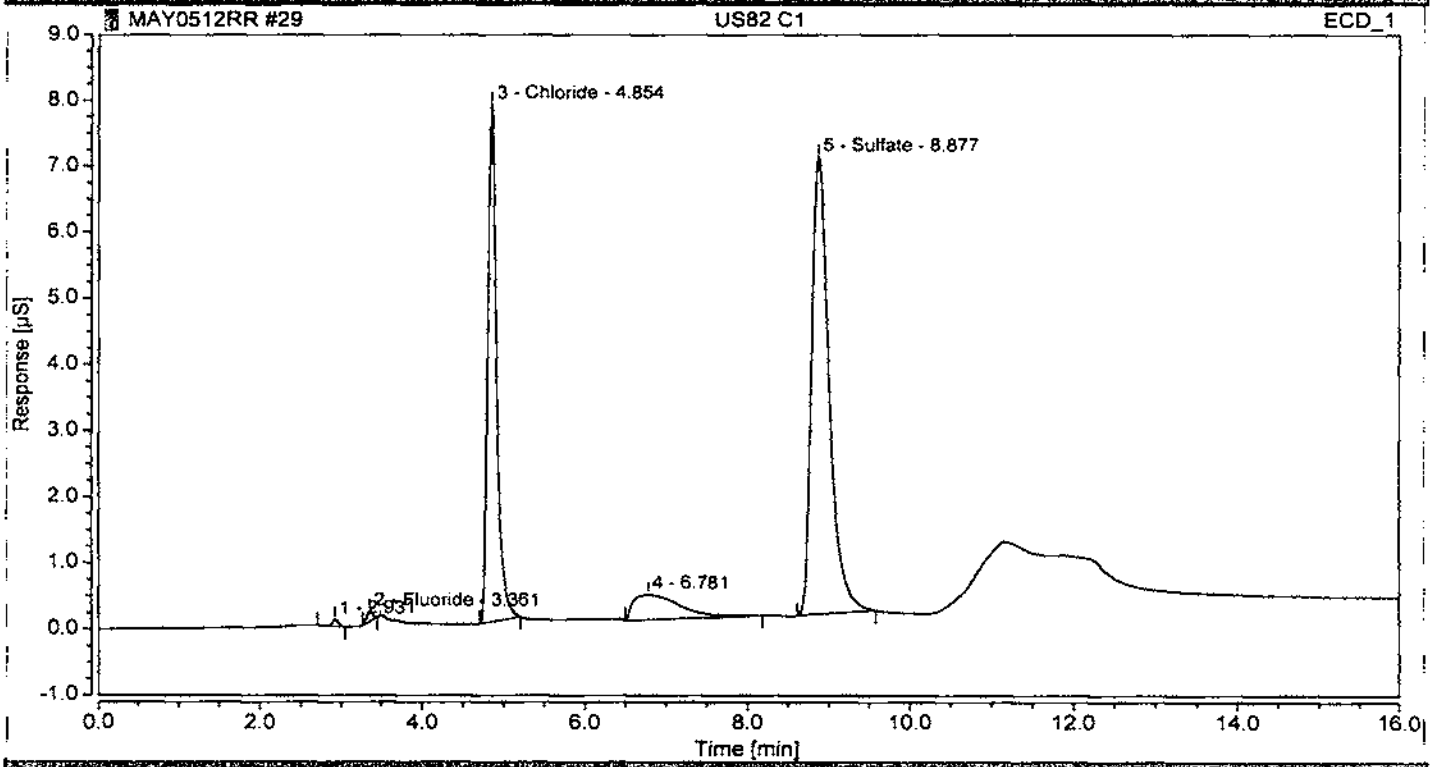
US82 : 00503

Injection Name:	*US82 C1*	Inject Number:	28
Vial Number:	*23*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*5.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*06/05/12 03:40*		



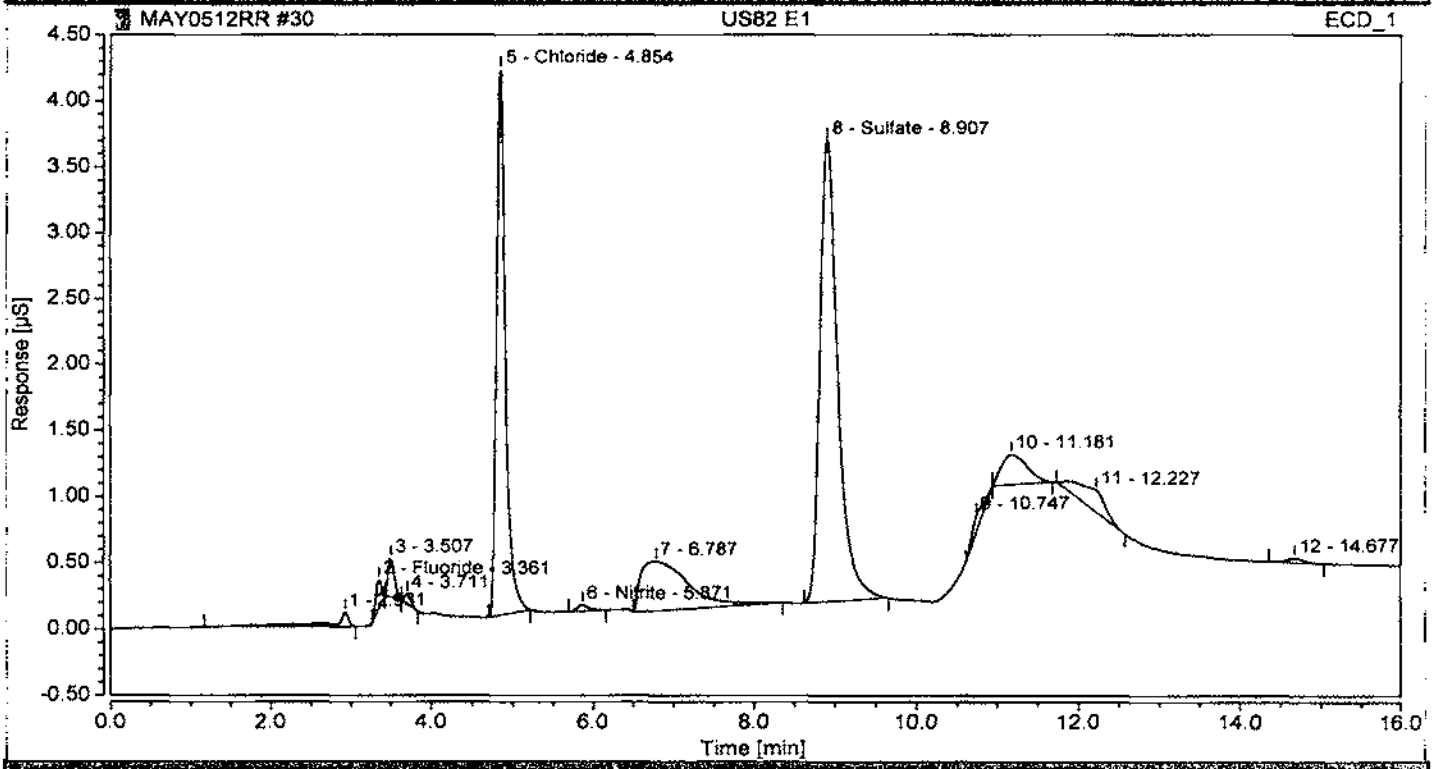
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		5.0	n.a.	2.93	0.031	0.111	FALSE	n.a.
n.a.	Fluoride	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.0	n.a.	3.51	0.012	0.127	FALSE	n.a.
3	Chloride	5.0	6.058	4.86	0.372	2.949	FALSE	n.a.
n.a.	Nitrite	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		5.0	n.a.	6.91	0.165	0.313	FALSE	n.a.
n.a.	Bromide	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	5.0	14.753	8.92	0.665	2.663	FALSE	n.a.
n.a.	Nitrate	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*US82 C1*	Inject Number:	29
Vial Number:	*24*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*06/05/12 04:00*		



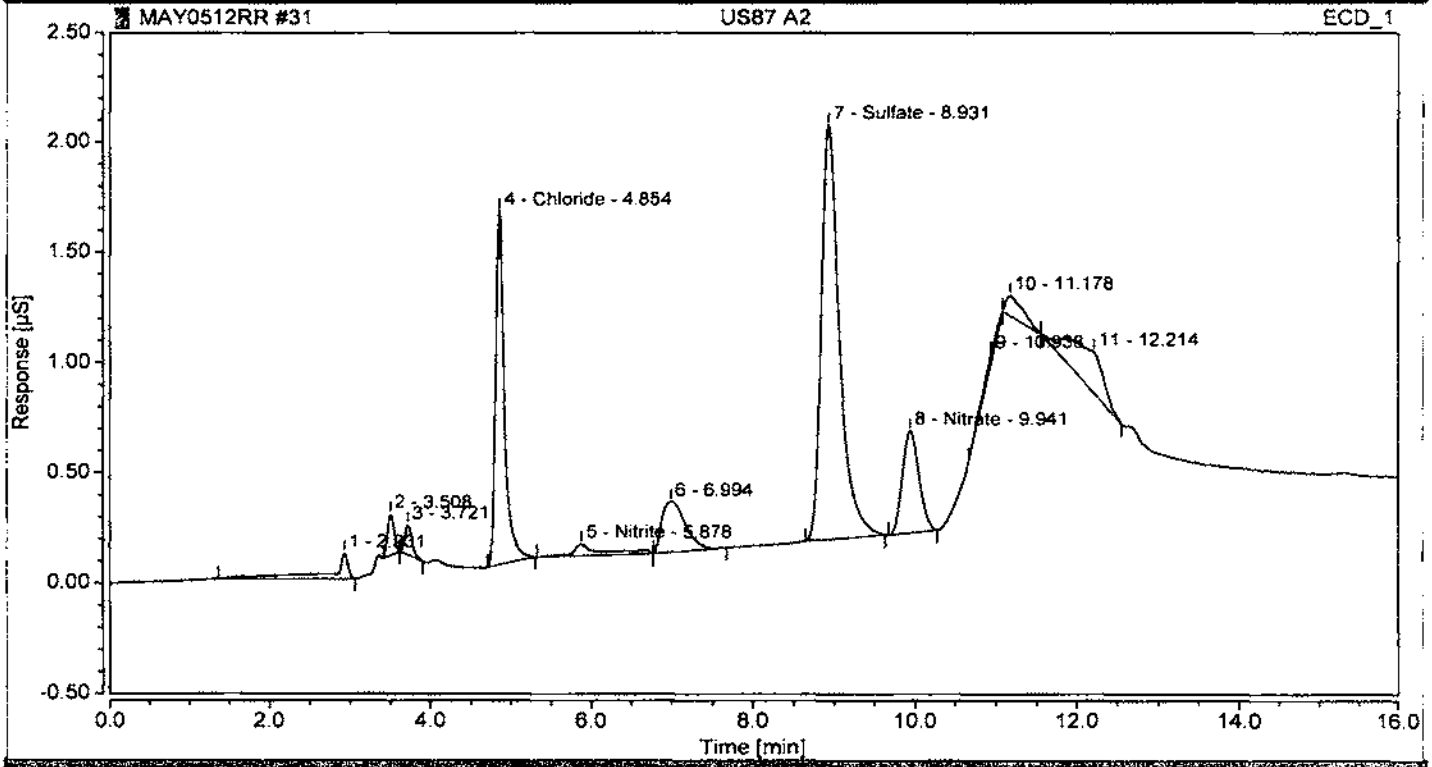
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.93	0.010	0.101	FALSE	n.a.
2	Fluoride	2.0	0.053	3.36	0.013	0.145	FALSE	n.a.
3	Chloride	2.0	0.415	4.85	0.987	7.831	FALSE	n.a.
n.a.	Nitrite	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		2.0	n.a.	6.78	0.251	0.375	FALSE	n.a.
n.a.	Bromide	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	2.0	15.106	8.88	1.795	6.913	FALSE	n.a.
n.a.	Nitrate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Injection Name:	*US82 E1*	Inject Number:	30
Vial Number:	*25*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*06/05/12 04:20*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.93	0.031	0.106	FALSE	n.a.
2	Fluoride	2.0	0.069	3.36	0.017	0.205	FALSE	n.a.
3		2.0	n.a.	3.51	0.026	0.290	FALSE	n.a.
4		2.0	n.a.	3.71	0.007	0.072	FALSE	n.a.
5	Chloride	2.0	0.396	4.85	0.522	4.135	FALSE	n.a.
6	Nitrite	2.0	0.028	5.87	0.007	0.049	FALSE	n.a.
7		2.0	n.a.	6.79	0.050	0.572	FALSE	n.a.
n.a.	Bromide	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8	Sulfate	2.0	0.364	8.91	0.093	3.983	FALSE	n.a.
n.a.	Nitrate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
9		2.0	n.a.	10.75	0.040	0.425	FALSE	n.a.
10		2.0	n.a.	11.18	0.082	0.827	FALSE	n.a.
11		2.0	n.a.	12.23	0.070	0.467	FALSE	n.a.
n.a.	Phosphate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
12		2.0	n.a.	14.68	0.008	0.038	FALSE	n.a.

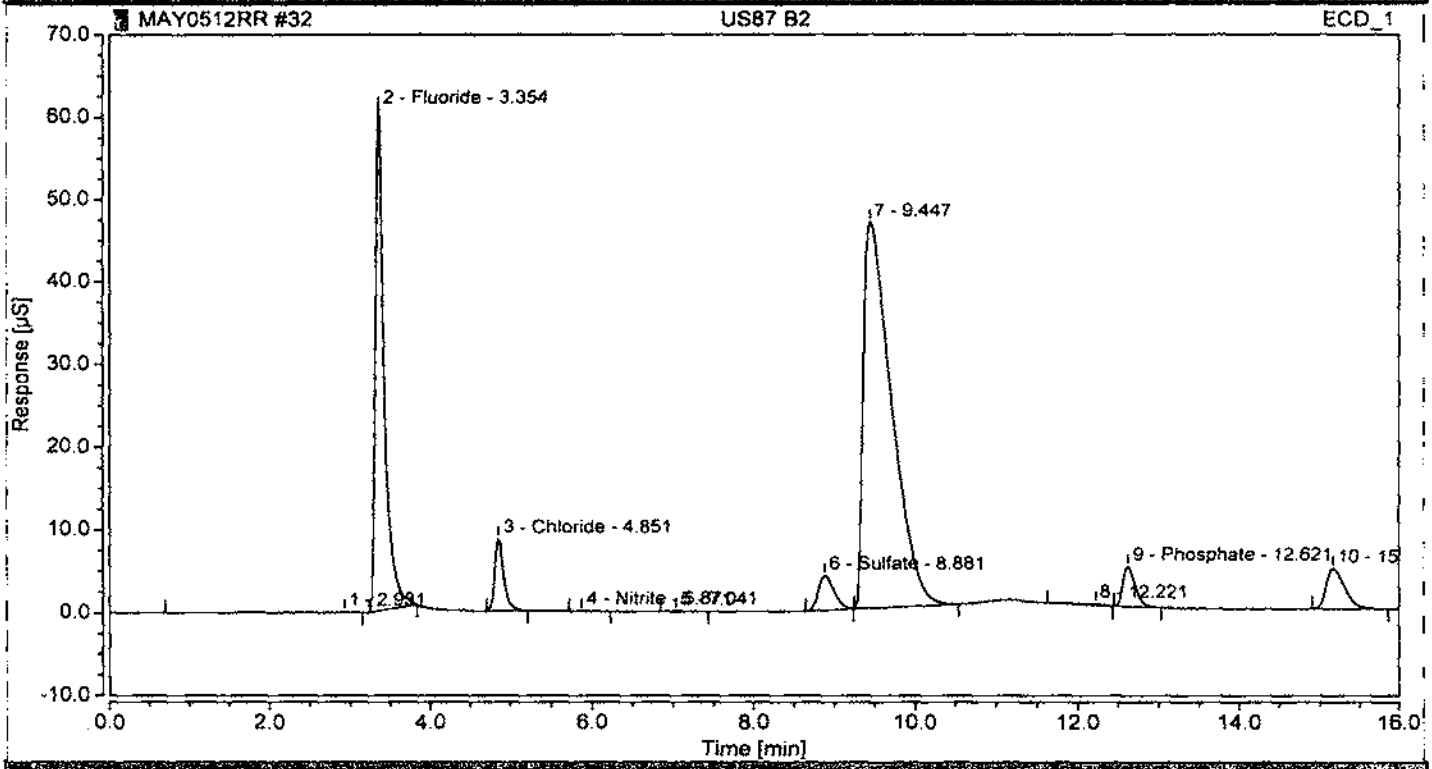
Injection Name:	*US87 A2*	Inject Number:	31
Vial Number:	*26*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*5.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*06/05/12 04:40*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		5.0	n.a.	2.93	0.0033	0.114	FALSE	n.a.
n.a.	Fluoride	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		5.0	n.a.	3.51	0.017	0.188	FALSE	n.a.
3		5.0	n.a.	3.72	0.014	0.135	FALSE	n.a.
4	Chloride	5.0	13.348	4.85	10.208	1.605	FALSE	n.a.
5	Nitrite	5.0	0.188	5.88	0.022	0.053	FALSE	n.a.
6		5.0	n.a.	6.99	0.077	0.259	FALSE	n.a.
n.a.	Bromide	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
7	Sulfate	5.0	19.538	8.93	0.258	0.880	FALSE	n.a.
8	Nitrate	5.0	0.718	9.94	0.102	0.468	FALSE	n.a.
9		5.0	n.a.	10.94	0.016	0.041	FALSE	n.a.
10		5.0	n.a.	11.18	0.024	0.092	FALSE	n.a.
11		5.0	n.a.	12.21	0.033	0.188	FALSE	n.a.
n.a.	Phosphate	5.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

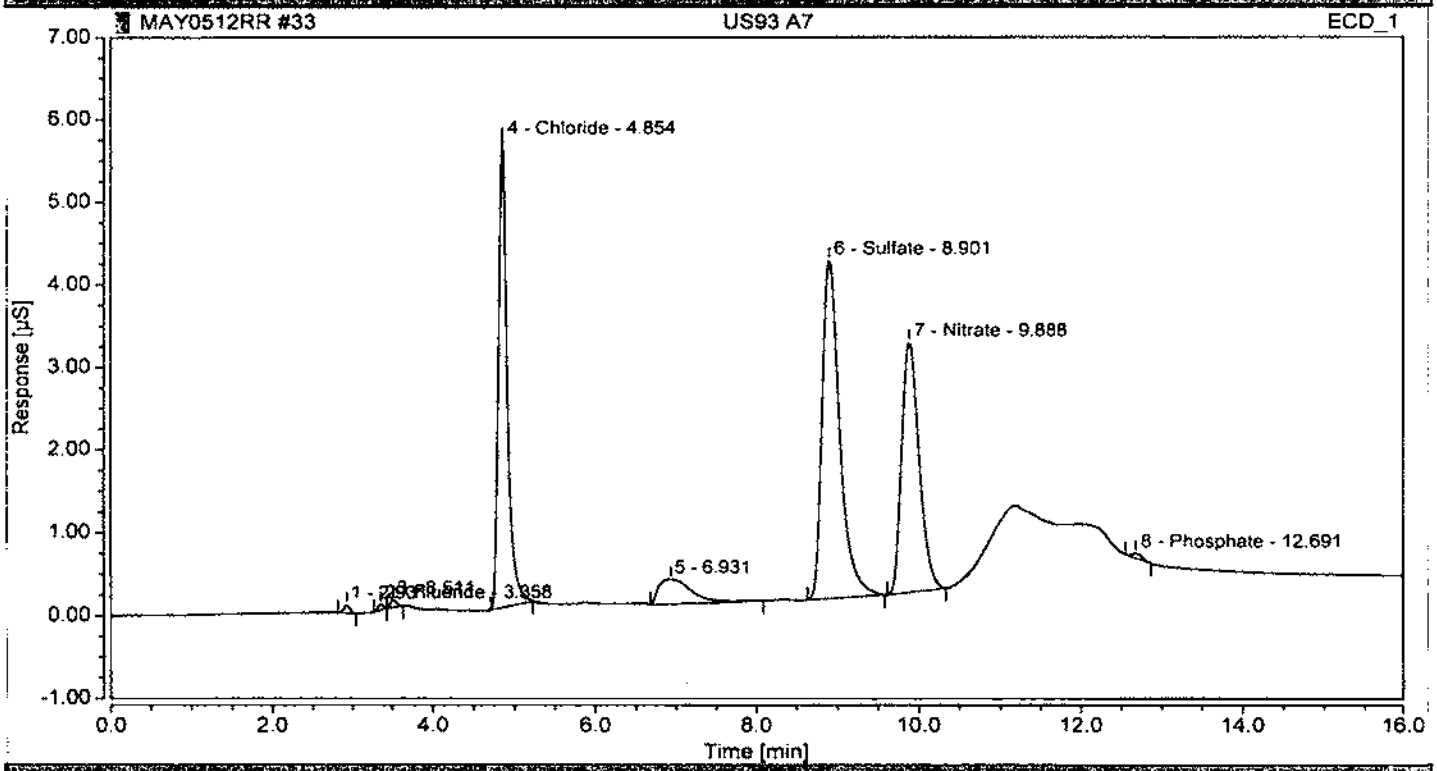
US82 : 60567

Injection Name:	*US87 B2*	Inject Number:	32
Vial Number:	*27*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*06/05/12 05:00*		



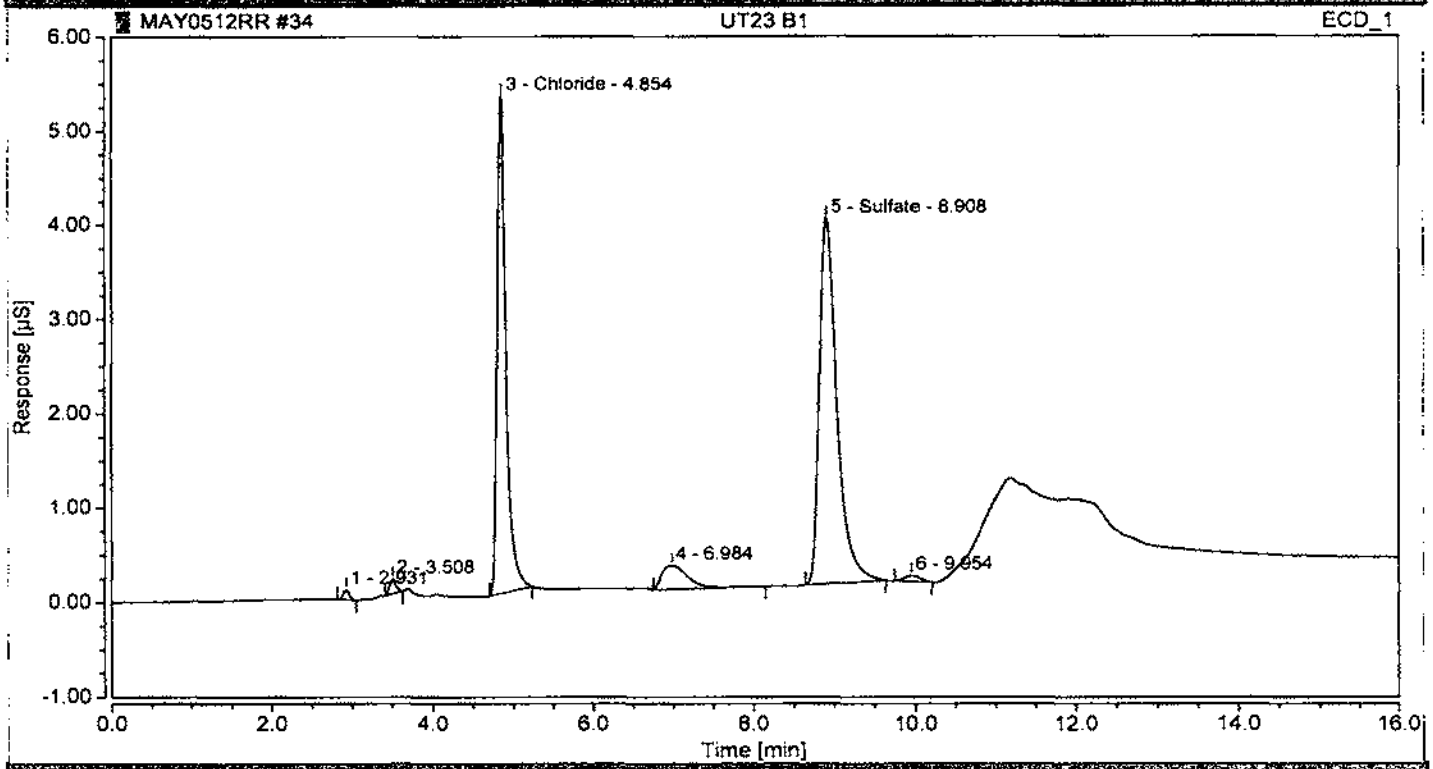
No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.93	0.065	0.128	FALSE	n.a.
2	Fluoride	2.0	31.920	3.36	7.611	50.883	FALSE	n.a.
3	Chloride	2.0	3.36	4.85	1.106	3.562	FALSE	n.a.
4	Nitrite	2.0	0.013	5.87	0.014	0.038	FALSE	n.a.
5		2.0	n.a.	7.01	15.013	56.085	FALSE	n.a.
n.a.	Bromide	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6	Sulfate	2.0	8.99	8.88	10.998	43.64	FALSE	n.a.
7		2.0	n.a.	9.45	15.002	46.545	FALSE	n.a.
n.a.	Nitrate	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
8		2.0	n.a.	12.22	0.080	0.142	FALSE	n.a.
9	Phosphate	2.0	n.a.	12.62	0.844	4.821	FALSE	n.a.
10		2.0	n.a.	15.17	1.310	4.872	FALSE	n.a.

Injection Name:	*US93 A7*	Inject Number:	33
Vial Number:	*28*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*2.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*06/05/12 05:20*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		2.0	n.a.	2.93	0.008	0.098	FALSE	n.a.
2	Fluoride	2.0	0.022	3.36	0.005	0.065	FALSE	n.a.
3		2.0	n.a.	3.61	0.008	0.085	FALSE	n.a.
4	Chloride	2.0	3.851	4.85	0.716	6.691	FALSE	n.a.
n.a.	Nitrite	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5		2.0	n.a.	6.93	0.118	0.288	FALSE	n.a.
n.a.	Bromide	2.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6	Sulfate	2.0	9.145	8.90	1.026	4.066	FALSE	n.a.
7	Nitrate	2.0	2.018	9.89	0.754	3.026	FALSE	n.a.
8	Phosphate	2.0	0.056	12.69	0.009	0.056	FALSE	n.a.

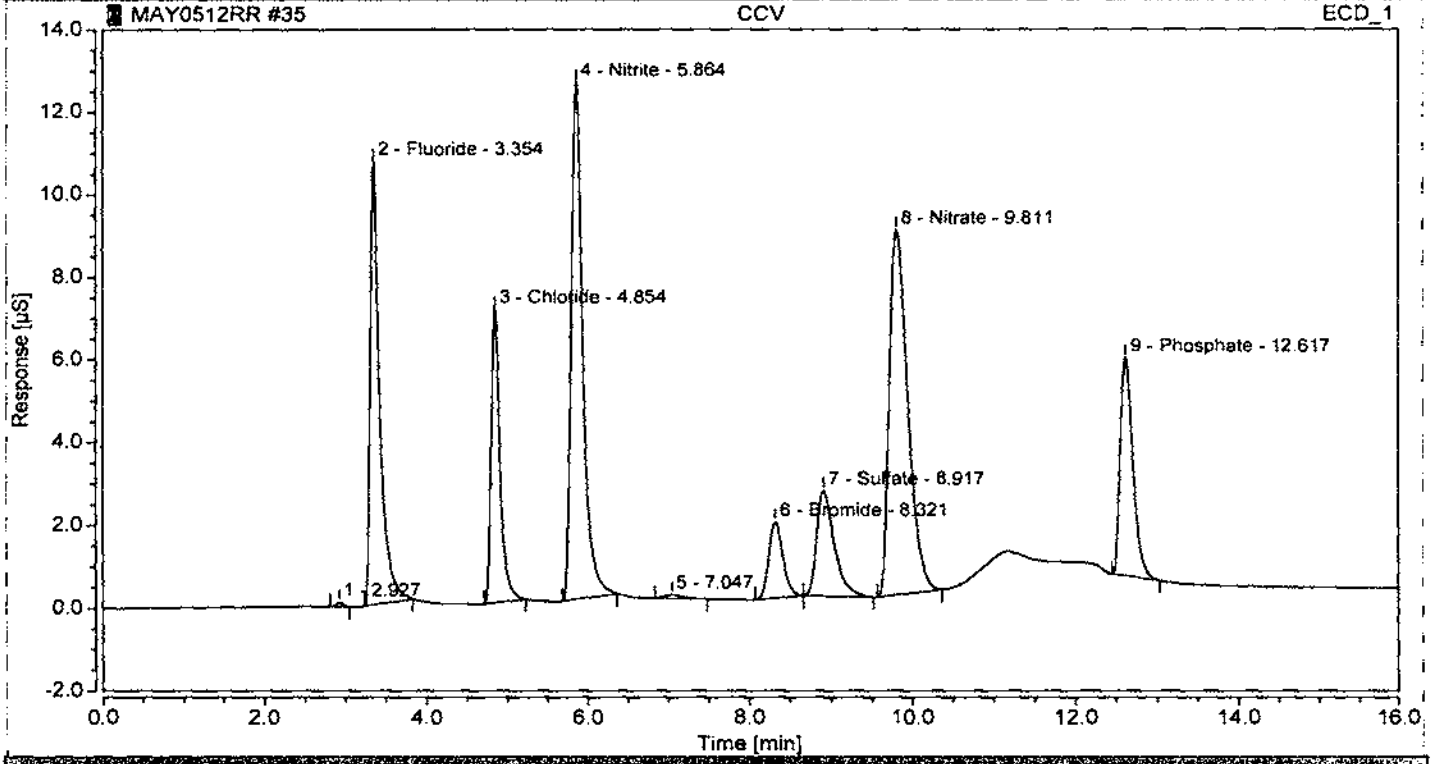
Injection Name:	*UT23 B1*	Inject Number:	34
Vial Number:	*29*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*10.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*06/05/12 05:40*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		10.0	n.a.	2.83	0.009	0.102	FALSE	n.a.
n.a.	Fluoride	10.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		10.0	n.a.	3.51	0.015	0.169	FALSE	n.a.
3	Chloride	10.0	21.407	4.85	0.574	5.473	FALSE	n.a.
n.a.	Nitrite	10.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4		10.0	n.a.	6.98	0.036	0.251	FALSE	n.a.
n.a.	Bromide	10.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
5	Sulfate	10.0	43.227	8.91	0.930	3.869	FALSE	n.a.
n.a.	Nitrate	10.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
6		10.0	n.a.	9.95	0.014	0.063	FALSE	n.a.
n.a.	Phosphate	10.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

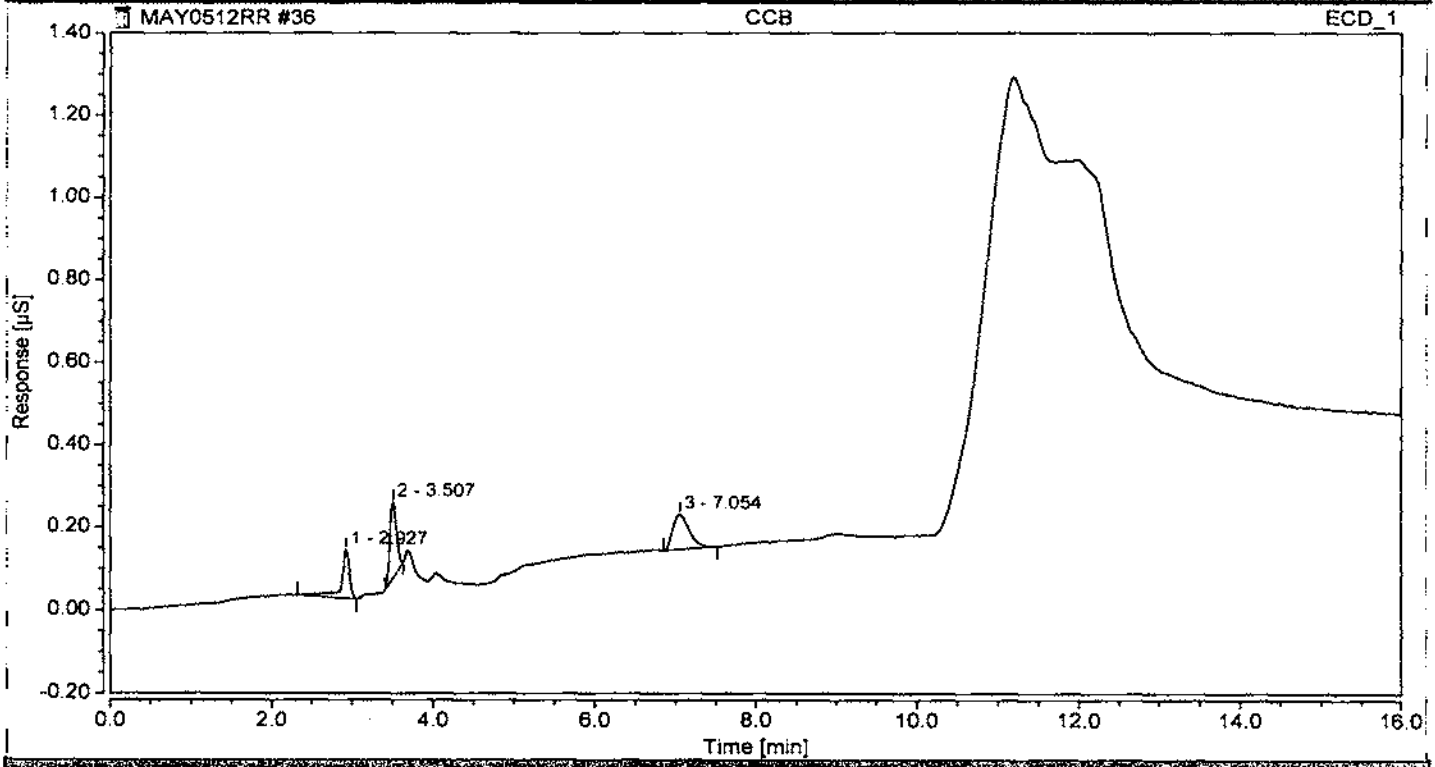
US82 : 00519

Injection Name:	*CCV*	Inject Number:	35
Vial Number:	*30*	User:	pat
Injection Type:	*Check Standard*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodal*		
Injection Date/Time:	*06/05/12 06:01*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.009	0.103	FALSE	n.a.
2	Fluoride	1.0	2.940	3.35	1.457	10.730	FALSE	-2.00
3	Chloride	1.0	2.942	4.86	0.965	7.099	FALSE	-1.94
4	Nitrite	1.0	2.973	5.86	2.096	12.857	FALSE	-0.89
5		1.0	n.a.	7.05	10.022	0.099	FALSE	n.a.
6	Bromide	1.0	2.805	8.32	0.968	1.826	FALSE	-6.49
7	Sulfate	1.0	2.815	8.92	0.994	2.441	FALSE	-6.16
8	Nitrate	1.0	3.108	9.81	2.422	5.823	FALSE	3.60
9	Phosphate	1.0	2.976	12.62	0.930	5.280	FALSE	-0.79

Injection Name:	*CCB*	Inject Number:	36
Vial Number:	*31*	User:	pat
Injection Type:	*Blank*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*INSTRMETH*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*06/05/12 06:21*		



No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			mg/l	min	µS*min	µS		mg/l
1		1.0	n.a.	2.93	0.014	0.116	FALSE	n.a.
n.a.	Fluoride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2		1.0	n.a.	3.51	0.017	0.183	FALSE	n.a.
n.a.	Chloride	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Nitrite	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3		1.0	n.a.	7.05	0.070	0.089	FALSE	n.a.
n.a.	Bromide	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Sulfate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Nitrate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	Phosphate	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

US82 : 00512

Injection Name:	*STOP*	Inject Number:	37
Vial Number:	*1*	User:	pat
Injection Type:	*Unknown*	Sequence:	MAY0512RR
Dilution Factor:	*1.0*		
Instrument Method:	*SHUTDOWN*		
Processing Method:	*processmethodat*		
Injection Date/Time:	*06/05/12 06:42*		

Can't read channel ECD_1 from injection #37 - STOP.
Channel is not available.

No.	Peak Name	Dilution	Amount	Retention	Area	Height	anipulated	Amnt.Dev.
			n.a.	min	matogram in con	matogram in		n.a.

US82 : 00513

05/16/12

ALKALINITY BENCHSHEET methods: **SM 2320 B-97**

Date/Time: 5/15/12 11:02

pH meter verification **pH meter ID: ACCUMET AR60** **Buret ID: 01G30627**

Analyst: KE

Buffer pH	7.00	**pH Probe ID :**	AR60
Measured pH	7.02	Calibration OK	**HIGH CURVE**

Standardization of acid titrant ***(titration to pH 4.5)***

ARI ID:	00127 - 5		
grams Na2CO3 =	0.6250	to 250	ml DI
Normality Na2CO3 =	0.0472		
Assumed Acid Normality =	0.1		
Standardized Acid Normality=	0.0991	OK!	

BLANK		STANDARD TITRATION		
BLANK	ml ACID	ml Na2CO3	ml ACID	N H2SO4
1	0.01	5	2.44	0.097
2	0.02	5	2.38	0.100
3	0.01	5	2.36	0.101
AVERAGE	0.01			0.099

Partitioning Calculations

T=Total, P=Phenolphthalein

Obs	HCO3	CO3	OH
P =0	T	0	0
P< 0.5T	T - 2P	2P	0
P= 0.5T	0	2P	0
P> 0.5T	0	2(T - P)	2P - T
P =T	0	0	T

Calibration Verification Standard (second source sodium carbonate solution)

ARI ID:	00127 - 4			mg/L CaCO3	
grams Na2CO3 =	0.6252	grams in	250	mL =	2360
dilution:	5.0	mL to	95	CVS =	124.2
DQL Std (2ppm)	dilute	0.085	mL stock to 100 mL DI =		2.0

Laboratory Control Standard (LCS)

Source: **9197 - 506** mg/L CaCO3 **33.10**

SAMPLE DATA

Alk (mg/L CaCO3 = [(mL acid X Nacid) X 50,000] / mL sample *(shaded cells are calculated, make no entries)*

low level = {{{(2 X mL4.5)-mL4.2] X Nacid) X 50,000] / mL sample

Sample Number	Sample ID	Initial pH	Volume (ml)	TEMP (C)	ml H2SO4 pH=8.3	ml H2SO4 pH =4.5	ml H2SO4 pH=4.2	ALK (mg CaCO3/l) Phenolph	ALK (mg CaCO3/l) TOT HIGH	ALK (mg CaCO3/l) TOT LOW	Partitioning (mg/l CaCO3) HCO3	Partitioning (mg/l CaCO3) CO3	Partitioning (mg/l CaCO3) OH	(mg/l) FREE CO2
ICV		10.39	100	22.7	1.14	2.44	0.00	56.5	120.3		96.9%	OK!		
ICB		5.28	100	22.8	0.00	0.01	0.02	0.0		0.0	0.0	0.0	0.0	0.0
LCS		8.67	50	21.4	0.10	0.33	0.35	9.9	32.7		98.8%	OK!		
US82 A9		6.52	100	21.6	0.00	2.45	0.00	0.0	121.4		121.4	0.0	0.0	73.3
US82 A9 dup		6.54	100	21.6	0.00	2.46	0.00	0.0	121.9		121.9	0.0	0.0	70.3
RPD =									0.4%		0.4%			4.2%
US82 C5		6.29	100	22.2	0.00	4.43	0.00	0.0	219.6		219.6	0.0	0.0	225.2
US82 E5		7.07	100	23.2	0.00	5.40	0.00	0.0	267.6		267.6	0.0	0.0	45.6
UT14 A4		7.68	100	21.6	0.00	29.07	0.00	0.0	1440.8		1440.8	0.0	0.0	60.2
UT14 A4 dup		7.71	100	21.9	0.00	29.01	0.00	0.0	1437.8		1437.8	0.0	0.0	56.1
RPD =									0.2%		0.2%			7.1%
UT14 B4		9.94	100	21.9	2.49	6.71	0.00	123.4	332.6		85.7	246.8	0.0	0.0
UT14 C4		7.08	100	22.7	0.00	29.18	0.00	0.0	1446.3		1446.3	0.0	0.0	240.6
UT14 D3		10.66	100	22.4	17.96	25.12	0.00	890.2	1245.0		0.0	709.8	535.3	0.0
UT14 E3		6.58	100	22.5	0.00	22.04	0.00	0.0	1092.4		1092.4	0.0	0.0	574.7
CCV		10.37	100	22.8	1.17	2.42	0.00	58.0	119.3		96.1%	OK!	0.0	0.0
UT14 F3		6.28	100	22.4	0.00	14.45	0.00	0.0	716.2		716.2	0.0	0.0	751.7
UT14 G3		8.87	100	22.6	0.39	5.98	0.00	19.3	296.4		257.7	38.7	0.0	0.7
CCV		10.44	100	22.6	1.16	2.41	0.00	57.5	118.8		95.7%	OK!	0.0	0.0

① 5-15-12 (W)

ALKALINITY BENCHSHEET methods: **SM 2320 B-97**

Date/Time: 5-15-12

pH meter verification **pH meter ID:** **ACCUMET AR60** **Buret ID:** **01G30627**

Analyst: (W) 11:02

Buffer pH **7.00** **pH Probe ID :** **AR60**

Measured pH 7.02 *must agree within 0.1 pH unit* **HIGH CURVE**

Standardization of acid titrant ***(titration to pH 4.5)***

ARI ID: ***00127 - 5***

grams Na2CO3 =	**0.6250**	*to*	**250**	*ml DI*
Normality Na2CO3 =	0.0472			
Assumed Acid Normality =	**0.1**			
Standardized Acid Normality=				

BLANK		STANDARD TITRATION		
BLANK	ml ACID	ml Na2CO3	ml ACID	N H2SO4
1	0.01	5	2.44	
2	0.02	5	2.38	
3	0.01	5	2.36	
AVERAGE				

Partitioning Calculations

T=Total, P=Phenolphthalein

Obs	*HCO3*	*CO3*	*OH*
P =0	T	0	0
P< 0.5T	T - 2P	2P	0
P= 0.5T	0	2P	0
P> 0.5T	0	2(T - P)	2P - T
P =T	0	0	T

Calibration Verification Standard (second source sodium carbonate solution)

ARI ID: ***00127 - 4*** *mg/L CaCO3*

grams Na2CO3 =	**0.6252**	*grams in*	**250**	*mL =*	2360	
dilution:	**5.0**	*mL to*	**95**	*CVS =*	**124.2**	
DQL Std (2ppm)	*dilute*	**0.085**	*mL stock to 100 mL DI =*		**2.0**	

Laboratory Control Standard (LCS)

mg/L CaCO3

Source: ***9197 - 506*** ~~40.20~~ / 33.1

SAMPLE DATA

Alk (mg/L CaCO3 = [(mL acid X Nacid) X 50,000] / mL sample *(shaded cells are calculated, make no entries)*

low level = {{{(2 X mL4.5)-mL4.2] X Nacid) X 50,000} / mL sample

Sample Number	Sample ID	Initial pH	Volume (ml)	TEMP (C)	ml H2SO4 pH=8.3	ml H2SO4 pH =4.5	ml H2SO4 pH=4.2	ALK (mg CaCO3/l) Phenolph	ALK (mg CaCO3/l) TOT HIGH	ALK (mg CaCO3/l) TOT LOW	Partitioning (mg/l CaCO3) HCO3	Partitioning (mg/l CaCO3) CO3	Partitioning (mg/l CaCO3) OH	(mg/l) FREE CO2
ICV		10.39	100	22.7	1.14	2.44	0.00							
ICB		5.28	100	22.8	0.00	0.01	0.02							
LCS		8.67	50	21.4	0.10	0.33	0.35							
U582 A9		6.52	100	21.6	0.00	2.46	0.00							
neA9		6.54	100	21.6	10.00	2.46	0.00							
C5		6.29	100	22.2	0.00	4.43	0.00							
↓ E5		7.07	100	22.2	0.00	5.40	0.00							
U714 A4		7.68	100	21.6	0.00	29.07	0.00							
neA4		7.71	100	21.9	0.00	29.01	0.00							
B4		9.94	100	21.9	2.49	6.71	0.00							
C4		①9.08	100	22.7	0.00	29.18	0.00							
E3		10.66	100	22.4	0.00(2)	17.96(3)	0.00	(3)						
↓ E3		6.58	100	22.5	0.00	22.04(4)	0.00	(4)						
CCV		10.37	100	22.8	1.17	2.42	0.00							
U714 E3		6.28	100	22.4	0.00	14.45	0.00							
↓ G3		8.87	100	22.6	0.39	5.98	0.00							
~~U733~~ CCV		10.44	100	22.6	1.16	2.41	0.00							
						0.15 (1)								
CCV														

(1) 17.96 6-15-12 (W) (4) 22.04 5-15-12 (W)

(3) 25.12 6-15-12 (W)

5/15/2012 - 2:55:57

ALKALINITY BENCHSHEET methods: **SM 2320 B-97** Date/Time: 5/15/12 12:22

pH meter verification | pH meter ID: ACCUMET AR60 | Buret ID: 01G30627 | Analyst: KE

Buffer pH 7.00 | pH Probe ID : AR60

Measured pH 7.02 | Calibration OK | LOW CURVE

Standardization of acid titrant *(titration to pH 4.5)*

ARI ID: 00123 - 5

grams Na2CO3 = 0.6250 to 250 ml DI

Normality Na2CO3 = 0.0472

Assumed Acid Normality = 0.02

Standardized Acid Normality= 0.0206 OK!

BLANK		STANDARD TITRATION		
BLANK	ml ACID	ml Na2CO3	ml ACID	N H2SO4
1	0.14	5	11.62	0.021
2	0.14	5	11.57	0.021
3	0.15	5	11.60	0.021
AVERAGE	0.14			0.021

Partitioning Calculations

T=Total, P=Phenolphthalein

Obs	HCO3	CO3	OH
P =0	T	0	0
P< 0.5T	T - 2P	2P	0
P= 0.5T	0	2P	0
P> 0.5T	0	2(T - P)	2P - T
P =T	0	0	T

Calibration Verification Standard (second source sodium carbonate solution)

ARI ID: 00127 - 4 mg/L CaCO3

grams Na2CO3 = 0.6252 grams in 250 mL = 2360

dilution: 5.0 mL to 95 CVS = 124.2

DQL Std (2ppm) dilute 0.085 mL stock to 100 mL DI = 2.0

Laboratory Control Standard (LCS)

Source: P197 - 506 mg/L CaCO3 33.10

SAMPLE DATA

Alk (mg/L CaCO3 = [(mL acid X Nacid) X 50,000] / mL sample

low level = {(((2 X mL4.5)-mL4.2] X Nacid) X 50,000} / mL sample

(shaded cells are calculated, make no entries)

Sample Number	Sample ID	Initial pH	Volume (ml)	TEMP (C)	ml H2SO4 pH=8.3	ml H2SO4 pH =4.5	ml H2SO4 pH=4.2	ALK (mg CaCO3/l) Phenolph	ALK (mg CaCO3/l) TOT HIGH	ALK (mg CaCO3/l) TOT LOW	Partitioning (mg/l CaCO3) HCO3	Partitioning (mg/l CaCO3) CO3	Partitioning (mg/l CaCO3) OH	(mg/l) FREE CO2
ICV		10.44	100	22.6	5.68	11.58	0.00	58.5	117.8		94.8%	OK!		
ICB		5.29	100	22.8	0.00	0.15	0.27	0.0		0.3	0.3	0.0	0.0	3.2
DQL Std (2ppm)		8.26	100	22.4	0.00	0.31	0.44	0.0		1.9				
LCS		8.77	50	22.2	0.26	1.66	1.71	5.4	34.2		103.3%	OK!		
US82 B10		6.51	100	23.3	0.00	1.95	2.01	0.0	20.1		20.1	0.0	0.0	12.4
US82 B10 dup		6.53	100	23.4	0.00	1.96	2.00	0.0	20.2		20.2	0.0	0.0	11.9
RPD =									0.5%		0.5%			4.1%
UT10 A2		7.26	100	23.2	0.00	1.31	1.38	0.0		12.8	12.8	0.0	0.0	1.4
UT10 A2 dup		7.25	100	23.1	0.00	1.30	1.37	0.0		12.7	12.7	0.0	0.0	1.4
RPD =										0.8%	0.8%			1.5%
UT10 B2		6.92	100	23.0	0.00	1.19	1.26	0.0		11.5	11.5	0.0	0.0	2.8
UT10 C2		6.98	100	23.1	0.00	0.89	0.94	0.0		8.6	8.6	0.0	0.0	1.8
UT10 D2		6.92	100	23.1	0.00	0.94	0.98	0.0		9.3	9.3	0.0	0.0	2.2
UT37 A5		7.72	100	22.0	0.00	1.39	1.48	0.0		13.4	13.4	0.0	0.0	0.5
UT37 A5 dup		7.72	100	22.0	0.00	1.39	1.47	0.0		13.5	13.5	0.0	0.0	0.5
RPD =										0.8%	0.8%			0.8%
UT37 B5		3.39	100	21.9	0.00	<4.5	0.00	0.0	0.0	pH <4.5	0.0	0.0	0.0	0.0
CCV		10.46	100	22.5	5.70	11.61	0.00	58.7	118.1		95.1%	OK!		0.0

S1G30627 - 2350

ALKALINITY BENCHSHEET

methods: **SM 2320 B-97**

Date/Time: 5-15-12

Analyst: W 12:22

pH meter verification | **pH meter ID:** ACCUMET AR60 | **Buret ID:** 01G30627

Buffer pH 7.00 | **pH Probe ID :** AR60

Measured pH 7.01 *must agree within 0.1 pH unit* | **LOW CURVE**

Standardization of acid titrant *(titration to pH 4.5)*

ARI ID: 00127-5

grams Na2CO3 =	0.6250	*to*	250	*ml DI*
Normality Na2CO3 =	0.0472			
Assumed Acid Normality =	0.02			
Standardized Acid Normality=				

BLANK		STANDARD TITRATION		
BLANK	ml ACID	ml Na2CO3	ml ACID	N H2SO4
1	0.14	5	11.62	
2	0.14	5	11.57	
3	0.15	5	11.60	
AVERAGE				

Partitioning Calculations

T=Total, P=Phenolphthalein

Obs	HCO3	CO3	OH
P =0	T	0	0
P< 0.5T	T - 2P	2P	0
P= 0.5T	0	2P	0
P> 0.5T	0	2(T - P)	2P - T
P =T	0	0	T

Calibration Verification Standard (second source sodium carbonate solution)

ARI ID: 00127-4

						mg/L CaCO3
grams Na2CO3 =	0.6252	*grams in*	250	*mL =*	2360	
dilution:	5.0	*mL to*	95	*CVS =*	124.2	
DQL Std (2ppm)	*dilute*	0.085	*mL stock to 100 mL DI =*		2.0	

Laboratory Control Standard (LCS)

Source: P197 - 506 | *mg/L CaCO3* 33.10

SAMPLE DATA

Alk (mg/L CaCO3 = {(mL acid X Nacid) X 50,000} / mL sample *(shaded cells are calculated, make no entries)*

low level = {{{(2 X mL4.5)-mL4.2} X Nacid) X 50,000} / mL sample

Sample Number	Sample ID	Initial pH	Volume (ml)	TEMP (C)	ml H2SO4 pH=8.3	ml H2SO4 pH =4.5	ml H2SO4 pH=4.2	ALK (mg CaCO3/l) Phenolph	ALK (mg CaCO3/l) TOT HIGH	ALK (mg CaCO3/l) TOT LOW	Partitioning (mg/l CaCO3) HCO3	Partitioning (mg/l CaCO3) CO3	Partitioning (mg/l CaCO3) OH	(mg/l) FREE CO2
ICV		10.44	100	22.1	3.68	11.58	9.40							
ICB		5.26	100	22.8	0.00	0.15	0.27							
DQL Std (2ppm)		8.26	100	22.4	0.00	0.31	0.44							
LCS		8.77	50	22.2	0.26	1.66	1.82							
US82 B10		6.57	100	23.3	0.00	1.95	2.00	2.01						
↳ DUP B10		6.53	100	23.4	0.00	1.96	2.00							
US10 A2		7.26	100	23.2	0.00	1.31	1.40	1.38						
DUP A2		7.25	100	23.1	0.00	1.30	1.40	1.37						
B2		6.92	100	23.0	0.00	1.19	1.26							
C2		6.98	100	23.1	0.00	0.89	0.94							
D2		6.92	100	23.1	0.00	0.94	0.98							
UT37 A5		7.22	100	22.0	0.00	1.39	1.48							
DUP A5		7.72	100	22.0	0.00	1.39	1.47							
B5		3.39	100	21.9	0.00	4.45	0.00							
CCV		10.46	100	22.5	5.70	11.61	6.00							
CCV														

5-16-12 W

1552.6951

PHOSPHORUS BENCHSHEET, Aqueous			Digested:	Analyzed:
Soluble Reactive P (SRP) by EPA 365.2, SM 4500-P		Date	5/8/12 12:00	5/8/12 19:37
Indicate "Total" or "SRP"	Total	Analyst	CDE	CDE

Total P by digestion (indicate procedure used) — ***SM 4500-P B5-99, Acid persulfate*** / ~~***SM 4500-P B4-99, Sulfuric-Nitric Acid***~~

NOTE: *curve standards must be digested !*

make no entries to shaded cells, they are calculated !!

Curve Standards

Stock Standard

Stock #: 123-9 *Prep date:* 2/9/2012 Conc = **50.00** *mg/L P*

Intermediate Standard

5 *mL stk to* 50 *mL DI =* ***5.00*** ***mg P/L***

Calibration Curve for Digested Curve

std make-up volume (mL) = **25** Digest Final Vol (mL) = **50**

mL Intermediate Std		CONC	UNITS		AVG		REGRESSION DATA
SRP	Total P	(mg/L)	(ABS 880 nm 5cm cell)			*mg/L*	CONC = (ABS-intercept)/ slope
	0.00	0.000	0.000		0.000	*0.001*	*intercept =* -0.0022
	0.08	0.008	0.022		0.022	*0.008*	*Slope =* 3.1742
	0.25	0.025	0.075		0.075	*0.024*	*r =* 0.9999
	0.75	0.075	0.230		0.230	*0.073*	
	2.50	0.250	0.803		0.803	*0.254*	*Comment:* Calibration OK!
	5.00	0.500	1.580		1.580	*0.498*	
							maxabs = 1.580

Verification Standards *Source:* ERA# 3303093 *Conc (mg/L)* 1000

Intermediate		0.50	*mL to*	50	*mL DI =*	***10.0***	*mg/L*	
SRP ICV	*dilution =*	0.75	*mL Int to*	50	*mL DI =*	***0.150***	*mg/L*	*CVS*
Tot P LCS	*dilution =*	0.25	*mL Int to*	25	*mL DI =*	***0.100***	*mg/L*	*LCS*

DQL Standard (low level) *Source:* ***Curve Int.*** *Conc (mg/L)* 5.0

SRP	0.080	*ml to*	50	*ml DI =*	***0.008***	*mg/L*
Total P	0.080	*ml to*	25	*ml DI =*	***0.016***	*mg/L*

Sample Data

Spike with 5 mg/L Intermediate Standard *enter dilution as final vol / sample vol*

SAMPLE ID	Tot P Digest		Analysis Data			TOT P	SRP	
	mL sample	mL digest	Abs	Dilution	(mg/L)	(mg/L)	(mg/L)	*Notes*
MB Total	25	50	0.000	1.0	0.0007	<0.008		*OK*
LCS 1	25	50	0.153	1.0	0.0489	0.0978		*97.82%*
DQL Total	25	50	0.023	1.0	0.0080	0.0159		*99.40%*
UR75 A3	25	50	0.070	1.0	0.0228	0.0456		
UR75 B3	25	50	0.159	1.0	0.0508	0.1016		
UR75 C3	25	50	0.005	1.0	0.0023	<0.008		
UR75 D3	25	50	0.034	1.0	0.0114	0.0228		
UR75 E3	25	50	0.018	1.0	0.0064	0.0128		
UR75 F3	25	50	0.022	1.0	0.0076	0.0153		
UR75 F3 dup	25	50	0.022	1.0	0.0076	0.0153		*RPD na*
UR75 F3 ms	25	50	0.077	1.0	0.0250	0.0499		*124.8% Rec*
Spike =	0.2	*ml of*	5	*mg/L to*	25	*ml sample =*	0.040	
UR75 G3	25	50	0.019	1.0	0.0067	0.0134		
UR75 H3	25	50	0.027	1.0	0.0092	0.0184		
MB total	25	50	0.000	1.0	0.0007	<0.008		*OK*
LCS 1	25	50	0.153	1.0	0.0489	0.0978		*97.82%*
UR75 I3	25	50	0.021	1.0	0.0073	0.0146		
US27 E5	25	50	1.409	2.0	0.4446	1.7784		
US52 G16	25	50	0.619	1.0	0.1967	0.3934		
US52 H6	25	50	1.371	2.0	0.4326	1.7305		
US52 I5	25	50	1.012	2.0	0.3195	1.2781		
US61 A11	25	50	1.001	2.0	0.3161	1.2643		
US61 A11 dup	25	50	1.014	2.0	0.3202	1.2808		*RPD = 1.29*
US61 A11 ms	25	50	1.033	2.0	0.3261	1.3046		*100.8% Rec*
Spike =	0.2	*ml of*	5	*mg/L to*	25	*ml sample =*	0.040	
US61 B11	25	50	0.846	2.0	0.2672	1.0689		
US61 C11	25	50	0.616	1.0	0.1948	0.3895		
MB total	25	50	0.000	1.0	0.0007	<0.008		*OK*
LCS 1	25	50	0.153	1.0	0.0489	0.0978		*97.82%*
US82 A8	25	50	0.022	1.0	0.0076	0.0153		
US82 B9	25	50	0.214	1.0	0.0681	0.1363		

US82 C4	25	50	0.197	1.0	0.0628	**0.1255**		
~~US82 E4~~	25	50	~~1.731~~	~~1.0~~	~~0.5460~~	~~1.0921~~		***offscale***
US82 E4	25	50	0.852	2.0	0.2691	**1.0765**		
MB total	25	50	0.001	1.0	0.0010	**<0.008**		*OK*
LCS 1	25	50	0.153	1.0	0.0489	**0.0978**		*97.82%*

PHOSPHORUS BENCHSHEET, Aqueous

	Digested:	Analyzed:
Soluble Reactive P (SRP) by EPA 365.2, SM 4500-P Date	5-8-12 12:00	5-8-12 19:37
Indicate "Total" or "SRP" **Total** Analyst	CNL	CNL

Total P by digestion (indicate procedure used) ***SM 4500-P B5-99, Acid persulfate*** ~~***SM 4500-P B4-99, Sulfuric-Nitric Acid***~~

NOTE: *curve standards must be digested !*

make no entries to shaded cells, they are calculated !!

Curve Standards

Stock Standard

Stock #: 123-9 *Prep date:* 2/9/2012 Conc = **50.00** *mg/L P*

Intermediate Standard

5 *mL stk to* 50 *mL DI =* ***5.00*** *mg P/L*

Calibration Curve for Digested Curve

std make-up volume (mL) = **25** Digest Final Vol (mL) = **50**

mL intermediate Std		CONC	UNITS	AVG	
SRP	Total P	(mg/L)	(ABS 880 nm 5cm cell)		mg/L
	0.00	0.000	0.000		
	0.08	0.008	0.022		
	0.25	0.025	0.075		
	0.75	0.075	0.230		
	2.50	0.250	0.803		
	5.00	0.500	1.580		

REGRESSION DATA

CONC = (ABS-intercept)/ slope

intercept =

Slope =

r =

Comment:

maxabs = 0.000

Verification Standards *Source:* ERA# 3303093 *Conc (mg/L)* 1000

Intermediate		0.50	*mL to*	50	*mL DI =*	***10.0***	***mg/L***	
SRP ICV	*dilution =*	0.75	*mL Int to*	50	*mL DI =*	***0.150***	***mg/L***	*CVS*
Tot P LCS	*dilution =*	0.25	*mL Int to*	25	*mL DI =*	***0.100***	***mg/L***	*LCS*

DQL Standard (low level) *Source:* ***Curve Int.*** *Conc (mg/L)* 5.0

SRP	0.080	*ml to*	50	*ml DI =*	***0.008*** ***mg/L***
Total P	0.080	*ml to*	25	*ml DI =*	***0.016*** ***mg/L***

Sample Data

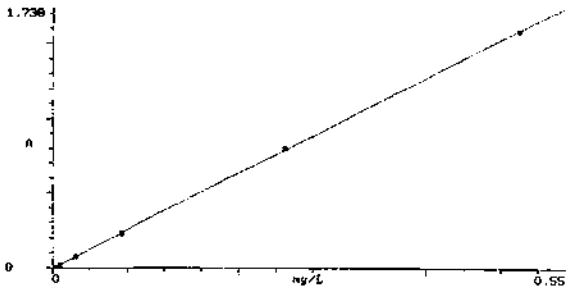
Spike with 5 mg/L Intermediate Standard *enter dilution as final vol / sample vol*

SAMPLE ID	Tot P Digest		Analysis Data			TOT P	SRP	
	mL sample	mL digest	Abs	Dilution	(mg/L)	(mg/L)	(mg/L)	*Notes*
MB Total	25	50	0.000	1.0				
LCS 1	25	50	0.153	1.0				
DQL Total	25	50	0.023	1.0				
UR75 A3	25	50	0.070	1.0				
UR75 B3	25	50	0.159	1.0				
UR75 C3	25	50	0.005	1.0				
UR75 D3	25	50	0.034	1.0				
UR75 E3	25	50	0.018	1.0				
UR75 F3	25	50	0.032	1.0				
UR75 F3 dup	25	50	0.022	1.0				
UR75 F3 ms	25	50	0.077	1.0				0% Rec
Spike =	~~0.1~~ 0.2	*ml of*	5	*mg/L to*	25	*ml sample =*	0.020	
UR75 G3	25	50	0.019	1.0				
UR75 H3	25	50	0.027	1.0				
MB total	25	50	0.000	1.0				
LCS 1	25	50	0.153	1.0				
UR75 I3	25	50	0.021	1.0				
US27 E5	25	50	1.409	~~1.0~~ 2X				
US52 G16	25	50	0.619	1.0				
US52 H6	25	50	1.371	~~1.0~~ 2X				
US52 I5	25	50	1.012	~~1.0~~ 2X				
US61 A11	25	50	1.001	~~1.0~~ 2X				
US61 A11 dup	25	50	1.014	~~1.0~~ 2X				
US61 A11 ms	25	50	1.033	~~1.0~~ 2X				0% Rec
Spike =	~~0.1~~ 0.2	*ml of*	5	*mg/L to*	25	*ml sample =*	0.020	
US61 B11	25	50	0.946	~~1.0~~ 2X				
US61 C11	25	50	0.616	1.0				
MB total	25	50	0.000	1.0				
LCS 1	25	50	0.153	1.0				
US82 A8	25	50	0.022	1.0				
US82 B9	25	50	0.214	1.0				

US82 C4	25	50	0.197	1.0				
US82 E4	25	50	1.731	1.0				
US82 E4	25	50	0.852	1.02				
CCB	25	50	0.001	1.0				
CCV	25	50	0.153	1.0				
	25	50		1.0				
	25	50		1.0				
	25	50		1.00				
MB total	25	50		1.0				
LCS 1	25	50		1.0				

TEST SETUP
GENESYS 10 v3.001 2D7H048001

Standard Curve	8:03pm 8May12
Test Name	TPHOS
Date Standards Measured	8May12
Wavelength	880nm
Ref. Wavelength Correction	Off
Curve Fit	Linear
Number of Standards	6
Units	mg/L
ID# (0=OFF)	1
Low/High Limits	-9999/9999
Statistics	Off
Auto Print	On



Curve Fit	Linear
Slope	3.17
Intercept	-0.00224
Std Dev	0.007
Corr Coeff	1.000

Std #	Conc. mg/L	Abs 880nm
[illegible]	[illegible]	[illegible]

1	0.000	0.000
2	0.008	0.022
3	0.025	0.075
4	0.075	0.230
5	0.250	0.803
6	0.500	1.580



TEST SETUP
GENESYS 10 v3.001 2D7H048001

Advanced A-%T-C	8:04pm 8May12
Test Name	TPHOS[Saved]
Measurement Mode	Absorbance
Wavelength	880nm
Ref. Wavelength Correction	Off
Delay Time (min:sec)	0:00
ID# (0=OFF)	1
Low/High Limits	-9999/9999
Statistics	Off
Auto Print	On

ID#	Abs 880nm
1	0.000
2	0.153
3	0.023
4	0.070
5	0.159
6	0.005
7	0.036

7	0.034
8	0.018
9	0.022
10	0.022
11	0.077
12	0.019
13	0.027
14	0.000
15	0.153
16	0.021
17	1.409
18	0.619
19	1.371
20	1.012
21	1.001

22	1.014
23	1.033
24	0.846
25	0.616
26	0.000
27	0.153
28	0.022
29	0.214
30	0.197
31	1.731
32	0.852
33	0.001
34	0.153

Original Run Filename: OM_5-16-2012_01-35-37PM.OMN Created: 5/16/2012 1:35:37 PM
Original Run Author's Signature: [Carol Hawkins]
Current Run Filename: 051612NH3B.omn Last Modified: 5/16/2012 3:22:51 PM
Current Run Author's Signature: [Carol Hawkins]
Description: LACHAT 1
ARI In-House Standards: 00122-3

Sample	Cup No.	Channel 1 NH3 Conc. (mg N/L)	Channel 1 NH3 Area (V.s)	Detection Time	MANUAL DILUTION FACTOR	
STD 1.0	S1	1	38.6482	5/16/2012@1:36:36 PM		
STD 0.8	S2	0.8	30.7502	5/16/2012@1:37:47 PM		
STD 0.5	S3	0.5	18.7762	5/16/2012@1:38:57 PM		
STD 0.2	S4	0.2	7.4247	5/16/2012@1:40:07 PM		
STD 0.05	S5	0.05	1.7859	5/16/2012@1:41:18 PM		
STD 0.02	S6	0.02	0.6593	5/16/2012@1:42:28 PM		
STD 0.01	S7	0.01	0.3708	5/16/2012@1:43:39 PM		
BLANK	S8	0	0.0435	5/16/2012@1:44:49 PM		
ICV ERA 130611	9	0.505	19.3485	5/16/2012@1:45:59 PM		%R= 101.00
Known Conc:		0.5				
ICB	10	0.0008	-0.1065	5/16/2012@1:51:55 PM		
Known Conc:		0				
LOW	11	0.0124	0.3405	5/16/2012@1:57:53 PM		%R= 124.00
Known Conc:		0.01				
FILTER BLK	12	0.0062	0.1008	5/16/2012@2:03:49 PM		
UT35A2	13	0.0234	0.7659	5/16/2012@2:04:59 PM		
UT35B2	14	0.0275	0.9235	5/16/2012@2:06:10 PM		
UT35C2	15	0.0224	0.7259	5/16/2012@2:07:20 PM		
UT35D2	16	0.0197	0.6238	5/16/2012@2:08:32 PM		
UT35E2	19	0.0355	1.2335	5/16/2012@2:09:42 PM		

UT35F2	20	0.0361	1.2561	5/16/2012@2:10:52 PM		
UT35F2 DUP	21	0.0344	1.189	5/16/2012@2:12:04 PM		%RPD= 4.82
UT35F2 MS	22	0.5589	21.4274	5/16/2012@2:13:15 PM		%R= 104.56
Spiking Conc:		0.5			SPK=0.25ML@20PPM/10ML=0.5PPM	
~~CCV~~	~~17~~	~~0.4197~~	~~16.0688~~	~~5/16/2012@2:14:26 PM~~		
~~Known Conc:~~		~~0.5~~				
CCB	18	0.0028	-0.03	5/16/2012@2:21:25 PM		
Known Conc:		0				
CCV	17	0.496	19.002	5/16/2012@2:27:22 PM		%R= 99.20
Known Conc:		0.5				
UT35G2	23	0.0226	0.7357	5/16/2012@2:28:33 PM		
UT92AA3	21	0.0293	0.9928	5/16/2012@2:33:48 PM		
UT96A1	25	0.079	2.9104	5/16/2012@2:34:59 PM		
UT96B1	26	0.0797	2.9381	5/16/2012@2:36:10 PM		
US82A10	27	0.0012	-0.0904	5/16/2012@2:37:22 PM		
US82B11	28	0.0914	3.3912	5/16/2012@2:38:33 PM		
US82B11 DUP	29	0.0912	3.3632	5/16/2012@2:39:44 PM		%RPD= 0.22
US82B11 MS	30	0.5997	23.0039	5/16/2012@2:40:55 PM		%R= 101.66
Spiking Conc:		0.5			SPK=0.25ML@20PPM/10ML=0.5PPM	
UT47A1	31	0.6256	24.0027	5/16/2012@2:42:07 PM		
~~CCV~~	~~17~~	~~0.4371~~	~~16.7282~~	~~5/16/2012@2:43:18 PM~~		
~~Known Conc:~~		~~0.5~~				

CCB	18	0.0066	0.1168	5/16/2012@2:49:44 PM		
Known Conc:		0				
CCV	17	0.5135	19.6774	5/16/2012@2:55:41 PM		%R= 102.70
Known Conc:		0.5				
~~UT47B1~~	~~32~~	~~0.002~~	~~-0.0685~~	~~5/16/2012@3:01:40 PM~~		
UT47C1	33	0.0114	0.3017	5/16/2012@3:02:51 PM		
UT49A5	34	0.0367	1.2781	5/16/2012@3:04:02 PM		
UU48A3	35	0.0117	0.3154	5/16/2012@3:05:13 PM		
CCV REREAD	36	0.5054	19.3659	5/16/2012@3:08:24 PM		SAME FAILING VIAL
UT47B1 REREAD	32	0.0118	0.3175	5/16/2012@3:10:15 PM		
CCV	17	0.4737	18.1404	5/16/2012@3:11:26 PM		%R= 94.74
Known Conc:		0.5				
CCB	18	0.0053	0.0684	5/16/2012@3:17:23 PM		
Known Conc:		0				

Author: Carol Hawkins

Date : 5/16/2012

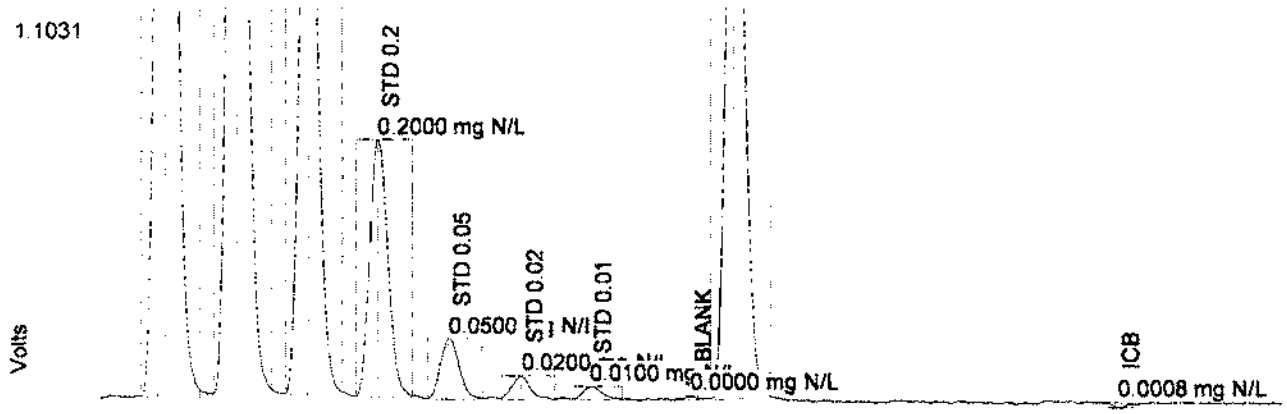
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Original Run Author's Signature: [Carol Hawkins]
Current Run Filename: 051612NH3B.omn Last Modified: 5/16/2012 3:22:51 PM
Current Run Author's Signature: [Carol Hawkins]
Description: Default New Run

Sample	Cup No.	Channel 1 NH3 Conc. (mg N/L)	Area (V.s)	Detection Time	MDF
STD 1.0	S1	1.0000	38.6482	5/16/2012@1:36:36 PM	
STD 0.8	S2	0.8000	30.7502	5/16/2012@1:37:47 PM	
STD 0.5	S3	0.5000	18.7762	5/16/2012@1:38:57 PM	
STD 0.2	S4	0.2000	7.4247	5/16/2012@1:40:07 PM	
STD 0.05	S5	0.0500	1.7859	5/16/2012@1:41:18 PM	
STD 0.02	S6	0.0200	0.6593	5/16/2012@1:42:28 PM	
STD 0.01	S7	0.0100	0.3708	5/16/2012@1:43:39 PM	
BLANK	S8	0.0000	0.0435	5/16/2012@1:44:49 PM	
ICV	9	0.5050	19.3485	5/16/2012@1:45:59 PM	
Known Conc:		0.5000			
Calibration:		Table/Fig. : 1			
ICB	10	0.0008	-0.1065	5/16/2012@1:51:55 PM	
Known Conc:		0.0000			
LOW	11	0.0124	0.3405	5/16/2012@1:57:53 PM	
Known Conc:		0.0100			
FILTER BLK	12	0.0062	0.1008	5/16/2012@2:03:49 PM	
UT35A2	13	0.0234	0.7659	5/16/2012@2:04:59 PM	
UT35B2	14	0.0275	0.9235	5/16/2012@2:06:10 PM	
UT35C2	15	0.0224	0.7259	5/16/2012@2:07:20 PM	
UT35D2	16	0.0197	0.6238	5/16/2012@2:08:32 PM	
UT35E2	19	0.0355	1.2335	5/16/2012@2:09:42 PM	
UT35F2	20	0.0361	1.2561	5/16/2012@2:10:52 PM	
UT35F2 DUP	21	0.0344	1.1890	5/16/2012@2:12:04 PM	
UT35F2 MS	22	0.5589	21.4274	5/16/2012@2:13:15 PM	
Spiking Conc:		0.5000			
CCV	17	0.4197	16.0588	5/16/2012@2:14:26 PM	
Known Conc:		0.5000			
CCB	18	0.0028	-0.0300	5/16/2012@2:21:25 PM	
Known Conc:		0.0000			
CCV	17	0.4960	19.0020	5/16/2012@2:27:22 PM	
Known Conc:		0.5000			
UT35G2	23	0.0226	0.7357	5/16/2012@2:28:33 PM	
UT92AA3	21	0.0293	0.9928	5/16/2012@2:33:48 PM	
UT96A1	25	0.0790	2.9104	5/16/2012@2:34:59 PM	
UT96B1	26	0.0797	2.9381	5/16/2012@2:36:10 PM	
US82A10	27	0.0012	-0.0904	5/16/2012@2:37:22 PM	
US82B11	28	0.0914	3.3912	5/16/2012@2:38:33 PM	
US82B11 DUP	29	0.0912	3.3832	5/16/2012@2:39:44 PM	
US82B11 MS	30	0.5997	23.0039	5/16/2012@2:40:55 PM	
Spiking Conc:		0.5000			
UT47A1	31	0.6256	24.0027	5/16/2012@2:42:07 PM	
CCV	17	0.4371	16.7282	5/16/2012@2:43:18 PM	
Known Conc:		0.5000			
CCB	18	0.0066	0.1168	5/16/2012@2:49:44 PM	
Known Conc:		0.0000			
CCV	17	0.5135	19.6774	5/16/2012@2:55:41 PM	
Known Conc:		100.0000			
UT47B1	32	0.0020	-0.0585	5/16/2012@3:01:40 PM	
UT47B4	33	0.0114	0.3017	5/16/2012@3:02:51 PM	
UT49A5	34	0.0367	1.2781	5/16/2012@3:04:02 PM	
UT48A3	35	0.0117	0.3154	5/16/2012@3:05:13 PM	
CCV REREAD	36	0.5054	19.3659	5/16/2012@3:08:24 PM	
UT47B1 REREAD	32	0.0118	0.3175	5/16/2012@3:10:15 PM	
CCV	17	0.4737	18.1404	5/16/2012@3:11:26 PM	
Known Conc:		0.5000			
CCB	18	0.0053	0.0684	5/16/2012@3:17:23 PM	
Known Conc:		0.0000			

CP
5-16-12

US82 : 00529

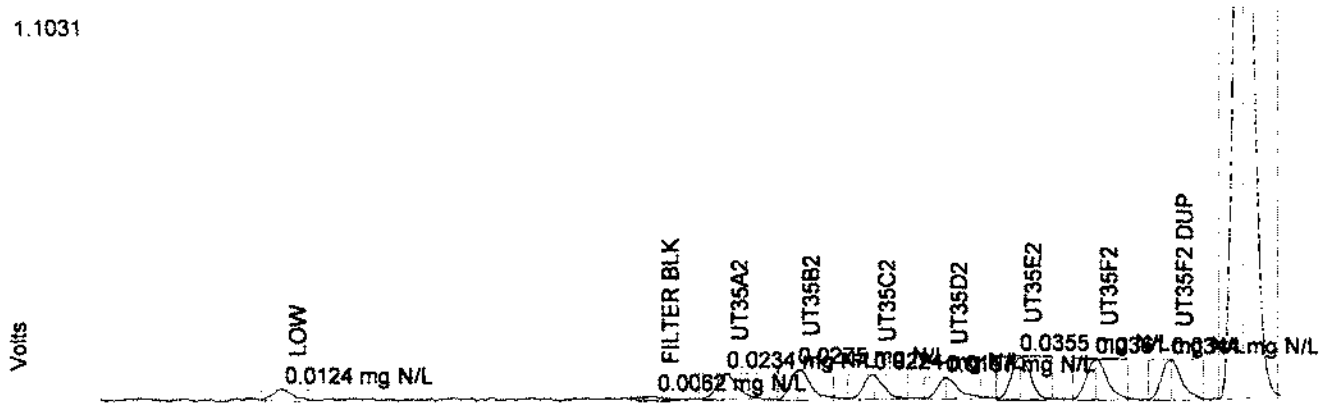
Channel 1 - Set: 1 / 5



0.6685

117.9 Time : (s) 2511.8

Channel 1 - Set: 2 / 5



0.6685

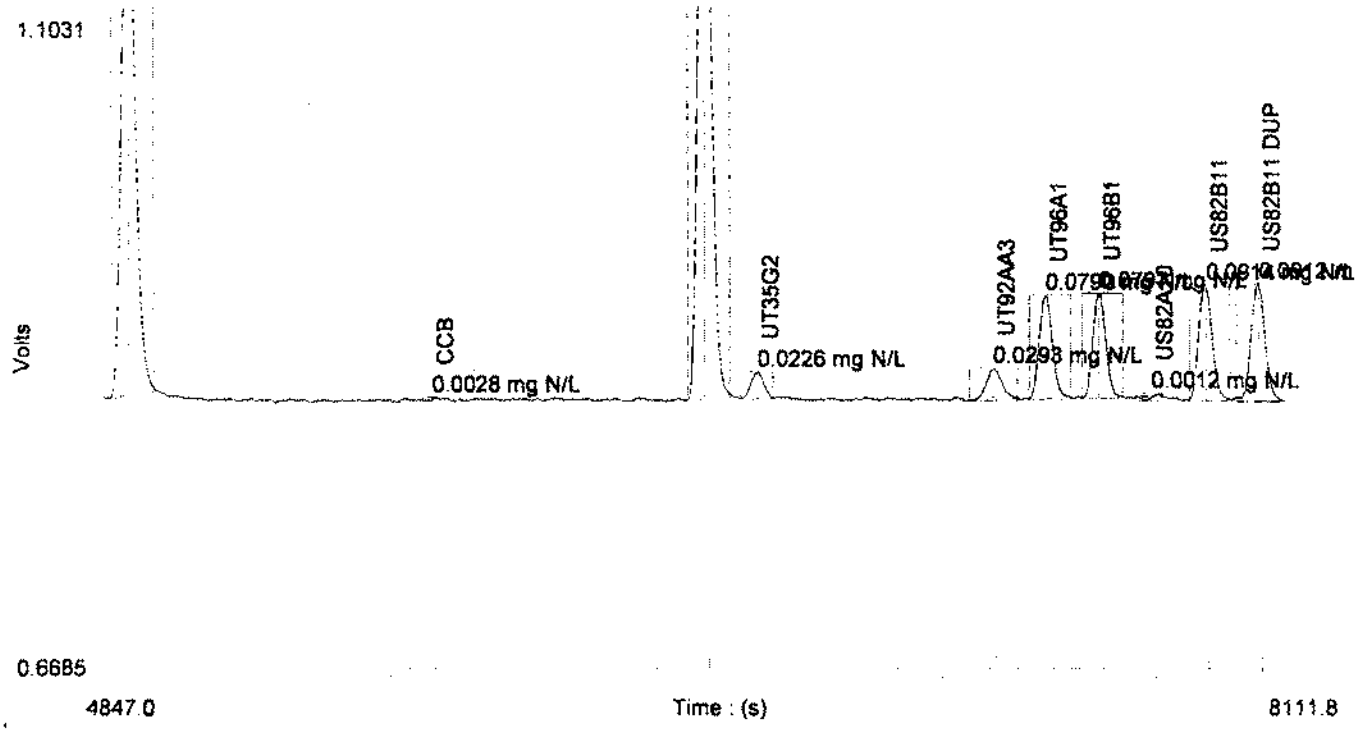
2511.8 Time : (s) 4846.6

US82 : 00530

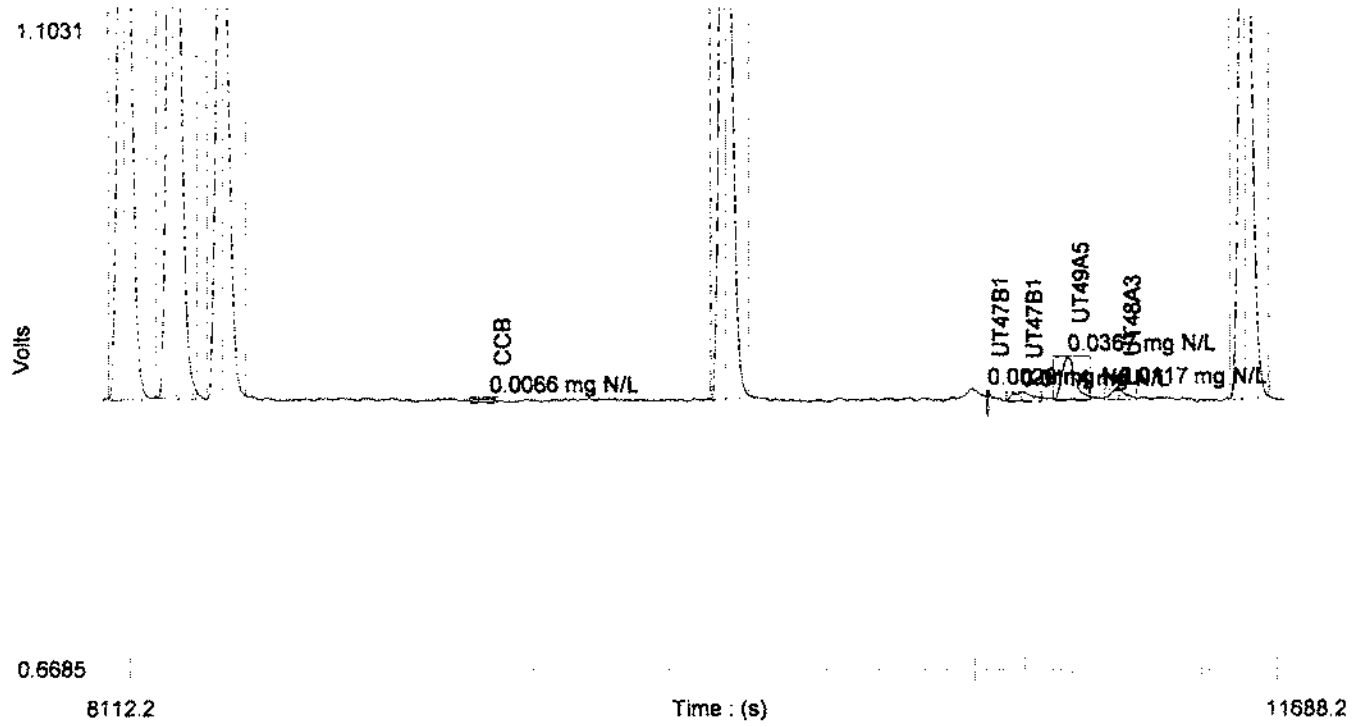
Author: Carol Hawkins

Date : 5/16/2012

Channel 1 - Set: 3 / 5



Channel 1 - Set: 4 / 5



US82 : 00531

Author: Carol Hawkins

Date : 5/16/2012

Channel 1 - Set: 5 / 5

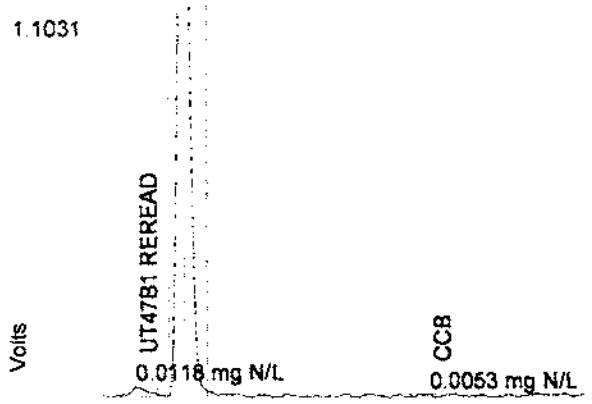
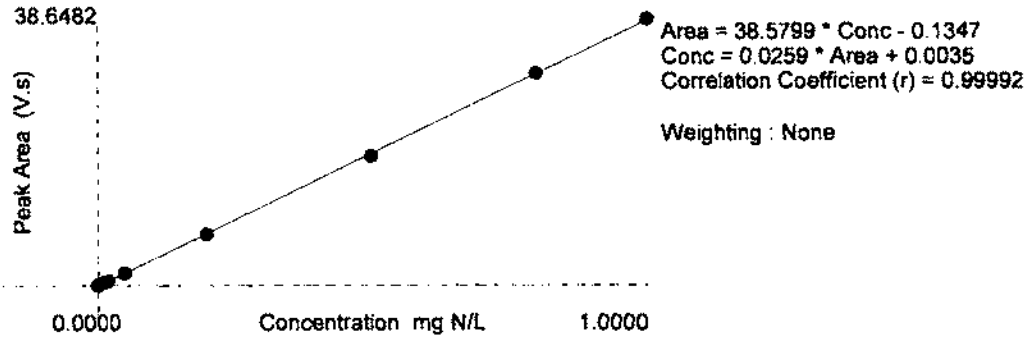


Table : 1 (NH3)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	1.0000	1	38.6482	0.9278	0.0	-0.5	1.0052	5/16/2012	1:36:36 PM
2	0.8000	1	30.7502	0.7349	0.0	-0.1	0.8005	5/16/2012	1:37:47 PM
3	0.5000	1	18.7762	0.4458	0.0	2.0	0.4901	5/16/2012	1:38:57 PM
4	0.2000	1	7.4247	0.1751	0.0	2.1	0.1960	5/16/2012	1:40:07 PM
5	0.0500	1	1.7859	0.0411	0.0	0.5	0.0498	5/16/2012	1:41:18 PM
6	0.0200	1	0.6593	0.0160	0.0	-3.5	0.0206	5/16/2012	1:42:28 PM
7	0.0100	1	0.3708	0.0091	0.0	-47.7	0.0132	5/16/2012	1:43:39 PM
8	0.0000	1	0.0435	0.0031			0.0047	5/16/2012	1:44:49 PM

Figure : 1 (NH3)



US82 : 00532

TOC, Aqueous Data Summary (Apollo 9000) DATE: 5/17/2012
EPA 9060 A, SM 5310 B-00 ANALYST: CDE 11:50
Analysis Mode: **NPOC** *Instrument:* ***Apollo 9000***

Detection Limits (mgC/L)
MRL = 1.5 **upper blank =** 1.5 **lower blank =** -1.5

Calibration Data
Stock ID: ARI 00125-4 | factor (m): 1.478E+05 | r²: 0.99947
Curve Date: 4/24/2012 | intercept (b_{cal}): 46951 | sys blk (b_{sys}) 21111
Curve ID: 042412X 0-50ppm

LCS, Verification Standard and Inorganic Sparge Check

	Organic Carbon			Inorganic carbon		
Source:	**ERA 0523-11-05**			**ARI # 0104-9**		
Conc:	5,000	*mg/L*		1,000	*mg/L*	
dilution:	1.00	*mL to*	mg C/ L	5.00	*mL to*	mg C/ L
Volume:	250	*mL =*	**20.0**	250	*mL =*	**20**

Sample Data

SAMPLE ID	Dilution Factor	Carbon (mg C/L) *enter Form as TC, TIC, NPOC* Form	# reps	mean	stdev	Measured	Report as	Notes: *will flag if RSD >5%*
ICV	1	NPOC	3	21.8364	0.59	21.84	21.8	*109.00%*
ICB	1	NPOC	3	-0.1672	0.12	-0.17	<1.5	*OK !*
1.5 ppm	1	NPOC	3	1.2966	0.20	1.30	<1.5	86.44%
IC Sparge Check	1	NPOC	3	19.3551	0.21	19.36	19.4	*97.00%*
US52 G17	1	NPOC	3	3.7262	0.08	3.73	3.73	
US52 H7	1	NPOC	3	8.8113	0.16	8.81	8.81	
US52 I 4	1	NPOC	3	24.5683	0.55	24.57	24.6	
US61 A13	1	NPOC	3	4.0784	0.18	4.08	4.08	
US61 B13	1	NPOC	3	4.1693	0.24	4.17	4.17	RSD > 5% chk value *
US61 C13	1	NPOC	3	3.1370	0.10	3.14	3.14	
US82 A10	1	NPOC	3	1.9778	0.18	1.98	1.98	RSD > 5% chk value *
CCV	1	NPOC	3	20.7517	0.21	20.75	20.8	*104.00%*
CCB	1	NPOC	3	-0.0902	0.15	-0.09	<1.5	*OK !*
US82 B11	1	NPOC	3	2.2066	0.14	2.21	2.21	
US82 C6	1	NPOC	3	2.6955	0.16	2.70	2.7	
US82 E6	1	NPOC	3	7.5939	0.13	7.59	7.59	
UT92 A3	1	NPOC	3	1.6575	0.16	1.66	1.66	RSD > 5% chk value *
UT92 A3dup	1	NPOC	3	1.5510	0.23	1.55	1.55	*RPD =6.9%*
UT92 A3ms	1	NPOC	3	22.6661	0.21	22.67	22.7	*105.04%*
Spike at	0.200	*mL of*	2,000	*ppm Std to*	20.00	*mL =*	20.0	*mg/L*
CCV	1	NPOC	3	20.0902	0.73	20.09	20.1	*100.50%*
CCB	1	NPOC	3	-0.2468	0.11	-0.25	<1.5	*OK !*

* = Sample is < 5x the MRL (7.5) and RSD >5% is expected due to low concentration in sample.

Calibration Report Print Date/Time: 2012/04/24 13:21:09

Cal. Curve ID: 042412X 0-50ppm
Created: 2012/04/24 13:21
Calibration Factor (m): 1.478e+05
Y Intercept (b): 46951
r-squared: 0.99947

Standard ID	Y Raw Data	X Expected ug C	Measured ug C	Message	Date & Time
BLK	33238	0.000	-0.093	Low Sample De	2012/04/24 11:24
1.5	145425	0.750	0.666		2012/04/24 11:46
5.0	406211	2.500	2.430		2012/04/24 12:08
10.0	790461	5.000	5.029		2012/04/24 12:30
25.0	1957990	12.500	12.927		2012/04/24 12:53
50.0	3711768	25.000	24.790		2012/04/24 13:18

US82 : 00534

Detailed Analysis Report Print Date/Time: 2012/05/21 12:40:12

Sample ID: ICV/CCV
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE
Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 11:50
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	22.4532	11.2266	1706622	14.407	15.403	183
2	21.2673	10.6337	1618963	14.486	15.486	176
3	21.7887	10.8943	1657500	14.511	15.507	175

<<<Statistics>>> Mean: 21.8364 Std Dev: 0.5944 RSD: 2.72

Sample ID: ICB / CCB
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE
Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 12:12
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-0.3095	-0.1548	24073	14.877	14.890	120
2	-0.1162	-0.0581	38363	14.730	14.997	120
3	-0.0759	-0.0379	41342	14.663	14.834	120

Last Message: Out of Calibration
<<<Statistics>>> Mean: -0.1672 Std Dev: 0.1249 RSD: -74.68

Sample ID: 1.5 ppm
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE
Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 12:33
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1.0831	0.5415	127008	15.493	16.485	116
2	1.3385	0.6692	145888	15.244	16.233	118
3	1.4681	0.7340	155465	15.230	16.228	119

<<<Statistics>>> Mean: 1.2966 Std Dev: 0.1959 RSD: 15.11

Sample ID: CHECK
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE
Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 12:57
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	19.5855	9.7928	1494651	16.458	17.449	147
2	19.3055	9.6528	1473954	16.247	17.243	148
3	19.1743	9.5872	1464256	16.367	17.365	146

<<<Statistics>>> Mean: 19.3551 Std Dev: 0.2100 RSD: 1.09

Sample ID: US52 G17
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE
Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 13:19
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3.8153	1.9077	282018	16.393	17.391	124
2	3.6889	1.8445	272673	16.304	17.295	125
3	3.6745	1.8373	271610	16.228	17.220	124

<<<Statistics>>> Mean: 3.7262 Std Dev: 0.0775 RSD: 2.08

Sample ID: US52 H7
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 13:41
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	8.7819	4.3910	649133	16.950	17.948	132
2	8.9810	4.4905	663848	16.794	17.793	134
3	8.6709	4.3355	640926	16.773	17.767	132

<<<Statistics>>> Mean: 8.8113 Std Dev: 0.1571 RSD: 1.78

Sample ID: US52 I4
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 14:04
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	25.2049	12.6024	1863064	17.307	18.305	150
2	24.2857	12.1429	1795124	17.286	18.284	147
3	24.2142	12.1071	1789834	17.239	18.236	147

<<<Statistics>>> Mean: 24.5683 Std Dev: 0.5525 RSD: 2.25

Sample ID: US61 A13
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 14:27
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.1065	2.0532	303539	17.559	18.541	124
2	3.8841	1.9421	287101	17.346	18.339	123
3	4.2447	2.1223	313753	17.242	18.234	125

<<<Statistics>>> Mean: 4.0784 Std Dev: 0.1819 RSD: 4.46

Sample ID: US61 B13
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 14:49
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.4387	2.2194	328095	17.973	18.973	127
2	4.0029	2.0014	295880	17.837	18.826	125
3	4.0663	2.0332	300569	17.683	18.675	125

<<<Statistics>>> Mean: 4.1693 Std Dev: 0.2355 RSD: 5.65

Sample ID: US61 C13
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 15:11
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	3.0482	1.5241	225315	18.378	19.360	121
2	3.1203	1.5602	230646	18.073	19.057	124
3	3.2425	1.6213	239677	17.964	18.951	124

<<<Statistics>>> Mean: 3.1370 Std Dev: 0.0982 RSD: 3.13

Sample ID: US82 A10
Method: TOC 0 to 50 ppm

Mode: TOC
Filename: 05171126

Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Timestamp: 2012/05/17 15:33
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1.7753	0.8877	131227	18.497	19.497	118
2	2.1189	1.0595	156624	18.110	19.096	118
3	2.0391	1.0196	150727	17.968	18.959	118

<<<Statistics>>> Mean: 1.9778 Std Dev: 0.1798 RSD: 9.09

Sample ID: ICV/CCV
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 15:57
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	20.5452	10.2726	1565586	19.023	20.020	160
2	20.9630	10.4815	1596471	18.772	19.770	167
3	20.7468	10.3734	1580487	18.730	19.726	165

<<<Statistics>>> Mean: 20.7517 Std Dev: 0.2089 RSD: 1.01

Sample ID: ICB / CCB
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 16:18
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-0.2595	-0.1298	27766	18.958	19.944	111
2	0.0365	0.0182	49646	18.408	18.448	120
3	-0.0475	-0.0237	43442	18.290	18.357	120

Last Message: Out of Calibration
<<<Statistics>>> Mean: -0.0902 Std Dev: 0.1525 RSD: -169.18

Sample ID: US82 B11
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 16:40
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2.1627	1.0814	159860	18.856	19.849	116
2	2.0968	1.0484	154986	18.506	19.484	116
3	2.3604	1.1802	174470	18.231	19.216	118

<<<Statistics>>> Mean: 2.2066 Std Dev: 0.1372 RSD: 6.22

Sample ID: US82 C6
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 17:02
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2.5964	1.2982	191917	18.903	19.884	120
2	2.6150	1.3075	193289	18.578	19.562	118
3	2.8750	1.4375	212507	18.354	19.343	122

<<<Statistics>>> Mean: 2.6955 Std Dev: 0.1558 RSD: 5.78

Sample ID: US82 E6
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 17:24
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	7.7279	3.8640	571225	18.940	19.939	129
2	7.5810	3.7905	560367	18.747	19.746	130
3	7.4727	3.7363	552358	18.545	19.544	128

<<<Statistics>>> Mean: 7.5939 Std Dev: 0.1281 RSD: 1.69

Sample ID: UT92 A3
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE
Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 17:46
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1.4728	0.7364	108862	18.996	19.983	115
2	1.7659	0.8829	130529	18.546	19.545	116
3	1.7337	0.8669	128150	18.341	19.339	117

<<<Statistics>>> Mean: 1.6575 Std Dev: 0.1607 RSD: 9.70

Sample ID: UT92 A3 DUP
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE
Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 18:08
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	1.2863	0.6432	95080	19.070	20.048	113
2	1.6837	0.8419	124456	18.606	19.604	114
3	1.6831	0.8415	124408	18.475	19.466	115

<<<Statistics>>> Mean: 1.5510 Std Dev: 0.2293 RSD: 14.78

Sample ID: UT92 A3 MS
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE
Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 18:30
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	22.4829	11.2415	1661867	19.683	20.664	132
2	22.8949	11.4474	1692314	19.024	20.020	135
3	22.6204	11.3102	1672029	19.102	20.100	133

<<<Statistics>>> Mean: 22.6661 Std Dev: 0.2098 RSD: 0.93

Sample ID: Filter Blank
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE
Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 18:52
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.1993	0.0996	14731	18.933	18.627	120
2	0.5128	0.2564	37904	18.508	18.461	120
3	0.5400	0.2700	39912	18.260	18.250	120

Last Message: Low Sample Detected
<<<Statistics>>> Mean: 0.4174 Std Dev: 0.1893 RSD: 45.37

5-21-12 ar

Sample ID: US29 A2 DOC
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE
Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 19:14
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning	Ending	Integration

US82 : 60538

				Baseline	Baseline	Time
1	2.7783	1.3891	205363	18.932	19.926	117
2	2.6882	1.3441	198705	18.628	19.628	118
3	3.2391	1.6195	239422	18.415	19.414	122

<<<Statistics>>> Mean: 2.9019 Std Dev: 0.2955 RSD: 10.18

Sample ID: US29 A2 DUP DOC
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 19:36
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2.7544	1.3772	203594	18.989	19.972	119
2	2.7563	1.3782	203739	18.591	19.579	119
3	2.7093	1.3546	200261	18.360	19.352	120

<<<Statistics>>> Mean: 2.7400 Std Dev: 0.0266 RSD: 0.97

Sample ID: US29 A2 MS DOC
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 19:58
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	2.8219	1.4110	208588	18.816	19.814	119
2	2.9450	1.4725	217682	18.566	19.557	121
3	2.9144	1.4572	215425	18.438	19.426	122

<<<Statistics>>> Mean: 2.8938 Std Dev: 0.0641 RSD: 2.21

5-21-12
CDE

Sample ID: ICV/CCV
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 20:23
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	20.0273	10.0137	1527307	19.447	20.446	187
2	19.3983	9.6992	1480814	19.445	20.443	182
3	20.8451	10.4226	1587756	19.351	20.351	187

<<<Statistics>>> Mean: 20.0902 Std Dev: 0.7255 RSD: 3.61

Sample ID: ICB / CCB
Method: TOC 0 to 50 ppm
Cal. Curve: 042412X 0-50ppm
Operator ID: CDE

Mode: TOC
Filename: 05171126
Timestamp: 2012/05/17 20:45
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	-0.3773	-0.1887	19060	19.429	19.238	120
2	-0.1850	-0.0925	33280	19.039	19.025	120
3	-0.1782	-0.0891	33778	18.857	18.896	120

Last Message: Out of Calibration
<<<Statistics>>> Mean: -0.2468 Std Dev: 0.1130 RSD: -45.80

US82 : 00539

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Project: 155129.09 RG Spring GW Sampling

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AV

Signature

May-16-2012

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

May 31, 2012

Michael F. Mendes
ERM-West, Inc.
1218 3rd Avenue, Suite 1412
Seattle, WA 98101

RE: RG Spring GW Sampling, 155129.09
ARI Job Nos.: US52, US61, & UT31

Dear Mr. Mendes:

Please find enclosed Chain-of-Custody (COC) records, sample receipt documentation, and the final data package for samples from the project referenced above.

Sample receipt and details of these analyses are discussed in the Case Narrative.

Please note that current ARI control limits are available at www.arilabs.com.

An electronic copy of this package will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Cheronne Oreiro
Project Manager
-For-
Susan D. Dunnihoo
Director, Client Services
206-695-6207
sue@arilabs.com

Enclosures

cc: eFile US52_US61_UT31

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Documentation

ARI Job ID: US52, US61, UT31

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: US52	Turn-around Requested: Standard	Page: 1 of 2	
ARI Client Company: ERM	Phone: 425 214 0458	Date: 4/30/12	Ice Present?
Client Contact: Mike Mendes		No. of Coolers:	Cooler Temps:
Client Project Name: RG Spring GW Sampling			
Client Project #: 155129.09	Samplers: Cyrus / Matt		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Phenol / Chlorinated phenols	Total / Dissolved As	VOCs 8260	TPH-Gx	TPH-Dx	SVOC / cPAH	Alkalinity	TOX	TSS	Anions Cl, SO4, NO3	Total Phosphate	Notes/Comments
MW-14-043012	4/30/12	1445	Water	18	X	X										MS/MSD Total & Diss As
MW-16-043012	4/30/12	1607	Water	15	X	X	X									MS/MSD VOCs
TB-043012-2	4/30/12	1607	Water	2			X	X								
MW-5S-050112	5/1/12	0700	Water	6	X	X										
MW-11-050112	5/1/12	0750	Water	6	X	X										
MW-12-050112	5/1/12	0834	Water	6	X	X										
MW-19-050112	5/1/12	0933	Water	6	X	X										
MW-28S-050112	5/1/12	1027	Water	3~~2~~4		X	X	X	X	X	X	X	X	X	X	continued on page 2
MW-32S-050112	5/1/12	1213	Water	27		X				X	X	X	X	X	X	continued on page 2
MW-32DR-050112	5/1/12	1357	Water	15		X				X	X	X	X	X	X	continued on pg 2

Comments/Special Instructions: Dissolved metals samples filtered in the field	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Cyrus Gorman	Printed Name: Chris Atwell	Printed Name:	Printed Name:
	Company: ERM	Company: ARI	Company:	Company:
	Date & Time: 5/1/12 1501	Date & Time: 5/1/12 1501	Date & Time:	Date & Time:

US52 00001

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Total & Diss As + phenol / chlorinated phenols

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Page: 2 of 2	
ARI Client Company: ERM	Phone: 425 214 0458	Date: 5/1/12	Ice Present?
Client Contact: Mike Mendes		No. of Coolers:	Cooler Temps:
Client Project Name: RG Spring GW Sampling			
Client Project #: 155129.09	Samplers: Cyrus / Matt		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Ammonia	TBT	Total metals ①,②,③	Dissolved metals ①,②,④	Hardness	TOC	Total Metals ①,③	Dissolved Metals ①,④	Notes/Comments
MW-28S-050112	5/1/12	1027	water	3 ~~4~~	X	X	X	X	X	X			ms/msd total metals ①,②,③
MW-32S-050112	5/1/12	1213	water	27					X	X	X	X	ms/msd svocs / cPAHs
MW-32DR-050112	5/1/12	1357	water	15					X	X	X	X	

Dissolved metals ①②④

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
Dissolved metals samples filtered in the field	Printed Name: Cyrus Gorman	Printed Name: Chris Atwell	Printed Name:	Printed Name:
	Company: ERM	Company: ARI	Company:	Company:
	Date & Time: 5/1/12 1501	Date & Time: 5/1/12 1521	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

① Cr, Cu, Ag, Zn ② Sb, Be, Cd, Pb, Ni, Se, Tl, Hg

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

h0000.2550

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: ERM

Project Name: RG Spring CTW sampling

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: US52

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler? YES (NO)

Were custody papers included with the cooler? (YES) NO

Were custody papers properly filled out (ink, signed, etc.) (YES) NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 1.6 0.4 0.8 3.7 0.3 2.6

If cooler temperature is out of compliance fill out form 00070F 0.8 CA 1.7 Temp Gun ID#: 2094/619

Cooler Accepted by: CA Date: 5/1/2012 Time: 1501

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES (NO)

What kind of packing material was used? (Bubble Wrap) Wet Ice Gel Packs (Baggies) (Foam Block) Paper Other: _____

Was sufficient ice used (if appropriate)? NA (YES) NO

Were all bottles sealed in individual plastic bags? (YES) NO

Did all bottles arrive in good condition (unbroken)? (YES) NO

Were all bottle labels complete and legible? (YES) NO

Did the number of containers listed on COC match with the number of containers received? (YES) NO

Did all bottle labels and tags agree with custody papers? (YES) NO

Were all bottles used correct for the requested analyses? (YES) NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) NA (YES) NO

Were all VOC vials free of air bubbles? NA (YES) NO

Was sufficient amount of sample sent in each bottle? (YES) NO

Date VOC Trip Blank was made at ARI NA 4/24/12

Was Sample Split by ARI: (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: AV Date: 6/2/12 Time: 1343

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"

Peabubbles → "pb"

Large → "lg"

Headspace → "hs"

PRESERVATION VERIFICATION 05/02/12
Page 1 of 2

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: US52

Inquiry Number: NONE
Analysis Requested: 05/02/12
Contact: Mendes, Michael F.
Client: ERM-West
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: Lv3
Deliverables:

PC: Sue D.
VTSR: 05/01/12

Project #: 155129.09
Project: RG Spring GW Sampling
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
12-7815 US52A	MW-14-043012						TOT pass															
12-7816 US52B	MW-16-043012						TOT pass															
12-7817 US52C	MW-5S-050112						TOT pass															
12-7818 US52D	MW-11-050112						TOT pass															
12-7819 US52E	MW-12-050112						TOT pass															
12-7820 US52F	MW-19-050112						TOT pass															
12-7821 US52G	MW-28S-050112			*pass			TOT pass		*pass			*pass										
12-7822 US52H	MW-32S-050112						TOT pass		pass			pass										
12-7823 US52I	MW-32DR-050112						TOT pass		pass			pass										
12-7824 US52J	MW-14-043012						DIS pass									Y						
12-7825 US52K	MW-16-043012						DIS pass									Y						
12-7826 US52L	MW-5S-050112						DIS pass									Y						
12-7827 US52M	MW-11-050112						DIS pass									Y						
12-7828 US52N	MW-12-050112						DIS pass									Y						

Checked By AV Date 5/2/12

PRESERVATION VERIFICATION 05/02/12
Page 2 of 2

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **US52**

Client: ERM-West

Project #: 155129.09
Project: RG Spring GW Sampling

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
12-7829 **US52O**	MW-19-050112						DIS pass									Y						
12-7830 **US52P**	MW-28S-050112						DIS pass									Y						
12-7831 **US52Q**	MW-32S-050112						DIS pass									Y						
12-7832 **US52R**	MW-32DR-050112						DIS pass									Y						

L0052 2551

Checked By AV Date 5/2/12

Subject: RE: US52 RG Sample Receipt and COCs
From: Shira DeGrood <Shira.DeGrood@erm.com>
Date: 2:10 PM
To: Cheronne Oreiro <cheronneo@arilabs.com>
CC: Mike Mendes <Mike.Mendes@erm.com>, Cyrus Gorman <Cyrus.Gorman@erm.com>

Hi Cheronne, Can you please add total and dissolved Cr, Cu, Ag, Zn to sample MW-14?

Shira DeGrood, R.G.
Project Geologist
Direct: 503 621 5911
Mobile: 503 961 4845

-----Original Message-----
From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
Sent: Wednesday, May 02, 2012 4:11 PM
To: Shira DeGrood
Cc: Mike Mendes; Cyrus Gorman
Subject: US52 RG Sample Receipt and COCs

Hi Shira,

Please see attached.
Thanks,
-Cheronne

--
Cheronne Oreiro
Project Manager
Analytical Resources, Inc.
4611 S. 134th Place, Suite 100
Tukwila, WA 98168-3240
cheronneo@arilabs.com
(206)-695-6214

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Please visit ERM's web site: http://www.erm.com

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 1156	Turn-around Requested: Standard	Page: 1 of 2	
ARI Client Company: ERM	Phone: 425 214 0458	Date: 5/2/12	Ice Present?
Client Contact: Mike Mendes		No. of Coolers:	Cooler Temps:
Client Project Name: RG Spring GW Sampling			
Client Project #: 155129.09	Samplers: Cyrus / Matt		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	VOCs	TPH-Gx	TPH-Dx	SVOC / cPAH	TOC	Alkalinity	TOX	TSS	Anions Cl, SO4, NO3	Total Phosphate	Ammonia	Notes/Comments
MW-30S-050212	5/2/12	0757	water	26	X	X	X	X	X	X	X	X	X	X	X	Continued on page 2
MW-24S-050212	5/2/12	0959	water	30	X	X	X	X	X	X	X	X	X	X	X	Cont. from page 2
FB-050212-1	5/2/12	0757	water	5	X	X										
TB-050212-1	5/2/12	0757	water	3	X	X										
MW-31S-050212	5/2/12	1215	water	27	X	X	X	X	X	X	X	X	X	X	X	
DUP-050212-1	5/2/12	0715	Water	21	X	X	X	X							X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
Dissolved metals samples filtered in the field	Printed Name: Cyrus Gorman	Printed Name: Chris Atwell	Printed Name:	Printed Name:
	Company: ERM	Company: ARI	Company:	Company:
	Date & Time: 5/2/12 1457	Date & Time: 5/2/12 1457	Date & Time:	Date & Time:

USEPA 8260B

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: USG1	Turn-around Requested: Standard	Page: 2 of 2	
ARI Client Company: ERM	Phone: 425 214 0458	Date: 5/2/12	Ice Present?
Client Contact: Mike Mendes		No. of Coolers:	Cooler Temps:
Client Project Name: RG Spring GW Sampling			
Client Project #: 155129.09	Samplers: Cyrus / Matt		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

see below for list of metals

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: TBT	Total / Dissolved As	Total / Dissolved Metals (1)(2)(3)	Dissolved metals (1)(3)	Hardness (4)	Hex Chromium			Notes/Comments
MW-30s-050212	5/2/12	0757	water	26	X	X	X	X	X				
MW-29s-050212	5/2/12	0959	water	30	X	X	X	X	X				MS/MSD TBT
MW-31s-050212	5/2/12	1215	water	27	X	X	X	X	X	X			
DUP-050212-1	5/2/12	0715	water	21	X	X	X	X		X			

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
Dissolved metals samples filtered in the field	Printed Name: Cyrus Gorman	Printed Name: Chris Atwell	Printed Name:	Printed Name:
	Company: ERM	Company: ARI	Company:	Company:
	Date & Time: 5/2/12 1457	Date & Time: 5/2/12 1457	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

(1) Cr, Cu, Ag, Zn (3) Sb, Be, Cd, Pb, Ni, Se, Tl & Hg

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

(2) Cr, Cu, Ag, Zn, Be, Cd, Pb, Ni, Se, Tl & Hg (4) Dissolved Mn, Fe

USG1:SSG

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: ERM

Project Name: RG Spring GW Sampling

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: USG2

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)	1.3 2.1 2.9 2.8 1.3 1.6	
If cooler temperature is out of compliance fill out form 00070F	Temp Gun ID#: 3094/619	

Cooler Accepted by: CA Date: 5/2/2012 Time: 1457

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	(Bubble Wrap) (Wet Ice) Gel Packs (Baggies) (Foam Block) Paper Other:		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	(YES)	NO
Were all VOC vials free of air bubbles?	NA	(YES)	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	NA	4/24/12	

Was Sample Split by ARI: (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: AV Date: 5/2/12 Time: 1745

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 05/02/12
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **US61**

PC: Sue D.
VTSR: 05/02/12

Inquiry Number: NONE
Analysis Requested: 05/02/12
Contact: Mendes, Michael F.
Client: ERM-West
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: Lv3
Deliverables:

Project #: 155129.09
Project: RG Spring GW Sampling
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
12-7884 **US61A**	MW-30S-050212			pass			TOT pass		pass			pass										
12-7885 **US61B**	MW-29S-050212			pass			TOT pass		pass			pass										
12-7886 **US61C**	MW-31S-050212			pass			TOT pass		pass			pass										
12-7887 **US61D**	DUP-050212-1			pass			TOT pass															
12-7890 **US61G**	MW-30S-050212						DIS pass									Y						
12-7891 **US61H**	MW-29S-050212						DIS pass									Y						
12-7892 **US61I**	MW-31S-050212						DIS pass									Y						
12-7893 **US61J**	DUP-050212-1						DIS pass									Y						

US61 0001

Checked By AV Date 5/2/12

RE: US61 RG Sample Receipt and COCs

Subject: RE: US61 RG Sample Receipt and COCs
From: Shira DeGrood <Shira.DeGrood@erm.com>
Date: 10:58 AM
To: Cheronne Oreiro <cheronneo@arilabs.com>

Can you please make the following revisions to this data package (see attached):

Include Sb analysis for total and dissolved metal analysis for samples MW-30S-050212, MW-29S-050212, MW-31S-050212, and DUP-050212-1

Remove analysis of the following Total AND Dissolved metals in the sample DUP-050212-1: Ca, K, Mg, Na, Al, Fe, Mn

Thanks!

Shira DeGrood, R.G.
Project Geologist
Direct: 503 621 5911
Mobile: 503 961 4845

-----Original Message-----
From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
Sent: Thursday, May 03, 2012 2:13 PM
To: Shira DeGrood
Cc: Mike Mendes; Cyrus Gorman
Subject: US61 RG Sample Receipt and COCs

Hi Shira,

Please see attached.
Thanks,
-Cheronne

--
Cheronne Oreiro
Project Manager
Analytical Resources, Inc.
4611 S. 134th Place, Suite 100
Tukwila, WA 98168-3240
cheronneo@arilabs.com
(206)-695-6214

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Attachments

US61_receipt.pdf 32.2 KB

PRESERVATION VERIFICATION 05/07/12
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **UT31**

Inquiry Number: NONE
Analysis Requested: 05/07/12
Contact: Mendes, Michael F.
Client: ERM-West
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: Lv3
Deliverables:

PC: Sue D.
VTSR: 05/02/12

Project #: 155129.09
Project: RG Spring GW Sampling
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
12-8209 **UT31A**	MW-30S-050212						TOT															
12-8210 **UT31B**	MW-29S-050212						TOT															
12-8211 **UT31C**	MW-31S-050212						TOT															

01000 2552

Checked By AV Date 5/7/12

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: US52, US61, UT31

ANALYTICAL
RESOURCES
INCORPORATED

Narrative

Client: ERM-West, Inc.
Project: RG Spring GW Sampling, 155129.09
ARI Job Nos.: US52, US61, & UT31

Sample Receipt

Nine water samples and a trip blank were received on May 1, 2012 under ARI job US52. The cooler temperatures measured by IR thermometer following ARI SOP were between 0.3 and 3.7°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Five water samples and a trip blank were received on May 2, 2012 under ARI job US61. The cooler temperatures measured by IR thermometer following ARI SOP were between 1.3 and 2.9°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Samples **MW-30S-050212**, **MW-29S-050212**, and **MW-31S-050212** were logged under ARI job UT31. These samples were analyzed for Antimony only.

The TOX analysis was subcontracted to ALS Environmental in Kelso, WA. All data have been included in this data package.

Volatiles by SW8260

The samples and associated laboratory QC were analyzed within recommended holding times.

The initial calibrations were within method requirements.

The continuing calibration (CCAL) on 5/3/12 fell outside the 20% control limit low for Acrolein and was out high for Carbon Tetrachloride and Trichlorofluoromethane. All detected results associated with this CCAL have been flagged with a "Q" qualifier. No further corrective action was taken.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

Hexachlorobutadiene, 1,2,4-Trichlorobenzene, Naphthalene, and 1,2,3-Trichlorobenzene were present in **MB-050712A** at low levels. All detected results associated with this method blank have been flagged with a "B" qualifier. No further corrective action was taken.

US52:00015

The LCS and LCSD percent recoveries of trans-1,3-Dichloropropene and Bromoform were outside the control limits high for **LCS-050312A**. All other percent recoveries were within control limits. No corrective action was taken.

Several matrix spike and matrix spike duplicate percent recoveries were outside advisory control limits for sample **MW-16-043012**. No corrective action is required for matrix QC.

Semivolatiles by SW8270

The samples and associated laboratory QC were extracted and analyzed within recommended holding times.

The initial calibrations were within method requirements for requested compounds.

The continuing calibration (CCAL) on 5/4/12 was outside the control limits high for 2,3,4,6-Tetrachlorophenol. All detected results associated with this CCAL have been flagged with a "Q" qualifier. No further corrective action was taken.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

Several LCS percent recoveries fell outside the control limits low for **LCS-050312**. Matrix spike recoveries were within LCS control limits. No corrective action was taken.

The LCS percent recovery of Dibenz(a,h)anthracene fell outside the control limits low for **LCS-050812**. All other percent recoveries were within control limits. No corrective action was taken.

The matrix spike and matrix spike duplicate percent recoveries were within advisory control limits.

SIM PAHs by SW8270

The samples and associated laboratory QC were extracted and analyzed within recommended holding times.

The initial calibrations were within method requirements for requested compounds.

The continuing calibration (CCAL) on 5/10/12 fell outside the 20% control limit low for Benzo(a)anthracene. All detected results associated with this CCAL have been flagged with a "Q" qualifier. No further corrective action was taken.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

The matrix spike and matrix spike duplicate percent recoveries of Dibenz(a,h)anthracene fell outside advisory control limits low for sample **MW-32S-050112**. No corrective action is required for matrix QC.

Tributyltin by Krone 1988-SIM

The samples and associated laboratory QC were extracted and analyzed within recommended holding times.

The initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

The matrix spike and matrix spike duplicate percent recoveries were within advisory control limits.

Pentachlorophenol by SW8041

The samples and associated laboratory QC were extracted and analyzed within recommended holding times.

The initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

The matrix spike and matrix spike duplicate percent recoveries were within advisory control limits.

NWTPH-Dx

The samples were extracted and analyzed within recommended holding times.

The initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

NWTPH-Gx

The samples were analyzed within recommended holding times.

The initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Total and Dissolved Metals by SW6010/6020/7470

The samples and associated laboratory QC were digested and analyzed within recommended holding times.

Initial and continuing calibrations were within limits.

The method blanks were clean at the detection limits. The LCS percent recoveries were within control limits.

The matrix spike percent recoveries were within control limits.

The duplicate RPD of dissolved copper was outside the 20% control limit for sample **MW-14-043012**. All relevant data have been flagged with a "*" qualifier on the appropriate Form VI. No further corrective action was taken.

General Chemistry Parameters

The samples and associated laboratory QC were prepared and analyzed within recommended holding times.

The method blanks were clean at the detection limits. The LCS percent recoveries were within control limits.

The SRM percent recoveries were within limits.

The matrix spike percent recoveries and replicate RPDs were within control limits.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: US52
Client: ERM-West
Project Event: 155129.09
Project Name: RG Spring GW Sampling

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	MW-14-043012	US52A	12-7815	Water	04/30/12 14:45	05/01/12 15:01
2.	MW-16-043012	US52B	12-7816	Water	04/30/12 16:07	05/01/12 15:01
3.	MW-5S-050112	US52C	12-7817	Water	05/01/12 07:00	05/01/12 15:01
4.	MW-11-050112	US52D	12-7818	Water	05/01/12 07:50	05/01/12 15:01
5.	MW-12-050112	US52E	12-7819	Water	05/01/12 08:34	05/01/12 15:01
6.	MW-19-050112	US52F	12-7820	Water	05/01/12 09:33	05/01/12 15:01
7.	MW-28S-050112	US52G	12-7821	Water	05/01/12 10:27	05/01/12 15:01
8.	MW-32S-050112	US52H	12-7822	Water	05/01/12 12:13	05/01/12 15:01
9.	MW-32DR-050112	US52I	12-7823	Water	05/01/12 13:57	05/01/12 15:01
10.	MW-14-043012	US52J	12-7824	Water	04/30/12 14:45	05/01/12 15:01
11.	MW-16-043012	US52K	12-7825	Water	04/30/12 16:07	05/01/12 15:01
12.	MW-5S-050112	US52L	12-7826	Water	05/01/12 07:00	05/01/12 15:01
13.	MW-11-050112	US52M	12-7827	Water	05/01/12 07:50	05/01/12 15:01
14.	MW-12-050112	US52N	12-7828	Water	05/01/12 08:34	05/01/12 15:01
15.	MW-19-050112	US52O	12-7829	Water	05/01/12 09:33	05/01/12 15:01
16.	MW-28S-050112	US52P	12-7830	Water	05/01/12 10:27	05/01/12 15:01
17.	MW-32S-050112	US52Q	12-7831	Water	05/01/12 12:13	05/01/12 15:01
18.	MW-32DR-050112	US52R	12-7832	Water	05/01/12 13:57	05/01/12 15:01
19.	TB-043012-2	US52S	12-7833	Water	04/30/12	05/01/12 15:01

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: US61
Client: ERM-West
Project Event: 155129.09
Project Name: RG Spring GW Sampling

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	MW-30S-050212	US61A	12-7884	Water	05/02/12 07:57	05/02/12 14:57
2.	MW-29S-050212	US61B	12-7885	Water	05/02/12 09:59	05/02/12 14:57
3.	MW-31S-050212	US61C	12-7886	Water	05/02/12 12:15	05/02/12 14:57
4.	DUP-050212-1	US61D	12-7887	Water	05/02/12 07:15	05/02/12 14:57
5.	FB-050212-1	US61E	12-7888	Water	05/02/12 07:57	05/02/12 14:57
6.	TB-050212-1	US61F	12-7889	Water	05/02/12	05/02/12 14:57
7.	MW-30S-050212	US61G	12-7890	Water	05/02/12 07:57	05/02/12 14:57
8.	MW-29S-050212	US61H	12-7891	Water	05/02/12 09:59	05/02/12 14:57
9.	MW-31S-050212	US61I	12-7892	Water	05/02/12 12:15	05/02/12 14:57
10.	DUP-050212-1	US61J	12-7893	Water	05/02/12 07:15	05/02/12 14:57

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: UT31
Client: ERM-West
Project Event: 155129.09
Project Name: RG Spring GW Sampling

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	MW-30S-050212	UT31A	12-8209	Water	05/02/12 07:57	05/02/12 14:26
2.	MW-29S-050212	UT31B	12-8210	Water	05/02/12 09:59	05/02/12 14:26
3.	MW-31S-050212	UT31C	12-8211	Water	05/02/12 12:15	05/02/12 14:26

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Duplicate RPD is not within established control limits
B	Reported value is less than the CRDL but ≥ the Reporting Limit
N	Matrix Spike recovery not within established control limits
NA	Not Applicable, analyte not spiked
H	The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
L	Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Flagged value is not within established control limits
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
J	Estimated concentration when the value is less than ARI's established reporting limits
D	The spiked compound was not detected due to sample extract dilution
E	Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

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S	Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
NA	The flagged analyte was not analyzed for
NR	Spiked compound recovery is not reported due to chromatographic interference
NS	The flagged analyte was not spiked into the sample
M	Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
M2	The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
Y	The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
EMPC	Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**
C	The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
P	The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference
X	Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**
Z	Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

US52 : 00025

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1953-4	ABN	100/150	MEOH	07/05/12
B	1917-2	SIM PNA	15/75	ACETONE	05/30/12
C	NA	SIM ABN	25/37.5	MEOH	NA
D	1925-5	LOW PCB	0.2	ACETONE	05/28/12
E	1900-2	HERB	62.5	MEOH	10/06/12
F	1919-5	PCP	12.5	ACETONE	12/09/12
G	1906-3	d8-DIOXANE	100	MEOH	04/30/12
H	1847-2	OP-PEST	25	ACETONE	03/23/12
I	1896-3	LOW S. PNA	1.5	ACETONE	09/22/12
J	1915-4	TBT-PORE	0.125	MECL2	11/23/12
K	1925-4	MED PCB	20	ACETONE	05/28/12
L	1915-3	TBT	2.5	MECL2	11/23/12
M	1888-4	EPH	1500	MECL2	04/04/12
N	1914-2	PCB	2	ACETONE	05/28/12
O	1947-2	TPH	450	MECL2	09/28/12
P	1948-3	HCID	2250	MECL2	09/28/12
Q	NA	EDB	1	MEOH	NA
R	NA	RESIN ACID	250	ACETONE	NA
S	1864-1	PBDE	.5	MEOH	05/21/12
T	1884-2	ALKYL PNA	10	MEOH	07/15/12
U	NA	CONGENER	2.5	ACETONE	NA
V	1925-2	LOW PCP	1.25	ACETONE	12/09/12

3/14/12

LCS SOLUTIONS

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1907-1	PCB 1660	20	ACETONE	11/01/12
2#		BCOC PEST	10	ACETONE	NA
3	1922-2	PEST	01/02/10	ACETONE	12/13/12
4	1922-3	LOW PEST	.1/.2/1	ACETONE	12/13/12
5	1902-4	EPH	1500	MECL2	10/04/12
6	1919-2	PCP	12.5/125	ACETONE	10/15/12
7	1926-2	ABN	100	MEOH	05/31/12
8	1916-2	TBT	2.5	MECL2	11/23/12
9	1918-2	PORE TBT	.125/.25	MECL2	11/23/12
10					
11	1860-4	TPHD	15000	ACETONE	05/12/12
12					
13	1948-1	LOW PCB	2	ACETONE	11/01/12
14					
15	1929-1	SIM PNA	15/75	MEOH	06/21/12
16	1906-4	1,4-DIOXANE	100	MEOH	04/30/12
17	1869-4	1248 PCB	10	ACETONE	06/14/12
18	1927-2	LOW SIM PNA	1.5	ACETONE	06/20/12
19	1931-1	AK103	7500	ACETONE	05/17/12
20	1930-1	PNA	100	ACETONE	06/23/12
21	1943-2	SKY/BHT	100	MEOH	07/27/12
22	1957-1	HERB	04 to 5000	MEOH	04/22/12
23	1887-2	EXTRA PNA	15	ACETONE	08/25/12
24					
25#		DIPHENYL	100	MEOH	NA
26	1951-2	OP-PEST	25	MEOH	03/31/12
27		STEROLS	200	MEOH	NA
28#		ADD. PEST	2	ACETONE	NA
29#		DECANES	100	MEOH	NA

US52 : 00027

LCS SOLUTIONS

30		EDB/DBCP	0.2	MEOH	NA
31	1944-1	TERPINEOL	100	MEOH	07/27/12
32	NA	GUAIACOL	50-200	ACETONE	NA
33		RETENE	100	MEOH	NA
34	NA	CONGENERS	0.5	ACETONE	NA
35	1875-3	ALKYL PNA A	10	MEOH	07/18/12
36		ALKYL PNA B	10	MEOH	NA
37		CAR/PERY	100	ACETONE	NA
38	1926-3	ABN ACID	200-450	MEOH	06/19/12
39	1853-4	BENZIDINE	500	MEOH	04/30/12
40	1851-3	PBDE	0.5	MEOH	04/22/12
50	1900-1	FULL RESIN	250	ACETONE	08/12/12
51		DDTS	0.01	ACETONE	NA
52		1232 PCB	20	ACETONE	NA
53	1919-1	DALAPON	50	MEOH	08/22/12
54		T-CHLORDANE	10	ACETONE	NA
55		TOXAPHENE	50	ACETONE	NA
56	1952-3	ABN BASE	50-200	MEOH	08/14/12
#=PROJECT SPECIFIC SOLUTION					

DL[1] LOD[1], LOQ[1] and Control Limits Summary for VOA Analysis of Water 10 mL Purge Volume (EPA Methods 8260C)

Analyte	DL[1] µg/L	LOD[1] µg/L	LOQ[1] µg/L	LCS Recovery[2]	Replicate RPD[3]
Chloromethane	0.095	0.25	**0.5**	69 – 122	≤ 40
Vinyl Chloride	0.057	0.1	**0.2**	**80 – 120**	≤ 40
Bromomethane	0.252	0.5	**1.0**	71 – 120	≤ 40
Chloroethane	0.086	0.1	**0.2**	**80 – 120**	≤ 40
Trichlorofluoromethane	0.037	0.1	**0.2**	**80 – 120**	≤ 40
Acrolein	2.476	2.5	**5.0**	69 – 126	≤ 40
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.043	0.1	**0.2**	**80** – 121	≤ 40
Acetone	2.057	2.5	**5.0**	71 – **120**	≤ 40
1,1-Dichloroethene	0.054	0.1	**0.2**	**80 – 120**	≤ 40
Bromoethane	0.041	0.1	**0.2**	**80 – 120**	≤ 40
Iodomethane	0.227	0.5	**1.0**	76 – 120	≤ 40
Methylene Chloride	0.485	0.5	**1.0**	**80 – 120**	≤ 40
Acrylonitrile	0.604	1.0	**1.0**	79 – **120**	≤ 40
Carbon Disulfide	0.037	0.1	**0.2**	**80 – 120**	≤ 40
trans-1,2-Dichloroethene	0.048	0.1	**0.2**	**80 – 120**	≤ 40
Vinyl Acetate	0.069	0.1	**0.2**	**80 – 120**	≤ 40
1,1-Dichloroethane	0.053	0.1	**0.2**	**80 – 120**	≤ 40
2-Butanone	0.814	2.5	**5.0**	**80 – 120**	≤ 40
2,2-Dichloropropane	0.052	0.1	**0.2**	**80 – 120**	≤ 40
cis-1,2-Dichloroethene	0.043	0.1	**0.2**	**80 – 120**	≤ 40
Chloroform	0.027	0.1	**0.2**	**80 – 120**	≤ 40
Bromochloromethane	0.061	0.1	**0.2**	**80 – 120**	≤ 40
1,1,1-Trichloroethane	0.041	0.1	**0.2**	**80 – 120**	≤ 40
1,1-Dichloropropene	0.034	0.1	**0.2**	**80 – 120**	≤ 40
Carbon Tetrachloride	0.044	0.1	**0.2**	**80 – 120**	≤ 40
1,2-Dichloroethane	0.072	0.1	**0.2**	**80 – 120**	≤ 40
Benzene	0.027	0.1	**0.2**	**80 – 120**	≤ 40
Trichloroethene	0.049	0.1	**0.2**	**80 – 120**	≤ 40
1,2-Dichloropropane	0.035	0.1	**0.2**	**80 – 120**	≤ 40
Bromodichloromethane	0.051	0.1	**0.2**	**80 – 120**	≤ 40
Dibromomethane	0.145	0.2	**0.2**	**80 – 120**	≤ 40
2-Chloroethylvinyl Ether	0.250	0.5	**1.0**	**80 – 120**	≤ 40
4-Methyl-2-Pentanone	0.974	2.5	**5.0**	**80 – 120**	≤ 40
cis 1,3-dichloropropene	0.061	0.1	**0.2**	**80 – 120**	≤ 40
Toluene	0.040	0.1	**0.2**	**80 – 120**	≤ 40
trans 1,3-Dichloropropene	0.081	0.1	**0.2**	**80 – 120**	≤ 40
2-Hexanone	0.902	2.5	**5.0**	**80 – 120**	≤ 40
1,1,2-Trichloroethane	0.129	0.2	**0.2**	**80 – 120**	≤ 40
1,3-Dichloropropane	0.062	0.1	**0.2**	**80 – 120**	≤ 40
Tetrachloroethene	0.047	0.1	**0.2**	**80 – 120**	≤ 40
Dibromochloromethane	0.048	0.1	**0.2**	**80 – 120**	≤ 40
1,2-Dibromoethane	0.075	0.1	**0.2**	**80 – 120**	≤ 40

US52 : 00029

DL[1] LOD[1], LOQ[1] and Control Limits Summary for VOA Analysis of Water 10 mL Purge Volume (EPA Methods 8260C)					
Analyte	**DL[1] µg/L**	**LOD[1] µg/L**	**LOQ[1] µg/L**	**LCS Recovery[2]**	**Replicate RPD[3]**
Chlorobenzene	0.023	0.1	**0.2**	**80 – 120**	≤ 40
Ethyl Benzene	0.037	0.1	**0.2**	**80 – 120**	≤ 40
1,1,1,2-Tetrachloroethane	0.040	0.1	**0.2**	**80 – 120**	≤ 40
m,p-xylene	0.052	0.2	**0.4**	**80 – 120**	≤ 40
o-Xylene	0.035	0.1	**0.2**	**80 – 120**	≤ 40
Styrene	0.045	0.1	**0.2**	**80 – 120**	≤ 40
Bromoform	0.062	0.1	**0.2**	**80 – 120**	≤ 40
1,1,2,2-Tetrachloroethane	0.060	0.1	**0.2**	**80 – 120**	≤ 40
1,2,3-Trichloropropane	0.131	0.25	**0.5**	**80 – 120**	≤ 40
trans-1,4-Dichloro 2-Butene	0.324	0.5	**1.0**	74 – 122	≤ 40
n-Propyl Benzene	0.023	0.1	**0.2**	**80 – 120**	≤ 40
Bromobenzene	0.060	0.1	**0.2**	**80 – 120**	≤ 40
iso-propyl Benzene	0.021	0.1	**0.2**	**80 – 120**	≤ 40
2-Chloro Toluene	0.024	0.1	**0.2**	**80 – 120**	≤ 40
4-Chloro Toluene	0.016	0.1	**0.2**	**80 – 120**	≤ 40
tert-Butyl Benzene	0.026	0.1	**0.2**	**80 – 120**	≤ 40
1,3,5-Trimethyl Benzene	0.015	0.1	**0.2**	**80 – 120**	≤ 40
1,2,4-Trimethylbenzene	0.024	0.1	**0.2**	**80 – 120**	≤ 40
sec-Butyl Benzene	0.024	0.1	**0.2**	**80 – 120**	≤ 40
4-Isopropyl Toluene	0.026	0.1	**0.2**	**80 – 120**	≤ 40
1,3-Dichlorobenzene	0.036	0.1	**0.2**	**80 – 120**	≤ 40
1,4-Dichlorobenzene	0.040	0.1	**0.2**	**80 – 120**	≤ 40
n-Butyl Benzene	0.025	0.1	**0.2**	**80 – 120**	≤ 40
1,2-Dichlorobenzene	0.036	0.1	**0.2**	**80 – 120**	≤ 40
1,2-Dibromo 3-Chloropropane	0.366	0.5	**0.5**	76 – **120**	≤ 40
1,2,4-Trichlorobenzene	0.107	0.25	**0.5**	77 – **120**	≤ 40
Hexachloro-1,3-Butadiene	0.073	0.25	**0.5**	77 – 120	≤ 40
Naphthalene	0.118	0.25	**0.5**	76 – **120**	≤ 40
1,2,3-Trichlorobenzene	0.110	0.25	**0.5**	79 – **120**	≤ 40
Dichlorodifluoromethane	0.052	0.1	**0.2**	69 – 122	≤ 40
Methyl-*tert*-butyl ether	0.073	0.25	**0.5**	**80 – 120**	≤ 40
Surrogate Standards			**MB / LCS**	**Samples**	**RPD**
Dibromofluoromethane			**80 – 120**	**80 – 120**	≤ 40
1,2-Dichlorobenzene-d_4			**80 – 120**	**80 – 120**	≤ 40
Toluene-d_8			**80 – 120**	**80 – 120**	≤ 40
4-Bromofluorobenzene			**80 – 120**	**80 – 120**	≤ 40

(1) Detection Limit (DL), Limit of Detection (LOD) and Limit of Quantitation (LOQ) are defined in ARI SOP 1018S
(2) Control limits calculated using all data from 7/1/09 through 6/30/10.
(3) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$$

US52 : 00030

LOD, LOQ and Control Limits Summary
GC - MS – SVOA Analysis of Aqueous Samples
EPA Method 8270D
ARI Analysis: BANWLI & BANWSI

Continuous Liquid-Liquid (EPA Method 3520C, Bench Sheet 3006F) or Separatory Funnel (EPA method 3510C, Bench Sheet 3010F) extraction using 500mL sample concentrated to 0.5 mL final extract volume

LOD Spike level = LOQ (unless otherwise noted)

Analyte	DL[1] µg/L	LOD[1] µg/L	LOQ[1] µg/L	LCS, MS Recovery[2,3]	Replicate RPD[4]
Phenol	**0.445**	**0.5**	**1**	26 – 112	≤ 40
Bis(2-Chloroethyl)ether	**0.257**	**0.5**	**1**	51 – **100**	≤ 40
2-Chlorophenol	**0.246**	**0.5**	**1**	50 – **100**	≤ 40
1,3-Dichlorobenzene	**0.499**	**0.5**	**1**	27 – **100**	≤ 40
1,4-Dichlorobenzene	**0.470**	**0.5**	**1**	29 – **100**	≤ 40
1,2-Dichlorobenzene	**0.436**	**0.5**	**1**	32 – **100**	≤ 40
Benzyl alcohol	**0.409**	**1.0**	**2**	**10** - 128	≤ 40
2,2'-oxybis(1-Chloropropane)	**0.221**	**0.5**	**1**	39 - 101	≤ 40
2-Methylphenol	**0.329**	**0.5**	**1**	47 – **100**	≤ 40
Hexachloroethane	**0.610**	**1.0**	**2**	19 – **100**	≤ 40
N-Nitroso-di-n-propylamine	**0.365**	**0.5**	**1**	46 – **100**	≤ 40
4-Methylphenol	**0.536**	**1.0**	**2**	46 – **100**	≤ 40
Nitrobenzene	**0.490**	**0.5**	**1**	46 – 103	≤ 40
Isophorone	**0.258**	**0.5**	**1**	62 – 105	≤ 40
2-Nitrophenol	**0.979**	**1.5**	**3**	32 – 116	≤ 40
2,4-Dimethylphenol	**0.627**	**1.5**	**3**	15 – **100**	≤ 40
Bis(2-Chloroethoxy)methane	**0.252**	**0.5**	**1**	44 – **100**	≤ 40
2,4-Dichlorophenol	**1.109**	**1.5**	**3**	35 – 114	≤ 40
1,2,4-Trichlorobenzene	**0.495**	**0.5**	**1**	34 – **100**	≤ 40
Naphthalene	**0.326**	**0.5**	**1**	48 – **100**	≤ 40
Benzoic acid	**8.647**	**10**	**20**	**10** - 172	≤ 40
4-Chloroaniline	**1.733**	**2.5**	**5**	**10** - 153	≤ 40
2,6-Dinitrotoluene	**1.300**	**1.5**	**3**	32 – 129	≤ 40
Hexachlorobutadiene	**0.604**	**1.5**	**3**	22 – **100**	≤ 40
4-Chloro-3-methylphenol	**0.919**	**1.5**	**3**	33 – 123	≤ 40
Hexachlorocyclopentadiene	**1.862**	**2.5**	**5**	**10** – **100**	≤ 40
2,4,6-Trichlorophenol	**1.235**	**1.5**	**3**	37 – 120	≤ 40
2,4,5-Trichlorophenol	**1.706**	**2.5**	**5**	37 – 124	≤ 40
2-Chloronaphthalene	**0.340**	**0.5**	**1**	49 – **100**	≤ 40
2-Nitroaniline	**0.784**	**1.5**	**3**	18 – 140	≤ 40
Acenaphthylene	**0.274**	**0.5**	**1**	47 – 110	≤ 40
Dimethylphthalate	**0.264**	**0.5**	**1**	60 – 106	≤ 40
Acenaphthene	**0.347**	**0.5**	**1**	55 – 101	≤ 40

US52 : 00031

LOD, LOQ and Control Limits Summary
GC - MS – SVOA Analysis of Aqueous Samples
EPA Method 8270D
ARI Analysis: BANWLI & BANWSI

Continuous Liquid-Liquid (EPA Method 3520C, Bench Sheet 3006F) or Separatory Funnel (EPA method 3510C, Bench Sheet 3010F) extraction using 500mL sample concentrated to 0.5 mL final extract volume

LOD Spike level = LOQ (unless otherwise noted)

Analyte	DL[1] µg/L	LOD[1] µg/L	LOQ[1] µg/L	LCS, MS Recovery[2,3]	Replicate RPD[4]
3-Nitroaniline	1.140	1.5	3	10 – 208	≤ 40
2-Methylnaphthalene	0.241	0.5	1	38 – 100	≤ 40
2,4-Dinitrophenol	5.474	10	20	10 – 224	≤ 40
Dibenzofuran	0.198	0.5	1	46 – 108	≤ 40
4-Nitrophenol	2.895	5.0	10	10 – 103	≤ 40
2,4-Dinitrotoluene	1.277	1.5	3	33 – 134	≤ 40
Fluorene	0.266	0.5	1	59 – 108	≤ 40
4-Chlorophenyl-phenylether	0.342	0.5	1	54 – 104	≤ 40
Diethylphthalate	0.407	0.5	1	60 - 108	≤ 40
4-Nitroaniline	1.366	1.5	3	13 – 144	≤ 40
4,6-Dinitro-2-methylphenol	4.928	5.0	10	10 – 190	≤ 40
N-Nitrosodiphenylamine	0.392	0.5	1	39 – 100	≤ 40
4-Bromophenyl-phenylether	0.262	0.5	1	56 – 105	≤ 40
Hexachlorobenzene	0.335	0.5	1	54 – 108	≤ 40
Pentachlorophenol	2.746	5.0	10	25 – 144	≤ 40
Phenanthrene	0.283	0.5	1	64 – 115	≤ 40
Anthrcene	0.303	0.5	1	59 – 107	≤ 40
Carbazole	0.251	0.5	1	36 – 123	≤ 40
Di-n-butylphthalate	0.304	0.5	1	62 – 110	≤ 40
Fluoranthene	0.290	0.5	1	63 – 119	≤ 40
Pyrene	0.379	0.5	1	57 – 117	≤ 40
Butylbenzylphthalate	0.402	0.5	1	49 – 118	≤ 40
Benzo(a)anthracene	0.373	0.5	1	61 – 113	≤ 40
3,3'-Dichlorobenzidine	1.553	2.5	5	10 – 151	≤ 40
Chrysene	0.397	0.5	1	62 – 115	≤ 40
bis(2-Ethylhexyl)phthalate	1.050	1.5	3	47 – 127	≤ 40
Di-n-octylphthalate	0.331	0.5	1	60 – 106	≤ 40
Benzo(b)fluoranthene	0.298	0.5	1	61 – 120	≤ 40
Benzo(k)fluoranthene	0.487	0.5	1	59 – 120	≤ 40
Benzo(a)pyrene	0.425	0.5	1	46 – 105	≤ 40
Indeno(1,2,3-cd)pyrene	0.435	0.5	1	42 – 134	≤ 40
Dibenzo(a,h)anthracene	0.437	0.5	1	46 – 132	≤ 40
Benzo(g,h,i)perylene	0.464	0.5	1	33 – 135	≤ 40
N-Nitrosodimethylamine	1.209	1.5	3	17 - 106	≤ 40

US52 : 00032

LOD, LOQ and Control Limits Summary
GC - MS – SVOA Analysis of Aqueous Samples
EPA Method 8270D
ARI Analysis: BANWLI & BANWSI

Continuous Liquid-Liquid (EPA Method 3520C, Bench Sheet 3006F) or Separatory Funnel (EPA method 3510C, Bench Sheet 3010F) extraction using 500mL sample concentrated to 0.5 mL final extract volume

LOD Spike level = LOQ (unless otherwise noted)

Analyte	DL[1] µg/L	LOD[1] µg/L	LOQ[1] µg/L	LCS, MS Recovery[2,3]	Replicate RPD[4]
Aniline	**0.470**	**0.5**	1	**10** – 113	≤ 40
1-methylnaphthalene	**0.199**	**0.5**	1	43 – **100**	≤ 40
Azobenzene (1,2-DP-Hydrazine)	**0.214**	**0.5**	1	52 - 111	≤ 40
Benzofluoranthenes, Total	**2.317**	**2.5**	5		≤ 40
1,4-Dioxane[5]				13 – 114	≤ 40
Surrogate Standard Recovery			**MB / LCS**	**Samples**	**RPD**
2-Fluorophenol			33 – 100	23 – **100**	≤ 40
Phenol-d_5			15 - 121	16 – 106	≤ 40
2-Chlorophenol-d_4			46 – 102	33 – 100	≤ 40
1,2-Dichlorobenzene-d_4			40 – **100**	27 – **100**	≤ 40
Nitrobenzene-d_5			50 – **100**	34 – 101	≤ 40
2-Fluorobiphenyl			51 – **100**	38 – **100**	≤ 40
2,4,6-Tribromophenol			46 – 125	31 – 128	≤ 40
p-Terphenyl-d_{14}			54 – 117	27 – 122	≤ 40

(1) Detection Limit (DL), Limit of Detection (LOD) and Limit of Quantitation (LOQ) are defined in ARI SOP 1018S
(2) Control limits calculated using all data from 8/1/10 through 7/31/11.
(3) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(4) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$

(5) Sample extracts for 1,4-Dioxane analysis are concentrated to 1 mL.

US52 : 00033

DL[1], LOD[2], LOQ[3] and Control Limits Summary
Analysis of Water Samples for PNA
EPA Method 8270 – SIM
ARI Analyses: PNSWLL & PNSWSL

Separatory Funnel (EPA Method 3510C) or Liq-Liq (EPA Method 3520C) Extraction using 500 mL sample with extract concentrated to 0.5 mL final volume. ARI Bench Sheet 3053F or 3054F

LOD Spike level = LOQ = 0.1ppb

Analyte	DL[1] µg/L	LOD[2] µg/L	LOQ[3] µg/L	LCS Control Limit[4,5]	Replicate RPD[6]
Naphthalene	0.020	**0.050**	**0.1**	37 – 100	≤ 40
2-Methylnaphthalene	0.020	**0.050**	**0.1**	34 – 107	≤ 40
Acenaphthylene	0.024	**0.050**	**0.1**	32 – 104	≤ 40
Acenaphthene	0.015	**0.050**	**0.1**	40 – 102	≤ 40
Dibenzofuran	0.016	**0.050**	**0.1**	44 – 104	≤ 40
Fluorene	0.019	**0.050**	**0.1**	43 – 114	≤ 40
Phenanthrene	0.026	**0.050**	**0.1**	43 – 116	≤ 40
Anthracene	0.025	**0.050**	**0.1**	30 – 121	≤ 40
Fluoranthene	0.021	**0.050**	**0.1**	46 – 138	≤ 40
Pyrene	0.028	**0.050**	**0.1**	47 – 124	≤ 40
Benzo(a)anthracene	0.023	**0.050**	**0.1**	38 – 134	≤ 40
Chrysene	0.026	**0.050**	**0.1**	52 – 112	≤ 40
Benzo(b)fluoranthene	0.027	**0.050**	**0.1**	49 – 123	≤ 40
Benzo(k)fluoranthene	0.027	**0.050**	**0.1**	50 – 127	≤ 40
Benzo(a)pyrene	0.059	**0.075**	**0.1**	24 – 118	≤ 40
Indeno(1,2,3-cd)pyrene	0.029	**0.050**	**0.1**	32 – 123	≤ 40
Dibenz(a,h)anthracene	0.042	**0.050**	**0.1**	30 – 127	≤ 40
Benzo(g,h,i)perylene	0.030	**0.050**	**0.1**	26 – 124	≤ 40
1-Methylnaphthalene	0.016	**0.050**	**0.1**	30 – 160[7]	≤ 40
Perylene	0.061	**0.075**	**0.1**	30 – 160[7]	≤ 40
Surrogate Standard Recovery			**MB / LCS**	**Samples**	**RPD**
2-Methylnapthalene-d_{10}			40 – 110	33 – 107	≤ 40
Dibenzo(a,h)anthracene-d_{14}			33 – 140	**10** – 142	≤ 40

(1) Detection Limit (DL) as defined in ARI SOP 1018S
(2) Limit of Detection (LOD) as defined in ARI SOP 1018S
(3) Limit of Quantitation (LOQ) as defined in ARI SOP 1018S
(4) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(5) Control limits calculated using all data from 6/1/10 through 5/31/11.
(6) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$
(7) Default limits pending generation of historic limits for total benzofluoranthenes and 1-Methylnaphthalene.

US52 : 00034

DL[1], LOD[2], LOQ[3] and Control Limits Summary
Analysis of Water Samples for PNA and PCP
EPA Method 8270 – SIM
ARI Analysis: PNPWLI

Separatory Funnel Extraction (EPA Method 3510C) using 500 mL sample with extract concentrated to 0.5 mL final volume. ARI Bench Sheet 3085F (SIM PNA/PCP#7)

LOD Spike level = LOQ = 0.1 for PNA and 0.5 ppb for PCP (unless otherwise noted)

Analyte	DL[1] µg/L	LOD[2, 8] µg/L	LOQ[3] µg/L	LCS Control Limit[4,5]	Replicate RPD[6]
Naphthalene	0.034	**0.050**	**0.1**	39 – **100**	≤ 40
2-Methylnaphthalene	0.043	**0.050**	**0.1**	39 – **100**	≤ 40
Acenaphthylene	0.035	**0.050**	**0.1**	37 – 100	≤ 40
Acenaphthene	0.042	**0.050**	**0.1**	42 – **100**	≤ 40
Dibenzofuran	0.036	**0.050**	**0.1**	46 – **100**	≤ 40
Fluorene	0.039	**0.050**	**0.1**	49 – 101	≤ 40
Phenanthrene	0.036	**0.050**	**0.1**	55 - 101	≤ 40
Anthracene	0.040	**0.050**	**0.1**	47 – 102	≤ 40
Fluoranthene	0.054	**0.075**	**0.1**	60 – 106	≤ 40
Pyrene	0.083	**0.100**	**0.1**	55 – 110	≤ 40
Benzo(a)anthracene	0.062	**0.075**	**0.1**	56 – 104	≤ 40
Chrysene	0.070	**0.075**	**0.1**	58 – 104	≤ 40
Benzofluoranthene(s) (total)	0.139	**0.150**	**0.2**	30 – 160[7]	≤ 40
Benzo(a)Pyrene	0.059	**0.075**	**0.1**	32 – 110	≤ 40
Indeno(1,2,3-cd)Pyrene	0.053	**0.075**	**0.1**	50 – 114	≤ 40
Dibenz(a,h)Anthracene	0.051	**0.075**	**0.1**	42 – 121	≤ 40
Benzo(g,h,i)Perylene	0.067	**0.075**	**0.1**	50 – 113	≤ 40
1-Methylnaphthalene	0.044	**0.050**	**0.1**	30 – 160[7]	≤ 40
Pentachlorophenol	0.165	**0.250**	**0.5**	30 – 160[7]	≤ 40
Surrogate Standard Recovery			**MB / LCS**	**Samples**	**RPD**
2-Methylnapthalene-d_{10}			35 – 102	33 – 104	≤ 40
2,4,6-Tribromophenol			30 – 160	30 – 160	30 – 160
Dibenzo(a,h)anthracene-d_{14}			37 – 122	22 – 133	≤ 40

(1) Detection Limit (DL) as defined in ARI SOP 1018S.
(2) Limit of Detection (LOD) as defined in ARI SOP 1018S.
(3) Limit of Quantitation (LOQ) as defined in ARI SOP 1018S.
(4) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(5) Control limits calculated using all data from 8/1/09 through 5/31/11.
(6) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$
(7) Default limits pending generation of historic limits for total benzofluoranthenes and 1-Methylnaphthalene.
(8) LOD verified 8/16/11 as ARI projects TE48 and TE49.

US52 : 00035

Quality Control Summary for Butyl Tin Compounds
EPA Methods 8270D – SIM

Analyte	DL[1]	LOD[1]	LOQ[1]	Spike Recovery Limits (%)[2, 3]			RPD[4]
				LCS	MB/LCS Surrogate	Sample Surrogate	
TBTWSI – Aqueous Samples (Separatory Funnel Extraction – 100 to 0.5 mL) EPA Method 3510C – ARI Benchsheet TBT#1 – 3043F							
Tributyl Tin Ion[5]	0.043 µg/L	0.096 µg/L	0.193 µg/L	30-160	--	--	≤ 40
Dibutyl Tin Ion[5]	0.096 µg/L	0.216 µg/L	0.433 µg/L	30-160	--	--	≤ 40
Butyl Tin Ion[5]	0.108 µg/L	0.153 µg/L	0.306 µg/L	30-160	--	--	≤ 40
Tripentyl Tin	--	--	--	--	30-160	30-160	≤ 40
Tripropyl Tin	--	--	--	--	30-160	30-160	≤ 40
TBTWSI – Pore Water Samples (Separatory Funnel Extraction – 150 to 0.5 mL) EPA Method 3510C – ARI Benchsheet TBT #3 – 3047F							
Tributyl Tin Ion[6]	--	--	0.0052 µg/L	30-160	--	--	≤ 40
Dibutyl Tin Ion[6]	--	--	0.0077µg/L	30-160	--	--	≤ 40
Butyl Tin Ion[6]	--	--	0.0054 µg/L	30-160	--	--	≤ 40
Tripentyl Tin	--	--	--	--	30-160	30-160	≤ 40
Tripropyl Tin	--	--	--	--	30-160	30-160	≤ 40
TBTSMI – Soil / Sediment Samples (Microwave Extraction – 5g dry wt to 0.5mL) EPA Method 3546 – ARI Benchsheet TBT#4 – 3064F							
Tributyl Tin Ion	1.52 µg/kg	1.93 µg/kg	3.86 µg/kg	40 – 144	--	--	≤ 40
Dibutyl Tin Ion	3.72 µg/kg	4.33 µg/kg	5.78 µg/kg	34 – 115	--	--	≤ 40
Butyl Tin Ion	2.95 µg/kg	3.06 µg/kg	4.08 µg/kg	**10** – 111	--	--	≤ 40
Tripentyl Tin	--	--	--	--	35 – 130	25 – 140	≤ 40
Tripropyl Tin	--	--	--	--	28 – 106	32 – 104	≤ 40

(1) Detection Limit (DL), limit of detection (LOD) and limit of quantation (LOQ) as defined in ARI SOP 1018S.
(2) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. These limits are not used as the sole reason to reject data from a batch of of analyzes.
(4) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$

(5) DL from ARI MDL study QD32
(6) ARI does not report concentrations below the LOQ (low calibration standard concentration) and does not, therefore, determine a DL or LOD for butyl tin analysis in interstitial (pore) water.

US52 : 00036

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Quality Control Criteria
Total Petroleum Hydrocarbons
(Diesel & Motor Oil)

Analysis Code	Analyte[5]	DL[1]	LOD[1]	LOQ[2] ppm	Spike % Recovery Control Limits[3]			RPD[4]
					LCS	MB/LCS Surrogate	Sample Surrogate	
HCIWVX	NWTPH-HCID – Water Samples	--	--	0.50 [7]	--	--	50-150	≤ 40
HCISVX	NWTPH-HCID – Solid Samples	--	--	50 [7]	--	--	50-150	
Aqueous Samples – No Extract Clean-up – Separatory Funnel Extraction – 500 to 1.0 mL								
DIESWI	DRO – NWTPH-Dext (C_{12}-C_{24})	0.022	0.05	0.1	64-112	50-150	50-150	≤ 40
AK2WSI	DRO – AK102 (C_{10}-C_{25})	0.022	0.05	0.1	75-125 [6]	60-120	50-150	
OILWSI	RRO – NWTPH-Dext (C_{24}-C_{38})	0.044	0.1	0.2	64-112	50-150	50-150	
AK3WSI	RRO – AK103 (C_{25}-C_{36})	0.030 [9]	0.1	0.2	60-120 [6]	60-120	50-150	
Aqueous Samples – With Acid and/or Silica Gel Clean-up – Separatory Funnel Extraction – 500 to 1.0 mL								
DIESWI	DRO – NWTPH-Dext (C_{12}-C_{24})	0.039	0.05	0.1	61-104	50-150	50-150	≤ 40
AK2WSI	DRO – AK102 (C_{10}-C_{25})	0.042	0.05	0.1	75-125 [6]	60-120	50-150	
OILWSI	RRO – NWTPH-Dext (C_{24}-C_{38})	0.010	0.1	0.2	61-104	50-150	50-150	
AK3WSI	RRO – AK103 (C_{25}-C_{36})	0.030 [8]	0.1	0.2	60-120 [6]	60-120	50-150	
Solid Matrix Samples – No Extract Clean-up – Microwave Extraction – 10 g to 1 mL								
DIESMI	DRO – NWTPH-Dext (C_{12}-C_{24})	1.35	2.5	5	62-119	50-150	50-150	≤ 40
DIESMI	DRO – NWTPH-Dext Jet A	2.22 [11]	2.5	5	60 – 130 [8]	50-150	50-150	
AK2SMI	DRO – AK102 (C_{10}-C_{25})	2.43	2.5	5	75-125 [6]	60-120	50-150	
OILSMI	RRO – NWTPH-Dext (C_{24}-C_{38})	2.48	5	10	62-119	50-150	50-150	
AK3SMI	RRO – AK103 (C_{25}-C_{36})	0.665 [9]	5	10	60-120 [6]	60-120	50-150	
Solid Matrix Samples – With Acid and/or Silica Gel Clean-up – Microwave Extraction – 10 g to 1 mL								
DIESMI	DRO – NWTPH-Dext (C_{12}-C_{24})	1.28	2.5	5	60-108	50-150	50-150	≤ 40
AK2SMI	DRO – AK102 (C_{10}-C_{25})	2.06	2.5	5	75-125 [6]	60-120	50-150	
OILSMI	RRO – NWTPH-Dext (C_{24}-C_{38})	1.57	5	10	60-108	50-150	50-150	
AK3SMI	RRO – AK103 (C_{25}-C_{36})	0.665 [10]	5	10	60-120 [6]	60-120	50-150	

(1) DL (Detection Limit) and LOD (Limit of Detection) as defined in ARI SOP 1018S.
(2) Limit of Quantitation as defined in ARI SOP 1018S. The spike concentration used to determine the DL and the concentration of the lowest standard used to calibrate the GC-FID instrument.
(3) All surrogate recovery limits are specified in the published methods (AK102, AK103 & NWTPH-Dext). The surrogate standard is o-Terphenyl.
(4) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$
(5) DRO = Diesel Range Organics and RRO = Residual Range Organics as defined in the methods referenced in footnote 3.
(6) Method specified LCS acceptance limits.
(7) Method specified reporting limits
(8) Default LCS control limits pending calculation of historic limits
(9) MDL study QD55 completed 2/12/10
(10) MDL study QD35 completed 1/29/10
(11) LOD Study UI44 completed 2/28/12

US52 : 00037

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Quality Control Criteria
Gasoline and BTEX

Method	Analyte	DL[1]	LOD[1]	LOQ[1]	Spike % Recovery Control Limits			RPD[3]
					LCS	MB/LCS Surrogate	Sample Surrogate	
Aqueous Samples 5 mL purge volume (DL, LOD & LOQ values in µg/L (ppb) for BTEX and mg/L (ppm) for gasoline								
NWTPH-G	Toluene – Naphthalene	0.057	0.125	0.25	75 – 124	--	--	≤ 40
8015B	2-methylpentane – 1,2,4-Trimethylbenzene	0.031	0.125	0.25	75 – 124	--	--	
WA-TPH-G	Toluene – nC_{12})	0.087	0.125	0.25	75 – 124	--	--	
AK-101	nC_6 – nC_{12}	0.032	0.050	0.10	75 – 124	--	--	
	Trifluorotoluene (TFT)	--	--	--	--	**80 - 120**	**80** - 120	
	Bromobenzene	--	--	--	--	**80 - 120**	**80** - 120	
8021B	Benzene	0.094	0.5	1.0	73 – **120**	--	--	≤ 40
8021B	Toluene	0.113	0.5	1.0	73 – **120**	--	--	
8021B	Ethylbenzene	0.117	0.5	1.0	69 – **120**	--	--	
8021B	m/p-Xylene	0.265	1.0	2.0	72 – **120**	--	--	
8021B	o-Xylene	0.136	0.5	1.0	73 – **120**	--	--	
8021B	MTBE	0.412	0.5	1.0	30 – 182	--	--	
	Trifluorotoluene (TFT)	--	--	--	--	79 – **120**	**80 - 120**	
	Bromobenzene	--	--	--	--	79 – **120**	**80 - 120**	
Solid Samples - (DL, LOD & LOQ values in µg/kg (ppb) for BTEX and mg/kg (ppm) for gasoline								
NWTPH-G	Toluene – Naphthalene	1.66	2.5	5	74 – 124	--	--	≤ 40
8015B	2-methylpentane – 1,2,4-Trimethylbenzene	1.57	2.5	5	74 – 124	--	--	
WA-TPH-G	Toluene – nC_{12})	1.54	2.5	5	74 – 124	--	--	
AK-101	nC_6 – nC_{12}	1.84	2.5	5	74 – 124	--	--	
	Trifluorotoluene (TFT)	--	--	--	--	**80 - 120**	66-123	
	Bromobenzene	--	--	--	--	**80 - 120**	62-130	
8021B	Benzene	4.59	12.5	25	72 – **120**	--	--	≤ 40
8021B	Toluene	7.13	12.5	25	72 – **120**	--	--	
8021B	Ethylbenzene	4.98	12.5	25	71 – **120**	--	--	
8021B	m/p-Xylene	11.9	25.0	50	72 – **120**	--	--	
8021B	o-Xylene	6.23	12.5	25	72 – **120**	--	--	
8021B	MTBE	3.82	12.5	25	40 – 163	--	--	
	Trifluorotoluene (TFT)	--	--	--	--	80 – **120**	68 – 124	
	Bromobenzene	--	--	--	--	77 – **120**	62 – 134	

(1) Detection Limit (DL), Limit of Detection (LOD) and Limit of Quantitation (LOQ) as defined in ARI SOP 1018S.
(2) Highlighted control limits (bold font) are adjusted from the calculated values as follows:
a) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
b) Control limits for analytes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.
(3) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$$

US52 : 00038

Quality Control Parameters for Metals Analysis using ICP-OES

	Aqueous Samples[2]			Spike Recovery		RPD[5]	Solids[3]	Tissue[4]
Analyte	DL[1] µg/L	LOD[1] µg/L	LOQ[1] µg/L	Matrix Spike	LCS		LOQ mg/kg	LOQ mg/kg
Aluminum	7.57	25	**50**	75 – 125	80 – 120	≤ 20	**5.0**	**1.0**
Antimony	6.28	25	**50**	75 – 125	80 – 120	≤ 20	**5.0**	**1.0**
Arsenic	3.33	25	**50**	75 – 125	80 – 120	≤ 20	**5.0**	**1.0**
Barium	1.33	1.5	**3.0**	75 – 125	80 – 120	≤ 20	**0.3**	**0.06**
Beryllium	0.16	0.5	**1.0**	75 – 125	80 – 120	≤ 20	**0.1**	**0.02**
Boron	7.39	10	**20**	75 – 125	80 – 120	≤ 20	**2.0**	**0.4**
Cadmium	0.18	0.5	**2.0**	75 – 125	80 – 120	≤ 20	**0.2**	**0.04**
Calcium	11.27	25	**50**	75 – 125	80 – 120	≤ 20	**5.0**	**1.0**
Chromium	1.24	2.5	**5.0**	75 – 125	80 – 120	≤ 20	**0.5**	**0.1**
Cobalt	0.27	1.5	**3.0**	75 – 125	80 – 120	≤ 20	**0.3**	**0.06**
Copper	0.92	1.0	**2.0**	75 – 125	80 – 120	≤ 20	**0.2**	**0.04**
Iron	7.50	25	**50**	75 – 125	80 – 120	≤ 20	**5.0**	**1.0**
Lead	1.55	10	**20**	75 – 125	80 – 120	≤ 20	**2.0**	**0.4**
Magnesium	9.61	25	**50**	75 – 125	80 – 120	≤ 20	**5.0**	**1.0**
Manganese	0.28	0.5	**1.0**	75 – 125	80 – 120	≤ 20	**0.1**	**0.02**
Molybdenum	0.79	2.5	**5.0**	75 – 125	80 – 120	≤ 20	**0.5**	**0.1**
Nickel	3.86	5.0	**10**	75 – 125	80 – 120	≤ 20	**1.0**	**0.2**
Potassium	65.70	250	**500**	75 – 125	80 – 120	≤ 20	**50**	**10**
Selenium	4.99	25	**50**	75 – 125	80 – 120	≤ 20	**5.0**	**1.0**
Silicon	8.17	30	**60**	75 – 125	80 – 120	≤ 20	**(6)**	**(6)**
Silver	0.43	1.5	**3.0**	75 – 125	80 – 120	≤ 20	**0.3**	**0.06**
Sodium	11.35	250	**500**	75 – 125	80 – 120	≤ 20	**50**	**10**
Strontium	0.09	1.0	**1.0**	75 – 125	80 – 120	≤ 20	**0.1**	**0.02**
Thallium	3.10	25	**50**	75 – 125	80 – 120	≤ 20	**5.0**	**1.0**
Tin	1.41	5.0	**10**	75 – 125	80 – 120	≤ 20	**1.0**	**0.2**
Titanium	2.11	2.5	**5.0**	75 – 125	80 – 120	≤ 20	**0.5**	**0.01**
Vanadium	0.27	1.5	**3.0**	75 – 125	80 – 120	≤ 20	**0.3**	**0.06**
Zinc	1.45	5.0	**10**	75 – 125	80 – 120	≤ 20	**1.0**	**0.2**

(1) Detection Limit (DL), Limit of Detection Limit (LOD) and Limit of Quantitation (LOQ) as defined in ARI SOP 1018S
(2) 50 mL sample and 50 mL final volume
(3) Solids LOQ based on 100% solids using 1.0 g sample with 100 mL final volume.
(4) Tissue is reported on an "as received" (wet weight) basis using 2.5 g sample with 50 mL final volume.
(5) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$

(6) ARI does not analyze for Silicon in solids or tissue samples

US52 : 00039

Quality Control Parameters for Metals Analysis using ICP-MS

Analyte	Mass	Aqueous Samples[2]			Spike Recovery		RPD[4]	Solids[3]
		DL[1] µg/L	LOD[1] µg/L	LOQ[1] µg/L	Matrix Spike	LCS		LOQ[1] mg/kg
Aluminum	27	1.601	10	**20.0**	75 – 125	80 – 120	≤ 20	**20.0**
Antimony	121	0.010	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
	123	0.011	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Arsenic #1	75	0.048	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Arsenic #2	75	0.092	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Barium	135	0.020	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
	137	0.019	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Beryllium	9	0.021	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Cadmium	111	0.010	0.05	**0.1**	75 – 125	80 – 120	≤ 20	**0.1**
	114	0.005	0.05	**0.1**	75 – 125	80 – 120	≤ 20	**0.1**
Calcium	43	3.983	25	**50.0**	75 – 125	80 – 120	≤ 20	**50.0**
Chromium	52	0.045	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
	53	0.118	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Cobalt	59	0.011	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Copper	63	0.158	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
	65	0.236	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Iron	54	5.753	10	**20.0**	75 – 125	80 – 120	≤ 20	**20.0**
	57	3.876	10	**20.0**	75 – 125	80 – 120	≤ 20	**20.0**
Lead	208	0.046	0.05	**0.1**	75 – 125	80 – 120	≤ 20	**0.1**
Magnesium	24	0.297	10	**20.0**	75 – 125	80 – 120	≤ 20	**20.0**
Manganese	55	0.022	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Molybdenum	98	0.013	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Nickel	60	0.079	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
	62	0.089	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
Potassium	39	2.944	10	**20.0**	75 – 125	80 – 120	≤ 20	**20.0**
Selenium	82	0.127	0.25	**0.5**	75 – 125	80 – 120	≤ 20	**0.5**
	78	0.324	0.25	**2.0**	75 – 125	80 – 120	≤ 20	**2.0**
Silver	107	0.008	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Sodium	23	2.833	50	**100.0**	75 – 125	80 – 120	≤ 20	**100.0**
Thorium[5]	232	0.013	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Thallium	205	0.004	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Uranium[5]	238	0.003	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Vanadium	51	0.043	0.1	**0.2**	75 – 125	80 – 120	≤ 20	**0.2**
Zinc	66	0.497	2	**4.0**	75 – 125	80 – 120	≤ 20	**4.0**
	67	0.531	2	**4.0**	75 – 125	80 – 120	≤ 20	**4.0**
	68	0.524	2	**4.0**	75 – 125	80 – 120	≤ 20	**4.0**

(1) Detection Limit (DL), Limit of Detection Limit (LOD) and Limit of Quantitation (LOQ) as defined in ARI SOP 1018S
(2) 50 mL sample and 50 mL final volume
(3) Solids LOQ based on 100% solids using 1.0 g sample with 100 mL final volume.
(4) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$

(5) ARI has no accreditation for these elements.

US52 : 000N0

Quality Control Parameters for Mercury Analysis using CVAA

	Aqueous Samples[2]			Spike Recovery		RPD[5]
	DL[1] µg/L	LOD[1] µg/L	LOQ[1] µg/L	Matrix Spike	LCS	
Mercury	0.0069	0.05	**0.10**[2]	75 – 125	80 – 120	≤ 20
Mercury (low level)	0.0026	0.01	**0.02**[3]	75 – 125	80 – 120	≤ 20
	Soil / Sediment / Tissue[4] Samples			**Spike Recovery**		**RPD[5]**
	DL[1] mg/kg	**LOD[1] mg/kg**	**LOQ[1] mg/kg**	**Matrix Spike**	**LCS**	
Mercury	0.0021	0.0125	**0.025**[3,4]	75 – 125	80 – 120	≤ 20

(1) Detection Limit (DL), Limit of Detection Limit (LOD) and Limit of Quantitation (LOQ) as defined in ARI SOP 1018S
(2) 20 mL sample with 20 mL final volume
(3) 0.2 g sample with 50 mL final volume assuming 100% dry weight. Soil and sediment are reported on a dry weight basis.
(4) Tissue LOQ is 0.005 mg/kg as received (wet weight) based on 1 g sample with 50 mL final volume.
(5) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then $RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$

US52 : 00041

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

US52 : 00042

Volatile Analysis
Report and Summary QC Forms

ARI Job ID: US52, US61, UT31

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-16-043012**
Page 1 of 2 **SAMPLE**

Lab Sample ID: US52B
LIMS ID: 12-7816
Matrix: Water
Data Release Authorized:
Reported: 05/08/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/03/12 20:44

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	**Acetone**	**5.0**	**120**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	**Toluene**	**0.2**	**0.1**	**J**
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-16-043012**
 SAMPLE

Lab Sample ID: US52B
LIMS ID: 12-7816
Matrix: Water
Date Analyzed: 05/03/12 20:44

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	120%
d8-Toluene	103%
Bromofluorobenzene	100%
d4-1,2-Dichlorobenzene	105%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-28S-050112**
 SAMPLE

Lab Sample ID: US52G
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized: MW
Reported: 05/08/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/07/12 20:48

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	**Acetone**	**5.0**	**63**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-28S-050112**
 SAMPLE

Lab Sample ID: US52G
LIMS ID: 12-7821
Matrix: Water
Date Analyzed: 05/07/12 20:48

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	96.6%
Bromofluorobenzene	99.7%
d4-1,2-Dichlorobenzene	104%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: TB-043012-2**
Page 1 of 2 **Trip Blanks**

Lab Sample ID: US52S
LIMS ID: 12-7833
Matrix: Water
Data Release Authorized:
Reported: 05/08/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/03/12 12:56

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**1.0**	**0.6**	**J**
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: TB-043012-2**
 Trip Blanks

Lab Sample ID: US52S
LIMS ID: 12-7833
Matrix: Water
Date Analyzed: 05/03/12 12:56

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	116%
d8-Toluene	105%
Bromofluorobenzene	101%
d4-1,2-Dichlorobenzene	103%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-050312A	Method Blank	10	119%	104%	102%	102%	0
LCS-050312A	Lab Control	10	107%	108%	99.5%	99.4%	0
LCSD-050312A	Lab Control Dup	10	109%	107%	100%	99.6%	0
US52B	MW-16-043012	10	120%	103%	100%	105%	0
US52BMS	MW-16-043012	10	109%	104%	98.2%	101%	0
US52BMSD	MW-16-043012	10	96.2%	97.9%	98.6%	99.9%	0
MB-050712A	Method Blank	10	100%	94.1%	102%	103%	0
LCS-050712A	Lab Control	10	95.2%	98.7%	97.6%	100%	0
LCSD-050712A	Lab Control Dup	10	95.5%	99.2%	99.5%	101%	0
US52G	MW-28S-050112	10	104%	96.6%	99.7%	104%	0
US52S	TB-043012-2	10	116%	105%	101%	103%	0

SW8260C	LCS/MB LIMITS	QC LIMITS
(DCE) = d4-1,2-Dichloroethane	80-120	80-120
(TOL) = d8-Toluene	80-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120

Prep Method: SW5030B
Log Number Range: 12-7816 to 12-7833

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-16-043012**
 MATRIX SPIKE

Lab Sample ID: US52B
LIMS ID: 12-7816
Matrix: Water
Data Release Authorized:
Reported: 05/08/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Instrument/Analyst MS: NT2/PKC
MSD: NT2/PKC
Date Analyzed MS: 05/03/12 21:11
MSD: 05/07/12 20:22

Sample Amount MS: 10.0 mL
MSD: 10.0 mL
Purge Volume MS: 10.0 mL
MSD: 10.0 mL

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Chloromethane	< 0.5 U	10.8	10.0	108%	9.6	10.0	96.0%	11.8%
Bromomethane	< 1.0 U	8.6	10.0	86.0%	9.5	10.0	95.0%	9.9%
Vinyl Chloride	< 0.2 U	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
Chloroethane	< 0.2 U	9.3	10.0	93.0%	9.3	10.0	93.0%	0.0%
Methylene Chloride	< 1.0 U	11.4	10.0	114%	10.0	10.0	100%	13.1%
Acetone	118	162	50.0	88.0%	149	50.0	62.0%	8.4%
Carbon Disulfide	< 0.2 U	11.3	10.0	113%	10.2	10.0	102%	10.2%
1,1-Dichloroethene	< 0.2 U	10.5	10.0	105%	10.1	10.0	101%	3.9%
1,1-Dichloroethane	< 0.2 U	10.9	10.0	109%	10.3	10.0	103%	5.7%
trans-1,2-Dichloroethene	< 0.2 U	10.1	10.0	101%	10.5	10.0	105%	3.9%
cis-1,2-Dichloroethene	< 0.2 U	10.2	10.0	102%	10.5	10.0	105%	2.9%
Chloroform	< 0.2 U	11.1	10.0	111%	10.1	10.0	101%	9.4%
1,2-Dichloroethane	< 0.2 U	12.1	10.0	121%	10.2	10.0	102%	17.0%
2-Butanone	< 5.0 U	55.3	50.0	111%	52.6	50.0	105%	5.0%
1,1,1-Trichloroethane	< 0.2 U	11.5	10.0	115%	10.4	10.0	104%	10.0%
Carbon Tetrachloride	< 0.2 U	12.2 Q	10.0	122%	10.0	10.0	100%	19.8%
Vinyl Acetate	< 0.2 U	9.6	10.0	96.0%	10.1	10.0	101%	5.1%
Bromodichloromethane	< 0.2 U	12.1	10.0	121%	10.4	10.0	104%	15.1%
1,2-Dichloropropane	< 0.2 U	11.0	10.0	110%	10.2	10.0	102%	7.5%
cis-1,3-Dichloropropene	< 0.2 U	10.8	10.0	108%	10.4	10.0	104%	3.8%
Trichloroethene	< 0.2 U	10.8	10.0	108%	10.4	10.0	104%	3.8%
Dibromochloromethane	< 0.2 U	11.4	10.0	114%	10.5	10.0	105%	8.2%
1,1,2-Trichloroethane	< 0.2 U	10.9	10.0	109%	9.7	10.0	97.0%	11.7%
Benzene	< 0.2 U	10.4	10.0	104%	10.4	10.0	104%	0.0%
trans-1,3-Dichloropropene	< 0.2 U	11.5	10.0	115%	10.2	10.0	102%	12.0%
2-Chloroethylvinylether	< 1.0 U	< 1.0 U	10.0	NA	< 1.0 U	10.0	NA	NA
Bromoform	< 0.2 U	12.2	10.0	122%	10.5	10.0	105%	15.0%
4-Methyl-2-Pentanone (MIBK)	< 5.0 U	58.6	50.0	117%	52.2	50.0	104%	11.6%
2-Hexanone	< 5.0 U	56.6	50.0	113%	50.6	50.0	101%	11.2%
Tetrachloroethene	< 0.2 U	10.9	10.0	109%	9.6	10.0	96.0%	12.7%
1,1,2,2-Tetrachloroethane	< 0.2 U	9.6	10.0	96.0%	10.0	10.0	100%	4.1%
Toluene	0.1 J	11.2	10.0	111%	10.5	10.0	104%	6.5%
Chlorobenzene	< 0.2 U	10.2	10.0	102%	10.4	10.0	104%	1.9%
Ethylbenzene	< 0.2 U	10.5	10.0	105%	10.8	10.0	108%	2.8%
Styrene	< 0.2 U	11.0	10.0	110%	11.5	10.0	115%	4.4%
Trichlorofluoromethane	< 0.2 U	11.7 Q	10.0	117%	9.8	10.0	98.0%	17.7%
1,1,2-Trichloro-1,2,2-trifl	< 0.2 U	10.7	10.0	107%	10.0	10.0	100%	6.8%
m,p-Xylene	< 0.4 U	21.2	20.0	106%	22.3	20.0	112%	5.1%
o-Xylene	< 0.2 U	10.4	10.0	104%	11.3	10.0	113%	8.3%
1,2-Dichlorobenzene	< 0.2 U	9.9	10.0	99.0%	10.5	10.0	105%	5.9%
1,3-Dichlorobenzene	< 0.2 U	9.9	10.0	99.0%	10.6	10.0	106%	6.8%
1,4-Dichlorobenzene	< 0.2 U	9.6	10.0	96.0%	10.4	10.0	104%	8.0%
Acrolein	< 5.0 U	33.6 Q	50.0	67.2%	51.6	50.0	103%	42.3%
Methyl Iodide	< 1.0 U	11.0	10.0	110%	10.2	10.0	102%	7.5%
Bromoethane	< 0.2 U	10.7	10.0	107%	10.2	10.0	102%	4.8%
Acrylonitrile	< 1.0 U	10.8	10.0	108%	10.2	10.0	102%	5.7%
1,1-Dichloropropene	< 0.2 U	11.1	10.0	111%	10.9	10.0	109%	1.8%
Dibromomethane	< 0.2 U	11.4	10.0	114%	10.6	10.0	106%	7.3%
1,1,1,2-Tetrachloroethane	< 0.2 U	10.8	10.0	108%	10.6	10.0	106%	1.9%
1,2-Dibromo-3-chloropropane	< 0.5 U	11.3	10.0	113%	10.9	10.0	109%	3.6%
1,2,3-Trichloropropane	< 0.5 U	9.8	10.0	98.0%	10.4	10.0	104%	5.9%
trans-1,4-Dichloro-2-butene	< 1.0 U	4.9	10.0	49.0%	9.2	10.0	92.0%	61.0%
1,3,5-Trimethylbenzene	< 0.2 U	10.9	10.0	109%	11.5	10.0	115%	5.4%
1,2,4-Trimethylbenzene	< 0.2 U	11.1	FORM0III	111%	11.6	10.0	116%	4.4%
Hexachlorobutadiene	< 0.5 U	11.7	10.0	117%	10.5	10.0	105%	10.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C Sample ID: MW-16-043012
  MATRIX SPIKE

Lab Sample ID: US52B QC Report No: US52-ERM-West
LIMS ID: 12-7816 Project: RG Spring GW Sampling
Matrix: Water 155129.09

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
2,2-Dichloropropane	< 0.2 U	9.5	10.0	95.0%	9.9	10.0	99.0%	4.1%
1,3-Dichloropropane	< 0.2 U	10.4	10.0	104%	10.3	10.0	103%	1.0%
Isopropylbenzene	< 0.2 U	10.9	10.0	109%	11.6	10.0	116%	6.2%
n-Propylbenzene	< 0.2 U	10.5	10.0	105%	11.1	10.0	111%	5.6%
Bromobenzene	< 0.2 U	9.9	10.0	99.0%	10.5	10.0	105%	5.9%
2-Chlorotoluene	< 0.2 U	10.3	10.0	103%	10.9	10.0	109%	5.7%
4-Chlorotoluene	< 0.2 U	10.1	10.0	101%	10.9	10.0	109%	7.6%
tert-Butylbenzene	< 0.2 U	11.3	10.0	113%	11.6	10.0	116%	2.6%
sec-Butylbenzene	< 0.2 U	11.1	10.0	111%	11.5	10.0	115%	3.5%
4-Isopropyltoluene	< 0.2 U	11.5	10.0	115%	11.8	10.0	118%	2.6%
n-Butylbenzene	< 0.2 U	11.1	10.0	111%	11.5	10.0	115%	3.5%
1,2,4-Trichlorobenzene	< 0.5 U	10.6	10.0	106%	11.9	10.0	119%	11.6%
Naphthalene	< 0.5 U	11.0	10.0	110%	10.8	10.0	108%	1.8%
1,2,3-Trichlorobenzene	< 0.5 U	11.2	10.0	112%	11.7	10.0	117%	4.4%
Methyl tert-Butyl Ether	< 0.5 U	10.5	10.0	105%	10.4	10.0	104%	1.0%

Reported in µg/L (ppb)

NA-No recovery due to high concentration of analyte in original sample, calculated negative recovery, or undetected spike.
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-16-043012**
Page 1 of 2 **MATRIX SPIKE**

Lab Sample ID: US52B
LIMS ID: 12-7816
Matrix: Water
Data Release Authorized: MW
Reported: 05/08/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/03/12 21:11

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	---	
74-83-9	Bromomethane	1.0	---	
75-01-4	Vinyl Chloride	0.2	---	
75-00-3	Chloroethane	0.2	---	
75-09-2	Methylene Chloride	1.0	---	
67-64-1	Acetone	5.0	---	
75-15-0	Carbon Disulfide	0.2	---	
75-35-4	1,1-Dichloroethene	0.2	---	
75-34-3	1,1-Dichloroethane	0.2	---	
156-60-5	trans-1,2-Dichloroethene	0.2	---	
156-59-2	cis-1,2-Dichloroethene	0.2	---	
67-66-3	Chloroform	0.2	---	
107-06-2	1,2-Dichloroethane	0.2	---	
78-93-3	2-Butanone	5.0	---	
71-55-6	1,1,1-Trichloroethane	0.2	---	
56-23-5	Carbon Tetrachloride	0.2	---	
108-05-4	Vinyl Acetate	0.2	---	
75-27-4	Bromodichloromethane	0.2	---	
78-87-5	1,2-Dichloropropane	0.2	---	
10061-01-5	cis-1,3-Dichloropropene	0.2	---	
79-01-6	Trichloroethene	0.2	---	
124-48-1	Dibromochloromethane	0.2	---	
79-00-5	1,1,2-Trichloroethane	0.2	---	
71-43-2	Benzene	0.2	---	
10061-02-6	trans-1,3-Dichloropropene	0.2	---	
110-75-8	2-Chloroethylvinylether	1.0	---	
75-25-2	Bromoform	0.2	---	
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	---	
591-78-6	2-Hexanone	5.0	---	
127-18-4	Tetrachloroethene	0.2	---	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	---	
108-88-3	Toluene	0.2	---	
108-90-7	Chlorobenzene	0.2	---	
100-41-4	Ethylbenzene	0.2	---	
100-42-5	Styrene	0.2	---	
75-69-4	Trichlorofluoromethane	0.2	---	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	---	
179601-23-1	m,p-Xylene	0.4	---	
95-47-6	o-Xylene	0.2	---	
95-50-1	1,2-Dichlorobenzene	0.2	---	
541-73-1	1,3-Dichlorobenzene	0.2	---	
106-46-7	1,4-Dichlorobenzene	0.2	---	

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C
Page 2 of 2

Sample ID: MW-16-043012 MATRIX SPIKE

Lab Sample ID: US52B
LIMS ID: 12-7816
Matrix: Water
Date Analyzed: 05/03/12 21:11

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling 155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	---	
74-88-4	Methyl Iodide	1.0	---	
74-96-4	Bromoethane	0.2	---	
107-13-1	Acrylonitrile	1.0	---	
563-58-6	1,1-Dichloropropene	0.2	---	
74-95-3	Dibromomethane	0.2	---	
630-20-6	1,1,1,2-Tetrachloroethane	0.2	---	
96-12-8	1,2-Dibromo-3-chloropropane	0.5	---	
96-18-4	1,2,3-Trichloropropane	0.5	---	
110-57-6	trans-1,4-Dichloro-2-butene	1.0	---	
108-67-8	1,3,5-Trimethylbenzene	0.2	---	
95-63-6	1,2,4-Trimethylbenzene	0.2	---	
87-68-3	Hexachlorobutadiene	0.5	---	
106-93-4	Ethylene Dibromide	0.2	---	
74-97-5	Bromochloromethane	0.2	---	
594-20-7	2,2-Dichloropropane	0.2	---	
142-28-9	1,3-Dichloropropane	0.2	---	
98-82-8	Isopropylbenzene	0.2	---	
103-65-1	n-Propylbenzene	0.2	---	
108-86-1	Bromobenzene	0.2	---	
95-49-8	2-Chlorotoluene	0.2	---	
106-43-4	4-Chlorotoluene	0.2	---	
98-06-6	tert-Butylbenzene	0.2	---	
135-98-8	sec-Butylbenzene	0.2	---	
99-87-6	4-Isopropyltoluene	0.2	---	
104-51-8	n-Butylbenzene	0.2	---	
120-82-1	1,2,4-Trichlorobenzene	0.5	---	
91-20-3	Naphthalene	0.5	---	
87-61-6	1,2,3-Trichlorobenzene	0.5	---	
1634-04-4	Methyl tert-Butyl Ether	0.5	---	

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	109%
d8-Toluene	104%
Bromofluorobenzene	98.2%
d4-1,2-Dichlorobenzene	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C Sample ID: MW-16-043012
Page 1 of 2 MATRIX SPIKE DUP

Lab Sample ID: US52B QC Report No: US52-ERM-West
LIMS ID: 12-7816 Project: RG Spring GW Sampling
Matrix: Water 155129.09
Data Release Authorized: Date Sampled: 04/30/12
Reported: 05/08/12 Date Received: 05/01/12

Instrument/Analyst: NT2/PKC Sample Amount: 10.0 mL
Date Analyzed: 05/07/12 20:22 Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	---	
74-83-9	Bromomethane	1.0	---	
75-01-4	Vinyl Chloride	0.2	---	
75-00-3	Chloroethane	0.2	---	
75-09-2	Methylene Chloride	1.0	---	
67-64-1	Acetone	5.0	---	
75-15-0	Carbon Disulfide	0.2	---	
75-35-4	1,1-Dichloroethene	0.2	---	
75-34-3	1,1-Dichloroethane	0.2	---	
156-60-5	trans-1,2-Dichloroethene	0.2	---	
156-59-2	cis-1,2-Dichloroethene	0.2	---	
67-66-3	Chloroform	0.2	---	
107-06-2	1,2-Dichloroethane	0.2	---	
78-93-3	2-Butanone	5.0	---	
71-55-6	1,1,1-Trichloroethane	0.2	---	
56-23-5	Carbon Tetrachloride	0.2	---	
108-05-4	Vinyl Acetate	0.2	---	
75-27-4	Bromodichloromethane	0.2	---	
78-87-5	1,2-Dichloropropane	0.2	---	
10061-01-5	cis-1,3-Dichloropropene	0.2	---	
79-01-6	Trichloroethene	0.2	---	
124-48-1	Dibromochloromethane	0.2	---	
79-00-5	1,1,2-Trichloroethane	0.2	---	
71-43-2	Benzene	0.2	---	
10061-02-6	trans-1,3-Dichloropropene	0.2	---	
110-75-8	2-Chloroethylvinylether	1.0	---	
75-25-2	Bromoform	0.2	---	
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	---	
591-78-6	2-Hexanone	5.0	---	
127-18-4	Tetrachloroethene	0.2	---	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	---	
108-88-3	Toluene	0.2	---	
108-90-7	Chlorobenzene	0.2	---	
100-41-4	Ethylbenzene	0.2	---	
100-42-5	Styrene	0.2	---	
75-69-4	Trichlorofluoromethane	0.2	---	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	---	
179601-23-1	m,p-Xylene	0.4	---	
95-47-6	o-Xylene	0.2	---	
95-50-1	1,2-Dichlorobenzene	0.2	---	
541-73-1	1,3-Dichlorobenzene	0.2	---	
106-46-7	1,4-Dichlorobenzene	0.2	---	

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-16-043012**
 MATRIX SPIKE DUP

Lab Sample ID: US52B
LIMS ID: 12-7816
Matrix: Water
Date Analyzed: 05/07/12 20:22

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	---	
74-88-4	Methyl Iodide	1.0	---	
74-96-4	Bromoethane	0.2	---	
107-13-1	Acrylonitrile	1.0	---	
563-58-6	1,1-Dichloropropene	0.2	---	
74-95-3	Dibromomethane	0.2	---	
630-20-6	1,1,1,2-Tetrachloroethane	0.2	---	
96-12-8	1,2-Dibromo-3-chloropropane	0.5	---	
96-18-4	1,2,3-Trichloropropane	0.5	---	
110-57-6	trans-1,4-Dichloro-2-butene	1.0	---	
108-67-8	1,3,5-Trimethylbenzene	0.2	---	
95-63-6	1,2,4-Trimethylbenzene	0.2	---	
87-68-3	Hexachlorobutadiene	0.5	---	
106-93-4	Ethylene Dibromide	0.2	---	
74-97-5	Bromochloromethane	0.2	---	
594-20-7	2,2-Dichloropropane	0.2	---	
142-28-9	1,3-Dichloropropane	0.2	---	
98-82-8	Isopropylbenzene	0.2	---	
103-65-1	n-Propylbenzene	0.2	---	
108-86-1	Bromobenzene	0.2	---	
95-49-8	2-Chlorotoluene	0.2	---	
106-43-4	4-Chlorotoluene	0.2	---	
98-06-6	tert-Butylbenzene	0.2	---	
135-98-8	sec-Butylbenzene	0.2	---	
99-87-6	4-Isopropyltoluene	0.2	---	
104-51-8	n-Butylbenzene	0.2	---	
120-82-1	1,2,4-Trichlorobenzene	0.5	---	
91-20-3	Naphthalene	0.5	---	
87-61-6	1,2,3-Trichlorobenzene	0.5	---	
1634-04-4	Methyl tert-Butyl Ether	0.5	---	

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	96.2%
d8-Toluene	97.9%
Bromofluorobenzene	98.6%
d4-1,2-Dichlorobenzene	99.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050312A**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050312A
LIMS ID: 12-7816
Matrix: Water
Data Release Authorized: MW
Reported: 05/08/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT2/PKC
LCSD: NT2/PKC
Date Analyzed LCS: 05/03/12 10:38
LCSD: 05/03/12 11:05

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	9.9	10.0	99.0%	10.3	10.0	103%	4.0%
Bromomethane	8.8	10.0	88.0%	8.8	10.0	88.0%	0.0%
Vinyl Chloride	9.4	10.0	94.0%	9.6	10.0	96.0%	2.1%
Chloroethane	8.6	10.0	86.0%	8.8	10.0	88.0%	2.3%
Methylene Chloride	10.3	10.0	103%	10.6	10.0	106%	2.9%
Acetone	53.5	50.0	107%	57.2	50.0	114%	6.7%
Carbon Disulfide	10.2	10.0	102%	10.5	10.0	105%	2.9%
1,1-Dichloroethene	9.6	10.0	96.0%	9.8	10.0	98.0%	2.1%
1,1-Dichloroethane	9.8	10.0	98.0%	10.2	10.0	102%	4.0%
trans-1,2-Dichloroethene	9.1	10.0	91.0%	9.6	10.0	96.0%	5.3%
cis-1,2-Dichloroethene	9.4	10.0	94.0%	9.7	10.0	97.0%	3.1%
Chloroform	9.8	10.0	98.0%	10.2	10.0	102%	4.0%
1,2-Dichloroethane	11.2	10.0	112%	11.3	10.0	113%	0.9%
2-Butanone	52.5	50.0	105%	54.0	50.0	108%	2.8%
1,1,1-Trichloroethane	10.3	10.0	103%	10.7	10.0	107%	3.8%
Carbon Tetrachloride	11.3 Q	10.0	113%	11.8 Q	10.0	118%	4.3%
Vinyl Acetate	10.3	10.0	103%	10.6	10.0	106%	2.9%
Bromodichloromethane	11.3	10.0	113%	11.5	10.0	115%	1.8%
1,2-Dichloropropane	10.1	10.0	101%	10.4	10.0	104%	2.9%
cis-1,3-Dichloropropene	11.7	10.0	117%	11.7	10.0	117%	0.0%
Trichloroethene	9.8	10.0	98.0%	10.0	10.0	100%	2.0%
Dibromochloromethane	10.6	10.0	106%	10.8	10.0	108%	1.9%
1,1,2-Trichloroethane	10.8	10.0	108%	11.0	10.0	110%	1.8%
Benzene	9.6	10.0	96.0%	9.8	10.0	98.0%	2.1%
trans-1,3-Dichloropropene	12.3	10.0	123%	12.2	10.0	122%	0.8%
2-Chloroethylvinylether	10.5	10.0	105%	10.6	10.0	106%	0.9%
Bromoform	12.1	10.0	121%	12.2	10.0	122%	0.8%
4-Methyl-2-Pentanone (MIBK)	57.4	50.0	115%	58.8	50.0	118%	2.4%
2-Hexanone	59.2	50.0	118%	57.6	50.0	115%	2.7%
Tetrachloroethene	9.8	10.0	98.0%	10.0	10.0	100%	2.0%
1,1,2,2-Tetrachloroethane	9.3	10.0	93.0%	9.3	10.0	93.0%	0.0%
Toluene	10.4	10.0	104%	10.5	10.0	105%	1.0%
Chlorobenzene	9.6	10.0	96.0%	9.6	10.0	96.0%	0.0%
Ethylbenzene	9.7	10.0	97.0%	9.9	10.0	99.0%	2.0%
Styrene	10.4	10.0	104%	10.6	10.0	106%	1.9%
Trichlorofluoromethane	11.0 Q	10.0	110%	11.3 Q	10.0	113%	2.7%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.0	10.0	100%	10.4	10.0	104%	3.9%
m,p-Xylene	19.7	20.0	98.5%	20.0	20.0	100%	1.5%
o-Xylene	9.5	10.0	95.0%	9.9	10.0	99.0%	4.1%
1,2-Dichlorobenzene	9.0	10.0	90.0%	9.2	10.0	92.0%	2.2%
1,3-Dichlorobenzene	9.4	10.0	94.0%	9.5	10.0	95.0%	1.1%
1,4-Dichlorobenzene	9.1	10.0	91.0%	9.2	10.0	92.0%	1.1%
Acrolein	40.4 Q	50.0	80.8%	41.3 Q	50.0	82.6%	2.2%
Methyl Iodide	9.8	10.0	98.0%	10.2	10.0	102%	4.0%
Bromoethane	9.6	10.0	96.0%	10.0	10.0	100%	4.1%
Acrylonitrile	10.3	10.0	103%	10.9	10.0	109%	5.7%
1,1-Dichloropropene	10.2	10.0	102%	10.4	10.0	104%	1.9%
Dibromomethane	10.5	10.0	105%	10.8	10.0	108%	2.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050312A**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050312A QC Report No: US52-ERM-West
LIMS ID: 12-7816 Project: RG Spring GW Sampling
Matrix: Water 155129.09

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,1,1,2-Tetrachloroethane	9.6	10.0	96.0%	10.1	10.0	101%	5.1%
1,2-Dibromo-3-chloropropane	10.0	10.0	100%	10.5	10.0	105%	4.9%
1,2,3-Trichloropropane	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
trans-1,4-Dichloro-2-butene	9.6	10.0	96.0%	9.4	10.0	94.0%	2.1%
1,3,5-Trimethylbenzene	10.3	10.0	103%	10.2	10.0	102%	1.0%
1,2,4-Trimethylbenzene	10.4	10.0	104%	10.4	10.0	104%	0.0%
Hexachlorobutadiene	11.5	10.0	115%	11.4	10.0	114%	0.9%
Ethylene Dibromide	10.6	10.0	106%	10.8	10.0	108%	1.9%
Bromochloromethane	10.0	10.0	100%	10.0	10.0	100%	0.0%
2,2-Dichloropropane	10.4	10.0	104%	10.6	10.0	106%	1.9%
1,3-Dichloropropane	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
Isopropylbenzene	10.2	10.0	102%	10.3	10.0	103%	1.0%
n-Propylbenzene	10.1	10.0	101%	10.1	10.0	101%	0.0%
Bromobenzene	9.4	10.0	94.0%	9.5	10.0	95.0%	1.1%
2-Chlorotoluene	9.6	10.0	96.0%	9.8	10.0	98.0%	2.1%
4-Chlorotoluene	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
tert-Butylbenzene	10.5	10.0	105%	10.6	10.0	106%	0.9%
sec-Butylbenzene	10.5	10.0	105%	10.5	10.0	105%	0.0%
4-Isopropyltoluene	10.7	10.0	107%	10.8	10.0	108%	0.9%
n-Butylbenzene	10.8	10.0	108%	10.8	10.0	108%	0.0%
1,2,4-Trichlorobenzene	9.4	10.0	94.0%	9.6	10.0	96.0%	2.1%
Naphthalene	9.5	10.0	95.0%	9.6	10.0	96.0%	1.0%
1,2,3-Trichlorobenzene	9.7	10.0	97.0%	9.9	10.0	99.0%	2.0%
Methyl tert-Butyl Ether	9.7	10.0	97.0%	10.2	10.0	102%	5.0%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	107%	109%
d8-Toluene	108%	107%
Bromofluorobenzene	99.5%	100%
d4-1,2-Dichlorobenzene	99.4%	99.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050712A**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050712A
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized: MW
Reported: 05/08/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT2/PKC
LCSD: NT2/PKC
Date Analyzed LCS: 05/07/12 16:24
LCSD: 05/07/12 16:50

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	9.6	10.0	96.0%	9.4	10.0	94.0%	2.1%
Bromomethane	10.0	10.0	100%	10.2	10.0	102%	2.0%
Vinyl Chloride	9.5	10.0	95.0%	9.1	10.0	91.0%	4.3%
Chloroethane	9.1	10.0	91.0%	8.7	10.0	87.0%	4.5%
Methylene Chloride	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
Acetone	49.3	50.0	98.6%	46.3	50.0	92.6%	6.3%
Carbon Disulfide	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
1,1-Dichloroethene	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
1,1-Dichloroethane	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
trans-1,2-Dichloroethene	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
cis-1,2-Dichloroethene	10.4	10.0	104%	10.1	10.0	101%	2.9%
Chloroform	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
1,2-Dichloroethane	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
2-Butanone	50.5	50.0	101%	49.0	50.0	98.0%	3.0%
1,1,1-Trichloroethane	10.1	10.0	101%	9.9	10.0	99.0%	2.0%
Carbon Tetrachloride	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
Vinyl Acetate	10.5	10.0	105%	10.1	10.0	101%	3.9%
Bromodichloromethane	10.2	10.0	102%	9.9	10.0	99.0%	3.0%
1,2-Dichloropropane	10.1	10.0	101%	9.8	10.0	98.0%	3.0%
cis-1,3-Dichloropropene	10.9	10.0	109%	10.5	10.0	105%	3.7%
Trichloroethene	10.1	10.0	101%	10.0	10.0	100%	1.0%
Dibromochloromethane	10.4	10.0	104%	10.2	10.0	102%	1.9%
1,1,2-Trichloroethane	9.6	10.0	96.0%	9.2	10.0	92.0%	4.3%
Benzene	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
trans-1,3-Dichloropropene	10.0	10.0	100%	10.1	10.0	101%	1.0%
2-Chloroethylvinylether	9.9	10.0	99.0%	10.1	10.0	101%	2.0%
Bromoform	10.5	10.0	105%	10.1	10.0	101%	3.9%
4-Methyl-2-Pentanone (MIBK)	51.3	50.0	103%	51.0	50.0	102%	0.6%
2-Hexanone	50.8	50.0	102%	48.8	50.0	97.6%	4.0%
Tetrachloroethene	9.7	10.0	97.0%	9.4	10.0	94.0%	3.1%
1,1,2,2-Tetrachloroethane	9.8	10.0	98.0%	9.8	10.0	98.0%	0.0%
Toluene	10.0	10.0	100%	9.8	10.0	98.0%	2.0%
Chlorobenzene	10.3	10.0	103%	9.8	10.0	98.0%	5.0%
Ethylbenzene	10.6	10.0	106%	10.4	10.0	104%	1.9%
Styrene	11.1	10.0	111%	10.7	10.0	107%	3.7%
Trichlorofluoromethane	9.7	10.0	97.0%	9.6	10.0	96.0%	1.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
m,p-Xylene	21.9	20.0	110%	21.6	20.0	108%	1.4%
o-Xylene	11.2	10.0	112%	11.0	10.0	110%	1.8%
1,2-Dichlorobenzene	10.3	10.0	103%	10.0	10.0	100%	3.0%
1,3-Dichlorobenzene	10.3	10.0	103%	10.0	10.0	100%	3.0%
1,4-Dichlorobenzene	10.0	10.0	100%	9.8	10.0	98.0%	2.0%
Acrolein	52.7	50.0	105%	49.2	50.0	98.4%	6.9%
Methyl Iodide	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
Bromoethane	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
Acrylonitrile	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
1,1-Dichloropropene	10.8	10.0	108%	10.4	10.0	104%	3.8%
Dibromomethane	10.1	10.0	101%	9.8	10.0	98.0%	3.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C Sample ID: LCS-050712A
  LAB CONTROL SAMPLE

Lab Sample ID: LCS-050712A QC Report No: US52-ERM-West
LIMS ID: 12-7821 Project: RG Spring GW Sampling
Matrix: Water 155129.09

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,1,1,2-Tetrachloroethane	10.5	10.0	105%	10.2	10.0	102%	2.9%
1,2-Dibromo-3-chloropropane	11.3	10.0	113%	10.7	10.0	107%	5.5%
1,2,3-Trichloropropane	10.1	10.0	101%	10.0	10.0	100%	1.0%
trans-1,4-Dichloro-2-butene	10.6	10.0	106%	10.3	10.0	103%	2.9%
1,3,5-Trimethylbenzene	11.3	10.0	113%	11.0	10.0	110%	2.7%
1,2,4-Trimethylbenzene	11.3	10.0	113%	11.0	10.0	110%	2.7%
Hexachlorobutadiene	10.5	10.0	105%	10.3	10.0	103%	1.9%
Ethylene Dibromide	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
Bromochloromethane	9.8	10.0	98.0%	9.5	10.0	95.0%	3.1%
2,2-Dichloropropane	9.9	10.0	99.0%	10.3	10.0	103%	4.0%
1,3-Dichloropropane	10.0	10.0	100%	10.0	10.0	100%	0.0%
Isopropylbenzene	11.4	10.0	114%	11.2	10.0	112%	1.8%
n-Propylbenzene	10.6	10.0	106%	10.5	10.0	105%	0.9%
Bromobenzene	10.0	10.0	100%	9.9	10.0	99.0%	1.0%
2-Chlorotoluene	10.6	10.0	106%	10.3	10.0	103%	2.9%
4-Chlorotoluene	10.5	10.0	105%	10.4	10.0	104%	1.0%
tert-Butylbenzene	11.4	10.0	114%	11.1	10.0	111%	2.7%
sec-Butylbenzene	11.2	10.0	112%	10.8	10.0	108%	3.6%
4-Isopropyltoluene	11.6	10.0	116%	11.2	10.0	112%	3.5%
n-Butylbenzene	11.1	10.0	111%	10.8	10.0	108%	2.7%
1,2,4-Trichlorobenzene	11.7	10.0	117%	11.3	10.0	113%	3.5%
Naphthalene	10.7	10.0	107%	10.3	10.0	103%	3.8%
1,2,3-Trichlorobenzene	11.5	10.0	115%	11.1	10.0	111%	3.5%
Methyl tert-Butyl Ether	10.4	10.0	104%	10.0	10.0	100%	3.9%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	95.2%	95.5%
d8-Toluene	98.7%	99.2%
Bromofluorobenzene	97.6%	99.5%
d4-1,2-Dichlorobenzene	100%	101%

4A

VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0503

Lab Name: ANALYTICAL RESOURCES INC

Client: ERM-WEST

ARI Job No: US52

Project: RG SPRING GW SAMPLING

Lab File ID: MB0503

Lab Sample ID: MB0503

Date Analyzed: 05/03/12

Time Analyzed: 1132

Instrument ID: NT2

Heated Purge: (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0503	LCS0503	LCS0503	1038
02	LCS0503	LCS0503	LCS0503A	1105
03	TB-043012-2	US52S	US52S	1256
04	MW-16-043012	US52B	US52B	2044
05	MW-16-043012	US52B	US52BMS	2111
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COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C Sample ID: MB-050312A
  METHOD BLANK

Lab Sample ID: MB-050312A QC Report No: US52-ERM-West
LIMS ID: 12-7816 Project: RG Spring GW Sampling
Matrix: Water 155129.09
Data Release Authorized: MW Date Sampled: NA
Reported: 05/08/12 Date Received: NA

Instrument/Analyst: NT2/PKC Sample Amount: 10.0 mL
Date Analyzed: 05/03/12 11:32 Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C
Page 2 of 2

Sample ID: MB-050312A
METHOD BLANK

Lab Sample ID: MB-050312A
LIMS ID: 12-7816
Matrix: Water
Date Analyzed: 05/03/12 11:32

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	119%
d8-Toluene	104%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	102%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0507

Lab Name: ANALYTICAL RESOURCES INC | Client: ERM-WEST

ARI Job No: US52 | Project: RG SPRING GW SAMPLING

Lab File ID: MB0507 | Lab Sample ID: MB0507

Date Analyzed: 05/07/12 | Time Analyzed: 1717

Instrument ID: NT2 | Heated Purge: (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0507	LCS0507	LCS0507	1624
02	LCS0507	LCS0507	LCS0507A	1650
03	MW-16-043012	US52BMSD	US52BMD2	2022
04	MW-28S-05011	US52G	US52G2	2048
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COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-050712A**
 METHOD BLANK

Lab Sample ID: MB-050712A
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/08/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling 155129.09
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/07/12 17:17

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C
Page 2 of 2

Sample ID: MB-050712A
METHOD BLANK

Lab Sample ID: MB-050712A
LIMS ID: 12-7821
Matrix: Water
Date Analyzed: 05/07/12 17:17

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	100%
d8-Toluene	94.1%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	103%

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: ERM-WEST

Lab Code: ARI Case No.: RG SPRING GW SAMPLING SDG No.: US52

Lab File ID: BFB0416A BFB Injection Date: 04/16/12

Instrument ID: NT2 BFB Injection Time: 1107

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.9
75	30.0 - 60.0% of mass 95	48.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	72.9
175	5.0 - 9.0% of mass 174	5.5 (7.5)1
176	95.0 - 101.0% of mass 174	70.6 (96.8)1
177	5.0 - 9.0% of mass 176	4.3 (6.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0.2	VSTD0.2	0020416	04/16/12	1228
02	VSTD0.5	VSTD0.5	0050416	04/16/12	1254
03	VSTD01	VSTD01	0100416	04/16/12	1321
04	VSTD10	VSTD10	1000416	04/16/12	1414
05	VSTD20	VSTD20	2000416	04/16/12	1441
06	VSTD40	VSTD40	4000416	04/16/12	1507
07	VSTD60	VSTD60	6000416	04/16/12	1533
08	VSTD02	VSTD02	0200416A	04/16/12	1627
09	ICV10	ICV10	ICV0416	04/16/12	1653
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5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: ERM-WEST

Lab Code: ARI Case No.: RG SPRING GW SAMPLING SDG No.: US52

Lab File ID: BFB0503 BFB Injection Date: 05/03/12

Instrument ID: NT2 BFB Injection Time: 0936

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.3
75	30.0 - 60.0% of mass 95	52.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.2 (0.3)1
174	50.0 - 100.0% of mass 95	72.6
175	5.0 - 9.0% of mass 174	4.2 (5.7)1
176	95.0 - 101.0% of mass 174	69.9 (96.2)1
177	5.0 - 9.0% of mass 176	4.4 (6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0503	CC0503	CC0503	05/03/12	1011
02	LCS0503	LCS0503	LCS0503	05/03/12	1038
03	LCS0503	LCS0503	LCS0503A	05/03/12	1105
04	MB0503	MB0503	MB0503	05/03/12	1132
05	TB-043012-2	US52S	US52S	05/03/12	1256
06	MW-16-043012	US52B	US52B	05/03/12	2044
07	MW-16-043012 MS	US52B	US52BMS	05/03/12	2111
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5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: ERM-WEST

Lab Code: ARI Case No.: RG SPRING GW SAMPLING SDG No.: US52

Lab File ID: BFB0507 BFB Injection Date: 05/07/12

Instrument ID: NT2 BFB Injection Time: 1004

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.8
75	30.0 - 60.0% of mass 95	54.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	69.3
175	5.0 - 9.0% of mass 174	5.1 (7.4)1
176	95.0 - 101.0% of mass 174	68.0 (98.1)1
177	5.0 - 9.0% of mass 176	5.0 (7.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0.2	VSTD0.2	0020507	05/07/12	1049
02	VSTD0.5	VSTD0.5	0050507	05/07/12	1116
03	VSTD1.0	VSTD1.0	0100507	05/07/12	1143
04	VSTD2.0	VSTD2.0	0200507	05/07/12	1210
05	VSTD10	VSTD10	1000507	05/07/12	1236
06	VSTD20	VSTD20	2000507	05/07/12	1303
07	VSTD40	VSTD40	4000507	05/07/12	1329
08	VSTD60	VSTD60	6000507	05/07/12	1356
09	ICV10	ICV10	ICV0507	05/07/12	1450
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5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: ERM-WEST

Lab Code: ARI Case No.: RG SPRING GW SAMPLING SDG No.: US52

Lab File ID: BFB0507X BFB Injection Date: 05/07/12

Instrument ID: NT2 BFB Injection Time: 1523

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.2
75	30.0 - 60.0% of mass 95	51.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.1 (0.1)1
174	50.0 - 100.0% of mass 95	72.1
175	5.0 - 9.0% of mass 174	5.7 (7.9)1
176	95.0 - 101.0% of mass 174	71.7 (99.4)1
177	5.0 - 9.0% of mass 176	4.5 (6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0507	CC0507	CC0507	05/07/12	1558
02	LCS0507	LCS0507	LCS0507	05/07/12	1624
03	LCS0507	LCS0507	LCS0507A	05/07/12	1650
04	MB0507	MB0507	MB0507	05/07/12	1717
05	MW-16-043012 MSD	US52BMSD	US52BMD2	05/07/12	2022
06	MW-28S-050112	US52G	US52G2	05/07/12	2048
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FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 04/16/12

LAB FILE ID: RF0.2: 0020416 RF0.5: 0050416 RF1: 0100416
RF2: 0200416A RF10: 1000416

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
Chloromethane		1.227	1.222	1.198	1.067
Vinyl Chloride	1.142	1.128	1.091	1.091	1.014
Bromomethane		0.542	0.521	0.553	0.483
Chloroethane	0.807	0.728	0.557	0.635	0.568
Trichlorofluoromethane	0.888	0.911	0.858	0.898	0.840
Acrolein		0.100	0.100	0.103	0.094
112Trichloro122Trifluoroetha	0.693	0.755	0.742	0.730	0.655
Acetone			0.185	0.148	0.117
1,1-Dichloroethene	0.761	0.706	0.792	0.762	0.672
Bromoethane	0.484	0.580	0.585	0.570	0.514
Iodomethane	1.108	1.095	1.117	1.088	1.006
Methylene Chloride		1.528	1.230	1.019	0.784
Acrylonitrile		0.178	0.166	0.182	0.165
Carbon Disulfide	2.738	2.568	2.872	2.818	2.622
Trans-1,2-Dichloroethene	0.805	0.844	0.848	0.816	0.724
Vinyl Acetate		0.620	0.682	0.735	0.691
1,1-Dichloroethane	1.463	1.519	1.540	1.553	1.392
2-Butanone		0.167	0.176	0.183	0.170
2,2-Dichloropropane	0.858	0.886	0.842	0.911	0.834
Cis-1,2-Dichloroethene	0.704	0.816	0.769	0.802	0.748
Chloroform	1.253	1.278	1.277	1.316	1.231
Bromochloromethane	0.271	0.297	0.306	0.302	0.287
1,1,1-Trichloroethane	0.996	1.090	0.996	1.069	1.026
1,1-Dichloropropene	0.565	0.611	0.592	0.647	0.627
Carbon Tetrachloride	0.497	0.515	0.435	0.514	0.488
1,2-Dichloroethane	0.416	0.476	0.450	0.484	0.451
Benzene	1.882	1.855	1.660	1.918	1.764
Trichloroethene	0.363	0.395	0.351	0.389	0.364
1,2-Dichloropropane	0.418	0.386	0.406	0.409	0.394
Bromodichloromethane	0.360	0.430	0.430	0.452	0.448
Dibromomethane	0.178	0.177	0.163	0.183	0.177
2-Chloroethyl Vinyl Ether			0.105	0.121	0.121
4-Methyl-2-Pentanone		0.086	0.076	0.103	0.101
Cis 1,3-dichloropropene	0.406	0.408	0.411	0.490	0.499
Toluene	0.887	0.862	0.818	0.963	0.901
Trans 1,3-Dichloropropene	0.354	0.319	0.340	0.388	0.385
2-Hexanone		0.132	0.145	0.165	0.160

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 04/16/12

LAB FILE ID: RF0.2: 0020416 RF0.5: 0050416 RF1: 0100416
RF2: 0200416A RF10: 1000416

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
1,1,2-Trichloroethane	0.185	0.209	0.206	0.216	0.206
1,3-Dichloropropane	0.433	0.432	0.460	0.489	0.486
Tetrachloroethene	0.358	0.433	0.387	0.414	0.416
Chlorodibromomethane	0.223	0.230	0.240	0.253	0.284
1,2-Dibromoethane	0.199	0.173	0.185	0.203	0.194
Chlorobenzene	0.976	1.073	1.045	1.093	1.061
Ethyl Benzene	0.483	0.542	0.559	0.592	0.623
1,1,1,2-Tetrachloroethane	0.313	0.381	0.360	0.396	0.406
m,p-xylene	0.592	0.664	0.689	0.753	0.781
o-Xylene	0.554	0.711	0.674	0.803	0.824
Styrene	0.806	0.943	0.976	1.133	1.238
Bromoform	0.162	0.193	0.207	0.230	0.248
1,1,2,2-Tetrachloroethane	0.528	0.580	0.618	0.604	0.617
1,2,3-Trichloropropane		0.151	0.167	0.166	0.169
Trans-1,4-Dichloro 2-Butene			0.168	0.160	0.166
N-Propyl Benzene	3.104	3.414	3.801	3.865	3.931
Bromobenzene	0.634	0.683	0.699	0.711	0.699
Isopropyl Benzene	2.336	2.635	2.765	3.279	3.447
2-Chloro Toluene	2.122	2.469	2.714	2.816	2.841
4-Chloro Toluene	1.938	2.088	2.413	2.536	2.476
T-Butyl Benzene	1.503	1.768	2.110	2.279	2.448
1,3,5-Trimethyl Benzene	2.001	2.332	2.634	2.814	2.971
1,2,4-Trimethylbenzene	1.854	2.290	2.601	2.888	2.946
S-Butyl Benzene	2.471	2.983	3.264	3.599	3.690
4-Isopropyl Toluene	1.732	2.324	2.491	2.820	2.971
1,3-Dichlorobenzene	1.311	1.498	1.486	1.568	1.502
1,4-Dichlorobenzene	1.443	1.544	1.549	1.634	1.530
N-Butyl Benzene	2.195	2.348	2.401	2.778	2.857
1,2-Dichlorobenzene	1.353	1.503	1.376	1.518	1.442
1,2-Dibromo 3-Chloropropane		0.095	0.081	0.101	0.099
1,2,4-Trichlorobenzene	0.852	0.848	0.770	0.977	0.946
Hexachloro 1,3-Butadiene		0.441	0.391	0.464	0.426
Naphthalene		1.070	1.186	1.487	1.531
1,2,3-Trichlorobenzene		0.653	0.639	0.799	0.729
Dichlorodifluoromethane	0.705	0.741	0.773	0.773	0.711
Methyl tert butyl ether	1.754	1.942	1.969	2.044	1.892

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 04/16/12

LAB FILE ID: RF0.2: 0020416 RF0.5: 0050416 RF1: 0100416
RF2: 0200416A RF10: 1000416

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
d4-1,2-Dichloroethane	0.631	0.615	0.640	0.629	0.610
d8-Toluene	1.184	1.173	1.119	1.204	1.201
4-Bromofluorobenzene	0.589	0.587	0.563	0.577	0.620
d4-1,2-Dichlorobenzene	0.936	0.928	0.884	0.924	0.915
Dibromofluoromethane	0.592	0.588	0.580	0.579	0.565

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 04/16/12

LAB FILE ID: RF20: 2000416 RF40: 4000416 RF60: 6000416

COMPOUND	RF20	RF40	RF60
Chloromethane	1.056	0.983	0.913
Vinyl Chloride	0.984	0.964	0.898
Bromomethane	0.446	0.418	0.380
Chloroethane	0.509	0.404	
Trichlorofluoromethane	0.807	0.795	0.721
Acrolein	0.094	0.094	0.090
112Trichloro122Trifluoroetha	0.626	0.610	0.566
Acetone	0.121	0.121	0.116
1,1-Dichloroethene	0.622	0.582	0.577
Bromoethane	0.503	0.487	0.455
Iodomethane	0.989	0.952	0.866
Methylene Chloride	0.791	0.761	0.706
Acrylonitrile	0.174	0.177	0.172
Carbon Disulfide	2.439	2.208	2.176
Trans-1,2-Dichloroethene	0.745	0.723	0.677
Vinyl Acetate	0.764	0.815	0.851
1,1-Dichloroethane	1.390	1.368	1.298
2-Butanone	0.171	0.174	0.179
2,2-Dichloropropane	0.801	0.759	0.699
Cis-1,2-Dichloroethene	0.731	0.719	0.685
Chloroform	1.194	1.162	1.116
Bromochloromethane	0.278	0.270	0.263
1,1,1-Trichloroethane	0.989	0.961	0.913
1,1-Dichloropropene	0.600	0.587	0.552
Carbon Tetrachloride	0.466	0.450	0.411
1,2-Dichloroethane	0.430	0.425	0.410
Benzene	1.662	1.611	1.511
Trichloroethene	0.346	0.342	0.334
1,2-Dichloropropane	0.378	0.381	0.385
Bromodichloromethane	0.439	0.442	0.448
Dibromomethane	0.166	0.165	0.166
2-Chloroethyl Vinyl Ether	0.126	0.139	0.158
4-Methyl-2-Pentanone	0.098	0.096	0.096
Cis 1,3-dichloropropene	0.492	0.517	0.545
Toluene	0.849	0.868	0.869
Trans 1,3-Dichloropropene	0.389	0.402	0.423
2-Hexanone	0.158	0.159	0.166

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 04/16/12

LAB FILE ID: RF20: 2000416 RF40: 4000416 RF60: 6000416

COMPOUND	RF20	RF40	RF60
1,1,2-Trichloroethane	0.198	0.208	0.220
1,3-Dichloropropane	0.478	0.480	0.500
Tetrachloroethene	0.395	0.368	0.354
Chlorodibromomethane	0.277	0.288	0.289
1,2-Dibromoethane	0.185	0.198	0.212
Chlorobenzene	1.002	0.982	0.959
Ethyl Benzene	0.566	0.561	0.537
1,1,1,2-Tetrachloroethane	0.400	0.379	0.348
m,p-xylene	0.721	0.665	0.628
o-Xylene	0.777	0.726	0.690
Styrene	1.165	1.153	1.132
Bromoform	0.278	0.285	
1,1,2,2-Tetrachloroethane	0.599	0.622	0.638
1,2,3-Trichloropropane	0.164	0.162	0.165
Trans-1,4-Dichloro 2-Butene	0.166	0.177	0.185
N-Propyl Benzene	3.803	3.740	3.690
Bromobenzene	0.686	0.669	0.706
Isopropyl Benzene	3.374	3.205	3.249
2-Chloro Toluene	2.757	2.765	2.743
4-Chloro Toluene	2.353	2.467	2.502
T-Butyl Benzene	2.403	2.318	2.341
1,3,5-Trimethyl Benzene	2.867	2.801	2.698
1,2,4-Trimethylbenzene	2.796	2.726	2.749
S-Butyl Benzene	3.594	3.373	3.363
4-Isopropyl Toluene	2.860	2.809	2.724
1,3-Dichlorobenzene	1.474	1.437	1.412
1,4-Dichlorobenzene	1.459	1.439	1.420
N-Butyl Benzene	2.775	2.645	2.585
1,2-Dichlorobenzene	1.364	1.307	1.301
1,2-Dibromo 3-Chloropropane	0.096	0.093	0.097
1,2,4-Trichlorobenzene	0.965	0.864	0.828
Hexachloro 1,3-Butadiene	0.410	0.382	0.359
Naphthalene	1.519	1.392	1.413
1,2,3-Trichlorobenzene	0.703	0.620	0.610
Dichlorodifluoromethane	0.700	0.648	0.621
Methyl tert butyl ether	1.842	1.838	1.748

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 04/16/12

LAB FILE ID: RF20: 2000416 RF40: 4000416 RF60: 6000416

COMPOUND	RF20	RF40	RF60
d4-1,2-Dichloroethane	0.600	0.596	0.605
d8-Toluene	1.179	1.212	1.261
4-Bromofluorobenzene	0.576	0.579	0.563
d4-1,2-Dichlorobenzene	0.903	0.873	0.866
Dibromofluoromethane	0.564	0.557	0.542

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 04/16/12

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
Chloromethane	AVRG	1.095	11.3
Vinyl Chloride	AVRG	1.039	8.4
Bromomethane	AVRG	0.478	13.8
Chloroethane	2ORDR		0.9996
Trichlorofluoromethane	AVRG	0.840	7.6
Acrolein	AVRG	0.096	4.8
112Trichloro122Trifluoroetha	AVRG	0.672	10.3
Acetone	LINR		0.9987
1,1-Dichloroethene	AVRG	0.684	12.4
Bromoethane	AVRG	0.522	9.5
Iodomethane	AVRG	1.028	8.7
Methylene Chloride	LINR		0.9963
Acrylonitrile	AVRG	0.173	3.6
Carbon Disulfide	AVRG	2.555	10.3
Trans-1,2-Dichloroethene	AVRG	0.773	8.2
Vinyl Acetate	AVRG	0.737	10.9
1,1-Dichloroethane	AVRG	1.440	6.4
2-Butanone	AVRG	0.174	3.2
2,2-Dichloropropane	AVRG	0.824	8.4
Cis-1,2-Dichloroethene	AVRG	0.747	6.2
Chloroform	AVRG	1.228	5.4
Bromochloromethane	AVRG	0.284	5.6
1,1,1-Trichloroethane	AVRG	1.005	5.6
1,1-Dichloropropene	AVRG	0.598	5.2
Carbon Tetrachloride	AVRG	0.472	8.0
1,2-Dichloroethane	AVRG	0.443	6.2
Benzene	AVRG	1.733	8.4
Trichloroethene	AVRG	0.361	6.1
1,2-Dichloropropane	AVRG	0.395	3.7
Bromodichloromethane	AVRG	0.431	6.9
Dibromomethane	AVRG	0.172	4.3
2-Chloroethyl Vinyl Ether	AVRG	0.128	14.2
4-Methyl-2-Pentanone	AVRG	0.094	10.0
Cis 1,3-dichloropropene	AVRG	0.471	11.6
Toluene	AVRG	0.877	4.8
Trans 1,3-Dichloropropene	AVRG	0.375	9.2
2-Hexanone	AVRG	0.155	8.0

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 04/16/12

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
1,1,2-Trichloroethane	AVRG	0.206	5.2
1,3-Dichloropropane	AVRG	0.470	5.4
Tetrachloroethene	AVRG	0.390	7.5
Chlorodibromomethane	AVRG	0.260	10.4
1,2-Dibromoethane	AVRG	0.194	6.3
Chlorobenzene	AVRG	1.024	4.9
Ethyl Benzene	AVRG	0.558	7.3
1,1,1,2-Tetrachloroethane	AVRG	0.373	8.4
m,p-xylene	AVRG	0.687	9.2
o-Xylene	AVRG	0.720	11.9
Styrene	AVRG	1.068	13.6
Bromoform	AVRG	0.229	19.7
1,1,2,2-Tetrachloroethane	AVRG	0.601	5.7
1,2,3-Trichloropropane	AVRG	0.164	3.6
Trans-1,4-Dichloro 2-Butene	AVRG	0.170	5.4
N-Propyl Benzene	AVRG	3.668	7.5
Bromobenzene	AVRG	0.686	3.6
Isopropyl Benzene	AVRG	3.036	13.3
2-Chloro Toluene	AVRG	2.654	9.2
4-Chloro Toluene	AVRG	2.347	9.2
T-Butyl Benzene	AVRG	2.146	15.8
1,3,5-Trimethyl Benzene	AVRG	2.640	12.2
1,2,4-Trimethylbenzene	AVRG	2.606	14.0
S-Butyl Benzene	AVRG	3.292	12.2
4-Isopropyl Toluene	AVRG	2.592	15.7
1,3-Dichlorobenzene	AVRG	1.461	5.2
1,4-Dichlorobenzene	AVRG	1.502	4.9
N-Butyl Benzene	AVRG	2.573	9.2
1,2-Dichlorobenzene	AVRG	1.396	6.0
1,2-Dibromo 3-Chloropropane	AVRG	0.095	7.1
1,2,4-Trichlorobenzene	AVRG	0.881	8.3
Hexachloro 1,3-Butadiene	AVRG	0.411	8.9
Naphthalene	AVRG	1.371	12.9
1,2,3-Trichlorobenzene	AVRG	0.679	10.0
Dichlorodifluoromethane	AVRG	0.709	7.7
Methyl tert butyl ether	AVRG	1.878	5.5

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 04/16/12

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
d4-1,2-Dichloroethane	AVRG	0.616	2.6
d8-Toluene	AVRG	1.192	3.4
4-Bromofluorobenzene	AVRG	0.582	3.1
d4-1,2-Dichlorobenzene	AVRG	0.904	2.9
Dibromofluoromethane	AVRG	0.571	3.0

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF0.2: 0020507 RF0.5: 0050507 RF1: 0100507
RF2: 0200507 RF10: 1000507

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
Chloromethane		1.188	1.112	1.010	1.020
Vinyl Chloride	1.004	0.960	0.925	0.844	0.842
Bromomethane		0.432	0.396	0.363	0.338
Chloroethane	0.676	0.568	0.480	0.466	0.450
Trichlorofluoromethane	0.959	0.883	0.902	0.842	0.848
Acrolein		0.068	0.073	0.065	0.069
112Trichloro122Trifluoroetha	0.752	0.717	0.714	0.633	0.675
Acetone		0.145	0.128	0.122	0.133
1,1-Dichloroethene	0.678	0.685	0.684	0.589	0.606
Bromoethane	0.537	0.545	0.498	0.473	0.488
Iodomethane	1.123	1.099	1.014	0.969	0.991
Methylene Chloride		0.819	0.771	0.710	0.718
Acrylonitrile		0.172	0.153	0.159	0.179
Carbon Disulfide	3.014	2.767	2.680	2.490	2.523
Trans-1,2-Dichloroethene	0.702	0.691	0.666	0.632	0.659
Vinyl Acetate		0.643	0.612	0.638	0.785
1,1-Dichloroethane	1.416	1.449	1.383	1.348	1.388
2-Butanone		0.172	0.174	0.174	0.193
2,2-Dichloropropane	0.925	0.838	0.812	0.730	0.752
Cis-1,2-Dichloroethene	0.644	0.648	0.667	0.632	0.662
Chloroform	1.268	1.296	1.229	1.174	1.213
Bromochloromethane	0.302	0.268	0.277	0.272	0.275
1,1,1-Trichloroethane	0.994	1.004	1.038	0.954	1.003
1,1-Dichloropropene	0.541	0.565	0.567	0.548	0.612
Carbon Tetrachloride	0.560	0.566	0.552	0.532	0.555
1,2-Dichloroethane	0.532	0.493	0.521	0.496	0.518
Benzene	1.655	1.638	1.694	1.629	1.677
Trichloroethene	0.389	0.347	0.356	0.349	0.356
1,2-Dichloropropane	0.400	0.407	0.405	0.393	0.415
Bromodichloromethane	0.455	0.494	0.478	0.471	0.506
Dibromomethane	0.157	0.190	0.193	0.182	0.186
2-Chloroethyl Vinyl Ether			0.114	0.108	0.146
4-Methyl-2-Pentanone		0.098	0.101	0.102	0.114
Cis 1,3-dichloropropene	0.428	0.448	0.469	0.488	0.570
Toluene	0.862	0.919	0.891	0.849	0.926
Trans 1,3-Dichloropropene	0.413	0.396	0.428	0.440	0.477
2-Hexanone		0.178	0.184	0.192	0.212

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF0.2: 0020507 RF0.5: 0050507 RF1: 0100507
RF2: 0200507 RF10: 1000507

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
1,1,2-Trichloroethane	0.234	0.248	0.229	0.224	0.230
1,3-Dichloropropane	0.450	0.466	0.477	0.470	0.512
Tetrachloroethene	0.559	0.456	0.428	0.403	0.416
Chlorodibromomethane	0.244	0.259	0.285	0.274	0.305
1,2-Dibromoethane	0.187	0.207	0.205	0.206	0.222
Chlorobenzene	0.987	1.034	1.013	0.985	1.024
Ethyl Benzene	0.457	0.512	0.525	0.536	0.564
1,1,1,2-Tetrachloroethane	0.361	0.354	0.358	0.352	0.383
m,p-xylene	0.543	0.604	0.635	0.644	0.700
o-Xylene	0.529	0.574	0.609	0.614	0.712
Styrene	0.858	0.877	0.957	1.039	1.169
Bromoform	0.244	0.290	0.276	0.270	0.310
1,1,2,2-Tetrachloroethane	0.600	0.582	0.584	0.580	0.606
1,2,3-Trichloropropane		0.180	0.164	0.156	0.176
Trans-1,4-Dichloro 2-Butene			0.132	0.145	0.174
N-Propyl Benzene	3.144	3.441	3.540	3.519	3.961
Bromobenzene	0.610	0.717	0.688	0.676	0.710
Isopropyl Benzene	2.149	2.390	2.602	2.743	3.278
2-Chloro Toluene	2.281	2.361	2.448	2.478	2.766
4-Chloro Toluene	1.998	2.084	2.226	2.264	2.492
T-Butyl Benzene	1.580	1.790	1.859	1.995	2.419
1,3,5-Trimethyl Benzene	1.947	2.244	2.413	2.466	2.868
1,2,4-Trimethylbenzene	1.848	2.193	2.428	2.519	2.878
S-Butyl Benzene	2.538	2.821	3.146	3.194	3.638
4-Isopropyl Toluene	1.830	2.176	2.355	2.489	2.951
1,3-Dichlorobenzene	1.352	1.383	1.452	1.416	1.460
1,4-Dichlorobenzene	1.464	1.452	1.502	1.419	1.489
N-Butyl Benzene	2.272	2.290	2.461	2.474	2.923
1,2-Dichlorobenzene	1.328	1.348	1.353	1.281	1.368
1,2-Dibromo 3-Chloropropane		0.084	0.084	0.098	0.109
1,2,4-Trichlorobenzene	0.696	0.696	0.717	0.736	0.920
Hexachloro 1,3-Butadiene		0.464	0.494	0.471	0.510
Naphthalene		0.853	0.966	1.009	1.446
1,2,3-Trichlorobenzene		0.573	0.590	0.610	0.737
Dichlorodifluoromethane	0.628	0.712	0.639	0.611	0.644
Methyl tert butyl ether	1.677	1.719	1.666	1.634	1.788

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF0.2: 0020507 RF0.5: 0050507 RF1: 0100507
RF2: 0200507 RF10: 1000507

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
d4-1,2-Dichloroethane	0.724	0.722	0.709	0.697	0.673
d8-Toluene	1.243	1.243	1.247	1.242	1.274
4-Bromofluorobenzene	0.584	0.574	0.585	0.583	0.562
d4-1,2-Dichlorobenzene	0.911	0.900	0.888	0.888	0.899
Dibromofluoromethane	0.617	0.596	0.586	0.577	0.563

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF20: 2000507 RF40: 4000507 RF60: 6000507

COMPOUND	RF20	RF40	RF60
Chloromethane	0.987	0.929	0.872
Vinyl Chloride	0.838	0.818	0.790
Bromomethane	0.345	0.342	0.303
Chloroethane	0.430	0.337	
Trichlorofluoromethane	0.847	0.820	0.746
Acrolein	0.071	0.071	0.070
112Trichloro122Trifluoroetha	0.649	0.601	0.533
Acetone	0.126	0.120	0.118
1,1-Dichloroethene	0.590	0.564	0.515
Bromoethane	0.494	0.469	0.443
Iodomethane	0.980	0.922	0.832
Methylene Chloride	0.700	0.666	0.620
Acrylonitrile	0.173	0.168	0.166
Carbon Disulfide	2.478	2.327	2.090
Trans-1,2-Dichloroethene	0.664	0.634	0.597
Vinyl Acetate	0.767	0.786	0.836
1,1-Dichloroethane	1.342	1.302	1.224
2-Butanone	0.179	0.176	0.182
2,2-Dichloropropane	0.768	0.756	0.634
Cis-1,2-Dichloroethene	0.655	0.639	0.600
Chloroform	1.166	1.121	1.062
Bromochloromethane	0.261	0.253	0.241
1,1,1-Trichloroethane	0.991	0.971	0.895
1,1-Dichloropropene	0.605	0.584	0.566
Carbon Tetrachloride	0.532	0.510	0.477
1,2-Dichloroethane	0.487	0.473	0.468
Benzene	1.618	1.554	1.482
Trichloroethene	0.349	0.335	0.325
1,2-Dichloropropane	0.392	0.390	0.386
Bromodichloromethane	0.483	0.482	0.474
Dibromomethane	0.178	0.170	0.170
2-Chloroethyl Vinyl Ether	0.137	0.146	0.165
4-Methyl-2-Pentanone	0.106	0.100	0.098
Cis 1,3-dichloropropene	0.549	0.551	0.562
Toluene	0.886	0.864	0.847
Trans 1,3-Dichloropropene	0.441	0.442	0.456
2-Hexanone	0.185	0.172	0.188

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF20: 2000507 RF40: 4000507 RF60: 6000507

COMPOUND	RF20	RF40	RF60
1,1,2-Trichloroethane	0.214	0.209	0.217
1,3-Dichloropropane	0.483	0.490	0.513
Tetrachloroethene	0.396	0.375	0.356
Chlorodibromomethane	0.299	0.301	0.310
1,2-Dibromoethane	0.201	0.200	0.208
Chlorobenzene	0.991	0.974	0.949
Ethyl Benzene	0.557	0.538	0.520
1,1,1,2-Tetrachloroethane	0.384	0.374	0.354
m,p-xylene	0.684	0.643	0.609
o-Xylene	0.720	0.694	0.667
Styrene	1.118	1.118	1.084
Bromoform	0.304	0.315	
1,1,2,2-Tetrachloroethane	0.585	0.583	0.604
1,2,3-Trichloropropane	0.168	0.164	0.166
Trans-1,4-Dichloro 2-Butene	0.174	0.181	0.193
N-Propyl Benzene	3.865	3.804	3.737
Bromobenzene	0.688	0.684	0.703
Isopropyl Benzene	3.334	3.349	3.270
2-Chloro Toluene	2.759	2.774	2.739
4-Chloro Toluene	2.441	2.455	2.500
T-Butyl Benzene	2.477	2.448	2.349
1,3,5-Trimethyl Benzene	2.872	2.821	2.706
1,2,4-Trimethylbenzene	2.907	2.832	2.755
S-Butyl Benzene	3.687	3.581	3.416
4-Isopropyl Toluene	2.989	2.922	2.795
1,3-Dichlorobenzene	1.430	1.390	1.384
1,4-Dichlorobenzene	1.443	1.393	1.390
N-Butyl Benzene	2.914	2.815	2.678
1,2-Dichlorobenzene	1.342	1.294	1.255
1,2-Dibromo 3-Chloropropane	0.108	0.107	0.102
1,2,4-Trichlorobenzene	0.964	0.884	0.814
Hexachloro 1,3-Butadiene	0.514	0.480	0.429
Naphthalene	1.534	1.442	1.349
1,2,3-Trichlorobenzene	0.748	0.687	0.630
Dichlorodifluoromethane	0.624	0.594	0.546
Methyl tert butyl ether	1.755	1.745	1.673

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF20: 2000507 RF40: 4000507 RF60: 6000507

COMPOUND	RF20	RF40	RF60
d4-1,2-Dichloroethane	0.652	0.646	0.646
d8-Toluene	1.244	1.262	1.267
4-Bromofluorobenzene	0.564	0.560	0.573
d4-1,2-Dichlorobenzene	0.908	0.894	0.871
Dibromofluoromethane	0.560	0.548	0.524

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
Chloromethane	AVRG	1.017	10.4
Vinyl Chloride	AVRG	0.878	8.7
Bromomethane	AVRG	0.360	11.8
Chloroethane	2ORDR		0.9985
Trichlorofluoromethane	AVRG	0.856	7.3
Acrolein	AVRG	0.070	4.0
112Trichloro122Trifluoroetha	AVRG	0.659	10.8
Acetone	AVRG	0.127	7.3
1,1-Dichloroethene	AVRG	0.614	10.2
Bromoethane	AVRG	0.494	6.9
Iodomethane	AVRG	0.991	9.4
Methylene Chloride	AVRG	0.715	9.2
Acrylonitrile	AVRG	0.167	5.3
Carbon Disulfide	AVRG	2.546	11.0
Trans-1,2-Dichloroethene	AVRG	0.656	5.2
Vinyl Acetate	AVRG	0.724	12.4
1,1-Dichloroethane	AVRG	1.356	5.2
2-Butanone	AVRG	0.178	4.1
2,2-Dichloropropane	AVRG	0.777	11.0
Cis-1,2-Dichloroethene	AVRG	0.644	3.2
Chloroform	AVRG	1.191	6.4
Bromochloromethane	AVRG	0.269	6.8
1,1,1-Trichloroethane	AVRG	0.981	4.4
1,1-Dichloropropene	AVRG	0.574	4.4
Carbon Tetrachloride	AVRG	0.535	5.6
1,2-Dichloroethane	AVRG	0.498	4.6
Benzene	AVRG	1.618	4.3
Trichloroethene	AVRG	0.351	5.4
1,2-Dichloropropane	AVRG	0.399	2.5
Bromodichloromethane	AVRG	0.480	3.2
Dibromomethane	AVRG	0.178	6.7
2-Chloroethyl Vinyl Ether	AVRG	0.136	15.9
4-Methyl-2-Pentanone	AVRG	0.103	5.7
Cis 1,3-dichloropropene	AVRG	0.508	11.1
Toluene	AVRG	0.881	3.4
Trans 1,3-Dichloropropene	AVRG	0.437	5.7
2-Hexanone	AVRG	0.187	6.8

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
1,1,2-Trichloroethane	AVRG	0.226	5.5
1,3-Dichloropropane	AVRG	0.483	4.5
Tetrachloroethene	AVRG	0.424	14.8
Chlorodibromomethane	AVRG	0.285	8.3
1,2-Dibromoethane	AVRG	0.205	4.7
Chlorobenzene	AVRG	0.995	2.8
Ethyl Benzene	AVRG	0.526	6.3
1,1,1,2-Tetrachloroethane	AVRG	0.365	3.6
m,p-xylene	AVRG	0.633	7.7
o-Xylene	AVRG	0.640	10.8
Styrene	AVRG	1.028	11.4
Bromoform	AVRG	0.287	8.8
1,1,2,2-Tetrachloroethane	AVRG	0.591	1.9
1,2,3-Trichloropropane	AVRG	0.168	4.8
Trans-1,4-Dichloro 2-Butene	AVRG	0.166	13.8
N-Propyl Benzene	AVRG	3.626	7.4
Bromobenzene	AVRG	0.685	4.8
Isopropyl Benzene	AVRG	2.889	16.6
2-Chloro Toluene	AVRG	2.576	8.0
4-Chloro Toluene	AVRG	2.307	8.4
T-Butyl Benzene	AVRG	2.114	16.6
1,3,5-Trimethyl Benzene	AVRG	2.542	13.2
1,2,4-Trimethylbenzene	AVRG	2.545	14.8
S-Butyl Benzene	AVRG	3.253	12.6
4-Isopropyl Toluene	AVRG	2.563	16.5
1,3-Dichlorobenzene	AVRG	1.408	2.7
1,4-Dichlorobenzene	AVRG	1.444	2.9
N-Butyl Benzene	AVRG	2.603	10.2
1,2-Dichlorobenzene	AVRG	1.321	3.0
1,2-Dibromo 3-Chloropropane	AVRG	0.099	11.0
1,2,4-Trichlorobenzene	AVRG	0.803	13.4
Hexachloro 1,3-Butadiene	AVRG	0.480	6.1
Naphthalene	LINR		0.9968
1,2,3-Trichlorobenzene	AVRG	0.654	10.8
Dichlorodifluoromethane	AVRG	0.625	7.6
Methyl tert butyl ether	AVRG	1.707	3.1

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
d4-1,2-Dichloroethane	AVRG	0.684	4.9
d8-Toluene	AVRG	1.253	1.0
4-Bromofluorobenzene	AVRG	0.573	1.8
d4-1,2-Dichlorobenzene	AVRG	0.895	1.4
Dibromofluoromethane	AVRG	0.571	5.1

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Cont. Calib. Date: 05/03/12

Init. Calib. Date: 04/16/12 Cont. Calib. Time: 1011

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Chloromethane	1.095	1.1822	0.100	AVRG	8.0	
Vinyl Chloride	1.039	1.0320	0.010	AVRG	-0.7	
Bromomethane	0.478	0.4592	0.010	AVRG	-3.9	
Chloroethane	10.000	9.778	0.010	2ORDR	-2.2	
Trichlorofluoromethane	0.840	1.0105	0.010	AVRG	20.3	<-
Acrolein	0.096	0.0733	0.010	AVRG	-23.6	<-
112Trichloro122Trifluoroetha	0.672	0.7457	0.010	AVRG	11.0	
Acetone	50.000	53.592	0.010	LINR	7.2	
1,1-Dichloroethene	0.684	0.6959	0.010	AVRG	1.7	
Bromoethane	0.522	0.5264	0.010	AVRG	0.8	
Iodomethane	1.028	1.0558	0.010	AVRG	2.7	
Methylene Chloride	10.000	10.779	0.010	LINR	7.8	
Acrylonitrile	0.173	0.1775	0.010	AVRG	2.6	
Carbon Disulfide	2.555	2.8736	0.010	AVRG	12.5	
Trans-1,2-Dichloroethene	0.773	0.7425	0.010	AVRG	-3.9	
Vinyl Acetate	0.737	0.7001	0.010	AVRG	-5.0	
1,1-Dichloroethane	1.440	1.4715	0.100	AVRG	2.2	
2-Butanone	0.174	0.1719	0.010	AVRG	-1.2	
2,2-Dichloropropane	0.824	0.9174	0.010	AVRG	11.3	
Cis-1,2-Dichloroethene	0.747	0.7241	0.010	AVRG	-3.1	
Chloroform	1.228	1.2496	0.010	AVRG	1.8	
Bromochloromethane	0.284	0.2820	0.010	AVRG	-0.7	
1,1,1-Trichloroethane	1.005	1.0982	0.010	AVRG	9.3	
1,1-Dichloropropene	0.598	0.6248	0.010	AVRG	4.5	
Carbon Tetrachloride	0.472	0.5693	0.010	AVRG	20.6	<-
1,2-Dichloroethane	0.443	0.4915	0.010	AVRG	10.9	
Benzene	1.733	1.7058	0.010	AVRG	-1.6	
Trichloroethene	0.360	0.3633	0.010	AVRG	0.9	
1,2-Dichloropropane	0.395	0.4096	0.010	AVRG	3.7	
Bromodichloromethane	0.431	0.4879	0.010	AVRG	13.2	
Dibromomethane	0.172	0.1836	0.010	AVRG	6.7	
2-Chloroethyl Vinyl Ether	0.128	0.1275	0.010	AVRG	-0.4	
4-Methyl-2-Pentanone	0.094	0.1065	0.010	AVRG	13.3	
Cis 1,3-dichloropropene	0.471	0.5388	0.010	AVRG	14.4	
Toluene	0.877	0.9289	0.010	AVRG	5.9	
Trans 1,3-Dichloropropene	0.375	0.4482	0.010	AVRG	19.5	
2-Hexanone	0.155	0.1705	0.010	AVRG	10.0	

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Cont. Calib. Date: 05/03/12

Init. Calib. Date: 04/16/12 Cont. Calib. Time: 1011

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
1,1,2-Trichloroethane	0.206	0.2219	0.010	AVRG	7.7
1,3-Dichloropropane	0.470	0.4660	0.010	AVRG	-0.8
Tetrachloroethene	0.391	0.3982	0.010	AVRG	1.8
Chlorodibromomethane	0.260	0.2814	0.010	AVRG	8.2
1,2-Dibromoethane	0.194	0.2121	0.010	AVRG	9.3
Chlorobenzene	1.024	0.9889	0.300	AVRG	-3.4
Ethyl Benzene	0.558	0.5544	0.010	AVRG	-0.6
1,1,1,2-Tetrachloroethane	0.373	0.3741	0.010	AVRG	0.3
m,p-xylene	0.687	0.6927	0.010	AVRG	0.8
o-Xylene	0.720	0.7110	0.010	AVRG	-1.2
Styrene	1.068	1.1172	0.010	AVRG	4.6
Bromoform	0.229	0.2678	0.100	AVRG	16.9
1,1,2,2-Tetrachloroethane	0.601	0.5448	0.300	AVRG	-9.4
1,2,3-Trichloropropane	0.163	0.1558	0.010	AVRG	-4.4
Trans-1,4-Dichloro 2-Butene	0.170	0.1485	0.010	AVRG	-12.6
N-Propyl Benzene	3.668	3.6879	0.010	AVRG	0.5
Bromobenzene	0.686	0.6518	0.010	AVRG	-5.0
Isopropyl Benzene	3.036	3.0487	0.010	AVRG	0.4
2-Chloro Toluene	2.653	2.5585	0.010	AVRG	-3.6
4-Chloro Toluene	2.347	2.3291	0.010	AVRG	-0.8
T-Butyl Benzene	2.146	2.2188	0.010	AVRG	3.4
1,3,5-Trimethyl Benzene	2.640	2.6827	0.010	AVRG	1.6
1,2,4-Trimethylbenzene	2.606	2.7060	0.010	AVRG	3.8
S-Butyl Benzene	3.292	3.4469	0.010	AVRG	4.7
4-Isopropyl Toluene	2.591	2.8009	0.010	AVRG	8.1
1,3-Dichlorobenzene	1.461	1.3816	0.010	AVRG	-5.4
1,4-Dichlorobenzene	1.502	1.3780	0.010	AVRG	-8.2
N-Butyl Benzene	2.573	2.7766	0.010	AVRG	7.9
1,2-Dichlorobenzene	1.396	1.2758	0.010	AVRG	-8.6
1,2-Dibromo 3-Chloropropane	0.094	0.0964	0.010	AVRG	2.6
1,2,4-Trichlorobenzene	0.881	0.8245	0.010	AVRG	-6.4
Hexachloro 1,3-Butadiene	0.410	0.4705	0.010	AVRG	14.8
Naphthalene	1.371	1.2332	0.010	AVRG	-10.0
1,2,3-Trichlorobenzene	0.679	0.6349	0.010	AVRG	-6.5
Dichlorodifluoromethane	0.709	0.8146	0.010	AVRG	14.9
Methyl tert butyl ether	1.879	1.8639	0.010	AVRG	-0.8

<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII VOA

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Cont. Calib. Date: 05/03/12

Init. Calib. Date: 04/16/12 Cont. Calib. Time: 1011

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
d4-1,2-Dichloroethane	0.616	0.6440	0.010	AVRG	4.5
d8-Toluene	1.192	1.2991	0.010	AVRG	9.0
4-Bromofluorobenzene	0.582	0.5904	0.010	AVRG	1.4
d4-1,2-Dichlorobenzene	0.904	0.8912	0.010	AVRG	-1.4
Dibromofluoromethane	0.571	0.5862	0.010	AVRG	2.7

<- Exceeds QC limit of 20% D

* RF less than minimum RF

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Cont. Calib. Date: 05/07/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1558

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Chloromethane	1.017	0.9812	0.100	AVRG	-3.5
Vinyl Chloride	0.878	0.8189	0.010	AVRG	-6.7
Bromomethane	0.360	0.3430	0.010	AVRG	-4.7
Chloroethane	10.000	9.076	0.010	2ORDR	-9.2
Trichlorofluoromethane	0.856	0.8208	0.010	AVRG	-4.1
Acrolein	0.070	0.0686	0.010	AVRG	-2.0
112Trichloro122Trifluoroetha	0.659	0.6635	0.010	AVRG	0.7
Acetone	0.127	0.1239	0.010	AVRG	-2.4
1,1-Dichloroethene	0.614	0.6126	0.010	AVRG	-0.2
Bromoethane	0.493	0.4960	0.010	AVRG	0.6
Iodomethane	0.991	0.9811	0.010	AVRG	-1.0
Methylene Chloride	0.715	0.7135	0.010	AVRG	-0.2
Acrylonitrile	0.167	0.1663	0.010	AVRG	-0.4
Carbon Disulfide	2.546	2.5192	0.010	AVRG	-1.0
Trans-1,2-Dichloroethene	0.656	0.6666	0.010	AVRG	1.6
Vinyl Acetate	0.724	0.7421	0.010	AVRG	2.5
1,1-Dichloroethane	1.356	1.3616	0.100	AVRG	0.4
2-Butanone	0.178	0.1801	0.010	AVRG	1.2
2,2-Dichloropropane	0.777	0.7711	0.010	AVRG	-0.8
Cis-1,2-Dichloroethene	0.643	0.6643	0.010	AVRG	3.3
Chloroform	1.191	1.1662	0.010	AVRG	-2.1
Bromochloromethane	0.269	0.2707	0.010	AVRG	0.6
1,1,1-Trichloroethane	0.981	0.9684	0.010	AVRG	-1.3
1,1-Dichloropropene	0.574	0.6075	0.010	AVRG	5.8
Carbon Tetrachloride	0.536	0.5228	0.010	AVRG	-2.5
1,2-Dichloroethane	0.498	0.4821	0.010	AVRG	-3.2
Benzene	1.618	1.6202	0.010	AVRG	0.1
Trichloroethene	0.351	0.3531	0.010	AVRG	0.6
1,2-Dichloropropane	0.398	0.3996	0.010	AVRG	0.4
Bromodichloromethane	0.480	0.4855	0.010	AVRG	1.1
Dibromomethane	0.178	0.1794	0.010	AVRG	0.8
2-Chloroethyl Vinyl Ether	0.136	0.1340	0.010	AVRG	-1.5
4-Methyl-2-Pentanone	0.103	0.1050	0.010	AVRG	1.9
Cis 1,3-dichloropropene	0.508	0.5530	0.010	AVRG	8.8
Toluene	0.880	0.8999	0.010	AVRG	2.3
Trans 1,3-Dichloropropene	0.437	0.4445	0.010	AVRG	1.7
2-Hexanone	0.187	0.1881	0.010	AVRG	0.6

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Cont. Calib. Date: 05/07/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1558

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
1,1,2-Trichloroethane	0.226	0.2190	0.010	AVRG	-3.1
1,3-Dichloropropane	0.483	0.4856	0.010	AVRG	0.5
Tetrachloroethene	0.424	0.4053	0.010	AVRG	-4.4
Chlorodibromomethane	0.285	0.2928	0.010	AVRG	2.7
1,2-Dibromoethane	0.204	0.2075	0.010	AVRG	1.7
Chlorobenzene	0.995	1.0146	0.300	AVRG	2.0
Ethyl Benzene	0.526	0.5646	0.010	AVRG	7.3
1,1,1,2-Tetrachloroethane	0.365	0.3741	0.010	AVRG	2.5
m,p-xylene	0.633	0.6912	0.010	AVRG	9.2
o-Xylene	0.640	0.7021	0.010	AVRG	9.7
Styrene	1.028	1.1071	0.010	AVRG	7.7
Bromoform	0.287	0.3025	0.100	AVRG	5.4
1,1,2,2-Tetrachloroethane	0.590	0.5881	0.300	AVRG	-0.3
1,2,3-Trichloropropane	0.168	0.1683	0.010	AVRG	0.2
Trans-1,4-Dichloro 2-Butene	0.166	0.1718	0.010	AVRG	3.5
N-Propyl Benzene	3.626	3.9593	0.010	AVRG	9.2
Bromobenzene	0.684	0.7015	0.010	AVRG	2.6
Isopropyl Benzene	2.889	3.3690	0.010	AVRG	16.6
2-Chloro Toluene	2.576	2.8012	0.010	AVRG	8.7
4-Chloro Toluene	2.308	2.4943	0.010	AVRG	8.1
T-Butyl Benzene	2.115	2.4352	0.010	AVRG	15.1
1,3,5-Trimethyl Benzene	2.542	2.9165	0.010	AVRG	14.7
1,2,4-Trimethylbenzene	2.545	2.9214	0.010	AVRG	14.8
S-Butyl Benzene	3.253	3.7424	0.010	AVRG	15.0
4-Isopropyl Toluene	2.563	3.0044	0.010	AVRG	17.2
1,3-Dichlorobenzene	1.408	1.4577	0.010	AVRG	3.5
1,4-Dichlorobenzene	1.444	1.4757	0.010	AVRG	2.2
N-Butyl Benzene	2.603	3.0112	0.010	AVRG	15.7
1,2-Dichlorobenzene	1.321	1.3561	0.010	AVRG	2.6
1,2-Dibromo 3-Chloropropane	0.099	0.1091	0.010	AVRG	10.2
1,2,4-Trichlorobenzene	0.803	0.9462	0.010	AVRG	17.8
Hexachloro 1,3-Butadiene	0.480	0.5275	0.010	AVRG	9.9
Naphthalene	10.000	10.431	0.010	LINR	4.3
1,2,3-Trichlorobenzene	0.654	0.7520	0.010	AVRG	15.0
Dichlorodifluoromethane	0.625	0.6417	0.010	AVRG	2.7
Methyl tert butyl ether	1.707	1.7547	0.010	AVRG	2.8

<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII VOA

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Cont. Calib. Date: 05/07/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1558

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
d4-1,2-Dichloroethane	0.684	0.6518	0.010	AVRG	-4.7
d8-Toluene	1.253	1.2531	0.010	AVRG	0.0
4-Bromofluorobenzene	0.573	0.5523	0.010	AVRG	-3.6
d4-1,2-Dichlorobenzene	0.895	0.9109	0.010	AVRG	1.8
Dibromofluoromethane	0.571	0.5666	0.010	AVRG	-0.8

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII VOA

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000416 Ical Date: 04/16/12

Instrument ID: NT2 Project Run Date: 04/16/12

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	208250	5.45	328641	5.85	264744	7.92
	UPPER LIMIT	416500	5.95	657282	6.35	529488	8.42
	LOWER LIMIT	104125	4.95	164320	5.35	132372	7.42
	Sample ID						
01	ICV10	212095	5.45	340138	5.85	291069	7.92
02							
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IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CLB) = d5-Chlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000416 Ical Date: 04/16/12

Instrument ID: NT2 Project Run Date: 04/16/12

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	182729	9.62				
	UPPER LIMIT	365458	10.12				
	LOWER LIMIT	91364	9.12				
	Sample ID						
01	ICV10	184224	9.62				
02							
03							
04							
05							
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IS4 (DCB) = d4-1,4-Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000416 Ical Date: 04/16/12

Instrument ID: NT2 Project Run Date: 05/03/12

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	208250	5.45	328641	5.85	264744	7.92
	UPPER LIMIT	416500	5.95	657282	6.35	529488	8.42
	LOWER LIMIT	104125	4.95	164320	5.35	132372	7.42
	Sample ID						
01	LCS0503	173899	5.45	281049	5.85	261599	7.92
02	LCS0503	168661	5.45	273916	5.85	254005	7.92
03	MB0503	152211	5.45	249176	5.85	233185	7.92
04	TB-043012-2	155271	5.45	253925	5.85	238268	7.92
05	MW-16-043012	139786	5.45	230818	5.84	212324	7.92
06	MW-16-043012	154861	5.45	252521	5.84	223900	7.92
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IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CLB) = d5-Chlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000416 Ical Date: 04/16/12

Instrument ID: NT2 Project Run Date: 05/03/12

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	182729	9.62				
	UPPER LIMIT	365458	10.12				
	LOWER LIMIT	91364	9.12				
	Sample ID						
01	LCS0503	161809	9.62				
02	LCS0503	160655	9.62				
03	MB0503	156350	9.62				
04	TB-043012-2	152313	9.62				
05	MW-16-043012	138998	9.62				
06	MW-16-043012	143235	9.62				
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IS4 (DCB) = d4-1,4-Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC | Client: ERM-WEST

ARI Job No: US52 | Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000507 | Ical Date: 05/07/12

Instrument ID: NT2 | Project Run Date: 05/07/12

	Sample ID	IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	171003	5.45	265263	5.84	237352	7.92
	UPPER LIMIT	342006	5.95	530526	6.34	474704	8.42
	LOWER LIMIT	85502	4.95	132632	5.34	118676	7.42
01	ICV10	178342	5.45	276000	5.85	234666	7.92
02							
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IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CLB) = d5-Chlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC | Client: ERM-WEST

ARI Job No: US52 | Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000507 | Ical Date: 05/07/12

Instrument ID: NT2 | Project Run Date: 05/07/12

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	141933	9.62				
	UPPER LIMIT	283866	10.12				
	LOWER LIMIT	70966	9.12				
	Sample ID						
01	ICV10	144600	9.62				
02							
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04							
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IS4 (DCB) = d4-1,4-Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000507 Ical Date: 05/07/12

Instrument ID: NT2 Project Run Date: 05/07/12

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	171003	5.45	265263	5.84	237352	7.92
	UPPER LIMIT	342006	5.95	530526	6.34	474704	8.42
	LOWER LIMIT	85502	4.95	132632	5.34	118676	7.42
	Sample ID						
01	LCS0507	172490	5.45	266129	5.85	227861	7.92
02	LCS0507	172939	5.45	268178	5.85	230875	7.92
03	MB0507	163530	5.45	253283	5.85	217522	7.92
04	MW-16-043012	169020	5.45	265052	5.85	231585	7.92
05	MW-28S-05011	151611	5.45	238483	5.85	211625	7.92
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IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CLB) = d5-Chlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000507 Ical Date: 05/07/12

Instrument ID: NT2 Project Run Date: 05/07/12

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	141933	9.62				
	UPPER LIMIT	283866	10.12				
	LOWER LIMIT	70966	9.12				
	Sample ID						
01	LCS0507	137852	9.62				
02	LCS0507	138966	9.62				
03	MB0507	138150	9.62				
04	MW-16-043012	138739	9.62				
05	MW-28S-05011	133498	9.62				
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IS4 (DCB) = d4-1,4-Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-30S-050212**
Page 1 of 2 **SAMPLE**

Lab Sample ID: US61A
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/07/12 23:53

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	**Acetone**	**5.0**	**7.0**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-30S-050212**
 SAMPLE

Lab Sample ID: US61A
LIMS ID: 12-7884
Matrix: Water
Date Analyzed: 05/07/12 23:53

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	94.3%
Bromofluorobenzene	100%
d4-1,2-Dichlorobenzene	107%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-29S-050212**
Page 1 of 2 **SAMPLE**

Lab Sample ID: US61B
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/08/12 00:20

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	**Acetone**	**5.0**	**15**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	**1,1-Dichloroethane**	**0.2**	**0.1**	**J**
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-29S-050212**
 SAMPLE

Lab Sample ID: US61B
LIMS ID: 12-7885
Matrix: Water
Date Analyzed: 05/08/12 00:20

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	93.1%
Bromofluorobenzene	97.2%
d4-1,2-Dichlorobenzene	108%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-31S-050212**
 SAMPLE

Lab Sample ID: US61C
LIMS ID: 12-7886
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/08/12 00:46

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW-31S-050212**
 SAMPLE

Lab Sample ID: US61C
LIMS ID: 12-7886
Matrix: Water
Date Analyzed: 05/08/12 00:46

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	107%
d8-Toluene	92.2%
Bromofluorobenzene	98.3%
d4-1,2-Dichlorobenzene	106%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: DUP-050212-1**
 SAMPLE

Lab Sample ID: US61D
LIMS ID: 12-7887
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/08/12 01:12

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: DUP-050212-1**
 SAMPLE

Lab Sample ID: US61D
LIMS ID: 12-7887
Matrix: Water
Date Analyzed: 05/08/12 01:12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	92.3%
Bromofluorobenzene	100%
d4-1,2-Dichlorobenzene	107%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FB-050212-1**
Page 1 of 2 **SAMPLE**

Lab Sample ID: US61E
LIMS ID: 12-7888
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/08/12 01:38

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**1.0**	**1.9**	
67-64-1	**Acetone**	**5.0**	**11**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	**Chloroform**	**0.2**	**0.1**	**J**
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	**Toluene**	**0.2**	**0.6**	
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FB-050212-1**
Page 2 of 2 **SAMPLE**

Lab Sample ID: US61E
LIMS ID: 12-7888
Matrix: Water
Date Analyzed: 05/08/12 01:38

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	92.3%
Bromofluorobenzene	99.3%
d4-1,2-Dichlorobenzene	106%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: TB-050212-1**
Page 1 of 2 **Trip Blanks**

Lab Sample ID: US61F
LIMS ID: 12-7889
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/08/12 02:05

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**1.0**	**0.6**	**J**
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: TB-050212-1**
 Trip Blanks

Lab Sample ID: US61F
LIMS ID: 12-7889
Matrix: Water
Date Analyzed: 05/08/12 02:05

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	89.7%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	107%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

EPA SW-846 indicates that vinyl chloride and styrene may degrade in the presence of acid preservative.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-050712A	Method Blank	10	100%	94.1%	102%	103%	0
LCS-050712A	Lab Control	10	95.2%	98.7%	97.6%	100%	0
LCSD-050712A	Lab Control Dup	10	95.5%	99.2%	99.5%	101%	0
US61A	MW-30S-050212	10	106%	94.3%	100%	107%	0
US61B	MW-29S-050212	10	104%	93.1%	97.2%	108%	0
US61C	MW-31S-050212	10	107%	92.2%	98.3%	106%	0
US61D	DUP-050212-1	10	106%	92.3%	100%	107%	0
US61E	FB-050212-1	10	106%	92.3%	99.3%	106%	0
US61F	TB-050212-1	10	106%	89.7%	102%	107%	0

	LCS/MB LIMITS	QC LIMITS
SW8260C		
(DCE) = d4-1,2-Dichloroethane	80-120	80-120
(TOL) = d8-Toluene	80-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120

Prep Method: SW5030B
Log Number Range: 12-7884 to 12-7889

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050712A**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050712A
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT2/PKC
LCSD: NT2/PKC
Date Analyzed LCS: 05/07/12 16:24
LCSD: 05/07/12 16:50

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	9.6	10.0	96.0%	9.4	10.0	94.0%	2.1%
Bromomethane	10.0	10.0	100%	10.2	10.0	102%	2.0%
Vinyl Chloride	9.5	10.0	95.0%	9.1	10.0	91.0%	4.3%
Chloroethane	9.1	10.0	91.0%	8.7	10.0	87.0%	4.5%
Methylene Chloride	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
Acetone	49.3	50.0	98.6%	46.3	50.0	92.6%	6.3%
Carbon Disulfide	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
1,1-Dichloroethene	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
1,1-Dichloroethane	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
trans-1,2-Dichloroethene	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
cis-1,2-Dichloroethene	10.4	10.0	104%	10.1	10.0	101%	2.9%
Chloroform	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
1,2-Dichloroethane	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
2-Butanone	50.5	50.0	101%	49.0	50.0	98.0%	3.0%
1,1,1-Trichloroethane	10.1	10.0	101%	9.9	10.0	99.0%	2.0%
Carbon Tetrachloride	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
Vinyl Acetate	10.5	10.0	105%	10.1	10.0	101%	3.9%
Bromodichloromethane	10.2	10.0	102%	9.9	10.0	99.0%	3.0%
1,2-Dichloropropane	10.1	10.0	101%	9.8	10.0	98.0%	3.0%
cis-1,3-Dichloropropene	10.9	10.0	109%	10.5	10.0	105%	3.7%
Trichloroethene	10.1	10.0	101%	10.0	10.0	100%	1.0%
Dibromochloromethane	10.4	10.0	104%	10.2	10.0	102%	1.9%
1,1,2-Trichloroethane	9.6	10.0	96.0%	9.2	10.0	92.0%	4.3%
Benzene	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
trans-1,3-Dichloropropene	10.0	10.0	100%	10.1	10.0	101%	1.0%
2-Chloroethylvinylether	9.9	10.0	99.0%	10.1	10.0	101%	2.0%
Bromoform	10.5	10.0	105%	10.1	10.0	101%	3.9%
4-Methyl-2-Pentanone (MIBK)	51.3	50.0	103%	51.0	50.0	102%	0.6%
2-Hexanone	50.8	50.0	102%	48.8	50.0	97.6%	4.0%
Tetrachloroethene	9.7	10.0	97.0%	9.4	10.0	94.0%	3.1%
1,1,2,2-Tetrachloroethane	9.8	10.0	98.0%	9.8	10.0	98.0%	0.0%
Toluene	10.0	10.0	100%	9.8	10.0	98.0%	2.0%
Chlorobenzene	10.3	10.0	103%	9.8	10.0	98.0%	5.0%
Ethylbenzene	10.6	10.0	106%	10.4	10.0	104%	1.9%
Styrene	11.1	10.0	111%	10.7	10.0	107%	3.7%
Trichlorofluoromethane	9.7	10.0	97.0%	9.6	10.0	96.0%	1.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
m,p-Xylene	21.9	20.0	110%	21.6	20.0	108%	1.4%
o-Xylene	11.2	10.0	112%	11.0	10.0	110%	1.8%
1,2-Dichlorobenzene	10.3	10.0	103%	10.0	10.0	100%	3.0%
1,3-Dichlorobenzene	10.3	10.0	103%	10.0	10.0	100%	3.0%
1,4-Dichlorobenzene	10.0	10.0	100%	9.8	10.0	98.0%	2.0%
Acrolein	52.7	50.0	105%	49.2	50.0	98.4%	6.9%
Methyl Iodide	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
Bromoethane	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
Acrylonitrile	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
1,1-Dichloropropene	10.8	10.0	108%	10.4	10.0	104%	3.8%
Dibromomethane	10.1	10.0	101%	9.8	10.0	98.0%	3.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050712A**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050712A QC Report No: US61-ERM-West
LIMS ID: 12-7884 Project: RG Spring GW Sampling
Matrix: Water 155129.09

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,1,1,2-Tetrachloroethane	10.5	10.0	105%	10.2	10.0	102%	2.9%
1,2-Dibromo-3-chloropropane	11.3	10.0	113%	10.7	10.0	107%	5.5%
1,2,3-Trichloropropane	10.1	10.0	101%	10.0	10.0	100%	1.0%
trans-1,4-Dichloro-2-butene	10.6	10.0	106%	10.3	10.0	103%	2.9%
1,3,5-Trimethylbenzene	11.3	10.0	113%	11.0	10.0	110%	2.7%
1,2,4-Trimethylbenzene	11.3	10.0	113%	11.0	10.0	110%	2.7%
Hexachlorobutadiene	10.5 B	10.0	105%	10.3 B	10.0	103%	1.9%
Ethylene Dibromide	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
Bromochloromethane	9.8	10.0	98.0%	9.5	10.0	95.0%	3.1%
2,2-Dichloropropane	9.9	10.0	99.0%	10.3	10.0	103%	4.0%
1,3-Dichloropropane	10.0	10.0	100%	10.0	10.0	100%	0.0%
Isopropylbenzene	11.4	10.0	114%	11.2	10.0	112%	1.8%
n-Propylbenzene	10.6	10.0	106%	10.5	10.0	105%	0.9%
Bromobenzene	10.0	10.0	100%	9.9	10.0	99.0%	1.0%
2-Chlorotoluene	10.6	10.0	106%	10.3	10.0	103%	2.9%
4-Chlorotoluene	10.5	10.0	105%	10.4	10.0	104%	1.0%
tert-Butylbenzene	11.4	10.0	114%	11.1	10.0	111%	2.7%
sec-Butylbenzene	11.2	10.0	112%	10.8	10.0	108%	3.6%
4-Isopropyltoluene	11.6	10.0	116%	11.2	10.0	112%	3.5%
n-Butylbenzene	11.1	10.0	111%	10.8	10.0	108%	2.7%
1,2,4-Trichlorobenzene	11.7 B	10.0	117%	11.3 B	10.0	113%	3.5%
Naphthalene	10.7 B	10.0	107%	10.3 B	10.0	103%	3.8%
1,2,3-Trichlorobenzene	11.5 B	10.0	115%	11.1 B	10.0	111%	3.5%
Methyl tert-Butyl Ether	10.4	10.0	104%	10.0	10.0	100%	3.9%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	95.2%	95.5%
d8-Toluene	98.7%	99.2%
Bromofluorobenzene	97.6%	99.5%
d4-1,2-Dichlorobenzene	100%	101%

4A

VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0507

Lab Name: ANALYTICAL RESOURCES INC

Client: ERM-WEST

ARI Job No: US61

Project: RG SPRING GW SAMPLING

Lab File ID: MB0507

Lab Sample ID: MB0507

Date Analyzed: 05/07/12

Time Analyzed: 1717

Instrument ID: NT2

Heated Purge: (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0507	LCS0507	LCS0507	1624
02	LCS0507	LCS0507	LCS0507A	1650
03	MW-30S-05021	US61A	US61A	2353
04	MW-29S-05021	US61B	US61B	0020
05	MW-31S-05021	US61C	US61C	0046
06	DUP-050212-1	US61D	US61D	0112
07	FB-050212-1	US61E	US61E	0138
08	TB-050212-1	US61F	US61F	0205
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COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-050712A**
Page 1 of 2 **METHOD BLANK**

Lab Sample ID: MB-050712A
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT2/PKC
Date Analyzed: 05/07/12 17:17

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	1.0	< 1.0	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-050712A**
 METHOD BLANK

Lab Sample ID: MB-050712A QC Report No: US61-ERM-West
LIMS ID: 12-7884 Project: RG Spring GW Sampling
Matrix: Water 155129.09
Date Analyzed: 05/07/12 17:17

CAS Number	Analyte	RL	Result	Q
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	**Hexachlorobutadiene**	**0.5**	**0.1**	**J**
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	**1,2,4-Trichlorobenzene**	**0.5**	**0.1**	**J**
91-20-3	**Naphthalene**	**0.5**	**0.2**	**J**
87-61-6	**1,2,3-Trichlorobenzene**	**0.5**	**0.2**	**J**
1634-04-4	Methyl tert-Butyl Ether	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	100%
d8-Toluene	94.1%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	103%

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: ERM-WEST

Lab Code: ARI Case No.: RG SPRING GW SAMPLING SDG No.: US61

Lab File ID: BFB0507 BFB Injection Date: 05/07/12

Instrument ID: NT2 BFB Injection Time: 1004

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.8
75	30.0 - 60.0% of mass 95	54.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	69.3
175	5.0 - 9.0% of mass 174	5.1 (7.4)1
176	95.0 - 101.0% of mass 174	68.0 (98.1)1
177	5.0 - 9.0% of mass 176	5.0 (7.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0.2	VSTD0.2	0020507	05/07/12	1049
02	VSTD0.5	VSTD0.5	0050507	05/07/12	1116
03	VSTD1.0	VSTD1.0	0100507	05/07/12	1143
04	VSTD2.0	VSTD2.0	0200507	05/07/12	1210
05	VSTD10	VSTD10	1000507	05/07/12	1236
06	VSTD20	VSTD20	2000507	05/07/12	1303
07	VSTD40	VSTD40	4000507	05/07/12	1329
08	VSTD60	VSTD60	6000507	05/07/12	1356
09	ICV10	ICV10	ICV0507	05/07/12	1450
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5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: ERM-WEST

Lab Code: ARI Case No.: RG SPRING GW SAMPLING SDG No.: US61

Lab File ID: BFB0507X BFB Injection Date: 05/07/12

Instrument ID: NT2 BFB Injection Time: 1523

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.2
75	30.0 - 60.0% of mass 95	51.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.1 (0.1)1
174	50.0 - 100.0% of mass 95	72.1
175	5.0 - 9.0% of mass 174	5.7 (7.9)1
176	95.0 - 101.0% of mass 174	71.7 (99.4)1
177	5.0 - 9.0% of mass 176	4.5 (6.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0507	CC0507	CC0507	05/07/12	1558
02	LCS0507	LCS0507	LCS0507	05/07/12	1624
03	LCS0507	LCS0507	LCS0507A	05/07/12	1650
04	MB0507	MB0507	MB0507	05/07/12	1717
05	MW-30S-050212	US61A	US61A	05/07/12	2353
06	MW-29S-050212	US61B	US61B	05/08/12	0020
07	MW-31S-050212	US61C	US61C	05/08/12	0046
08	DUP-050212-1	US61D	US61D	05/08/12	0112
09	FB-050212-1	US61E	US61E	05/08/12	0138
10	TB-050212-1	US61F	US61F	05/08/12	0205
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FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF0.2: 0020507 RF0.5: 0050507 RF1: 0100507
RF2: 0200507 RF10: 1000507

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
Chloromethane		1.188	1.112	1.010	1.020
Vinyl Chloride	1.004	0.960	0.925	0.844	0.842
Bromomethane		0.432	0.396	0.363	0.338
Chloroethane	0.676	0.568	0.480	0.466	0.450
Trichlorofluoromethane	0.959	0.883	0.902	0.842	0.848
Acrolein		0.068	0.073	0.065	0.069
112Trichloro122Trifluoroetha	0.752	0.717	0.714	0.633	0.675
Acetone		0.145	0.128	0.122	0.133
1,1-Dichloroethene	0.678	0.685	0.684	0.589	0.606
Bromoethane	0.537	0.545	0.498	0.473	0.488
Iodomethane	1.123	1.099	1.014	0.969	0.991
Methylene Chloride		0.819	0.771	0.710	0.718
Acrylonitrile		0.172	0.153	0.159	0.179
Carbon Disulfide	3.014	2.767	2.680	2.490	2.523
Trans-1,2-Dichloroethene	0.702	0.691	0.666	0.632	0.659
Vinyl Acetate		0.643	0.612	0.638	0.785
1,1-Dichloroethane	1.416	1.449	1.383	1.348	1.388
2-Butanone		0.172	0.174	0.174	0.193
2,2-Dichloropropane	0.925	0.838	0.812	0.730	0.752
Cis-1,2-Dichloroethene	0.644	0.648	0.667	0.632	0.662
Chloroform	1.268	1.296	1.229	1.174	1.213
Bromochloromethane	0.302	0.268	0.277	0.272	0.275
1,1,1-Trichloroethane	0.994	1.004	1.038	0.954	1.003
1,1-Dichloropropene	0.541	0.565	0.567	0.548	0.612
Carbon Tetrachloride	0.560	0.566	0.552	0.532	0.555
1,2-Dichloroethane	0.532	0.493	0.521	0.496	0.518
Benzene	1.655	1.638	1.694	1.629	1.677
Trichloroethene	0.389	0.347	0.356	0.349	0.356
1,2-Dichloropropane	0.400	0.407	0.405	0.393	0.415
Bromodichloromethane	0.455	0.494	0.478	0.471	0.506
Dibromomethane	0.157	0.190	0.193	0.182	0.186
2-Chloroethyl Vinyl Ether			0.114	0.108	0.146
4-Methyl-2-Pentanone		0.098	0.101	0.102	0.114
Cis 1,3-dichloropropene	0.428	0.448	0.469	0.488	0.570
Toluene	0.862	0.919	0.891	0.849	0.926
Trans 1,3-Dichloropropene	0.413	0.396	0.428	0.440	0.477
2-Hexanone		0.178	0.184	0.192	0.212

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF0.2: 0020507 RF0.5: 0050507 RF1: 0100507
RF2: 0200507 RF10: 1000507

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
1,1,2-Trichloroethane	0.234	0.248	0.229	0.224	0.230
1,3-Dichloropropane	0.450	0.466	0.477	0.470	0.512
Tetrachloroethene	0.559	0.456	0.428	0.403	0.416
Chlorodibromomethane	0.244	0.259	0.285	0.274	0.305
1,2-Dibromoethane	0.187	0.207	0.205	0.206	0.222
Chlorobenzene	0.987	1.034	1.013	0.985	1.024
Ethyl Benzene	0.457	0.512	0.525	0.536	0.564
1,1,1,2-Tetrachloroethane	0.361	0.354	0.358	0.352	0.383
m,p-xylene	0.543	0.604	0.635	0.644	0.700
o-Xylene	0.529	0.574	0.609	0.614	0.712
Styrene	0.858	0.877	0.957	1.039	1.169
Bromoform	0.244	0.290	0.276	0.270	0.310
1,1,2,2-Tetrachloroethane	0.600	0.582	0.584	0.580	0.606
1,2,3-Trichloropropane		0.180	0.164	0.156	0.176
Trans-1,4-Dichloro 2-Butene			0.132	0.145	0.174
N-Propyl Benzene	3.144	3.441	3.540	3.519	3.961
Bromobenzene	0.610	0.717	0.688	0.676	0.710
Isopropyl Benzene	2.149	2.390	2.602	2.743	3.278
2-Chloro Toluene	2.281	2.361	2.448	2.478	2.766
4-Chloro Toluene	1.998	2.084	2.226	2.264	2.492
T-Butyl Benzene	1.580	1.790	1.859	1.995	2.419
1,3,5-Trimethyl Benzene	1.947	2.244	2.413	2.466	2.868
1,2,4-Trimethylbenzene	1.848	2.193	2.428	2.519	2.878
S-Butyl Benzene	2.538	2.821	3.146	3.194	3.638
4-Isopropyl Toluene	1.830	2.176	2.355	2.489	2.951
1,3-Dichlorobenzene	1.352	1.383	1.452	1.416	1.460
1,4-Dichlorobenzene	1.464	1.452	1.502	1.419	1.489
N-Butyl Benzene	2.272	2.290	2.461	2.474	2.923
1,2-Dichlorobenzene	1.328	1.348	1.353	1.281	1.368
1,2-Dibromo 3-Chloropropane		0.084	0.084	0.098	0.109
1,2,4-Trichlorobenzene	0.696	0.696	0.717	0.736	0.920
Hexachloro 1,3-Butadiene		0.464	0.494	0.471	0.510
Naphthalene		0.853	0.966	1.009	1.446
1,2,3-Trichlorobenzene		0.573	0.590	0.610	0.737
Dichlorodifluoromethane	0.628	0.712	0.639	0.611	0.644
Methyl tert butyl ether	1.677	1.719	1.666	1.634	1.788

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF0.2: 0020507 RF0.5: 0050507 RF1: 0100507
RF2: 0200507 RF10: 1000507

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
d4-1,2-Dichloroethane	0.724	0.722	0.709	0.697	0.673
d8-Toluene	1.243	1.243	1.247	1.242	1.274
4-Bromofluorobenzene	0.584	0.574	0.585	0.583	0.562
d4-1,2-Dichlorobenzene	0.911	0.900	0.888	0.888	0.899
Dibromofluoromethane	0.617	0.596	0.586	0.577	0.563

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF20: 2000507 RF40: 4000507 RF60: 6000507

COMPOUND	RF20	RF40	RF60
Chloromethane	0.987	0.929	0.872
Vinyl Chloride	0.838	0.818	0.790
Bromomethane	0.345	0.342	0.303
Chloroethane	0.430	0.337	
Trichlorofluoromethane	0.847	0.820	0.746
Acrolein	0.071	0.071	0.070
112Trichloro122Trifluoroetha	0.649	0.601	0.533
Acetone	0.126	0.120	0.118
1,1-Dichloroethene	0.590	0.564	0.515
Bromoethane	0.494	0.469	0.443
Iodomethane	0.980	0.922	0.832
Methylene Chloride	0.700	0.666	0.620
Acrylonitrile	0.173	0.168	0.166
Carbon Disulfide	2.478	2.327	2.090
Trans-1,2-Dichloroethene	0.664	0.634	0.597
Vinyl Acetate	0.767	0.786	0.836
1,1-Dichloroethane	1.342	1.302	1.224
2-Butanone	0.179	0.176	0.182
2,2-Dichloropropane	0.768	0.756	0.634
Cis-1,2-Dichloroethene	0.655	0.639	0.600
Chloroform	1.166	1.121	1.062
Bromochloromethane	0.261	0.253	0.241
1,1,1-Trichloroethane	0.991	0.971	0.895
1,1-Dichloropropene	0.605	0.584	0.566
Carbon Tetrachloride	0.532	0.510	0.477
1,2-Dichloroethane	0.487	0.473	0.468
Benzene	1.618	1.554	1.482
Trichloroethene	0.349	0.335	0.325
1,2-Dichloropropane	0.392	0.390	0.386
Bromodichloromethane	0.483	0.482	0.474
Dibromomethane	0.178	0.170	0.170
2-Chloroethyl Vinyl Ether	0.137	0.146	0.165
4-Methyl-2-Pentanone	0.106	0.100	0.098
Cis 1,3-dichloropropene	0.549	0.551	0.562
Toluene	0.886	0.864	0.847
Trans 1,3-Dichloropropene	0.441	0.442	0.456
2-Hexanone	0.185	0.172	0.188

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF20: 2000507 RF40: 4000507 RF60: 6000507

COMPOUND	RF20	RF40	RF60
1,1,2-Trichloroethane	0.214	0.209	0.217
1,3-Dichloropropane	0.483	0.490	0.513
Tetrachloroethene	0.396	0.375	0.356
Chlorodibromomethane	0.299	0.301	0.310
1,2-Dibromoethane	0.201	0.200	0.208
Chlorobenzene	0.991	0.974	0.949
Ethyl Benzene	0.557	0.538	0.520
1,1,1,2-Tetrachloroethane	0.384	0.374	0.354
m,p-xylene	0.684	0.643	0.609
o-Xylene	0.720	0.694	0.667
Styrene	1.118	1.118	1.084
Bromoform	0.304	0.315	
1,1,2,2-Tetrachloroethane	0.585	0.583	0.604
1,2,3-Trichloropropane	0.168	0.164	0.166
Trans-1,4-Dichloro 2-Butene	0.174	0.181	0.193
N-Propyl Benzene	3.865	3.804	3.737
Bromobenzene	0.688	0.684	0.703
Isopropyl Benzene	3.334	3.349	3.270
2-Chloro Toluene	2.759	2.774	2.739
4-Chloro Toluene	2.441	2.455	2.500
T-Butyl Benzene	2.477	2.448	2.349
1,3,5-Trimethyl Benzene	2.872	2.821	2.706
1,2,4-Trimethylbenzene	2.907	2.832	2.755
S-Butyl Benzene	3.687	3.581	3.416
4-Isopropyl Toluene	2.989	2.922	2.795
1,3-Dichlorobenzene	1.430	1.390	1.384
1,4-Dichlorobenzene	1.443	1.393	1.390
N-Butyl Benzene	2.914	2.815	2.678
1,2-Dichlorobenzene	1.342	1.294	1.255
1,2-Dibromo 3-Chloropropane	0.108	0.107	0.102
1,2,4-Trichlorobenzene	0.964	0.884	0.814
Hexachloro 1,3-Butadiene	0.514	0.480	0.429
Naphthalene	1.534	1.442	1.349
1,2,3-Trichlorobenzene	0.748	0.687	0.630
Dichlorodifluoromethane	0.624	0.594	0.546
Methyl tert butyl ether	1.755	1.745	1.673

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

LAB FILE ID: RF20: 2000507 RF40: 4000507 RF60: 6000507

COMPOUND	RF20	RF40	RF60
d4-1,2-Dichloroethane	0.652	0.646	0.646
d8-Toluene	1.244	1.262	1.267
4-Bromofluorobenzene	0.564	0.560	0.573
d4-1,2-Dichlorobenzene	0.908	0.894	0.871
Dibromofluoromethane	0.560	0.548	0.524

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
Chloromethane	AVRG	1.017	10.4
Vinyl Chloride	AVRG	0.878	8.7
Bromomethane	AVRG	0.360	11.8
Chloroethane	2ORDR		0.9985
Trichlorofluoromethane	AVRG	0.856	7.3
Acrolein	AVRG	0.070	4.0
112Trichloro122Trifluoroetha	AVRG	0.659	10.8
Acetone	AVRG	0.127	7.3
1,1-Dichloroethene	AVRG	0.614	10.2
Bromoethane	AVRG	0.494	6.9
Iodomethane	AVRG	0.991	9.4
Methylene Chloride	AVRG	0.715	9.2
Acrylonitrile	AVRG	0.167	5.3
Carbon Disulfide	AVRG	2.546	11.0
Trans-1,2-Dichloroethene	AVRG	0.656	5.2
Vinyl Acetate	AVRG	0.724	12.4
1,1-Dichloroethane	AVRG	1.356	5.2
2-Butanone	AVRG	0.178	4.1
2,2-Dichloropropane	AVRG	0.777	11.0
Cis-1,2-Dichloroethene	AVRG	0.644	3.2
Chloroform	AVRG	1.191	6.4
Bromochloromethane	AVRG	0.269	6.8
1,1,1-Trichloroethane	AVRG	0.981	4.4
1,1-Dichloropropene	AVRG	0.574	4.4
Carbon Tetrachloride	AVRG	0.535	5.6
1,2-Dichloroethane	AVRG	0.498	4.6
Benzene	AVRG	1.618	4.3
Trichloroethene	AVRG	0.351	5.4
1,2-Dichloropropane	AVRG	0.399	2.5
Bromodichloromethane	AVRG	0.480	3.2
Dibromomethane	AVRG	0.178	6.7
2-Chloroethyl Vinyl Ether	AVRG	0.136	15.9
4-Methyl-2-Pentanone	AVRG	0.103	5.7
Cis 1,3-dichloropropene	AVRG	0.508	11.1
Toluene	AVRG	0.881	3.4
Trans 1,3-Dichloropropene	AVRG	0.437	5.7
2-Hexanone	AVRG	0.187	6.8

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2	
1,1,2-Trichloroethane	AVRG	0.226	5.5	
1,3-Dichloropropane	AVRG	0.483	4.5	
Tetrachloroethene	AVRG	0.424	14.8	
Chlorodibromomethane	AVRG	0.285	8.3	
1,2-Dibromoethane	AVRG	0.205	4.7	
Chlorobenzene	AVRG	0.995	2.8	
Ethyl Benzene	AVRG	0.526	6.3	
1,1,1,2-Tetrachloroethane	AVRG	0.365	3.6	
m,p-xylene	AVRG	0.633	7.7	
o-Xylene	AVRG	0.640	10.8	
Styrene	AVRG	1.028	11.4	
Bromoform	AVRG	0.287	8.8	
1,1,2,2-Tetrachloroethane	AVRG	0.591	1.9	
1,2,3-Trichloropropane	AVRG	0.168	4.8	
Trans-1,4-Dichloro 2-Butene	AVRG	0.166	13.8	
N-Propyl Benzene	AVRG	3.626	7.4	
Bromobenzene	AVRG	0.685	4.8	
Isopropyl Benzene	AVRG	2.889	16.6	
2-Chloro Toluene	AVRG	2.576	8.0	
4-Chloro Toluene	AVRG	2.307	8.4	
T-Butyl Benzene	AVRG	2.114	16.6	
1,3,5-Trimethyl Benzene	AVRG	2.542	13.2	
1,2,4-Trimethylbenzene	AVRG	2.545	14.8	
S-Butyl Benzene	AVRG	3.253	12.6	
4-Isopropyl Toluene	AVRG	2.563	16.5	
1,3-Dichlorobenzene	AVRG	1.408	2.7	
1,4-Dichlorobenzene	AVRG	1.444	2.9	
N-Butyl Benzene	AVRG	2.603	10.2	
1,2-Dichlorobenzene	AVRG	1.321	3.0	
1,2-Dibromo 3-Chloropropane	AVRG	0.099	11.0	
1,2,4-Trichlorobenzene	AVRG	0.803	13.4	
Hexachloro 1,3-Butadiene	AVRG	0.480	6.1	
Naphthalene	LINR		0.9968	
1,2,3-Trichlorobenzene	AVRG	0.654	10.8	
Dichlorodifluoromethane	AVRG	0.625	7.6	
Methyl tert butyl ether	AVRG	1.707	3.1	

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Calibration Date: 05/07/12

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
d4-1,2-Dichloroethane	AVRG	0.684	4.9
d8-Toluene	AVRG	1.253	1.0
4-Bromofluorobenzene	AVRG	0.573	1.8
d4-1,2-Dichlorobenzene	AVRG	0.895	1.4
Dibromofluoromethane	AVRG	0.571	5.1

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Cont. Calib. Date: 05/07/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1558

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Chloromethane	1.017	0.9812	0.100	AVRG	-3.5
Vinyl Chloride	0.878	0.8189	0.010	AVRG	-6.7
Bromomethane	0.360	0.3430	0.010	AVRG	-4.7
Chloroethane	10.000	9.076	0.010	2ORDR	-9.2
Trichlorofluoromethane	0.856	0.8208	0.010	AVRG	-4.1
Acrolein	0.070	0.0686	0.010	AVRG	-2.0
112Trichloro122Trifluoroetha	0.659	0.6635	0.010	AVRG	0.7
Acetone	0.127	0.1239	0.010	AVRG	-2.4
1,1-Dichloroethene	0.614	0.6126	0.010	AVRG	-0.2
Bromoethane	0.493	0.4960	0.010	AVRG	0.6
Iodomethane	0.991	0.9811	0.010	AVRG	-1.0
Methylene Chloride	0.715	0.7135	0.010	AVRG	-0.2
Acrylonitrile	0.167	0.1663	0.010	AVRG	-0.4
Carbon Disulfide	2.546	2.5192	0.010	AVRG	-1.0
Trans-1,2-Dichloroethene	0.656	0.6666	0.010	AVRG	1.6
Vinyl Acetate	0.724	0.7421	0.010	AVRG	2.5
1,1-Dichloroethane	1.356	1.3616	0.100	AVRG	0.4
2-Butanone	0.178	0.1801	0.010	AVRG	1.2
2,2-Dichloropropane	0.777	0.7711	0.010	AVRG	-0.8
Cis-1,2-Dichloroethene	0.643	0.6643	0.010	AVRG	3.3
Chloroform	1.191	1.1662	0.010	AVRG	-2.1
Bromochloromethane	0.269	0.2707	0.010	AVRG	0.6
1,1,1-Trichloroethane	0.981	0.9684	0.010	AVRG	-1.3
1,1-Dichloropropene	0.574	0.6075	0.010	AVRG	5.8
Carbon Tetrachloride	0.536	0.5228	0.010	AVRG	-2.5
1,2-Dichloroethane	0.498	0.4821	0.010	AVRG	-3.2
Benzene	1.618	1.6202	0.010	AVRG	0.1
Trichloroethene	0.351	0.3531	0.010	AVRG	0.6
1,2-Dichloropropane	0.398	0.3996	0.010	AVRG	0.4
Bromodichloromethane	0.480	0.4855	0.010	AVRG	1.1
Dibromomethane	0.178	0.1794	0.010	AVRG	0.8
2-Chloroethyl Vinyl Ether	0.136	0.1340	0.010	AVRG	-1.5
4-Methyl-2-Pentanone	0.103	0.1050	0.010	AVRG	1.9
Cis 1,3-dichloropropene	0.508	0.5530	0.010	AVRG	8.8
Toluene	0.880	0.8999	0.010	AVRG	2.3
Trans 1,3-Dichloropropene	0.437	0.4445	0.010	AVRG	1.7
2-Hexanone	0.187	0.1881	0.010	AVRG	0.6

<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Cont. Calib. Date: 05/07/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1558

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
1,1,2-Trichloroethane	0.226	0.2190	0.010	AVRG	-3.1
1,3-Dichloropropane	0.483	0.4856	0.010	AVRG	0.5
Tetrachloroethene	0.424	0.4053	0.010	AVRG	-4.4
Chlorodibromomethane	0.285	0.2928	0.010	AVRG	2.7
1,2-Dibromoethane	0.204	0.2075	0.010	AVRG	1.7
Chlorobenzene	0.995	1.0146	0.300	AVRG	2.0
Ethyl Benzene	0.526	0.5646	0.010	AVRG	7.3
1,1,1,2-Tetrachloroethane	0.365	0.3741	0.010	AVRG	2.5
m,p-xylene	0.633	0.6912	0.010	AVRG	9.2
o-Xylene	0.640	0.7021	0.010	AVRG	9.7
Styrene	1.028	1.1071	0.010	AVRG	7.7
Bromoform	0.287	0.3025	0.100	AVRG	5.4
1,1,2,2-Tetrachloroethane	0.590	0.5881	0.300	AVRG	-0.3
1,2,3-Trichloropropane	0.168	0.1683	0.010	AVRG	0.2
Trans-1,4-Dichloro 2-Butene	0.166	0.1718	0.010	AVRG	3.5
N-Propyl Benzene	3.626	3.9593	0.010	AVRG	9.2
Bromobenzene	0.684	0.7015	0.010	AVRG	2.6
Isopropyl Benzene	2.889	3.3690	0.010	AVRG	16.6
2-Chloro Toluene	2.576	2.8012	0.010	AVRG	8.7
4-Chloro Toluene	2.308	2.4943	0.010	AVRG	8.1
T-Butyl Benzene	2.115	2.4352	0.010	AVRG	15.1
1,3,5-Trimethyl Benzene	2.542	2.9165	0.010	AVRG	14.7
1,2,4-Trimethylbenzene	2.545	2.9214	0.010	AVRG	14.8
S-Butyl Benzene	3.253	3.7424	0.010	AVRG	15.0
4-Isopropyl Toluene	2.563	3.0044	0.010	AVRG	17.2
1,3-Dichlorobenzene	1.408	1.4577	0.010	AVRG	3.5
1,4-Dichlorobenzene	1.444	1.4757	0.010	AVRG	2.2
N-Butyl Benzene	2.603	3.0112	0.010	AVRG	15.7
1,2-Dichlorobenzene	1.321	1.3561	0.010	AVRG	2.6
1,2-Dibromo 3-Chloropropane	0.099	0.1091	0.010	AVRG	10.2
1,2,4-Trichlorobenzene	0.803	0.9462	0.010	AVRG	17.8
Hexachloro 1,3-Butadiene	0.480	0.5275	0.010	AVRG	9.9
Naphthalene	10.000	10.431	0.010	LINR	4.3
1,2,3-Trichlorobenzene	0.654	0.7520	0.010	AVRG	15.0
Dichlorodifluoromethane	0.625	0.6417	0.010	AVRG	2.7
Methyl tert butyl ether	1.707	1.7547	0.010	AVRG	2.8

<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII VOA

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Instrument ID: NT2 Cont. Calib. Date: 05/07/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1558

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
d4-1,2-Dichloroethane	0.684	0.6518	0.010	AVRG	-4.7
d8-Toluene	1.253	1.2531	0.010	AVRG	0.0
4-Bromofluorobenzene	0.573	0.5523	0.010	AVRG	-3.6
d4-1,2-Dichlorobenzene	0.895	0.9109	0.010	AVRG	1.8
Dibromofluoromethane	0.571	0.5666	0.010	AVRG	-0.8

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII VOA

US52:00134

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000507 Ical Date: 05/07/12

Instrument ID: NT2 Project Run Date: 05/07/12

		IS1(PFB) AREA	#	RT	#	IS2(DFB) AREA	#	RT	#	IS3(CLB) AREA	#	RT	#
	ICAL MIDPT	171003		5.45		265263		5.84		237352		7.92	
	UPPER LIMIT	342006		5.95		530526		6.34		474704		8.42	
	LOWER LIMIT	85502		4.95		132632		5.34		118676		7.42	
	Sample ID												
01	ICV10	178342		5.45		276000		5.85		234666		7.92	
02													
03													
04													
05													
06													
07													
08													
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CLB) = d5-Chlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000507 Ical Date: 05/07/12

Instrument ID: NT2 Project Run Date: 05/07/12

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	141933	9.62				
	UPPER LIMIT	283866	10.12				
	LOWER LIMIT	70966	9.12				
	Sample ID						
01	ICV10	144600	9.62				
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (DCB) = d4-1,4-Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000507 Ical Date: 05/07/12

Instrument ID: NT2 Project Run Date: 05/07/12

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	171003	5.45	265263	5.84	237352	7.92
	UPPER LIMIT	342006	5.95	530526	6.34	474704	8.42
	LOWER LIMIT	85502	4.95	132632	5.34	118676	7.42
	Sample ID						
01	LCS0507	172490	5.45	266129	5.85	227861	7.92
02	LCS0507	172939	5.45	268178	5.85	230875	7.92
03	MB0507	163530	5.45	253283	5.85	217522	7.92
04	MW-30S-05021	143046	5.45	219828	5.84	185120	7.92
05	MW-29S-05021	147667	5.45	229080	5.84	190206	7.92
06	MW-31S-05021	147428	5.45	235013	5.84	191733	7.92
07	DUP-050212-1	147176	5.45	233813	5.84	190666	7.92
08	FB-050212-1	149560	5.45	234641	5.84	192942	7.92
09	TB-050212-1	142291	5.45	220389	5.84	170769	7.92
10							
11							
12							
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14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CLB) = d5-Chlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC | Client: ERM-WEST

ARI Job No: US61 | Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 1000507 | Ical Date: 05/07/12

Instrument ID: NT2 | Project Run Date: 05/07/12

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	141933	9.62				
	UPPER LIMIT	283866	10.12				
	LOWER LIMIT	70966	9.12				
	Sample ID						
01	LCS0507	137852	9.62				
02	LCS0507	138966	9.62				
03	MB0507	138150	9.62				
04	MW-30S-05021	122230	9.62				
05	MW-29S-05021	123293	9.62				
06	MW-31S-05021	124389	9.62				
07	DUP-050212-1	124162	9.62				
08	FB-050212-1	125342	9.62				
09	TB-050212-1	117433	9.62				
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (DCB) = d4-1,4-Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

Semivolatile Analysis
Report and Summary QC Forms

ARI Job ID: US52, US61, UT31

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MW-14-043012
SAMPLE

Lab Sample ID: US52A
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 14:12
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	46.4%	2-Fluorobiphenyl	44.0%
d14-p-Terphenyl	66.0%	d4-1,2-Dichlorobenzene	35.0%
d5-Phenol	50.1%	2-Fluorophenol	53.9%
2,4,6-Tribromophenol	74.4%	d4-2-Chlorophenol	53.9%

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Sample ID: MW-16-043012
SAMPLE

Lab Sample ID: US52B
LIMS ID: 12-7816
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 15:55
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
58-90-2	**2,3,4,6-Tetrachlorophenol**	**1.0**	**30 Q**

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	54.8%	2-Fluorobiphenyl	54.0%
d14-p-Terphenyl	34.3%	d4-1,2-Dichlorobenzene	44.0%
d5-Phenol	44.8%	2-Fluorophenol	61.9%
2,4,6-Tribromophenol	94.4%	d4-2-Chlorophenol	64.8%

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Sample ID: MW-5S-050112
SAMPLE

Lab Sample ID: US52C
LIMS ID: 12-7817
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/07/12
Date Analyzed: 05/08/12 16:56
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	46.0%	2-Fluorobiphenyl	52.0%
d14-p-Terphenyl	101%	d4-1,2-Dichlorobenzene	40.4%
d5-Phenol	46.7%	2-Fluorophenol	43.7%
2,4,6-Tribromophenol	84.8%	d4-2-Chlorophenol	45.9%

ANALYTICAL RESOURCES INCORPORATED

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Semivolatiles by SW8270D GC/MS
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Sample ID: MW-11-050112
SAMPLE

Lab Sample ID: US52D
LIMS ID: 12-7818
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 17:04
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	59.2%	2-Fluorobiphenyl	57.6%
d14-p-Terphenyl	75.6%	d4-1,2-Dichlorobenzene	47.2%
d5-Phenol	61.9%	2-Fluorophenol	65.9%
2,4,6-Tribromophenol	83.7%	d4-2-Chlorophenol	68.3%

ANALYTICAL RESOURCES INCORPORATED

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Semivolatiles by SW8270D GC/MS
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Sample ID: MW-12-050112
SAMPLE

Lab Sample ID: US52E
LIMS ID: 12-7819
Matrix: Water
Data Release Authorized: *B*
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 22:12
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	42.8%	2-Fluorobiphenyl	42.8%
d14-p-Terphenyl	72.4%	d4-1,2-Dichlorobenzene	36.6%
d5-Phenol	44.3%	2-Fluorophenol	48.5%
2,4,6-Tribromophenol	69.3%	d4-2-Chlorophenol	49.1%

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Sample ID: MW-19-050112
SAMPLE

Lab Sample ID: US52F
LIMS ID: 12-7820
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 18:13
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	42.4%	2-Fluorobiphenyl	42.8%
d14-p-Terphenyl	69.6%	d4-1,2-Dichlorobenzene	37.0%
d5-Phenol	44.0%	2-Fluorophenol	48.0%
2,4,6-Tribromophenol	69.9%	d4-2-Chlorophenol	48.5%

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Semivolatiles by SW8270D GC/MS

Sample ID: MW-28S-050112
SAMPLE

Lab Sample ID: US52G
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 18:48
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW-28S-050112**
 SAMPLE

Lab Sample ID: US52G QC Report No: US52-ERM-West
LIMS ID: 12-7821 Project: RG Spring GW Sampling
Matrix: Water 155129.09
Date Analyzed: 05/04/12 18:48

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	49.2%	2-Fluorobiphenyl	49.2%
d14-p-Terphenyl	61.6%	d4-1,2-Dichlorobenzene	42.4%
d5-Phenol	50.7%	2-Fluorophenol	54.7%
2,4,6-Tribromophenol	70.7%	d4-2-Chlorophenol	55.5%

ANALYTICAL RESOURCES INCORPORATED

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Semivolatiles by SW8270D GC/MS
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Sample ID: MW-32S-050112
SAMPLE

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 19:22
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-32S-050112
SAMPLE

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Date Analyzed: 05/04/12 19:22

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**1.0**	**1.1**
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	53.6%	2-Fluorobiphenyl	57.2%
d14-p-Terphenyl	69.2%	d4-1,2-Dichlorobenzene	45.6%
d5-Phenol	57.1%	2-Fluorophenol	60.0%
2,4,6-Tribromophenol	88.8%	d4-2-Chlorophenol	61.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-32DR-050112
SAMPLE

Lab Sample ID: US52I
LIMS ID: 12-7823
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 21:04
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW-32DR-050112**
 SAMPLE

Lab Sample ID: US52I
LIMS ID: 12-7823
Matrix: Water
Date Analyzed: 05/04/12 21:04

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	49.2%	2-Fluorobiphenyl	47.2%
d14-p-Terphenyl	45.2%	d4-1,2-Dichlorobenzene	35.5%
d5-Phenol	53.1%	2-Fluorophenol	53.9%
2,4,6-Tribromophenol	82.1%	d4-2-Chlorophenol	57.1%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MW-14-043012	46.4%	44.0%	66.0%	35.0%	50.1%	53.9%	74.4%	53.9%	0
MW-14-043012 MS	55.2%	55.2%	51.6%	45.2%	61.1%	62.4%	89.1%	66.7%	0
MW-14-043012 MSD	59.6%	58.8%	67.2%	48.4%	64.8%	66.9%	93.6%	69.9%	0
MW-16-043012	54.8%	54.0%	34.3%	44.0%	44.8%	61.9%	94.4%	64.8%	0
MB-050712	69.2%	70.0%	92.4%	61.6%	71.2%	71.5%	82.4%	70.7%	0
LCS-050712	78.0%	75.2%	93.2%	68.8%	79.2%	77.1%	103%	79.2%	0
MW-5S-050112	46.0%	52.0%	101%	40.4%	46.7%	43.7%	84.8%	45.9%	0
MW-11-050112	59.2%	57.6%	75.6%	47.2%	61.9%	65.9%	83.7%	68.3%	0
MW-12-050112	42.8%	42.8%	72.4%	36.6%	44.3%	48.5%	69.3%	49.1%	0
MW-19-050112	42.4%	42.8%	69.6%	37.0%	44.0%	48.0%	69.9%	48.5%	0
MW-28S-050112	49.2%	49.2%	61.6%	42.4%	50.7%	54.7%	70.7%	55.5%	0
MB-050312	60.4%	57.2%	73.2%	47.6%	60.8%	67.2%	78.9%	69.9%	0
LCS-050312	54.4%	56.4%	69.6%	44.0%	53.9%	60.5%	90.7%	63.2%	0
MW-32S-050112	53.6%	57.2%	69.2%	45.6%	57.1%	60.0%	88.8%	61.9%	0
MW-32S-050112 MS	59.6%	62.4%	72.8%	53.2%	67.5%	66.1%	98.4%	70.4%	0
MW-32S-050112 MSD	60.0%	62.8%	70.0%	51.2%	66.7%	66.9%	95.2%	70.9%	0
MW-32DR-050112	49.2%	47.2%	45.2%	35.5%	53.1%	53.9%	82.1%	57.1%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 12-7815 to 12-7823

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: MW-32S-050112
MS/MSD

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted MS/MSD: 05/03/12

Date Analyzed MS: 05/04/12 19:56
MSD: 05/04/12 20:30
Instrument/Analyst MS: NT6/JZ
MSD: NT6/JZ
GPC Cleanup: NO

Sample Amount MS: 500 mL
MSD: 500 mL
Final Extract Volume MS: 0.5 mL
MSD: 0.5 mL
Dilution Factor MS: 1.00
MSD: 1.00

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Phenol	< 1.0 U	17.6	25.0	70.4%	17.9	25.0	71.6%	1.7%
Bis-(2-Chloroethyl) Ether	< 1.0 U	17.4	25.0	69.6%	18.0	25.0	72.0%	3.4%
2-Chlorophenol	< 1.0 U	16.8	25.0	67.2%	17.4	25.0	69.6%	3.5%
1,3-Dichlorobenzene	< 1.0 U	11.3	25.0	45.2%	11.7	25.0	46.8%	3.5%
1,4-Dichlorobenzene	< 1.0 U	11.9	25.0	47.6%	12.4	25.0	49.6%	4.1%
Benzyl Alcohol	< 5.0 U	15.4	25.0	61.6%	15.4	25.0	61.6%	0.0%
1,2-Dichlorobenzene	< 1.0 U	12.8	25.0	51.2%	13.2	25.0	52.8%	3.1%
2-Methylphenol	< 1.0 U	16.2	25.0	64.8%	16.4	25.0	65.6%	1.2%
2,2'-Oxybis(1-Chloropropane)	< 1.0 U	15.7	25.0	62.8%	16.2	25.0	64.8%	3.1%
4-Methylphenol	< 1.0 U	33.5	50.0	67.0%	33.8	50.0	67.6%	0.9%
N-Nitroso-Di-N-Propylamine	< 1.0 U	16.5	25.0	66.0%	16.9	25.0	67.6%	2.4%
Hexachloroethane	< 1.0 U	9.5	25.0	38.0%	10.2	25.0	40.8%	7.1%
Nitrobenzene	< 1.0 U	15.3	25.0	61.2%	15.7	25.0	62.8%	2.6%
Isophorone	< 1.0 U	17.6	25.0	70.4%	18.0	25.0	72.0%	2.2%
2-Nitrophenol	< 5.0 U	17.2	25.0	68.8%	17.7	25.0	70.8%	2.9%
2,4-Dimethylphenol	< 1.0 U	48.6	75.0	64.8%	50.0	75.0	66.7%	2.8%
Benzoic Acid	< 10.0 U	109	138	79.0%	102	138	73.9%	6.6%
bis(2-Chloroethoxy) Methane	< 1.0 U	15.9	25.0	63.6%	16.3	25.0	65.2%	2.5%
2,4-Dichlorophenol	< 5.0 U	53.5	75.0	71.3%	55.1	75.0	73.5%	2.9%
1,2,4-Trichlorobenzene	< 1.0 U	13.3	25.0	53.2%	13.7	25.0	54.8%	3.0%
Naphthalene	< 1.0 U	14.1	25.0	56.4%	14.5	25.0	58.0%	2.8%
4-Chloroaniline	< 5.0 U	42.1	75.0	56.1%	41.8	75.0	55.7%	0.7%
Hexachlorobutadiene	< 1.0 U	10.9	25.0	43.6%	11.8	25.0	47.2%	7.9%
4-Chloro-3-methylphenol	< 5.0 U	54.5	75.0	72.7%	54.4	75.0	72.5%	0.2%
2-Methylnaphthalene	< 1.0 U	13.9	25.0	55.6%	14.2	25.0	56.8%	2.1%
Hexachlorocyclopentadiene	< 5.0 U	23.8	75.0	31.7%	17.1	75.0	22.8%	32.8%
2,4,6-Trichlorophenol	< 5.0 U	60.5	75.0	80.7%	60.0	75.0	80.0%	0.8%
2,4,5-Trichlorophenol	< 5.0 U	59.6	75.0	79.5%	60.5	75.0	80.7%	1.5%
2-Chloronaphthalene	< 1.0 U	15.9	25.0	63.6%	16.2	25.0	64.8%	1.9%
2-Nitroaniline	< 5.0 U	43.7	75.0	58.3%	43.4	75.0	57.9%	0.7%
Dimethylphthalate	< 1.0 U	18.9	25.0	75.6%	19.1	25.0	76.4%	1.1%
Acenaphthylene	< 1.0 U	16.2	25.0	64.8%	15.8	25.0	63.2%	2.5%
3-Nitroaniline	< 5.0 U	47.7	75.0	63.6%	48.2	75.0	64.3%	1.0%
Acenaphthene	< 1.0 U	15.9	25.0	63.6%	16.0	25.0	64.0%	0.6%
2,4-Dinitrophenol	< 10.0 U	107	138	77.5%	103	138	74.6%	3.8%
4-Nitrophenol	< 5.0 U	46.3	75.0	61.7%	44.9	75.0	59.9%	3.1%
Dibenzofuran	< 1.0 U	15.9	25.0	63.6%	16.3	25.0	65.2%	2.5%
2,6-Dinitrotoluene	< 5.0 U	57.7	75.0	76.9%	57.4	75.0	76.5%	0.5%
2,4-Dinitrotoluene	< 5.0 U	59.4	75.0	79.2%	58.1	75.0	77.5%	2.2%
Diethylphthalate	< 1.0 U	18.4	25.0	73.6%	18.3	25.0	73.2%	0.5%
4-Chlorophenyl-phenylether	< 1.0 U	18.0	25.0	72.0%	18.1	25.0	72.4%	0.6%
Fluorene	< 1.0 U	16.8	25.0	67.2%	16.9	25.0	67.6%	0.6%
4-Nitroaniline	< 5.0 U	44.5	75.0	59.3%	44.7	75.0	59.6%	0.4%
4,6-Dinitro-2-Methylphenol	< 10.0 U	116	138	84.1%	117	138	84.8%	0.9%
N-Nitrosodiphenylamine	< 1.0 U	16.4	25.0	65.6%	17.3	25.0	69.2%	5.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-32S-050112
MS/MSD

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Date Analyzed: 05/04/12 19:56

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
4-Bromophenyl-phenylether	< 1.0 U	19.0	25.0	76.0%	19.3	25.0	77.2%	1.6%
Hexachlorobenzene	< 1.0 U	19.7	25.0	78.8%	20.0	25.0	80.0%	1.5%
Pentachlorophenol	< 5.0 U	58.0	75.0	77.3%	57.6	75.0	76.8%	0.7%
Phenanthrene	< 1.0 U	17.9	25.0	71.6%	18.8	25.0	75.2%	4.9%
Carbazole	< 1.0 U	20.0	25.0	80.0%	19.6	25.0	78.4%	2.0%
Anthracene	< 1.0 U	16.5	25.0	66.0%	16.8	25.0	67.2%	1.8%
Di-n-Butylphthalate	< 1.0 U	19.9	25.0	79.6%	19.1	25.0	76.4%	4.1%
Fluoranthene	< 1.0 U	19.6	25.0	78.4%	18.7	25.0	74.8%	4.7%
Pyrene	< 1.0 U	17.4	25.0	69.6%	17.8	25.0	71.2%	2.3%
Butylbenzylphthalate	< 1.0 U	17.2	25.0	68.8%	17.2	25.0	68.8%	0.0%
3,3'-Dichlorobenzidine	< 5.0 U	10.5	75.0	14.0%	19.0	75.0	25.3%	57.6%
Benzo(a)anthracene	< 1.0 U	17.4	25.0	69.6%	17.0	25.0	68.0%	2.3%
bis(2-Ethylhexyl)phthalate	1.1	19.3	25.0	72.8%	20.4	25.0	77.2%	5.5%
Chrysene	< 1.0 U	17.1	25.0	68.4%	16.8	25.0	67.2%	1.8%
Di-n-Octyl phthalate	< 1.0 U	18.6	25.0	74.4%	18.1	25.0	72.4%	2.7%
Benzo(a)pyrene	< 1.0 U	16.2	25.0	64.8%	15.8	25.0	63.2%	2.5%
Indeno(1,2,3-cd)pyrene	< 1.0 U	15.7	25.0	62.8%	15.4	25.0	61.6%	1.9%
Dibenz(a,h)anthracene	< 1.0 U	14.8	25.0	59.2%	14.6	25.0	58.4%	1.4%
Benzo(g,h,i)perylene	< 1.0 U	15.8	25.0	63.2%	15.8	25.0	63.2%	0.0%
2,3,4,6-Tetrachlorophenol	< 1.0 U	22.1 Q	25.0	88.4%	22.2 Q	25.0	88.8%	0.5%
1-Methylnaphthalene	< 1.0 U	18.3	25.0	73.2%	18.8	25.0	75.2%	2.7%
Total Benzofluoranthenes	< 1.0	34.8	50.0	69.6%	33.9	50.0	67.8%	2.6%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: MW-32S-050112
MATRIX SPIKE

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 19:56
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	---
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	---
95-57-8	2-Chlorophenol	1.0	---
541-73-1	1,3-Dichlorobenzene	1.0	---
106-46-7	1,4-Dichlorobenzene	1.0	---
100-51-6	Benzyl Alcohol	5.0	---
95-50-1	1,2-Dichlorobenzene	1.0	---
95-48-7	2-Methylphenol	1.0	---
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	---
106-44-5	4-Methylphenol	1.0	---
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	---
67-72-1	Hexachloroethane	1.0	---
98-95-3	Nitrobenzene	1.0	---
78-59-1	Isophorone	1.0	---
88-75-5	2-Nitrophenol	5.0	---
105-67-9	2,4-Dimethylphenol	1.0	---
65-85-0	Benzoic Acid	10	---
111-91-1	bis(2-Chloroethoxy) Methane	1.0	---
120-83-2	2,4-Dichlorophenol	5.0	---
120-82-1	1,2,4-Trichlorobenzene	1.0	---
91-20-3	Naphthalene	1.0	---
106-47-8	4-Chloroaniline	5.0	---
87-68-3	Hexachlorobutadiene	1.0	---
59-50-7	4-Chloro-3-methylphenol	5.0	---
91-57-6	2-Methylnaphthalene	1.0	---
77-47-4	Hexachlorocyclopentadiene	5.0	---
88-06-2	2,4,6-Trichlorophenol	5.0	---
95-95-4	2,4,5-Trichlorophenol	5.0	---
91-58-7	2-Chloronaphthalene	1.0	---
88-74-4	2-Nitroaniline	5.0	---
131-11-3	Dimethylphthalate	1.0	---
208-96-8	Acenaphthylene	1.0	---
99-09-2	3-Nitroaniline	5.0	---
83-32-9	Acenaphthene	1.0	---
51-28-5	2,4-Dinitrophenol	10	---
100-02-7	4-Nitrophenol	5.0	---
132-64-9	Dibenzofuran	1.0	---
606-20-2	2,6-Dinitrotoluene	5.0	---
121-14-2	2,4-Dinitrotoluene	5.0	---
84-66-2	Diethylphthalate	1.0	---

Lab Sample ID: US52H QC Report No: US52-ERM-West
LIMS ID: 12-7822 Project: RG Spring GW Sampling
Matrix: Water 155129.09
Date Analyzed: 05/04/12 19:56

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	---
86-73-7	Fluorene	1.0	---
100-01-6	4-Nitroaniline	5.0	---
534-52-1	4,6-Dinitro-2-Methylphenol	10	---
86-30-6	N-Nitrosodiphenylamine	1.0	---
101-55-3	4-Bromophenyl-phenylether	1.0	---
118-74-1	Hexachlorobenzene	1.0	---
87-86-5	Pentachlorophenol	5.0	---
85-01-8	Phenanthrene	1.0	---
86-74-8	Carbazole	1.0	---
120-12-7	Anthracene	1.0	---
84-74-2	Di-n-Butylphthalate	1.0	---
206-44-0	Fluoranthene	1.0	---
129-00-0	Pyrene	1.0	---
85-68-7	Butylbenzylphthalate	1.0	---
91-94-1	3,3'-Dichlorobenzidine	5.0	---
56-55-3	Benzo(a)anthracene	1.0	---
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	---
218-01-9	Chrysene	1.0	---
117-84-0	Di-n-Octyl phthalate	1.0	---
50-32-8	Benzo(a)pyrene	1.0	---
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	---
53-70-3	Dibenz(a,h)anthracene	1.0	---
191-24-2	Benzo(g,h,i)perylene	1.0	---
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	---
90-12-0	1-Methylnaphthalene	1.0	---
TOTBFA	Total Benzofluoranthenes	1.0	---

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	59.6%	2-Fluorobiphenyl	62.4%
d14-p-Terphenyl	72.8%	d4-1,2-Dichlorobenzene	53.2%
d5-Phenol	67.5%	2-Fluorophenol	66.1%
2,4,6-Tribromophenol	98.4%	d4-2-Chlorophenol	70.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: MW-32S-050112
MATRIX SPIKE DUP

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 20:30
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	---
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	---
95-57-8	2-Chlorophenol	1.0	---
541-73-1	1,3-Dichlorobenzene	1.0	---
106-46-7	1,4-Dichlorobenzene	1.0	---
100-51-6	Benzyl Alcohol	5.0	---
95-50-1	1,2-Dichlorobenzene	1.0	---
95-48-7	2-Methylphenol	1.0	---
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	---
106-44-5	4-Methylphenol	1.0	---
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	---
67-72-1	Hexachloroethane	1.0	---
98-95-3	Nitrobenzene	1.0	---
78-59-1	Isophorone	1.0	---
88-75-5	2-Nitrophenol	5.0	---
105-67-9	2,4-Dimethylphenol	1.0	---
65-85-0	Benzoic Acid	10	---
111-91-1	bis(2-Chloroethoxy) Methane	1.0	---
120-83-2	2,4-Dichlorophenol	5.0	---
120-82-1	1,2,4-Trichlorobenzene	1.0	---
91-20-3	Naphthalene	1.0	---
106-47-8	4-Chloroaniline	5.0	---
87-68-3	Hexachlorobutadiene	1.0	---
59-50-7	4-Chloro-3-methylphenol	5.0	---
91-57-6	2-Methylnaphthalene	1.0	---
77-47-4	Hexachlorocyclopentadiene	5.0	---
88-06-2	2,4,6-Trichlorophenol	5.0	---
95-95-4	2,4,5-Trichlorophenol	5.0	---
91-58-7	2-Chloronaphthalene	1.0	---
88-74-4	2-Nitroaniline	5.0	---
131-11-3	Dimethylphthalate	1.0	---
208-96-8	Acenaphthylene	1.0	---
99-09-2	3-Nitroaniline	5.0	---
83-32-9	Acenaphthene	1.0	---
51-28-5	2,4-Dinitrophenol	10	---
100-02-7	4-Nitrophenol	5.0	---
132-64-9	Dibenzofuran	1.0	---
606-20-2	2,6-Dinitrotoluene	5.0	---
121-14-2	2,4-Dinitrotoluene	5.0	---
84-66-2	Diethylphthalate	1.0	---

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-32S-050112
MATRIX SPIKE DUP

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Date Analyzed: 05/04/12 20:30

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	---
86-73-7	Fluorene	1.0	---
100-01-6	4-Nitroaniline	5.0	---
534-52-1	4,6-Dinitro-2-Methylphenol	10	---
86-30-6	N-Nitrosodiphenylamine	1.0	---
101-55-3	4-Bromophenyl-phenylether	1.0	---
118-74-1	Hexachlorobenzene	1.0	---
87-86-5	Pentachlorophenol	5.0	---
85-01-8	Phenanthrene	1.0	---
86-74-8	Carbazole	1.0	---
120-12-7	Anthracene	1.0	---
84-74-2	Di-n-Butylphthalate	1.0	---
206-44-0	Fluoranthene	1.0	---
129-00-0	Pyrene	1.0	---
85-68-7	Butylbenzylphthalate	1.0	---
91-94-1	3,3'-Dichlorobenzidine	5.0	---
56-55-3	Benzo(a)anthracene	1.0	---
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	---
218-01-9	Chrysene	1.0	---
117-84-0	Di-n-Octyl phthalate	1.0	---
50-32-8	Benzo(a)pyrene	1.0	---
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	---
53-70-3	Dibenz(a,h)anthracene	1.0	---
191-24-2	Benzo(g,h,i)perylene	1.0	---
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	---
90-12-0	1-Methylnaphthalene	1.0	---
TOTBFA	Total Benzofluoranthenes	1.0	---

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	60.0%	2-Fluorobiphenyl	62.8%
d14-p-Terphenyl	70.0%	d4-1,2-Dichlorobenzene	51.2%
d5-Phenol	66.7%	2-Fluorophenol	66.9%
2,4,6-Tribromophenol	95.2%	d4-2-Chlorophenol	70.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MW-14-043012
MS/MSD

Lab Sample ID: US52A
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Date Extracted MS/MSD: 05/03/12

Date Analyzed MS: 05/04/12 14:47
MSD: 05/04/12 15:21
Instrument/Analyst MS: NT6/JZ
MSD: NT6/JZ
GPC Cleanup: NO

Sample Amount MS: 500 mL
MSD: 500 mL
Final Extract Volume MS: 0.5 mL
MSD: 0.5 mL
Dilution Factor MS: 1.00
MSD: 1.00

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Phenol	< 1.0 U	15.8	25.0	63.2%	17.5	25.0	70.0%	10.2%
2-Chlorophenol	< 1.0 U	15.9	25.0	63.6%	17.2	25.0	68.8%	7.9%
2,4-Dichlorophenol	< 5.0 U	48.8	75.0	65.1%	54.3	75.0	72.4%	10.7%
2,4,6-Trichlorophenol	< 5.0 U	52.8	75.0	70.4%	59.0	75.0	78.7%	11.1%
2,4,5-Trichlorophenol	< 5.0 U	52.7	75.0	70.3%	58.5	75.0	78.0%	10.4%
2,3,4,6-Tetrachlorophenol	< 1.0 U	20.5 Q	25.0	82.0%	22.6 Q	25.0	90.4%	9.7%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MW-14-043012
MATRIX SPIKE

Lab Sample ID: US52A
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 14:47
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	---
95-57-8	2-Chlorophenol	1.0	---
120-83-2	2,4-Dichlorophenol	5.0	---
88-06-2	2,4,6-Trichlorophenol	5.0	---
95-95-4	2,4,5-Trichlorophenol	5.0	---
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	---

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	55.2%	2-Fluorobiphenyl	55.2%
d14-p-Terphenyl	51.6%	d4-1,2-Dichlorobenzene	45.2%
d5-Phenol	61.1%	2-Fluorophenol	62.4%
2,4,6-Tribromophenol	89.1%	d4-2-Chlorophenol	66.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MW-14-043012
MATRIX SPIKE DUP

Lab Sample ID: US52A
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 15:21
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	---
95-57-8	2-Chlorophenol	1.0	---
120-83-2	2,4-Dichlorophenol	5.0	---
88-06-2	2,4,6-Trichlorophenol	5.0	---
95-95-4	2,4,5-Trichlorophenol	5.0	---
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	---

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	59.6%	2-Fluorobiphenyl	58.8%
d14-p-Terphenyl	67.2%	d4-1,2-Dichlorobenzene	48.4%
d5-Phenol	64.8%	2-Fluorophenol	66.9%
2,4,6-Tribromophenol	93.6%	d4-2-Chlorophenol	69.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-050312
LAB CONTROL

Lab Sample ID: LCS-050312
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 13:37
Instrument/Analyst: NT6/JZ
GPC Cleanup: NO

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

Analyte	Lab Control	Spike Added	Recovery
Phenol	15.6	25.0	62.4%
Bis-(2-Chloroethyl) Ether	15.5	25.0	62.0%
2-Chlorophenol	15.2	25.0	60.8%
1,3-Dichlorobenzene	7.4	25.0	29.6%
1,4-Dichlorobenzene	8.0	25.0	32.0%
Benzyl Alcohol	7.4	25.0	29.6%
1,2-Dichlorobenzene	8.6	25.0	34.4%
2-Methylphenol	14.5	25.0	58.0%
2,2'-Oxybis(1-Chloropropane)	13.8	25.0	55.2%
4-Methylphenol	29.8	50.0	59.6%
N-Nitroso-Di-N-Propylamine	15.6	25.0	62.4%
Hexachloroethane	6.2	25.0	24.8%
Nitrobenzene	14.4	25.0	57.6%
Isophorone	16.6	25.0	66.4%
2-Nitrophenol	15.8	25.0	63.2%
2,4-Dimethylphenol	45.8	75.0	61.1%
Benzoic Acid	92.7	138	67.2%
bis(2-Chloroethoxy) Methane	2.6	25.0	10.4%
2,4-Dichlorophenol	49.4	75.0	65.9%
1,2,4-Trichlorobenzene	9.2	25.0	36.8%
Naphthalene	11.2	25.0	44.8%
4-Chloroaniline	28.4	75.0	37.9%
Hexachlorobutadiene	7.1	25.0	28.4%
4-Chloro-3-methylphenol	49.1	75.0	65.5%
2-Methylnaphthalene	11.1	25.0	44.4%
Hexachlorocyclopentadiene	15.7	75.0	20.9%
2,4,6-Trichlorophenol	52.5	75.0	70.0%
2,4,5-Trichlorophenol	53.5	75.0	71.3%
2-Chloronaphthalene	13.2	25.0	52.8%
2-Nitroaniline	38.9	75.0	51.9%
Dimethylphthalate	18.0	25.0	72.0%
Acenaphthylene	5.5	25.0	22.0%
3-Nitroaniline	43.9	75.0	58.5%
Acenaphthene	13.5	25.0	54.0%
2,4-Dinitrophenol	99.3	138	72.0%
4-Nitrophenol	45.6	75.0	60.8%
Dibenzofuran	14.6	25.0	58.4%
2,6-Dinitrotoluene	54.0	75.0	72.0%
2,4-Dinitrotoluene	56.1	75.0	74.8%
Diethylphthalate	17.6	25.0	70.4%
4-Chlorophenyl-phenylether	16.5	25.0	66.0%
Fluorene	15.6	25.0	62.4%
4-Nitroaniline	42.5	75.0	56.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-050312
LAB CONTROL

Lab Sample ID: LCS-050312
LIMS ID: 12-7822
Matrix: Water
Date Analyzed: 05/04/12 13:37

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

Analyte	Lab Control	Spike Added	Recovery
4,6-Dinitro-2-Methylphenol	109	138	79.0%
N-Nitrosodiphenylamine	11.5	25.0	46.0%
4-Bromophenyl-phenylether	17.6	25.0	70.4%
Hexachlorobenzene	18.5	25.0	74.0%
Pentachlorophenol	51.8	75.0	69.1%
Phenanthrene	16.4	25.0	65.6%
Carbazole	1.7	25.0	6.8%
Anthracene	14.6	25.0	58.4%
Di-n-Butylphthalate	18.1	25.0	72.4%
Fluoranthene	17.9	25.0	71.6%
Pyrene	13.7	25.0	54.8%
Butylbenzylphthalate	10.5	25.0	42.0%
3,3'-Dichlorobenzidine	9.9	75.0	13.2%
Benzo(a)anthracene	15.8	25.0	63.2%
bis(2-Ethylhexyl)phthalate	18.4	25.0	73.6%
Chrysene	16.1	25.0	64.4%
Di-n-Octyl phthalate	17.9	25.0	71.6%
Benzo(a)pyrene	9.6	25.0	38.4%
Indeno(1,2,3-cd)pyrene	14.1	25.0	56.4%
Dibenz(a,h)anthracene	15.8	25.0	63.2%
Benzo(g,h,i)perylene	12.9	25.0	51.6%
2,3,4,6-Tetrachlorophenol	20.9 Q	25.0	83.6%
1-Methylnaphthalene	15.0	25.0	60.0%
Total Benzofluoranthenes	35.2	50.0	70.4%

Semivolatile Surrogate Recovery

d5-Nitrobenzene	54.4%	2-Fluorobiphenyl	56.4%
d14-p-Terphenyl	69.6%	d4-1,2-Dichlorobenzene	44.0%
d5-Phenol	53.9%	2-Fluorophenol	60.5%
2,4,6-Tribromophenol	90.7%	d4-2-Chlorophenol	63.2%

Results reported in µg/L

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: LCS-050712
LAB CONTROL

Lab Sample ID: LCS-050712
LIMS ID: 12-7817
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/07/12
Date Analyzed: 05/08/12 15:13
Instrument/Analyst: NT6/JZ
GPC Cleanup: NO

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

Analyte	Lab Control	Spike Added	Recovery
Phenol	18.6	25.0	74.4%
2-Chlorophenol	18.1	25.0	72.4%
2,4-Dichlorophenol	53.4	75.0	71.2%
2,4,6-Trichlorophenol	57.6	75.0	76.8%
2,4,5-Trichlorophenol	58.5	75.0	78.0%
2,3,4,6-Tetrachlorophenol	23.3	25.0	93.2%

Semivolatile Surrogate Recovery

d5-Nitrobenzene	78.0%	2-Fluorobiphenyl	75.2%
d14-p-Terphenyl	93.2%	d4-1,2-Dichlorobenzene	68.8%
d5-Phenol	79.2%	2-Fluorophenol	77.1%
2,4,6-Tribromophenol	103%	d4-2-Chlorophenol	79.2%

Results reported in µg/L

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

US52MBW1

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLIN

Lab File ID: 05041202 Date Extracted: 05/03/12

Instrument ID: NT6 Date Analyzed: 05/04/12

Matrix: LIQUID Time Analyzed: 1302

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	US52LCSW1	US52LCSW1	05041203	05/04/12
02	MW-14-043012	US52A	05041204	05/04/12
03	MW-14-043012 MS	US52AMS	05041205	05/04/12
04	MW-14-043012 MSD	US52AMSD	05041206	05/04/12
05	MW-16-043012	US52B	05041207	05/04/12
06	MW-11-050112	US52D	05041209	05/04/12
07	MW-19-050112	US52F	05041211	05/04/12
08	MW-28S-050112	US52G	05041212	05/04/12
09	MW-32S-050112	US52H	05041213	05/04/12
10	MW-32S-050112 MS	US52HMS	05041214	05/04/12
11	MW-32S-050112 MS	US52HMSD	05041215	05/04/12
12	MW-32DR-050112	US52I	05041216	05/04/12
13	MW-12-050112	US52E	05041218	05/04/12
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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-050312
METHOD BLANK

Lab Sample ID: MB-050312
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/03/12
Date Analyzed: 05/04/12 13:02
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MB-050312**
 METHOD BLANK

Lab Sample ID: MB-050312 QC Report No: US52-ERM-West
LIMS ID: 12-7822 Project: RG Spring GW Sampling
Matrix: Water 155129.09
Date Analyzed: 05/04/12 13:02

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	60.4%	2-Fluorobiphenyl	57.2%
d14-p-Terphenyl	73.2%	d4-1,2-Dichlorobenzene	47.6%
d5-Phenol	60.8%	2-Fluorophenol	67.2%
2,4,6-Tribromophenol	78.9%	d4-2-Chlorophenol	69.9%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

US52MBW1

Lab Name: ANALYTICAL RESOURCES INC

Client: ERM-WEST

ARI Job No: US52

Project: RG SPRING GW SAMPLIN

Lab File ID: 05081207

Date Extracted: 05/07/12

Instrument ID: NT6

Date Analyzed: 05/08/12

Matrix: LIQUID

Time Analyzed: 1439

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	US52LCSW1	US52LCSW1	05081208	05/08/12
02	MW-5S-050112	US52C	05081209	05/08/12
03				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MB-050712
METHOD BLANK

Lab Sample ID: MB-050712
LIMS ID: 12-7817
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/07/12
Date Analyzed: 05/08/12 14:39
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	69.2%	2-Fluorobiphenyl	70.0%
d14-p-Terphenyl	92.4%	d4-1,2-Dichlorobenzene	61.6%
d5-Phenol	71.2%	2-Fluorophenol	71.5%
2,4,6-Tribromophenol	82.4%	d4-2-Chlorophenol	70.7%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT6 Project: RG SPRING GW SAMPLING

DFTPP Injection Date: 01/27/12 DFTPP Injection Time: 1327

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	30.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	34.8
70	Less than 2.0% of mass 69	0.3 (0.8)1
127	10.0 - 80.0% of mass 198	47.3
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.1
275	10.0 - 60.0% of mass 198	28.1
365	Greater than 1.0% of mass 198	3.44
441	0.0 - 24.0% of mass 442	22.4 (14.5)2
442	50.0 - 200.0% of mass 198	154.7
443	15.0 - 24.0% of mass 442	30.4 (19.6)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC250127	IC250127	01271201	01/27/12	1327
02	IC10127	IC10127	01271202	01/27/12	1400
03	IC50127	IC50127	01271203	01/27/12	1433
04	IC100127	IC100127	01271204	01/27/12	1505
05	IC400127	IC400127	01271205	01/27/12	1538
06	IC600127	IC600127	01271206	01/27/12	1611
07	IC800127	IC800127	01271207	01/27/12	1644
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US52:00170

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT6 Project: RG SPRING GW SAMPLING

DFTPP Injection Date: 05/04/12 DFTPP Injection Time: 1228

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	28.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	31.9
70	Less than 2.0% of mass 69	0.3 (0.9)1
127	10.0 - 80.0% of mass 198	44.7
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 60.0% of mass 198	31.0
365	Greater than 1.0% of mass 198	4.10
441	0.0 - 24.0% of mass 442	26.9 (14.1)2
442	50.0 - 200.0% of mass 198	190.4
443	15.0 - 24.0% of mass 442	37.9 (19.9)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0504	CC0504	05041201	05/04/12	1228
02	US52MBW1	US52MBW1	05041202	05/04/12	1302
03	US52LCSW1	US52LCSW1	05041203	05/04/12	1337
04	MW-14-043012	US52A	05041204	05/04/12	1412
05	MW-14-043012 MS	US52AMS	05041205	05/04/12	1447
06	MW-14-043012 MSD	US52AMSD	05041206	05/04/12	1521
07	MW-16-043012	US52B	05041207	05/04/12	1555
08	MW-11-050112	US52D	05041209	05/04/12	1704
09	MW-19-050112	US52F	05041211	05/04/12	1813
10	MW-28S-050112	US52G	05041212	05/04/12	1848
11	MW-32S-050112	US52H	05041213	05/04/12	1922
12	MW-32S-050112 MS	US52HMS	05041214	05/04/12	1956
13	MW-32S-050112 MS	US52HMSD	05041215	05/04/12	2030
14	MW-32DR-050112	US52I	05041216	05/04/12	2104
15	MW-12-050112	US52E	05041218	05/04/12	2212
16					
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US52:00171

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT6 Project: RG SPRING GW SAMPLING

DFTPP Injection Date: 05/07/12 DFTPP Injection Time: 1847

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	28.0
68	Less than 2.0% of mass 69	0.3 (1.0)1
69	Mass 69 relative abundance	32.5
70	Less than 2.0% of mass 69	0.1 (0.3)1
127	10.0 - 80.0% of mass 198	44.3
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	30.0
365	Greater than 1.0% of mass 198	3.64
441	0.0 - 24.0% of mass 442	26.0 (14.3)2
442	50.0 - 200.0% of mass 198	181.8
443	15.0 - 24.0% of mass 442	35.4 (19.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC250507	IC250507	05071201	05/07/12	1847
02	IC10507	IC10507	05071202	05/07/12	1922
03	IC50507	IC50507	05071203	05/07/12	1956
04	IC100507	IC100507	05071204	05/07/12	2030
05	IC400507	IC400507	05071205	05/07/12	2105
06	IC600507	IC600507	05071206	05/07/12	2139
07	IC800507	IC800507	05071207	05/07/12	2213
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US52:00172

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT6 Project: RG SPRING GW SAMPLING

DFTPP Injection Date: 05/08/12 DFTPP Injection Time: 1111

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	26.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	31.6
70	Less than 2.0% of mass 69	0.2 (0.6)1
127	10.0 - 80.0% of mass 198	44.4
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	30.4
365	Greater than 1.0% of mass 198	3.80
441	0.0 - 24.0% of mass 442	27.5 (14.3)2
442	50.0 - 200.0% of mass 198	192.7
443	15.0 - 24.0% of mass 442	37.1 (19.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0508	CC0508	05081201	05/08/12	1111
02	US52MBW1	US52MBW1	05081207	05/08/12	1439
03	US52LCSW1	US52LCSW1	05081208	05/08/12	1513
04	MW-5S-050112	US52C	05081209	05/08/12	1656
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US52 : 00173

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Calibration Date: 01/27/12

LAB FILE ID: RRF1 =01271202 RRF5 =01271203 RRF10 =01271204
RRF25 =01271201 RRF40 =01271205 RRF60 =01271206
RRF80 =01271207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	RRF	%RSD /R^2
Phenol	1.667	1.342	1.566	1.629	1.537	1.355	1.332	1.490	9.6
Bis(2-Chloroethyl)ether	1.273	1.034	1.170	1.211	1.196	1.070	1.042	1.142	8.2
2-Chlorophenol	1.481	1.212	1.405	1.446	1.410	1.262	1.227	1.349	8.3
1,3-Dichlorobenzene	1.700	1.342	1.515	1.563	1.545	1.354	1.293	1.473	10.0
1,4-Dichlorobenzene	1.668	1.357	1.527	1.557	1.540	1.345	1.269	1.466	9.8
1,2-Dichlorobenzene	1.568	1.282	1.446	1.489	1.474	1.278	1.238	1.396	9.2
Benzyl alcohol	0.935	0.835	0.964	1.020	0.982	0.897	0.917	0.936	6.5
2,2'-oxybis(1-Chloropropane)	1.495	1.224	1.386	1.417	1.374	1.212	1.179	1.327	9.1
2-Methylphenol	1.259	1.048	1.232	1.275	1.255	1.130	1.086	1.184	7.9
Hexachloroethane	0.565	0.484	0.545	0.577	0.583	0.538	0.530	0.546	6.2
N-Nitroso-di-n-propylamine	0.821	0.717	0.812	0.851	0.841	0.758	0.743	0.792	6.6
4-Methylphenol	1.280	1.073	1.278	1.317	1.299	1.148	1.092	1.212	8.6
Nitrobenzene	0.378	0.319	0.346	0.348	0.341	0.303	0.291	0.332	9.0
Isophorone	0.526	0.465	0.503	0.516	0.509	0.460	0.452	0.490	6.2
2-Nitrophenol	0.183	0.172	0.201	0.211	0.212	0.200	0.198	0.197	7.4
2,4-Dimethylphenol	0.331	0.294	0.329	0.334	0.326	0.295	0.285	0.313	6.7
Bis(2-Chloroethoxy)methane	0.404	0.357	0.385	0.390	0.385	0.345	0.330	0.371	7.3
2,4-Dichlorophenol	0.280	0.273	0.311	0.315	0.311	0.283	0.272	0.292	6.6
1,2,4-Trichlorobenzene	0.377	0.315	0.338	0.342	0.340	0.303	0.287	0.329	9.1
Naphthalene	1.258	1.043	1.113	1.068	0.983	0.757		1.037	16.0
Benzoic acid		0.093	0.142	0.178	0.220	0.218	0.233	0.181	0.996
4-Chloroaniline	0.514	0.450	0.497	0.494	0.444	0.387	0.363	0.450	12.8
Hexachlorobutadiene	0.213	0.177	0.194	0.198	0.199	0.178	0.172	0.190	7.8
4-Chloro-3-methylphenol	0.257	0.238	0.274	0.280	0.282	0.256	0.252	0.263	6.3
2-Methylnaphthalene	0.689	0.578	0.639	0.637	0.596	0.507	0.465	0.587	13.4
Hexachlorocyclopentadiene		0.229	0.288	0.311	0.340	0.325	0.324	0.303	13.3
2,4,6-Trichlorophenol	0.312	0.299	0.354	0.367	0.372	0.341	0.336	0.340	8.0
2,4,5-Trichlorophenol	0.302	0.318	0.377	0.390	0.403	0.374	0.368	0.362	10.3
2-Chloronaphthalene	1.197	0.994	1.070	1.054	1.010	0.834	0.750	0.987	15.2
2-Nitroaniline	0.267	0.261	0.297	0.309	0.305	0.281	0.279	0.286	6.5
Acenaphthylene	2.002	1.700	1.865	1.786	1.674	1.302	1.148	1.640	18.7
Dimethylphthalate	1.164	0.999	1.099	1.107	1.083	0.939	0.900	1.042	9.3
2,6-Dinitrotoluene	0.228	0.222	0.262	0.274	0.286	0.262	0.260	0.256	9.1
Acenaphthene	1.307	1.045	1.145	1.124	1.099	0.908	0.844	1.067	14.5
3-Nitroaniline	0.321	0.296	0.345	0.348	0.305	0.249	0.223	0.298	15.8
2,4-Dinitrophenol		0.054	0.098	0.137	0.168	0.170	0.174	0.134	0.996
Dibenzofuran	1.887	1.510	1.662	1.604	1.491	1.215	1.088	1.494	18.1

<- Outside QC limits: %RSD <20% or R^2 > 0.990

US52:00174

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Calibration Date: 01/27/12

LAB FILE ID: RRF1 =01271202 RRF5 =01271203 RRF10 =01271204
RRF25 =01271201 RRF40 =01271205 RRF60 =01271206
RRF80 =01271207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	RRF	%RSD /R^2
4-Nitrophenol		0.084	0.118	0.129	0.134	0.114	0.110	0.115	15.2
2,4-Dinitrotoluene	0.272	0.287	0.339	0.356	0.370	0.338	0.339	0.329	11.0
Fluorene	1.424	1.183	1.321	1.323	1.272	1.046	0.939	1.215	14.1
4-Chlorophenyl-phenylether	0.655	0.529	0.593	0.610	0.612	0.534	0.501	0.576	9.6
Diethylphthalate	1.133	0.983	1.097	1.107	1.103	0.951	0.877	1.036	9.5
4-Nitroaniline	0.296	0.272	0.300	0.310	0.301	0.282	0.282	0.292	4.6
4,6-Dinitro-2-methylphenol		0.090	0.122	0.140	0.152	0.146	0.151	0.134	17.9
N-Nitrosodiphenylamine (1)	0.581	0.486	0.540	0.546	0.538	0.473	0.447	0.516	9.3
4-Bromophenyl-phenylether	0.242	0.213	0.236	0.243	0.243	0.221	0.218	0.231	5.6
Hexachlorobenzene	0.312	0.261	0.288	0.296	0.292	0.261	0.254	0.280	7.8
Pentachlorophenol		0.086	0.119	0.155	0.168	0.166	0.173	0.144	0.994
Phenanthrene	1.298	1.044	1.157	1.129	1.046	0.854	0.771	1.043	17.3
Anthracene	1.262	1.085	1.196	1.169	1.080	0.848	0.767	1.058	17.4
Carbazole	0.966	0.807	0.868	0.851	0.834	0.712	0.658	0.814	12.5
Di-n-butylphthalate	1.059	0.997	1.113	1.123	1.046	0.837	0.750	0.989	14.4
Fluoranthene	1.209	1.064	1.186	1.205	1.112	0.878	0.805	1.066	15.3
Pyrene	1.271	1.086	1.205	1.124	1.060	0.846	0.747	1.048	18.0
Butylbenzylphthalate	0.359	0.378	0.438	0.459	0.467	0.416	0.402	0.417	9.7
Benzo(a)anthracene	1.118	0.989	1.090	1.084	1.041	0.842	0.792	0.994	12.9
3,3'-Dichlorobenzidine	0.363	0.326	0.365	0.372	0.339	0.289	0.265	0.331	12.3
Chrysene	1.179	0.948	1.048	1.030	0.969	0.792	0.712	0.954	16.6
bis(2-Ethylhexyl)phthalate	0.501	0.486	0.567	0.580	0.575	0.497	0.473	0.526	8.8
Di-n-octylphthalate	1.131	0.911	1.006	0.995	0.942	0.771	0.698	0.922	15.9
Benzo(b)fluoranthene	0.994	0.959	1.098	1.095	1.038	0.890		1.012	8.0
Benzo(k)fluoranthene	1.333	1.080	1.186	1.210	1.129	0.805		1.124	15.9
Benzo(a)pyrene	0.951	0.848	0.976	1.009	0.969	0.788	0.716	0.894	12.4
Indeno(1,2,3-cd)pyrene	1.368	1.186	1.362	1.416	1.465	1.267	1.216	1.326	7.9
Dibenzo(a,h)anthracene	1.077	0.971	1.128	1.169	1.195	0.996	0.932	1.067	9.6
Benzo(g,h,i)perylene	1.274	1.053	1.194	1.213	1.265	1.095	1.048	1.163	8.3
N-Nitrosodimethylamine	0.758	0.647	0.736	0.751	0.770	0.701	0.715	0.725	5.8
Aniline	2.153	1.804	2.089	2.130	1.969	1.760	1.699	1.943	9.7
Benzidine		0.348	0.335	0.265	0.255	0.243	0.237	0.280	17.3
Pyridine	1.285	1.110	1.287	1.318	1.337	1.203	1.219	1.251	6.3
1-methylnaphthalene	0.590	0.443	0.481	0.487	0.464	0.409	0.386	0.466	14.2
Azobenzene (1,2-DP-Hydrazine	1.074	0.934	1.040	1.039	1.020	0.865	0.795	0.967	10.8
2,3,4,6-Tetrachlorophenol	0.180	0.217	0.272	0.300	0.315	0.294	0.296	0.268	18.7
1,2,4,5-Tetrachlorobenzene	0.583	0.459	0.502	0.496	0.499	0.446	0.429	0.488	10.4

(1) Cannot be seperated from Diphenylamine

<- Outside QC limits: %RSD <20% or R^2 > 0.990

US52:00175

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Calibration Date: 01/27/12

LAB FILE ID: RRF1 =01271202 RRF5 =01271203 RRF10 =01271204
RRF25 =01271201 RRF40 =01271205 RRF60 =01271206
RRF80 =01271207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	RRF	%RSD /R^2
Total Benzofluoranthenes	1.104	0.962	1.084	1.092	1.022	0.794	0.686	0.963	17.0
2-Fluorophenol	1.250	1.209	1.182	1.311	1.269	1.150		1.228	4.8
Phenol-d5	1.560	1.446	1.455	1.560	1.498	1.356		1.479	5.3
2-Chlorophenol-d4	1.385	1.289	1.293	1.396	1.333	1.205		1.317	5.4
1,2-Dichlorobenzene-d4	1.076	0.927	0.913	1.001	0.950	0.834		0.950	8.6
Nitrobenzene-d5	0.372	0.350	0.337	0.363	0.350	0.320		0.349	5.3
2-Fluorobiphenyl	1.373	1.233	1.188	1.222	1.140	0.962		1.186	11.3
2,4,6-Tribromophenol	0.178	0.201	0.210	0.242	0.243	0.228		0.217	11.9
Terphenyl-d14	0.729	0.701	0.695	0.726	0.690	0.591		0.689	7.3

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-3

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Calibration Date: 05/07/12

LAB FILE ID: RRF1 =05071202 RRF5 =05071203 RRF10 =05071204
RRF25 =05071201 RRF40 =05071205 RRF60 =05071206
RRF80 =05071207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	RRF	%RSD /R^2
Phenol	1.700	1.674	1.608	1.620	1.704	1.558	1.440	1.615	5.8
Bis(2-Chloroethyl)ether	1.164	1.171	1.145	1.258	1.265	1.173	1.094	1.181	5.2
2-Chlorophenol	1.468	1.505	1.442	1.446	1.556	1.446	1.340	1.458	4.6
1,3-Dichlorobenzene	1.578	1.596	1.579	1.649	1.661	1.558	1.428	1.578	4.8
1,4-Dichlorobenzene	1.588	1.601	1.579	1.665	1.660	1.548	1.420	1.580	5.2
1,2-Dichlorobenzene	1.533	1.537	1.519	1.600	1.600	1.471	1.358	1.517	5.5
Benzyl alcohol	0.949	1.007	0.950	1.018	1.057	0.967	0.920	0.981	4.9
2,2'-oxybis(1-Chloropropane)	1.322	1.307	1.277	1.349	1.345	1.229	1.136	1.281	6.0
2-Methylphenol	1.240	1.267	1.205	1.246	1.333	1.235	1.151	1.240	4.5
Hexachloroethane	0.532	0.540	0.537	0.587	0.598	0.571	0.535	0.557	4.9
N-Nitroso-di-n-propylamine	0.759	0.766	0.768	0.822	0.827	0.758	0.712	0.773	5.2
4-Methylphenol	1.311	1.315	1.270	1.299	1.385	1.275	1.197	1.293	4.4
Nitrobenzene	0.329	0.339	0.331	0.347	0.344	0.326	0.302	0.331	4.5
Isophorone	0.489	0.492	0.488	0.514	0.504	0.474	0.441	0.486	4.8
2-Nitrophenol	0.199	0.216	0.214	0.226	0.241	0.232	0.219	0.221	6.3
2,4-Dimethylphenol	0.344	0.351	0.335	0.339	0.352	0.336	0.309	0.338	4.3
Bis(2-Chloroethoxy)methane	0.394	0.374	0.370	0.393	0.387	0.363	0.336	0.374	5.4
2,4-Dichlorophenol	0.346	0.353	0.339	0.346	0.366	0.348	0.318	0.345	4.2
1,2,4-Trichlorobenzene	0.374	0.381	0.369	0.391	0.390	0.373	0.345	0.375	4.1
Naphthalene	1.197	1.166	1.134	1.119	1.045	0.924		1.098	9.0
Benzoic acid		0.173	0.190	0.226	0.250	0.248	0.239	0.221	14.6
4-Chloroaniline	0.534	0.529	0.493	0.484	0.478	0.438	0.388	0.478	10.7
Hexachlorobutadiene	0.222	0.224	0.223	0.233	0.235	0.230	0.213	0.226	3.3
4-Chloro-3-methylphenol	0.274	0.279	0.274	0.284	0.297	0.279	0.256	0.278	4.4
2-Methylnaphthalene	0.711	0.703	0.659	0.662	0.656	0.598	0.534	0.646	9.5
Hexachlorocyclopentadiene		0.264	0.294	0.390	0.404	0.389	0.384	0.354	16.8
2,4,6-Trichlorophenol	0.384	0.407	0.397	0.409	0.433	0.425	0.399	0.408	4.1
2,4,5-Trichlorophenol	0.408	0.430	0.420	0.440	0.469	0.446	0.419	0.433	4.7
2-Chloronaphthalene	1.163	1.126	1.113	1.147	1.095	1.026	0.921	1.084	7.8
2-Nitroaniline	0.262	0.288	0.277	0.286	0.287	0.271	0.258	0.276	4.5
Acenaphthylene	1.927	1.897	1.850	1.825	1.701	1.509	1.321	1.718	13.1
Dimethylphthalate	1.196	1.138	1.136	1.150	1.122	1.045	0.956	1.106	7.2
2,6-Dinitrotoluene	0.254	0.263	0.273	0.290	0.291	0.280	0.265	0.274	5.2
Acenaphthene	1.232	1.197	1.166	1.176	1.135	1.057	0.951	1.130	8.5
3-Nitroaniline	0.342	0.366	0.345	0.318	0.297	0.259	0.223	0.307	16.6
2,4-Dinitrophenol		0.080	0.114	0.153	0.188	0.193	0.191	0.153	0.995
Dibenzofuran	1.938	1.863	1.729	1.667	1.609	1.452	1.301	1.651	13.5

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-1

US52:00177

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Calibration Date: 05/07/12

LAB FILE ID: RRF1 =05071202 RRF5 =05071203 RRF10 =05071204
RRF25 =05071201 RRF40 =05071205 RRF60 =05071206
RRF80 =05071207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	___ RRF	%RSD /R^2
4-Nitrophenol	0.069	0.100	0.105	0.119	0.128	0.126	0.119	0.109	18.7
2,4-Dinitrotoluene	0.311	0.344	0.349	0.372	0.372	0.358	0.337	0.349	6.2
Fluorene	1.459	1.405	1.371	1.380	1.331	1.216	1.084	1.321	9.7
4-Chlorophenyl-phenylether	0.669	0.655	0.641	0.664	0.664	0.627	0.580	0.643	4.8
Diethylphthalate	1.132	1.065	1.062	1.083	1.066	0.977	0.895	1.040	7.6
4-Nitroaniline	0.286	0.314	0.311	0.305	0.305	0.286	0.271	0.297	5.4
4,6-Dinitro-2-methylphenol		0.113	0.129	0.148	0.168	0.166	0.158	0.147	14.9
N-Nitrosodiphenylamine (1)	0.562	0.552	0.542	0.579	0.578	0.534	0.490	0.548	5.6
4-Bromophenyl-phenylether	0.269	0.264	0.262	0.286	0.284	0.266	0.246	0.268	5.2
Hexachlorobenzene	0.349	0.331	0.326	0.347	0.345	0.328	0.301	0.332	5.0
Pentachlorophenol		0.116	0.134	0.172	0.191	0.192	0.182	0.164	19.5
Phenanthrene	1.249	1.208	1.170	1.183	1.110	1.003	0.878	1.114	11.7
Anthracene	1.254	1.239	1.215	1.202	1.129	1.006	0.878	1.132	12.4
Carbazole	0.951	0.926	0.898	0.893	0.850	0.802	0.719	0.863	9.3
Di-n-butylphthalate	1.051	1.034	1.041	1.048	1.011	0.922	0.795	0.986	9.7
Fluoranthene	1.258	1.221	1.203	1.181	1.128	1.033	0.892	1.131	11.3
Pyrene	1.343	1.306	1.248	1.281	1.193	1.009	0.881	1.180	14.5
Butylbenzylphthalate	0.380	0.397	0.396	0.438	0.430	0.401	0.369	0.402	6.3
Benzo(a)anthracene	1.162	1.132	1.095	1.147	1.088	1.000	0.894	1.074	8.9
3,3'-Dichlorobenzidine	0.397	0.412	0.379	0.375	0.370	0.346	0.316	0.371	8.6
Chrysene	1.137	1.111	1.070	1.085	1.050	0.932	0.829	1.030	10.7
bis(2-Ethylhexyl)phthalate	0.616	0.597	0.589	0.640	0.634	0.583	0.540	0.600	5.7
Di-n-octylphthalate	1.106	1.044	1.026	1.055	1.028	0.940	0.838	1.005	8.8
Benzo(b)fluoranthene	1.167	1.187	1.136	1.228	1.161	1.028	0.930	1.120	9.3
Benzo(k)fluoranthene	1.229	1.176	1.208	1.225	1.200	0.986	0.836	1.123	13.6
Benzo(a)pyrene	1.003	1.005	1.005	1.067	1.045	0.933	0.832	0.984	8.1
Indeno(1,2,3-cd)pyrene	1.496	1.533	1.502	1.571	1.551	1.479	1.342	1.496	5.0
Dibenzo(a,h)anthracene	1.213	1.246	1.227	1.312	1.284	1.146	1.005	1.205	8.5
Benzo(g,h,i)perylene	1.322	1.319	1.296	1.375	1.350	1.269	1.147	1.297	5.7
N-Nitrosodimethylamine	0.730	0.713	0.718	0.772	0.776	0.731	0.698	0.734	4.0
Aniline	2.020	2.057	1.941	1.955	1.989	1.804	1.681	1.921	6.9
Benzidine	0.279	0.232	0.224	0.190	0.237	0.223	0.207	0.227	12.2
Pyridine	1.024	1.258	1.287	1.357	1.367	1.285	1.216	1.256	9.2
1-methylnaphthalene	0.541	0.521	0.490	0.499	0.503	0.466	0.426	0.492	7.6
Azobenzene (1,2-DP-Hydrazine	1.031	0.960	0.958	0.977	1.014	0.934	0.851	0.961	6.1
2,3,4,6-Tetrachlorophenol	0.275	0.317	0.322	0.343	0.368	0.353	0.338	0.331	9.1
1,2,4,5-Tetrachlorobenzene	0.589	0.572	0.551	0.580	0.571	0.550	0.517	0.561	4.3

(1) Cannot be seperated from Diphenylamine

<- Outside QC limits: %RSD <20% or R^2 > 0.990

US52:00178

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Calibration Date: 05/07/12

LAB FILE ID: RRF1 =05071202 RRF5 =05071203 RRF10 =05071204
RRF25 =05071201 RRF40 =05071205 RRF60 =05071206
RRF80 =05071207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	$\overline{RRF}$	%RSD /R^2
Total Benzofluoranthenes	1.132	1.101	1.105	1.156	1.110	0.945	0.828	1.054	11.5
2-Fluorophenol	1.188	1.247	1.202	1.233	1.301	1.167		1.223	3.9
Phenol-d5	1.458	1.480	1.458	1.461	1.532	1.353		1.457	4.0
2-Chlorophenol-d4	1.405	1.392	1.360	1.375	1.444	1.293		1.378	3.7
1,2-Dichlorobenzene-d4	1.017	1.003	0.979	0.976	1.044	0.942		0.994	3.6
Nitrobenzene-d5	0.329	0.331	0.326	0.327	0.338	0.312		0.327	2.6
2-Fluorobiphenyl	1.379	1.338	1.286	1.220	1.216	1.099		1.256	8.0
2,4,6-Tribromophenol	0.273	0.271	0.277	0.278	0.300	0.275		0.279	3.8
Terphenyl-d14	0.820	0.775	0.760	0.762	0.768	0.654		0.756	7.2

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-3

US52 00179

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Cont. Calib. Date: 05/04/12

Init. Calib. Date: 01/27/12 Cont. Calib. Time: 1228

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Phenol	1.490	1.641	0.800	AVRG	10.1
Bis(2-Chloroethyl)ether	1.142	1.217	0.700	AVRG	6.6
2-Chlorophenol	1.349	1.466	0.800	AVRG	8.7
1,3-Dichlorobenzene	1.473	1.596	0.010	AVRG	8.4
1,4-Dichlorobenzene	1.466	1.619	0.010	AVRG	10.4
1,2-Dichlorobenzene	1.396	1.597	0.010	AVRG	14.4
Benzyl alcohol	0.936	1.059	0.010	AVRG	13.1
2,2'-oxybis(1-Chloropropane)	1.327	1.348	0.010	AVRG	1.6
2-Methylphenol	1.184	1.300	0.700	AVRG	9.8
Hexachloroethane	0.546	0.583	0.300	AVRG	6.8
N-Nitroso-di-n-propylamine	0.792	0.831	0.500	AVRG	4.9
4-Methylphenol	1.212	1.370	0.600	AVRG	13.0
Nitrobenzene	0.332	0.332	0.200	AVRG	0.0
Isophorone	0.490	0.504	0.400	AVRG	2.8
2-Nitrophenol	0.197	0.222	0.100	AVRG	12.7
2,4-Dimethylphenol	0.313	0.338	0.200	AVRG	8.0
Bis(2-Chloroethoxy)methane	0.371	0.374	0.300	AVRG	0.8
2,4-Dichlorophenol	0.292	0.342	0.200	AVRG	17.1
1,2,4-Trichlorobenzene	0.329	0.372	0.010	AVRG	13.1
Naphthalene	1.037	1.104	0.700	AVRG	6.5
Benzoic acid	50.00	50.75	0.010	2ORDR	1.5
4-Chloroaniline	0.450	0.472	0.010	AVRG	4.9
Hexachlorobutadiene	0.190	0.222	0.010	AVRG	16.8
4-Chloro-3-methylphenol	0.263	0.285	0.200	AVRG	8.4
2-Methylnaphthalene	0.587	0.674	0.400	AVRG	14.8
Hexachlorocyclopentadiene	0.303	0.320	0.050	AVRG	5.6
2,4,6-Trichlorophenol	0.340	0.391	0.200	AVRG	15.0
2,4,5-Trichlorophenol	0.362	0.415	0.200	AVRG	14.6
2-Chloronaphthalene	0.987	1.076	0.800	AVRG	9.0
2-Nitroaniline	0.286	0.276	0.010	AVRG	-3.5
Acenaphthylene	1.640	1.788	0.900	AVRG	9.0
Dimethylphthalate	1.042	1.115	0.010	AVRG	7.0
2,6-Dinitrotoluene	0.256	0.279	0.200	AVRG	9.0
Acenaphthene	1.067	1.126	0.900	AVRG	5.5
3-Nitroaniline	0.298	0.328	0.010	AVRG	10.1
2,4-Dinitrophenol	50.00	45.16	0.010	2ORDR	-9.7
Dibenzofuran	1.494	1.698	0.800	AVRG	13.6

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-1

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Cont. Calib. Date: 05/04/12

Init. Calib. Date: 01/27/12 Cont. Calib. Time: 1228

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
4-Nitrophenol	0.115	0.108	0.010	AVRG	-6.1	
2,4-Dinitrotoluene	0.329	0.369	0.200	AVRG	12.2	
Fluorene	1.215	1.374	0.900	AVRG	13.1	
4-Chlorophenyl-phenylether	0.576	0.638	0.400	AVRG	10.8	
Diethylphthalate	1.036	1.128	0.010	AVRG	8.9	
4-Nitroaniline	0.292	0.323	0.010	AVRG	10.6	
4,6-Dinitro-2-methylphenol	0.134	0.152	0.010	AVRG	13.4	
N-Nitrosodiphenylamine(1)	0.516	0.539	0.010	AVRG	4.4	
4-Bromophenyl-phenylether	0.231	0.257	0.100	AVRG	11.2	
Hexachlorobenzene	0.280	0.325	0.100	AVRG	16.1	
Pentachlorophenol	25.00	22.97	0.050	LINR	-8.1	
Phenanthrene	1.043	1.137	0.700	AVRG	9.0	
Anthracene	1.058	1.162	0.700	AVRG	9.8	
Carbazole	0.814	0.871	0.010	AVRG	7.0	
Di-n-butylphthalate	0.989	1.085	0.010	AVRG	9.7	
Fluoranthene	1.066	1.270	0.600	AVRG	19.1	
Pyrene	1.048	1.101	0.600	AVRG	5.0	
Butylbenzylphthalate	0.417	0.406	0.010	AVRG	-2.6	
Benzo(a)anthracene	0.994	1.077	0.800	AVRG	8.4	
3,3'-Dichlorobenzidine	0.331	0.395	0.010	AVRG	19.3	
Chrysene	0.954	1.018	0.700	AVRG	6.7	
bis(2-Ethylhexyl)phthalate	0.526	0.592	0.010	AVRG	12.5	
Di-n-octylphthalate	0.922	1.004	0.010	AVRG	8.9	
Benzo(b)fluoranthene	1.012	1.117	0.700	AVRG	10.4	
Benzo(k)fluoranthene	1.124	1.276	0.700	AVRG	13.5	
Benzo(a)pyrene	0.894	1.032	0.700	AVRG	15.4	
Indeno(1,2,3-cd)pyrene	1.326	1.401	0.500	AVRG	5.6	
Dibenzo(a,h)anthracene	1.067	1.188	0.400	AVRG	11.3	
Benzo(g,h,i)perylene	1.163	1.133	0.500	AVRG	-2.6	
N-Nitrosodimethylamine	0.725	0.700	0.010	AVRG	-3.4	
Aniline	1.943	1.616	0.010	AVRG	-16.8	
Benzidine	0.280		0.010	AVRG		
Pyridine	1.251	1.100	0.010	AVRG	-12.1	
1-methylnaphthalene	0.466	0.509	0.010	AVRG	9.2	
Azobenzene (1,2-DP-Hydrazine	0.967	0.941	0.010	AVRG	-2.7	
2,3,4,6-Tetrachlorophenol	0.268	0.331	0.010	AVRG	23.5	<-

(1) Cannot be separated from Diphenylamine

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-2

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Cont. Calib. Date: 05/04/12

Init. Calib. Date: 01/27/12 Cont. Calib. Time: 1228

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
1,2,4,5-Tetrachlorobenzene	0.488		0.010	AVRG		
Total Benzofluoranthenes	0.963	1.125	0.010	AVRG	16.8	
2-Fluorophenol	1.228	1.204	0.010	AVRG	-2.0	
Phenol-d5	1.479	1.453	0.010	AVRG	-1.8	
2-Chlorophenol-d4	1.317	1.377	0.010	AVRG	4.6	
1,2-Dichlorobenzene-d4	0.950	1.031	0.010	AVRG	8.5	
Nitrobenzene-d5	0.349	0.321	0.010	AVRG	-8.0	
2-Fluorobiphenyl	1.186	1.203	0.010	AVRG	1.4	
2,4,6-Tribromophenol	0.217	0.288	0.010	AVRG	32.7	<-
Terphenyl-d14	0.689	0.699	0.010	AVRG	1.4	

<- Exceeds QC limit of 20% D

* RF less than minimum RF

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Cont. Calib. Date: 05/08/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1111

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Phenol	1.615	1.562	0.800	AVRG	-3.3
Bis(2-Chloroethyl)ether	1.181	1.204	0.700	AVRG	1.9
2-Chlorophenol	1.458	1.435	0.800	AVRG	-1.6
1,3-Dichlorobenzene	1.578	1.661	0.010	AVRG	5.2
1,4-Dichlorobenzene	1.580	1.663	0.010	AVRG	5.2
1,2-Dichlorobenzene	1.517	1.591	0.010	AVRG	4.9
Benzyl alcohol	0.981	0.973	0.010	AVRG	-0.8
2,2'-oxybis(1-Chloropropane)	1.281	1.299	0.010	AVRG	1.4
2-Methylphenol	1.240	1.206	0.700	AVRG	-2.7
Hexachloroethane	0.557	0.580	0.300	AVRG	4.1
N-Nitroso-di-n-propylamine	0.773	0.795	0.500	AVRG	2.8
4-Methylphenol	1.293	1.250	0.600	AVRG	-3.3
Nitrobenzene	0.331	0.348	0.200	AVRG	5.1
Isophorone	0.486	0.504	0.400	AVRG	3.7
2-Nitrophenol	0.221	0.225	0.100	AVRG	1.8
2,4-Dimethylphenol	0.338	0.336	0.200	AVRG	-0.6
Bis(2-Chloroethoxy)methane	0.374	0.385	0.300	AVRG	2.9
2,4-Dichlorophenol	0.345	0.346	0.200	AVRG	0.3
1,2,4-Trichlorobenzene	0.375	0.396	0.010	AVRG	5.6
Naphthalene	1.098	1.143	0.700	AVRG	4.1
Benzoic acid	0.221	0.207	0.010	AVRG	-6.3
4-Chloroaniline	0.478	0.496	0.010	AVRG	3.8
Hexachlorobutadiene	0.226	0.238	0.010	AVRG	5.3
4-Chloro-3-methylphenol	0.278	0.279	0.200	AVRG	0.4
2-Methylnaphthalene	0.646	0.663	0.400	AVRG	2.6
Hexachlorocyclopentadiene	0.354	0.361	0.050	AVRG	2.0
2,4,6-Trichlorophenol	0.408	0.406	0.200	AVRG	-0.5
2,4,5-Trichlorophenol	0.433	0.437	0.200	AVRG	0.9
2-Chloronaphthalene	1.084	1.152	0.800	AVRG	6.3
2-Nitroaniline	0.276	0.283	0.010	AVRG	2.5
Acenaphthylene	1.718	1.883	0.900	AVRG	9.6
Dimethylphthalate	1.106	1.168	0.010	AVRG	5.6
2,6-Dinitrotoluene	0.274	0.288	0.200	AVRG	5.1
Acenaphthene	1.130	1.197	0.900	AVRG	5.9
3-Nitroaniline	0.307	0.330	0.010	AVRG	7.5
2,4-Dinitrophenol	50.00	47.03	0.010	2ORDR	-5.9
Dibenzofuran	1.651	1.718	0.800	AVRG	4.0

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-1

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Cont. Calib. Date: 05/08/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1111

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
4-Nitrophenol	0.109	0.117	0.010	AVRG	7.3
2,4-Dinitrotoluene	0.349	0.377	0.200	AVRG	8.0
Fluorene	1.321	1.417	0.900	AVRG	7.3
4-Chlorophenyl-phenylether	0.643	0.672	0.400	AVRG	4.5
Diethylphthalate	1.040	1.085	0.010	AVRG	4.3
4-Nitroaniline	0.297	0.316	0.010	AVRG	6.4
4,6-Dinitro-2-methylphenol	0.147	0.154	0.010	AVRG	4.8
N-Nitrosodiphenylamine(1)	0.548	0.582	0.010	AVRG	6.2
4-Bromophenyl-phenylether	0.268	0.280	0.100	AVRG	4.5
Hexachlorobenzene	0.332	0.347	0.100	AVRG	4.5
Pentachlorophenol	0.164	0.161	0.050	AVRG	-1.8
Phenanthrene	1.114	1.197	0.700	AVRG	7.4
Anthracene	1.132	1.240	0.700	AVRG	9.5
Carbazole	0.863	0.907	0.010	AVRG	5.1
Di-n-butylphthalate	0.986	1.072	0.010	AVRG	8.7
Fluoranthene	1.131	1.259	0.600	AVRG	11.3
Pyrene	1.180	1.216	0.600	AVRG	3.0
Butylbenzylphthalate	0.402	0.418	0.010	AVRG	4.0
Benzo(a)anthracene	1.074	1.133	0.800	AVRG	5.5
3,3'-Dichlorobenzidine	0.371	0.389	0.010	AVRG	4.8
Chrysene	1.030	1.108	0.700	AVRG	7.6
bis(2-Ethylhexyl)phthalate	0.600	0.623	0.010	AVRG	3.8
Di-n-octylphthalate	1.005	1.061	0.010	AVRG	5.6
Benzo(b)fluoranthene	1.120	1.216	0.700	AVRG	8.6
Benzo(k)fluoranthene	1.123	1.231	0.700	AVRG	9.6
Benzo(a)pyrene	0.984	1.066	0.700	AVRG	8.3
Indeno(1,2,3-cd)pyrene	1.496	1.583	0.500	AVRG	5.8
Dibenzo(a,h)anthracene	1.205	1.316	0.400	AVRG	9.2
Benzo(g,h,i)perylene	1.297	1.354	0.500	AVRG	4.4
N-Nitrosodimethylamine	0.734	0.756	0.010	AVRG	3.0
Aniline	1.921	1.908	0.010	AVRG	-0.7
Benzidine	0.227		0.010	AVRG	
Pyridine	1.256	1.334	0.010	AVRG	6.2
1-methylnaphthalene	0.492	0.496	0.010	AVRG	0.8
Azobenzene (1,2-DP-Hydrazine	0.961	1.004	0.010	AVRG	4.5
2,3,4,6-Tetrachlorophenol	0.331	0.336	0.010	AVRG	1.5

(1) Cannot be separated from Diphenylamine

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-2

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT6 Cont. Calib. Date: 05/08/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1111

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
1,2,4,5-Tetrachlorobenzene	0.561		0.010	AVRG	
Total Benzofluoranthenes	1.054	1.153	0.010	AVRG	9.4
2-Fluorophenol	1.223	1.221	0.010	AVRG	-0.2
Phenol-d5	1.457	1.428	0.010	AVRG	-2.0
2-Chlorophenol-d4	1.378	1.349	0.010	AVRG	-2.1
1,2-Dichlorobenzene-d4	0.994	0.976	0.010	AVRG	-1.8
Nitrobenzene-d5	0.327	0.325	0.010	AVRG	-0.6
2-Fluorobiphenyl	1.256	1.238	0.010	AVRG	-1.4
2,4,6-Tribromophenol	0.279	0.284	0.010	AVRG	1.8
Terphenyl-d14	0.756	0.721	0.010	AVRG	-4.6

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-3

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 01271201 Ical Date: 01/27/12

Instrument ID: NT6 Cont. Cal Date: 05/04/12

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	ICAL MIDPT	648397	8.11	2416646	10.16	1478694	13.04
	UPPER LIMIT	1296794		4833292		2957388	
	LOWER LIMIT	324198		1208323		739347	
	CCAL	571520	7.43	2189801	9.49	1453682	12.35
	UPPER LIMIT		7.93		9.99		12.85
	LOWER LIMIT		6.93		8.99		11.85
01	US52MBW1	661578	7.42	2389217	9.49	1526094	12.34
02	US52LCSW1	684601	7.43	2558766	9.49	1683282	12.35
03	MW-14-043012	644532	7.43	2324072	9.49	1480904	12.35
04	MW-14-043012	639344	7.43	2430032	9.49	1591389	12.35
05	MW-14-043012	652608	7.43	2410264	9.49	1556023	12.35
06	MW-16-043012	617308	7.43	2269520	9.49	1456985	12.34
07	MW-11-050112	624751	7.43	2270348	9.48	1451592	12.34
08	MW-19-050112	624060	7.43	2259694	9.49	1460637	12.34
09	MW-28S-05011	633697	7.43	2259147	9.48	1428793	12.34
10	MW-32S-05011	621494	7.43	2244072	9.48	1427453	12.34
11	MW-32S-05011	641215	7.42	2438615	9.49	1578050	12.35
12	MW-32S-05011	639165	7.43	2401602	9.49	1552379	12.35
13	MW-32DR-0501	682817	7.43	2499523	9.48	1627261	12.34
14	MW-12-050112	536369	7.43	1923479	9.48	1186210	12.34
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IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

US52:00186

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 01271201 Ical Date: 01/27/12

Instrument ID: NT6 Cont. Cal Date: 05/04/12

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	ICAL MIDPT	2269302	15.44	2503780	19.79	2570598	21.96
	UPPER LIMIT	4538604		5007560		5141196	
	LOWER LIMIT	1134651		1251890		1285299	
	CCAL	2380693	14.71	2850845	19.00	2776149	21.15
	UPPER LIMIT		15.21		19.50		21.65
	LOWER LIMIT		14.21		18.50		20.65
01	US52MBW1	2523259	14.70	2932160	19.00	2879969	21.14
02	US52LCSW1	2726686	14.71	3173463	19.00	3009391	21.15
03	MW-14-043012	2382522	14.70	2651485	19.00	2677885	21.14
04	MW-14-043012	2512565	14.71	2882121	19.00	2859853	21.15
05	MW-14-043012	2368155	14.71	2655237	19.00	2694028	21.14
06	MW-16-043012	2343702	14.71	2556863	19.00	2661601	21.14
07	MW-11-050112	2343241	14.70	2641673	18.99	2713713	21.14
08	MW-19-050112	2333485	14.70	2637254	19.00	2669530	21.14
09	MW-28S-05011	2293927	14.70	2554254	19.00	2562489	21.14
10	MW-32S-05011	2251834	14.70	2542767	18.99	2739721	21.14
11	MW-32S-05011	2480290	14.70	2880514	19.00	2992721	21.15
12	MW-32S-05011	2368180	14.71	2548007	19.00	2618025	21.15
13	MW-32DR-0501	2650469	14.70	3144242	19.00	3364163	21.15
14	MW-12-050112	1904093	14.70	2139078	18.99	2225188	21.14
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IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 01271201 Ical Date: 01/27/12

Instrument ID: NT6 Cont. Cal Date: 05/04/12

		IS7 AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	2675258	20.94				
	UPPER LIMIT	5350516					
	LOWER LIMIT	1337629					
	CCAL	2639013	20.22				
	UPPER LIMIT		20.72				
	LOWER LIMIT		19.72				
01	US52MBW1	2656207	20.21				
02	US52LCSW1	3041078	20.21				
03	MW-14-043012	2576724	20.20				
04	MW-14-043012	2740308	20.21				
05	MW-14-043012	2503096	20.21				
06	MW-16-043012	2511011	20.21				
07	MW-11-050112	2504396	20.21				
08	MW-19-050112	2533067	20.20				
09	MW-28S-05011	2403734	20.21				
10	MW-32S-05011	2477279	20.21				
11	MW-32S-05011	2800627	20.21				
12	MW-32S-05011	2430703	20.21				
13	MW-32DR-0501	3167014	20.20				
14	MW-12-050112	1990586	20.20				
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IS7 = Di-n-octylphthalate-d4

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-3

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 05071201 Ical Date: 05/07/12

Instrument ID: NT6 Cont. Cal Date: 05/08/12

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	ICAL MIDPT	809103	7.38	2911787	9.45	1818894	12.30
	UPPER LIMIT	1618206		5823574		3637788	
	LOWER LIMIT	404552		1455894		909447	
	CCAL	657047	7.38	2305210	9.45	1417746	12.30
	UPPER LIMIT		7.88		9.95		12.80
	LOWER LIMIT		6.88		8.95		11.80
01	US52MBW1	616986	7.38	2198165	9.44	1309617	12.29
02	US52LCSW1	787775	7.38	2865751	9.45	1841109	12.30
03	MW-5S-050112	584492	7.38	2100282	9.44	1259758	12.30
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IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 05071201 Ical Date: 05/07/12

Instrument ID: NT6 Cont. Cal Date: 05/08/12

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	ICAL MIDPT	2718644	14.66	2549674	18.95	2525537	21.09
	UPPER LIMIT	5437288		5099348		5051074	
	LOWER LIMIT	1359322		1274837		1262768	
	CCAL	2175348	14.66	2325625	18.95	2401245	21.09
	UPPER LIMIT		15.16		19.45		21.59
	LOWER LIMIT		14.16		18.45		20.59
01	US52MBW1	2041584	14.65	2077930	18.95	2215003	21.09
02	US52LCSW1	2934287	14.66	3066075	18.95	2736792	21.09
03	MW-5S-050112	1963947	14.65	1930182	18.94	1948808	21.09
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IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

US52:00190

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 05071201 Ical Date: 05/07/12

Instrument ID: NT6 Cont. Cal Date: 05/08/12

		IS7 AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	2275861	20.16				
	UPPER LIMIT	4551722					
	LOWER LIMIT	1137930					
	CCAL	2105573	20.17				
	UPPER LIMIT		20.67				
	LOWER LIMIT		19.67				
01	US52MBW1	1810222	20.16				
02	US52LCSW1	2830484	20.17				
03	MW-5S-050112	1717187	20.16				
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IS7 = Di-n-octylphthalate-d4

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-3

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-30S-050212
SAMPLE

Lab Sample ID: US61A
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized: VD
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 16:58
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-30S-050212
SAMPLE

Lab Sample ID: US61A
LIMS ID: 12-7884
Matrix: Water
Date Analyzed: 05/10/12 16:58

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	69.2%	2-Fluorobiphenyl	68.8%
d14-p-Terphenyl	77.2%	d4-1,2-Dichlorobenzene	58.4%
d5-Phenol	70.9%	2-Fluorophenol	76.8%
2,4,6-Tribromophenol	74.1%	d4-2-Chlorophenol	70.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-29S-050212
SAMPLE

Lab Sample ID: US61B
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized: VD
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 17:33
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-29S-050212
SAMPLE

Lab Sample ID: US61B
LIMS ID: 12-7885
Matrix: Water
Date Analyzed: 05/10/12 17:33

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	64.4%	2-Fluorobiphenyl	62.4%
d14-p-Terphenyl	70.8%	d4-1,2-Dichlorobenzene	53.2%
d5-Phenol	64.5%	2-Fluorophenol	69.6%
2,4,6-Tribromophenol	67.5%	d4-2-Chlorophenol	66.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MW-31S-050212
SAMPLE

Lab Sample ID: US61C
LIMS ID: 12-7886
Matrix: Water
Data Release Authorized: WB
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 18:07
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	**Phenol**	**1.0**	**4.3**
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

Sample ID: MW-31S-050212
SAMPLE

Lab Sample ID: US61C
LIMS ID: 12-7886
Matrix: Water
Date Analyzed: 05/10/12 18:07

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	74.0%	2-Fluorobiphenyl	73.2%
d14-p-Terphenyl	83.6%	d4-1,2-Dichlorobenzene	61.2%
d5-Phenol	75.7%	2-Fluorophenol	80.8%
2,4,6-Tribromophenol	79.5%	d4-2-Chlorophenol	76.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: DUP-050212-1
SAMPLE

Lab Sample ID: US61D
LIMS ID: 12-7887
Matrix: Water
Data Release Authorized: VTS
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 18:41
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	**Phenol**	**1.0**	**4.0**
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

Sample ID: DUP-050212-1
SAMPLE

Lab Sample ID: US61D
LIMS ID: 12-7887
Matrix: Water
Date Analyzed: 05/10/12 18:41

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	69.2%	2-Fluorobiphenyl	68.0%
d14-p-Terphenyl	84.8%	d4-1,2-Dichlorobenzene	58.0%
d5-Phenol	71.7%	2-Fluorophenol	75.2%
2,4,6-Tribromophenol	79.2%	d4-2-Chlorophenol	71.7%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MW-30S-050212	69.2%	68.8%	77.2%	58.4%	70.9%	76.8%	74.1%	70.9%	0
MB-050812	74.0%	67.6%	72.0%	54.0%	74.4%	78.1%	68.5%	74.9%	0
LCS-050812	70.0%	72.0%	77.6%	53.2%	70.9%	71.5%	81.3%	69.3%	0
LCSD-050812	66.0%	67.6%	75.6%	48.8%	67.7%	67.7%	77.6%	65.6%	0
MW-29S-050212	64.4%	62.4%	70.8%	53.2%	64.5%	69.6%	67.5%	66.1%	0
MW-31S-050212	74.0%	73.2%	83.6%	61.2%	75.7%	80.8%	79.5%	76.0%	0
DUP-050212-1	69.2%	68.0%	84.8%	58.0%	71.7%	75.2%	79.2%	71.7%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 12-7884 to 12-7887

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-050812
LCS/LCSD

Lab Sample ID: LCS-050812
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized: WB
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted LCS/LCSD: 05/08/12

Date Analyzed LCS: 05/10/12 15:50
LCSD: 05/10/12 16:24
Instrument/Analyst LCS: NT6/JZ
LCSD: NT6/JZ
GPC Cleanup: NO

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	16.8	25.0	67.2%	16.5	25.0	66.0%	1.8%
Bis-(2-Chloroethyl) Ether	17.4	25.0	69.6%	16.9	25.0	67.6%	2.9%
2-Chlorophenol	15.9	25.0	63.6%	15.8	25.0	63.2%	0.6%
1,3-Dichlorobenzene	9.9	25.0	39.6%	10.7	25.0	42.8%	8.2%
1,4-Dichlorobenzene	10.5	25.0	42.0%	11.2	25.0	44.8%	6.5%
Benzyl Alcohol	9.8	25.0	39.2%	10.9	25.0	43.6%	10.8%
1,2-Dichlorobenzene	10.9	25.0	43.6%	11.6	25.0	46.4%	6.2%
2-Methylphenol	15.3	25.0	61.2%	15.3	25.0	61.2%	0.0%
2,2'-Oxybis(1-Chloropropane)	16.9	25.0	67.6%	16.6	25.0	66.4%	1.8%
4-Methylphenol	32.1	50.0	64.2%	31.8	50.0	63.6%	0.9%
N-Nitroso-Di-N-Propylamine	17.9	25.0	71.6%	17.7	25.0	70.8%	1.1%
Hexachloroethane	9.2	25.0	36.8%	10.2	25.0	40.8%	10.9%
Nitrobenzene	16.8	25.0	67.2%	16.4	25.0	65.6%	2.4%
Isophorone	20.0	25.0	80.0%	19.9	25.0	79.6%	0.5%
2-Nitrophenol	16.6	25.0	66.4%	16.1	25.0	64.4%	3.1%
2,4-Dimethylphenol	43.4	75.0	57.9%	43.2	75.0	57.6%	0.5%
Benzoic Acid	102	138	73.9%	96.7	138	70.1%	5.3%
bis(2-Chloroethoxy) Methane	17.7	25.0	70.8%	17.5	25.0	70.0%	1.1%
2,4-Dichlorophenol	49.7	75.0	66.3%	48.8	75.0	65.1%	1.8%
1,2,4-Trichlorobenzene	11.8	25.0	47.2%	12.0	25.0	48.0%	1.7%
Naphthalene	13.8	25.0	55.2%	13.7	25.0	54.8%	0.7%
4-Chloroaniline	43.0	75.0	57.3%	44.2	75.0	58.9%	2.8%
Hexachlorobutadiene	9.7	25.0	38.8%	10.4	25.0	41.6%	6.7%
4-Chloro-3-methylphenol	55.0	75.0	73.3%	54.4	75.0	72.5%	1.1%
2-Methylnaphthalene	13.6	25.0	54.4%	13.6	25.0	54.4%	0.0%
Hexachlorocyclopentadiene	22.8	75.0	30.4%	22.1	75.0	29.5%	3.1%
2,4,6-Trichlorophenol	53.5	75.0	71.3%	52.8	75.0	70.4%	1.3%
2,4,5-Trichlorophenol	57.0	75.0	76.0%	55.8	75.0	74.4%	2.1%
2-Chloronaphthalene	17.0	25.0	68.0%	16.6	25.0	66.4%	2.4%
2-Nitroaniline	53.5	75.0	71.3%	53.0	75.0	70.7%	0.9%
Dimethylphthalate	21.1	25.0	84.4%	21.1	25.0	84.4%	0.0%
Acenaphthylene	17.7	25.0	70.8%	17.5	25.0	70.0%	1.1%
3-Nitroaniline	58.9	75.0	78.5%	59.4	75.0	79.2%	0.8%
Acenaphthene	17.2	25.0	68.8%	16.9	25.0	67.6%	1.8%
2,4-Dinitrophenol	101	138	73.2%	102	138	73.9%	1.0%
4-Nitrophenol	59.0	75.0	78.7%	58.7	75.0	78.3%	0.5%
Dibenzofuran	17.1	25.0	68.4%	17.0	25.0	68.0%	0.6%
2,6-Dinitrotoluene	62.5	75.0	83.3%	62.3	75.0	83.1%	0.3%
2,4-Dinitrotoluene	64.8	75.0	86.4%	63.8	75.0	85.1%	1.6%
Diethylphthalate	21.5	25.0	86.0%	21.3	25.0	85.2%	0.9%
4-Chlorophenyl-phenylether	19.1	25.0	76.4%	19.1	25.0	76.4%	0.0%
Fluorene	18.1	25.0	72.4%	17.9	25.0	71.6%	1.1%
4-Nitroaniline	56.8	75.0	75.7%	57.0	75.0	76.0%	0.4%
4,6-Dinitro-2-Methylphenol	125	138	90.6%	122	138	88.4%	2.4%
N-Nitrosodiphenylamine	18.2	25.0	72.8%	18.0	25.0	72.0%	1.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-050812
LCS/LCSD

Lab Sample ID: LCS-050812
LIMS ID: 12-7885
Matrix: Water
Date Analyzed LCS: 05/10/12 15:50
LCSD: 05/10/12 16:24

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
4-Bromophenyl-phenylether	20.1	25.0	80.4%	19.6	25.0	78.4%	2.5%
Hexachlorobenzene	20.1	25.0	80.4%	19.7	25.0	78.8%	2.0%
Pentachlorophenol	60.0	75.0	80.0%	63.3	75.0	84.4%	5.4%
Phenanthrene	19.7	25.0	78.8%	19.2	25.0	76.8%	2.6%
Carbazole	21.4	25.0	85.6%	21.1	25.0	84.4%	1.4%
Anthracene	18.6	25.0	74.4%	18.5	25.0	74.0%	0.5%
Di-n-Butylphthalate	22.5	25.0	90.0%	22.2	25.0	88.8%	1.3%
Fluoranthene	20.7	25.0	82.8%	20.1	25.0	80.4%	2.9%
Pyrene	17.9	25.0	71.6%	17.8	25.0	71.2%	0.6%
Butylbenzylphthalate	20.0	25.0	80.0%	19.7	25.0	78.8%	1.5%
3,3'-Dichlorobenzidine	47.2	75.0	62.9%	51.4	75.0	68.5%	8.5%
Benzo(a)anthracene	18.6	25.0	74.4%	18.2	25.0	72.8%	2.2%
bis(2-Ethylhexyl)phthalate	20.3	25.0	81.2%	21.3	25.0	85.2%	4.8%
Chrysene	19.1	25.0	76.4%	18.5	25.0	74.0%	3.2%
Di-n-Octyl phthalate	20.9	25.0	83.6%	20.7	25.0	82.8%	1.0%
Benzo(a)pyrene	17.5	25.0	70.0%	17.5	25.0	70.0%	0.0%
Indeno(1,2,3-cd)pyrene	11.4	25.0	45.6%	12.8	25.0	51.2%	11.6%
Dibenz(a,h)anthracene	11.4	25.0	45.6%	12.4	25.0	49.6%	8.4%
Benzo(g,h,i)perylene	10.6	25.0	43.2%	12.1	25.0	48.4%	11.4%
2,3,4,6-Tetrachlorophenol	19.2	25.0	76.8%	18.9	25.0	75.6%	1.6%
1-Methylnaphthalene	18.6	25.0	74.4%	18.5	25.0	74.0%	0.5%
Total Benzofluoranthenes	38.2	50.0	76.4%	38.1	50.0	76.2%	0.3%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	70.0%	66.0%
2-Fluorobiphenyl	72.0%	67.6%
d14-p-Terphenyl	77.6%	75.6%
d4-1,2-Dichlorobenzene	53.2%	48.8%
d5-Phenol	70.9%	67.7%
2-Fluorophenol	71.5%	67.7%
2,4,6-Tribromophenol	81.3%	77.6%
d4-2-Chlorophenol	69.3%	65.6%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

US61MBW1

Lab Name: ANALYTICAL RESOURCES INC

Client: ERM-WEST

ARI Job No: US61

Project: RG SPRING GW SAMPLIN

Lab File ID: 05101208

Date Extracted: 05/08/12

Instrument ID: NT6

Date Analyzed: 05/10/12

Matrix: LIQUID

Time Analyzed: 1515

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	US61LCSW1	US61LCSW1	05101209	05/10/12
02	US61LCSDW1	US61LCSDW1	05101210	05/10/12
03	MW-30S-050212	US61A	05101211	05/10/12
04	MW-29S-050212	US61B	05101212	05/10/12
05	MW-31S-050212	US61C	05101213	05/10/12
06	DUP-050212-1	US61D	05101214	05/10/12
07	MW-34S-050312	US82A	05101215	05/10/12
08	MW-35S-050312	US82B	05101216	05/10/12
09	MW-33S-050212	US82E	05101217	05/10/12
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FORM IV SV

US52:00203

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-050812
METHOD BLANK

Lab Sample ID: MB-050812
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized: VB
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 15:15
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-050812
METHOD BLANK

Lab Sample ID: MB-050812
LIMS ID: 12-7885
Matrix: Water
Date Analyzed: 05/10/12 15:15

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
58-90-2	2,3,4,6-Tetrachlorophenol	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
TOTBFA	Total Benzofluoranthenes	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	74.0%	2-Fluorobiphenyl	67.6%
d14-p-Terphenyl	72.0%	d4-1,2-Dichlorobenzene	54.0%
d5-Phenol	74.4%	2-Fluorophenol	78.1%
2,4,6-Tribromophenol	68.5%	d4-2-Chlorophenol	74.9%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT6 Project: RG SPRING GW

DFTPP Injection Date: 05/07/12 DFTPP Injection Time: 1847

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	28.0
68	Less than 2.0% of mass 69	0.3 (1.0)1
69	Mass 69 relative abundance	32.5
70	Less than 2.0% of mass 69	0.1 (0.3)1
127	10.0 - 80.0% of mass 198	44.3
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	30.0
365	Greater than 1.0% of mass 198	3.64
441	0.0 - 24.0% of mass 442	26.0 (14.3)2
442	50.0 - 200.0% of mass 198	181.8
443	15.0 - 24.0% of mass 442	35.4 (19.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC250507	IC250507	05071201	05/07/12	1847
02	IC10507	IC10507	05071202	05/07/12	1922
03	IC50507	IC50507	05071203	05/07/12	1956
04	IC100507	IC100507	05071204	05/07/12	2030
05	IC400507	IC400507	05071205	05/07/12	2105
06	IC600507	IC600507	05071206	05/07/12	2139
07	IC800507	IC800507	05071207	05/07/12	2213
08					
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US52:00206

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT6 Project: RG SPRING GW

DFTPP Injection Date: 05/10/12 DFTPP Injection Time: 1113

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	26.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	31.5
70	Less than 2.0% of mass 69	0.1 (0.5)1
127	10.0 - 80.0% of mass 198	43.9
197	Less than 2.0% of mass 198	0.2
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	30.9
365	Greater than 1.0% of mass 198	3.89
441	0.0 - 24.0% of mass 442	27.9 (14.7)2
442	50.0 - 200.0% of mass 198	189.3
443	15.0 - 24.0% of mass 442	36.5 (19.3)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0510	CC0510	05101201	05/10/12	1113
02	US61MBW1	US61MBW1	05101208	05/10/12	1515
03	US61LCSW1	US61LCSW1	05101209	05/10/12	1550
04	US61LCSDW1	US61LCSDW1	05101210	05/10/12	1624
05	MW-30S-050212	US61A	05101211	05/10/12	1658
06	MW-29S-050212	US61B	05101212	05/10/12	1733
07	MW-31S-050212	US61C	05101213	05/10/12	1807
08	DUP-050212-1	US61D	05101214	05/10/12	1841
09	MW-34S-050312	US82A	05101215	05/10/12	1915
10	MW-35S-050312	US82B	05101216	05/10/12	1949
11	MW-33S-050212	US82E	05101217	05/10/12	2024
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FORM V SV

US52:00207

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Calibration Date: 05/07/12

LAB FILE ID: RRF1 =05071202 RRF5 =05071203 RRF10 =05071204
RRF25 =05071201 RRF40 =05071205 RRF60 =05071206
RRF80 =05071207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	___ RRF	%RSD /R^2
Phenol	1.700	1.674	1.608	1.620	1.704	1.558	1.440	1.615	5.8
Bis(2-Chloroethyl)ether	1.164	1.171	1.145	1.258	1.265	1.173	1.094	1.181	5.2
2-Chlorophenol	1.468	1.505	1.442	1.446	1.556	1.446	1.340	1.458	4.6
1,3-Dichlorobenzene	1.578	1.596	1.579	1.649	1.661	1.558	1.428	1.578	4.8
1,4-Dichlorobenzene	1.588	1.601	1.579	1.665	1.660	1.548	1.420	1.580	5.2
1,2-Dichlorobenzene	1.533	1.537	1.519	1.600	1.600	1.471	1.358	1.517	5.5
Benzyl alcohol	0.949	1.007	0.950	1.018	1.057	0.967	0.920	0.981	4.9
2,2'-oxybis(1-Chloropropane)	1.322	1.307	1.277	1.349	1.345	1.229	1.136	1.281	6.0
2-Methylphenol	1.240	1.267	1.205	1.246	1.333	1.235	1.151	1.240	4.5
Hexachloroethane	0.532	0.540	0.537	0.587	0.598	0.571	0.535	0.557	4.9
N-Nitroso-di-n-propylamine	0.759	0.766	0.768	0.822	0.827	0.758	0.712	0.773	5.2
4-Methylphenol	1.311	1.315	1.270	1.299	1.385	1.275	1.197	1.293	4.4
Nitrobenzene	0.329	0.339	0.331	0.347	0.344	0.326	0.302	0.331	4.5
Isophorone	0.489	0.492	0.488	0.514	0.504	0.474	0.441	0.486	4.8
2-Nitrophenol	0.199	0.216	0.214	0.226	0.241	0.232	0.219	0.221	6.3
2,4-Dimethylphenol	0.344	0.351	0.335	0.339	0.352	0.336	0.309	0.338	4.3
Bis(2-Chloroethoxy)methane	0.394	0.374	0.370	0.393	0.387	0.363	0.336	0.374	5.4
2,4-Dichlorophenol	0.346	0.353	0.339	0.346	0.366	0.348	0.318	0.345	4.2
1,2,4-Trichlorobenzene	0.374	0.381	0.369	0.391	0.390	0.373	0.345	0.375	4.1
Naphthalene	1.197	1.166	1.134	1.119	1.045	0.924		1.098	9.0
Benzoic acid		0.173	0.190	0.226	0.250	0.248	0.239	0.221	14.6
4-Chloroaniline	0.534	0.529	0.493	0.484	0.478	0.438	0.388	0.478	10.7
Hexachlorobutadiene	0.222	0.224	0.223	0.233	0.235	0.230	0.213	0.226	3.3
4-Chloro-3-methylphenol	0.274	0.279	0.274	0.284	0.297	0.279	0.256	0.278	4.4
2-Methylnaphthalene	0.711	0.703	0.659	0.662	0.656	0.598	0.534	0.646	9.5
Hexachlorocyclopentadiene		0.264	0.294	0.390	0.404	0.389	0.384	0.354	16.8
2,4,6-Trichlorophenol	0.384	0.407	0.397	0.409	0.433	0.425	0.399	0.408	4.1
2,4,5-Trichlorophenol	0.408	0.430	0.420	0.440	0.469	0.446	0.419	0.433	4.7
2-Chloronaphthalene	1.163	1.126	1.113	1.147	1.095	1.026	0.921	1.084	7.8
2-Nitroaniline	0.262	0.288	0.277	0.286	0.287	0.271	0.258	0.276	4.5
Acenaphthylene	1.927	1.897	1.850	1.825	1.701	1.509	1.321	1.718	13.1
Dimethylphthalate	1.196	1.138	1.136	1.150	1.122	1.045	0.956	1.106	7.2
2,6-Dinitrotoluene	0.254	0.263	0.273	0.290	0.291	0.280	0.265	0.274	5.2
Acenaphthene	1.232	1.197	1.166	1.176	1.135	1.057	0.951	1.130	8.5
3-Nitroaniline	0.342	0.366	0.345	0.318	0.297	0.259	0.223	0.307	16.6
2,4-Dinitrophenol		0.080	0.114	0.153	0.188	0.193	0.191	0.153	0.995
Dibenzofuran	1.938	1.863	1.729	1.667	1.609	1.452	1.301	1.651	13.5

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-1

US52:00208

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Calibration Date: 05/07/12

LAB FILE ID: RRF1 =05071202 RRF5 =05071203 RRF10 =05071204
RRF25 =05071201 RRF40 =05071205 RRF60 =05071206
RRF80 =05071207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	$\overline{RRF}$	%RSD /R^2
4-Nitrophenol	0.069	0.100	0.105	0.119	0.128	0.126	0.119	0.109	18.7
2,4-Dinitrotoluene	0.311	0.344	0.349	0.372	0.372	0.358	0.337	0.349	6.2
Fluorene	1.459	1.405	1.371	1.380	1.331	1.216	1.084	1.321	9.7
4-Chlorophenyl-phenylether	0.669	0.655	0.641	0.664	0.664	0.627	0.580	0.643	4.8
Diethylphthalate	1.132	1.065	1.062	1.083	1.066	0.977	0.895	1.040	7.6
4-Nitroaniline	0.286	0.314	0.311	0.305	0.305	0.286	0.271	0.297	5.4
4,6-Dinitro-2-methylphenol		0.113	0.129	0.148	0.168	0.166	0.158	0.147	14.9
N-Nitrosodiphenylamine (1)	0.562	0.552	0.542	0.579	0.578	0.534	0.490	0.548	5.6
4-Bromophenyl-phenylether	0.269	0.264	0.262	0.286	0.284	0.266	0.246	0.268	5.2
Hexachlorobenzene	0.349	0.331	0.326	0.347	0.345	0.328	0.301	0.332	5.0
Pentachlorophenol		0.116	0.134	0.172	0.191	0.192	0.182	0.164	19.5
Phenanthrene	1.249	1.208	1.170	1.183	1.110	1.003	0.878	1.114	11.7
Anthracene	1.254	1.239	1.215	1.202	1.129	1.006	0.878	1.132	12.4
Carbazole	0.951	0.926	0.898	0.893	0.850	0.802	0.719	0.863	9.3
Di-n-butylphthalate	1.051	1.034	1.041	1.048	1.011	0.922	0.795	0.986	9.7
Fluoranthene	1.258	1.221	1.203	1.181	1.128	1.033	0.892	1.131	11.3
Pyrene	1.343	1.306	1.248	1.281	1.193	1.009	0.881	1.180	14.5
Butylbenzylphthalate	0.380	0.397	0.396	0.438	0.430	0.401	0.369	0.402	6.3
Benzo(a)anthracene	1.162	1.132	1.095	1.147	1.088	1.000	0.894	1.074	8.9
3,3'-Dichlorobenzidine	0.397	0.412	0.379	0.375	0.370	0.346	0.316	0.371	8.6
Chrysene	1.137	1.111	1.070	1.085	1.050	0.932	0.829	1.030	10.7
bis(2-Ethylhexyl)phthalate	0.616	0.597	0.589	0.640	0.634	0.583	0.540	0.600	5.7
Di-n-octylphthalate	1.106	1.044	1.026	1.055	1.028	0.940	0.838	1.005	8.8
Benzo(b)fluoranthene	1.167	1.187	1.136	1.228	1.161	1.028	0.930	1.120	9.3
Benzo(k)fluoranthene	1.229	1.176	1.208	1.225	1.200	0.986	0.836	1.123	13.6
Benzo(a)pyrene	1.003	1.005	1.005	1.067	1.045	0.933	0.832	0.984	8.1
Indeno(1,2,3-cd)pyrene	1.496	1.533	1.502	1.571	1.551	1.479	1.342	1.496	5.0
Dibenzo(a,h)anthracene	1.213	1.246	1.227	1.312	1.284	1.146	1.005	1.205	8.5
Benzo(g,h,i)perylene	1.322	1.319	1.296	1.375	1.350	1.269	1.147	1.297	5.7
N-Nitrosodimethylamine	0.730	0.713	0.718	0.772	0.776	0.731	0.698	0.734	4.0
Aniline	2.020	2.057	1.941	1.955	1.989	1.804	1.681	1.921	6.9
Benzidine	0.279	0.232	0.224	0.190	0.237	0.223	0.207	0.227	12.2
Pyridine	1.024	1.258	1.287	1.357	1.367	1.285	1.216	1.256	9.2
1-methylnaphthalene	0.541	0.521	0.490	0.499	0.503	0.466	0.426	0.492	7.6
Azobenzene (1,2-DP-Hydrazine	1.031	0.960	0.958	0.977	1.014	0.934	0.851	0.961	6.1
2,3,4,6-Tetrachlorophenol	0.275	0.317	0.322	0.343	0.368	0.353	0.338	0.331	9.1
1,2,4,5-Tetrachlorobenzene	0.589	0.572	0.551	0.580	0.571	0.550	0.517	0.561	4.3

(1) Cannot be seperated from Diphenylamine

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-2

US52:00209

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Calibration Date: 05/07/12

LAB FILE ID: RRF1 =05071202 RRF5 =05071203 RRF10 =05071204
RRF25 =05071201 RRF40 =05071205 RRF60 =05071206
RRF80 =05071207

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	___ RRF	%RSD /R^2
Total Benzofluoranthenes	1.132	1.101	1.105	1.156	1.110	0.945	0.828	1.054	11.5
2-Fluorophenol	1.188	1.247	1.202	1.233	1.301	1.167		1.223	3.9
Phenol-d5	1.458	1.480	1.458	1.461	1.532	1.353		1.457	4.0
2-Chlorophenol-d4	1.405	1.392	1.360	1.375	1.444	1.293		1.378	3.7
1,2-Dichlorobenzene-d4	1.017	1.003	0.979	0.976	1.044	0.942		0.994	3.6
Nitrobenzene-d5	0.329	0.331	0.326	0.327	0.338	0.312		0.327	2.6
2-Fluorobiphenyl	1.379	1.338	1.286	1.220	1.216	1.099		1.256	8.0
2,4,6-Tribromophenol	0.273	0.271	0.277	0.278	0.300	0.275		0.279	3.8
Terphenyl-d14	0.820	0.775	0.760	0.762	0.768	0.654		0.756	7.2

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-3

US52:00210

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Cont. Calib. Date: 05/10/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1113

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Phenol	1.615	1.562	0.800	AVRG	-3.3
Bis(2-Chloroethyl)ether	1.181	1.221	0.700	AVRG	3.4
2-Chlorophenol	1.458	1.429	0.800	AVRG	-2.0
1,3-Dichlorobenzene	1.578	1.653	0.010	AVRG	4.8
1,4-Dichlorobenzene	1.580	1.651	0.010	AVRG	4.5
1,2-Dichlorobenzene	1.517	1.581	0.010	AVRG	4.2
Benzyl alcohol	0.981	0.978	0.010	AVRG	-0.3
2,2'-oxybis(1-Chloropropane)	1.281	1.312	0.010	AVRG	2.4
2-Methylphenol	1.240	1.203	0.700	AVRG	-3.0
Hexachloroethane	0.557	0.588	0.300	AVRG	5.6
N-Nitroso-di-n-propylamine	0.773	0.794	0.500	AVRG	2.7
4-Methylphenol	1.293	1.254	0.600	AVRG	-3.0
Nitrobenzene	0.331	0.349	0.200	AVRG	5.4
Isophorone	0.486	0.503	0.400	AVRG	3.5
2-Nitrophenol	0.221	0.222	0.100	AVRG	0.4
2,4-Dimethylphenol	0.338	0.334	0.200	AVRG	-1.2
Bis(2-Chloroethoxy)methane	0.374	0.383	0.300	AVRG	2.4
2,4-Dichlorophenol	0.345	0.341	0.200	AVRG	-1.2
1,2,4-Trichlorobenzene	0.375	0.394	0.010	AVRG	5.1
Naphthalene	1.098	1.146	0.700	AVRG	4.4
Benzoic acid	0.221	0.192	0.010	AVRG	-13.1
4-Chloroaniline	0.478	0.485	0.010	AVRG	1.5
Hexachlorobutadiene	0.226	0.243	0.010	AVRG	7.5
4-Chloro-3-methylphenol	0.278	0.273	0.200	AVRG	-1.8
2-Methylnaphthalene	0.646	0.664	0.400	AVRG	2.8
Hexachlorocyclopentadiene	0.354	0.383	0.050	AVRG	8.2
2,4,6-Trichlorophenol	0.408	0.407	0.200	AVRG	-0.2
2,4,5-Trichlorophenol	0.433	0.427	0.200	AVRG	-1.4
2-Chloronaphthalene	1.084	1.169	0.800	AVRG	7.8
2-Nitroaniline	0.276	0.277	0.010	AVRG	0.4
Acenaphthylene	1.718	1.870	0.900	AVRG	8.8
Dimethylphthalate	1.106	1.156	0.010	AVRG	4.5
2,6-Dinitrotoluene	0.274	0.285	0.200	AVRG	4.0
Acenaphthene	1.130	1.200	0.900	AVRG	6.2
3-Nitroaniline	0.307	0.323	0.010	AVRG	5.2
2,4-Dinitrophenol	50.00	40.42	0.010	2ORDR	-19.2
Dibenzofuran	1.651	1.694	0.800	AVRG	2.6

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-1

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Cont. Calib. Date: 05/10/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1113

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
4-Nitrophenol	0.109	0.102	0.010	AVRG	-6.4
2,4-Dinitrotoluene	0.349	0.366	0.200	AVRG	4.9
Fluorene	1.321	1.406	0.900	AVRG	6.4
4-Chlorophenyl-phenylether	0.643	0.666	0.400	AVRG	3.6
Diethylphthalate	1.040	1.090	0.010	AVRG	4.8
4-Nitroaniline	0.297	0.301	0.010	AVRG	1.3
4,6-Dinitro-2-methylphenol	0.147	0.154	0.010	AVRG	4.8
N-Nitrosodiphenylamine(1)	0.548	0.580	0.010	AVRG	5.8
4-Bromophenyl-phenylether	0.268	0.282	0.100	AVRG	5.2
Hexachlorobenzene	0.332	0.354	0.100	AVRG	6.6
Pentachlorophenol	0.164	0.154	0.050	AVRG	-6.1
Phenanthrene	1.114	1.193	0.700	AVRG	7.1
Anthracene	1.132	1.232	0.700	AVRG	8.8
Carbazole	0.863	0.897	0.010	AVRG	3.9
Di-n-butylphthalate	0.986	1.076	0.010	AVRG	9.1
Fluoranthene	1.131	1.260	0.600	AVRG	11.4
Pyrene	1.180	1.206	0.600	AVRG	2.2
Butylbenzylphthalate	0.402	0.416	0.010	AVRG	3.5
Benzo(a)anthracene	1.074	1.123	0.800	AVRG	4.6
3,3'-Dichlorobenzidine	0.371	0.400	0.010	AVRG	7.8
Chrysene	1.030	1.098	0.700	AVRG	6.6
bis(2-Ethylhexyl)phthalate	0.600	0.619	0.010	AVRG	3.2
Di-n-octylphthalate	1.005	1.063	0.010	AVRG	5.8
Benzo(b)fluoranthene	1.120	1.102	0.700	AVRG	-1.6
Benzo(k)fluoranthene	1.123	1.300	0.700	AVRG	15.8
Benzo(a)pyrene	0.984	1.073	0.700	AVRG	9.0
Indeno(1,2,3-cd)pyrene	1.496	1.586	0.500	AVRG	6.0
Dibenzo(a,h)anthracene	1.205	1.330	0.400	AVRG	10.4
Benzo(g,h,i)perylene	1.297	1.299	0.500	AVRG	0.2
N-Nitrosodimethylamine	0.734	0.756	0.010	AVRG	3.0
Aniline	1.921	1.875	0.010	AVRG	-2.4
Benzidine	0.227	0.246	0.010	AVRG	8.4
Pyridine	1.256	1.324	0.010	AVRG	5.4
1-methylnaphthalene	0.492	0.497	0.010	AVRG	1.0
Azobenzene (1,2-DP-Hydrazine	0.961	0.977	0.010	AVRG	1.7
2,3,4,6-Tetrachlorophenol	0.331	0.336	0.010	AVRG	1.5

(1) Cannot be separated from Diphenylamine

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-2

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT6 Cont. Calib. Date: 05/10/12

Init. Calib. Date: 05/07/12 Cont. Calib. Time: 1113

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
1,2,4,5-Tetrachlorobenzene	0.561		0.010	AVRG	
Total Benzofluoranthenes	1.054	1.130	0.010	AVRG	7.2
2-Fluorophenol	1.223	1.174	0.010	AVRG	-4.0
Phenol-d5	1.457	1.404	0.010	AVRG	-3.6
2-Chlorophenol-d4	1.378	1.343	0.010	AVRG	-2.5
1,2-Dichlorobenzene-d4	0.994	0.969	0.010	AVRG	-2.5
Nitrobenzene-d5	0.327	0.321	0.010	AVRG	-1.8
2-Fluorobiphenyl	1.256	1.246	0.010	AVRG	-0.8
2,4,6-Tribromophenol	0.279	0.279	0.010	AVRG	0.0
Terphenyl-d14	0.756	0.709	0.010	AVRG	-6.2

<- Exceeds QC limit of 20% D

* RF less than minimum RF

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Ical Midpoint ID: 05071201 Ical Date: 05/07/12

Instrument ID: NT6 Cont. Cal Date: 05/10/12

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	ICAL MIDPT	809103	7.38	2911787	9.45	1818894	12.30
	UPPER LIMIT	1618206		5823574		3637788	
	LOWER LIMIT	404552		1455894		909447	
	CCAL	630981	7.38	2218708	9.44	1359459	12.30
	UPPER LIMIT		7.88		9.94		12.80
	LOWER LIMIT		6.88		8.94		11.80
01	US61MBW1	564487	7.38	2021697	9.44	1195448	12.29
02	US61LCSW1	601153	7.38	2153942	9.44	1286265	12.30
03	US61LCSDW1	597260	7.38	2168052	9.44	1318485	12.30
04	MW-30S-05021	620296	7.38	2232382	9.44	1347942	12.30
05	MW-29S-05021	596297	7.38	2096783	9.44	1255094	12.29
06	MW-31S-05021	582948	7.37	2074054	9.44	1248053	12.29
07	DUP-050212-1	611289	7.38	2207571	9.44	1354769	12.29
08	MW-34S-05031	620581	7.37	2194088	9.44	1332261	12.29
09	MW-35S-05031	621559	7.37	2225517	9.44	1384429	12.30
10	MW-33S-05021	602615	7.38	2183771	9.44	1322243	12.29
11							
12							
13							
14							
15							
16							
17							
18							
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20							
21							
22							
23							
24							
25							

IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

US52:00214

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Ical Midpoint ID: 05071201 Ical Date: 05/07/12

Instrument ID: NT6 Cont. Cal Date: 05/10/12

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	ICAL MIDPT	2718644	14.66	2549674	18.95	2525537	21.09
	UPPER LIMIT	5437288		5099348		5051074	
	LOWER LIMIT	1359322		1274837		1262768	
	CCAL	2044384	14.65	2190635	18.95	2448298	21.09
	UPPER LIMIT		15.15		19.45		21.59
	LOWER LIMIT		14.15		18.45		20.59
01	US61MBW1	1815446	14.65	2272221	18.94	1609779	21.08
02	US61LCSW1	1928753	14.66	2148635	18.95	2494326	21.09
03	US61LCSDW1	2016171	14.66	2216379	18.94	2413696	21.09
04	MW-30S-05021	2060255	14.65	2262452	18.94	2105469	21.09
05	MW-29S-05021	1930172	14.65	2135196	18.94	2131396	21.09
06	MW-31S-05021	1891226	14.65	1971598	18.94	2012533	21.09
07	DUP-050212-1	2117659	14.65	2100897	18.94	2103716	21.09
08	MW-34S-05031	2056432	14.65	2084352	18.94	2131635	21.09
09	MW-35S-05031	2082112	14.65	2077661	18.94	2150307	21.09
10	MW-33S-05021	2029760	14.65	1973798	18.94	2114141	21.09
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IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

US52:00215

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Ical Midpoint ID: 05071201 Ical Date: 05/07/12

Instrument ID: NT6 Cont. Cal Date: 05/10/12

		IS7 AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	2275861	20.16				
	UPPER LIMIT	4551722					
	LOWER LIMIT	1137930					
	CCAL	1948231	20.16				
	UPPER LIMIT		20.66				
	LOWER LIMIT		19.66				
01	US61MBW1	1927676	20.16				
02	US61LCSW1	1914612	20.16				
03	US61LCSDW1	1950945	20.16				
04	MW-30S-05021	1949436	20.16				
05	MW-29S-05021	1881634	20.16				
06	MW-31S-05021	1762203	20.16				
07	DUP-050212-1	1943735	20.16				
08	MW-34S-05031	1874728	20.16				
09	MW-35S-05031	1882594	20.16				
10	MW-33S-05021	1853603	20.16				
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IS7 = Di-n-octylphthalate-d4

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

US52:00216

SIM PAH Analysis
Report and Summary QC Forms

ARI Job ID: US52, US61, UT31

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: MW-28S-050112
SAMPLE

Lab Sample ID: US52G
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/08/12 19:37
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	54.0%
d14-Dibenzo(a,h)anthracene	25.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: MW-32S-050112
SAMPLE

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/07/12 16:41
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	60.0%
d14-Dibenzo(a,h)anthracene	35.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: MW-32DR-050112
SAMPLE

Lab Sample ID: US52I
LIMS ID: 12-7823
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/07/12 18:07
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	52.3%
d14-Dibenzo(a,h)anthracene	27.7%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

Client ID	MNP	DBA	TOT OUT
MW-28S-050112	54.0%	25.7%	0
MB-050312	63.0%	50.0%	0
LCS-050312	65.3%	68.0%	0
MW-32S-050112	60.0%	35.0%	0
MW-32S-050112 MS	60.3%	32.3%	0
MW-32S-050112 MSD	59.7%	29.0%	0
MW-32DR-050112	52.3%	27.7%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(40-110)	(33-107)
(DBA) = d14-Dibenzo(a,h)anthracene	(33-140)	(10-142)

Prep Method: SW3520C
Log Number Range: 12-7821 to 12-7823

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: MW-32S-050112
MATRIX SPIKE

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted MS/MSD: 05/03/12

Sample Amount MS: 500 mL
MSD: 500 mL

Date Analyzed MS: 05/07/12 17:10
MSD: 05/07/12 17:39

Final Extract Volume MS: 0.50 mL
MSD: 0.50 mL

Instrument/Analyst MS: NT4/JZ
MSD: NT4/JZ

Dilution Factor MS: 1.00
MSD: 1.00

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Naphthalene	< 0.10 U	1.58	3.00	52.7%	1.59	3.00	53.0%	0.6%
2-Methylnaphthalene	< 0.10 U	1.48	3.00	49.3%	1.51	3.00	50.3%	2.0%
1-Methylnaphthalene	< 0.10 U	1.61	3.00	53.7%	1.66	3.00	55.3%	3.1%
Acenaphthylene	< 0.10 U	1.73	3.00	57.7%	1.75	3.00	58.3%	1.1%
Acenaphthene	< 0.10 U	1.64	3.00	54.7%	1.70	3.00	56.7%	3.6%
Fluorene	< 0.10 U	1.75	3.00	58.3%	1.83	3.00	61.0%	4.5%
Phenanthrene	< 0.10 U	1.86	3.00	62.0%	2.07	3.00	69.0%	10.7%
Anthracene	< 0.10 U	1.60	3.00	53.3%	1.65	3.00	55.0%	3.1%
Fluoranthene	< 0.10 U	1.98	3.00	66.0%	2.20	3.00	73.3%	10.5%
Pyrene	< 0.10 U	2.06	3.00	68.7%	2.21	3.00	73.7%	7.0%
Benzo(a)anthracene	< 0.10 U	1.77	3.00	59.0%	1.84	3.00	61.3%	3.9%
Chrysene	< 0.10 U	1.95	3.00	65.0%	2.08	3.00	69.3%	6.5%
Benzo(a)pyrene	< 0.10 U	1.35	3.00	45.0%	1.46	3.00	48.7%	7.8%
Indeno(1,2,3-cd)pyrene	< 0.10 U	1.29	3.00	43.0%	1.46	3.00	48.7%	12.4%
Dibenz(a,h)anthracene	< 0.10 U	0.86	3.00	28.7%	0.87	3.00	29.0%	1.2%
Benzo(g,h,i)perylene	< 0.10 U	1.33	3.00	44.3%	1.51	3.00	50.3%	12.7%
Dibenzofuran	< 0.10 U	1.65	3.00	55.0%	1.74	3.00	58.0%	5.3%
Total Benzofluoranthenes	< 0.20 U	3.79	6.00	63.2%	4.35	6.00	72.5%	13.8%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: MW-32S-050112
MATRIX SPIKE

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/07/12 17:10
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	---
91-57-6	2-Methylnaphthalene	0.10	---
90-12-0	1-Methylnaphthalene	0.10	---
208-96-8	Acenaphthylene	0.10	---
83-32-9	Acenaphthene	0.10	---
86-73-7	Fluorene	0.10	---
85-01-8	Phenanthrene	0.10	---
120-12-7	Anthracene	0.10	---
206-44-0	Fluoranthene	0.10	---
129-00-0	Pyrene	0.10	---
56-55-3	Benzo(a)anthracene	0.10	---
218-01-9	Chrysene	0.10	---
50-32-8	Benzo(a)pyrene	0.10	---
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	---
53-70-3	Dibenz(a,h)anthracene	0.10	---
191-24-2	Benzo(g,h,i)perylene	0.10	---
132-64-9	Dibenzofuran	0.10	---
TOTBFA	Total Benzofluoranthenes	0.20	---

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	60.3%
d14-Dibenzo(a,h)anthracene	32.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: MW-32S-050112
MATRIX SPIKE DUPLICATE

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/07/12 17:39
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	---
91-57-6	2-Methylnaphthalene	0.10	---
90-12-0	1-Methylnaphthalene	0.10	---
208-96-8	Acenaphthylene	0.10	---
83-32-9	Acenaphthene	0.10	---
86-73-7	Fluorene	0.10	---
85-01-8	Phenanthrene	0.10	---
120-12-7	Anthracene	0.10	---
206-44-0	Fluoranthene	0.10	---
129-00-0	Pyrene	0.10	---
56-55-3	Benzo(a)anthracene	0.10	---
218-01-9	Chrysene	0.10	---
50-32-8	Benzo(a)pyrene	0.10	---
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	---
53-70-3	Dibenz(a,h)anthracene	0.10	---
191-24-2	Benzo(g,h,i)perylene	0.10	---
132-64-9	Dibenzofuran	0.10	---
TOTBFA	Total Benzofluoranthenes	0.20	---

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	59.7%
d14-Dibenzo(a,h)anthracene	29.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: LCS-050312
LAB CONTROL SAMPLE

Lab Sample ID: LCS-050312
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 05/03/12
Date Analyzed LCS: 05/08/12 19:09
Instrument/Analyst LCS: NT4/JZ

Sample Amount LCS: 500 mL
Final Extract Volume LCS: 0.50 mL
Dilution Factor LCS: 1.00

Analyte	LCS	Spike Added	Recovery
Naphthalene	1.66	3.00	55.3%
2-Methylnaphthalene	1.57	3.00	52.3%
1-Methylnaphthalene	1.72	3.00	57.3%
Acenaphthylene	1.64	3.00	54.7%
Acenaphthene	1.80	3.00	60.0%
Fluorene	1.90	3.00	63.3%
Phenanthrene	2.32	3.00	77.3%
Anthracene	2.35	3.00	78.3%
Fluoranthene	2.27	3.00	75.7%
Pyrene	2.13	3.00	71.0%
Benzo(a)anthracene	1.75	3.00	58.3%
Chrysene	2.22	3.00	74.0%
Benzo(a)pyrene	1.64	3.00	54.7%
Indeno(1,2,3-cd)pyrene	2.08	3.00	69.3%
Dibenz(a,h)anthracene	1.75	3.00	58.3%
Benzo(g,h,i)perylene	2.22	3.00	74.0%
Dibenzofuran	1.83	3.00	61.0%
Total Benzofluoranthenes	4.82	6.00	80.3%

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	65.3%
d14-Dibenzo(a,h)anthracene	68.0%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

US52MBW1

Lab Name: ANALYTICAL RESOURCES INC

Client: ERM-WEST

ARI Job No: US52

Project: RG SPRING GW SAMPLIN

Lab File ID: 05081208

Date Extracted: 05/03/12

Instrument ID: NT4

Date Analyzed: 05/08/12

Matrix: LIQUID

Time Analyzed: 1840

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	MW-32S-050112	US52H	05071206	05/07/12
02	MW-32S-050112 MS	US52HMS	05071207	05/07/12
03	MW-32S-050112 MS	US52HMSD	05071208	05/07/12
04	MW-32DR-050112	US52I	05071209	05/07/12
05	US52LCSW1	US52LCSW1	05081209	05/08/12
06	MW-28S-050112	US52G	05081210	05/08/12
07				
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09				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: MB-050312
METHOD BLANK

Lab Sample ID: MB-050312
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/03/12
Date Analyzed: 05/08/12 18:40
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	63.0%
d14-Dibenzo(a,h)anthracene	50.0%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT4 Project: RG SPRING GW SAMPLING

DFTPP Injection Date: 03/16/12 DFTPP Injection Time: 1132

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	34.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	41.8
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	10.0 - 80.0% of mass 198	48.8
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.1
275	10.0 - 60.0% of mass 198	28.9
365	Greater than 1.0% of mass 198	3.31
441	0.0 - 24.0% of mass 442	14.6 (17.2)2
442	50.0 - 200.0% of mass 198	84.4
443	15.0 - 24.0% of mass 442	17.0 (20.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC010316	IC010316	03161202	03/16/12	1311
02	IC050316	IC050316	03161203	03/16/12	1340
03	IC100316	IC100316	03161204	03/16/12	1409
04	IC250316	IC250316	03161205	03/16/12	1438
05	IC50316	IC50316	03161206	03/16/12	1507
06	IC100316	IC100316	03161207	03/16/12	1536
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08					
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US52:00228

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT4 Project: RG SPRING GW SAMPLING

DFTPP Injection Date: 05/07/12 DFTPP Injection Time: 1430

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	37.1
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	41.5
70	Less than 2.0% of mass 69	0.1 (0.2)1
127	10.0 - 80.0% of mass 198	46.4
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 60.0% of mass 198	26.7
365	Greater than 1.0% of mass 198	2.80
441	0.0 - 24.0% of mass 442	13.3 (15.6)2
442	50.0 - 200.0% of mass 198	85.4
443	15.0 - 24.0% of mass 442	17.1 (20.0)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0507	CC0507	05071202	05/07/12	1444
02	MW-32S-050112	US52H	05071206	05/07/12	1641
03	MW-32S-050112 MS	US52HMS	05071207	05/07/12	1710
04	MW-32S-050112 MS	US52HMSD	05071208	05/07/12	1739
05	MW-32DR-050112	US52I	05071209	05/07/12	1807
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US52 : 00229

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT4 Project: RG SPRING GW SAMPLING

DFTPP Injection Date: 05/08/12 DFTPP Injection Time: 1155

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	34.0
68	Less than 2.0% of mass 69	0.3 (0.6)1
69	Mass 69 relative abundance	40.4
70	Less than 2.0% of mass 69	0.3 (0.7)1
127	10.0 - 80.0% of mass 198	46.3
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	29.8
365	Greater than 1.0% of mass 198	3.26
441	0.0 - 24.0% of mass 442	16.1 (15.9)2
442	50.0 - 200.0% of mass 198	101.7
443	15.0 - 24.0% of mass 442	21.0 (20.7)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0508	CC0508	05081202	05/08/12	1212
02	US52MBW1	US52MBW1	05081208	05/08/12	1840
03	US52LCSW1	US52LCSW1	05081209	05/08/12	1909
04	MW-28S-050112	US52G	05081210	05/08/12	1937
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FORM V SV

US52 : 00230

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT4 Calibration Date: 03/16/12

LAB FILE ID: RRF0.1=03161202 RRF0.5=03161203 RRF1 =03161204
RRF2.5=03161205 RRF5 =03161206 RRF10 =03161207

COMPOUND	RRF 0.1	RRF 0.5	RRF 1	RRF 2.5	RRF 5	RRF 10	___ RRF	%RSD /R^2
Naphthalene	1.249	1.109	1.164	1.063	0.928	0.856	1.062	13.8
2-Methylnaphthalene	0.811	0.660	0.675	0.641	0.552	0.542	0.647	15.1
Acenaphthylene	1.608	1.650	1.669	1.658	1.466	1.543	1.599	5.0
Acenaphthene	1.263	1.194	1.228	1.155	1.025	1.070	1.156	8.0
Dibenzofuran	1.856	1.755	1.741	1.656	1.442	1.474	1.654	10.0
Fluorene	1.420	1.291	1.346	1.280	1.127	1.180	1.274	8.4
Phenanthrene	1.285	1.172	1.220	1.146	0.996	1.004	1.137	10.2
Anthracene	1.304	1.068	1.187	1.119	0.986	1.020	1.114	10.5
Fluoranthene	1.538	1.209	1.324	1.265	1.099	1.143	1.263	12.5
Pyrene	1.262	1.140	1.202	1.123	1.005	1.048	1.130	8.4
Benzo(a)anthracene	1.224	1.012	1.088	1.039	0.949	1.019	1.055	8.9
Chrysene	1.313	1.071	1.094	1.076	0.964	1.012	1.088	11.0
Benzo(b)fluoranthene	1.112	1.194	1.256	1.148	1.030	1.103	1.140	6.9
Benzo(k)fluoranthene	1.235	1.205	1.336	1.233	1.040	1.138	1.198	8.4
Benzo(j)fluoranthene	0.914	1.094	1.218	1.078	0.959	1.091	1.059	10.3
Benzo(a)pyrene		1.002	1.117	1.099	1.006	1.141	1.073	6.0
Indeno(1,2,3-cd)pyrene	1.256	1.245	1.363	1.322	1.209	1.364	1.293	5.1
Dibenzo(a,h)anthracene	1.176	1.014	1.110	1.079	1.017	1.147	1.090	6.1
Benzo(g,h,i)perylene	1.274	1.067	1.226	1.156	1.069	1.165	1.160	7.1
1-methylnaphthalene	0.742	0.607	0.639	0.602	0.525	0.516	0.605	13.7
Perylene	0.725	1.122	1.185	1.130	1.027	1.138	1.054	16.1
2-Methylnaphthalene-d10	0.803	0.619	0.705	0.649	0.553	0.546	0.646	15.1
Dibenzo(a,h)anthracene-d14	0.854	0.755	0.845	0.883	0.808	0.930	0.846	7.2

<- Outside QC limits: %RSD <20% or R^2 > 0.990

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT4 Cont. Calib. Date: 05/07/12

Init. Calib. Date: 03/16/12 Cont. Calib. Time: 1444

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Naphthalene	1.062	1.017	0.700	AVRG	-4.2
2-Methylnaphthalene	0.647	0.641	0.400	AVRG	-0.9
Acenaphthylene	1.599	1.672	0.900	AVRG	4.6
Acenaphthene	1.156	1.169	0.900	AVRG	1.1
Dibenzofuran	1.654	1.668	0.800	AVRG	0.8
Fluorene	1.274	1.257	0.900	AVRG	-1.3
Phenanthrene	1.137	1.145	0.700	AVRG	0.7
Anthracene	1.114	1.048	0.700	AVRG	-5.9
Fluoranthene	1.263	1.209	0.600	AVRG	-4.3
Pyrene	1.130	1.098	0.600	AVRG	-2.8
Benzo(a)anthracene	1.055	0.968	0.800	AVRG	-8.2
Chrysene	1.088	1.050	0.700	AVRG	-3.5
Benzo(b)fluoranthene	1.140	1.184	0.700	AVRG	3.8
Benzo(k)fluoranthene	1.198	1.170	0.700	AVRG	-2.3
Benzo(j)fluoranthene	1.059	1.106	0.010	AVRG	4.4
Benzo(a)pyrene	1.073	1.057	0.700	AVRG	-1.5
Indeno(1,2,3-cd)pyrene	1.293	1.179	0.500	AVRG	-8.8
Dibenzo(a,h)anthracene	1.090	0.893	0.400	AVRG	-18.1
Benzo(g,h,i)perylene	1.160	1.088	0.500	AVRG	-6.2
1-methylnaphthalene	0.605	0.592	0.010	AVRG	-2.1
Perylene	1.054	1.122	0.010	AVRG	6.4
2-Methylnaphthalene-d10	0.646	0.633	0.010	AVRG	-2.0
Dibenzo(a,h)anthracene-d14	0.846	0.731	0.010	AVRG	-13.6

<- Exceeds QC limit of 20% D
* RF less than minimum RF

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Instrument ID: NT4 Cont. Calib. Date: 05/08/12

Init. Calib. Date: 03/16/12 Cont. Calib. Time: 1212

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Naphthalene	1.062	1.020	0.700	AVRG	-4.0
2-Methylnaphthalene	0.647	0.629	0.400	AVRG	-2.8
Acenaphthylene	1.599	1.611	0.900	AVRG	0.8
Acenaphthene	1.156	1.171	0.900	AVRG	1.3
Dibenzofuran	1.654	1.671	0.800	AVRG	1.0
Fluorene	1.274	1.237	0.900	AVRG	-2.9
Phenanthrene	1.137	1.119	0.700	AVRG	-1.6
Anthracene	1.114	1.049	0.700	AVRG	-5.8
Fluoranthene	1.263	1.153	0.600	AVRG	-8.7
Pyrene	1.130	1.088	0.600	AVRG	-3.7
Benzo(a)anthracene	1.055	0.929	0.800	AVRG	-11.9
Chrysene	1.088	1.045	0.700	AVRG	-4.0
Benzo(b)fluoranthene	1.140	1.166	0.700	AVRG	2.3
Benzo(k)fluoranthene	1.198	1.221	0.700	AVRG	1.9
Benzo(j)fluoranthene	1.059	1.032	0.010	AVRG	-2.5
Benzo(a)pyrene	1.073	1.040	0.700	AVRG	-3.1
Indeno(1,2,3-cd)pyrene	1.293	1.226	0.500	AVRG	-5.2
Dibenzo(a,h)anthracene	1.090	0.956	0.400	AVRG	-12.3
Benzo(g,h,i)perylene	1.160	1.110	0.500	AVRG	-4.3
1-methylnaphthalene	0.605	0.564	0.010	AVRG	-6.8
Perylene	1.054	1.074	0.010	AVRG	1.9
2-Methylnaphthalene-d10	0.646	0.619	0.010	AVRG	-4.2
Dibenzo(a,h)anthracene-d14	0.846	0.679	0.010	AVRG	-19.7

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 03161205 Ical Date: 03/16/12

Instrument ID: NT4 Cont. Cal Date: 05/07/12

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	ICAL MIDPT	364113	5.43	210739	7.72	347113	9.69
	UPPER LIMIT	728226		421478		694226	
	LOWER LIMIT	182056		105370		173556	
	CCAL	352279	4.53	207514	6.77	358754	8.70
	UPPER LIMIT		5.03		7.27		9.20
	LOWER LIMIT		4.03		6.27		8.20
01	MW-32S-05011	290298	4.52	170520	6.76	304224	8.69
02	MW-32S-05011	240173	4.52	139042	6.76	244168	8.69
03	MW-32S-05011	222546	4.52	129176	6.76	231281	8.69
04	MW-32DR-0501	299423	4.53	168460	6.76	293267	8.69
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IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 03161205 Ical Date: 03/16/12

Instrument ID: NT4 Cont. Cal Date: 05/07/12

		IS4(CRY) AREA #	RT #	IS5(PRY) AREA #	RT #	AREA #	RT #
	ICAL MIDPT	412003	14.89	386633	18.72		
	UPPER LIMIT	824006		773266			
	LOWER LIMIT	206002		193316			
	CCAL	408745	13.15	361565	16.70		
	UPPER LIMIT		13.65		17.20		
	LOWER LIMIT		12.65		16.20		
01	MW-32S-05011	314349	13.14	250107	16.69		
02	MW-32S-05011	266469	13.15	215274	16.68		
03	MW-32S-05011	255311	13.14	194675	16.69		
04	MW-32DR-0501	317881	13.14	243252	16.68		
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IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 03161205 Ical Date: 03/16/12

Instrument ID: NT4 Cont. Cal Date: 05/08/12

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	ICAL MIDPT	364113	5.43	210739	7.72	347113	9.69
	UPPER LIMIT	728226		421478		694226	
	LOWER LIMIT	182056		105370		173556	
	CCAL	352534	4.54	205329	6.77	360233	8.70
	UPPER LIMIT		5.04		7.27		9.20
	LOWER LIMIT		4.04		6.27		8.20
01	US52MBW1	381149	4.52	222345	6.76	384075	8.69
02	US52LCSW1	426536	4.52	253838	6.76	416039	8.69
03	MW-28S-05011	484353	4.52	272472	6.76	484362	8.69
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IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLING

Ical Midpoint ID: 03161205 Ical Date: 03/16/12

Instrument ID: NT4 Cont. Cal Date: 05/08/12

		IS4(CRY) AREA #	RT #	IS5(PRY) AREA #	RT #	AREA #	RT #
	ICAL MIDPT	412003	14.89	386633	18.72		
	UPPER LIMIT	824006		773266			
	LOWER LIMIT	206002		193316			
	CCAL	403507	13.15	359773	16.70		
	UPPER LIMIT		13.65		17.20		
	LOWER LIMIT		12.65		16.20		
01	US52MBW1	378074	13.14	264688	16.68		
02	US52LCSW1	492456	13.14	373916	16.68		
03	MW-28S-05011	502582	13.14	370518	16.68		
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IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: MW-30S-050212
SAMPLE

Lab Sample ID: US61A
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized: WD
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 18:27
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.10**	**0.07 J**
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	**Acenaphthene**	**0.10**	**0.14**
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	**Phenanthrene**	**0.10**	**0.08 J**
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	**Fluoranthene**	**0.10**	**0.06 J**
129-00-0	**Pyrene**	**0.10**	**0.09 J**
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	63.7%
d14-Dibenzo(a,h)anthracene	81.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: MW-29S-050212
SAMPLE

Lab Sample ID: US61B
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized: VT
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 18:56
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	59.0%
d14-Dibenzo(a,h)anthracene	89.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: MW-31S-050212
SAMPLE

Lab Sample ID: US61C
LIMS ID: 12-7886
Matrix: Water
Data Release Authorized: VD
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 19:25
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	60.3%
d14-Dibenzo(a,h)anthracene	86.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: DUP-050212-1
SAMPLE

Lab Sample ID: US61D
LIMS ID: 12-7887
Matrix: Water
Data Release Authorized: VD
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 19:54
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	65.0%
d14-Dibenzo(a,h)anthracene	87.3%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

Client ID	MNP	DBA	TOT OUT
MB-050812	63.0%	93.7%	0
LCS-050812	63.7%	96.7%	0
LCSD-050812	60.7%	86.3%	0
MW-30S-050212	63.7%	81.7%	0
MW-29S-050212	59.0%	89.7%	0
MW-31S-050212	60.3%	86.7%	0
DUP-050212-1	65.0%	87.3%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(40-110)	(33-107)
(DBA) = d14-Dibenzo(a,h)anthracene	(33-140)	(10-142)

Prep Method: SW3520C
Log Number Range: 12-7884 to 12-7887

US52:00242

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: LCS-050812
LAB CONTROL SAMPLE

Lab Sample ID: LCS-050812
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized:
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 05/08/12

Date Analyzed LCS: 05/10/12 17:28
LCSD: 05/10/12 17:57
Instrument/Analyst LCS: NT4/JZ
LCSD: NT4/JZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	1.58	3.00	52.7%	1.66	3.00	55.3%	4.9%
2-Methylnaphthalene	1.46	3.00	48.7%	1.52	3.00	50.7%	4.0%
1-Methylnaphthalene	1.61	3.00	53.7%	1.71	3.00	57.0%	6.0%
Acenaphthylene	1.58	3.00	52.7%	1.56	3.00	52.0%	1.3%
Acenaphthene	1.82	3.00	60.7%	1.72	3.00	57.3%	5.6%
Fluorene	1.88	3.00	62.7%	1.88	3.00	62.7%	0.0%
Phenanthrene	2.32	3.00	77.3%	2.15	3.00	71.7%	7.6%
Anthracene	1.78	3.00	59.3%	1.95	3.00	65.0%	9.1%
Fluoranthene	2.00	3.00	66.7%	2.02	3.00	67.3%	1.0%
Pyrene	2.13	3.00	71.0%	2.01	3.00	67.0%	5.8%
Benzo(a)anthracene	1.69 Q	3.00	56.3%	1.64 Q	3.00	54.7%	3.0%
Chrysene	2.32	3.00	77.3%	2.25	3.00	75.0%	3.1%
Benzo(a)pyrene	1.63	3.00	54.3%	1.58	3.00	52.7%	3.1%
Indeno(1,2,3-cd)pyrene	2.69	3.00	89.7%	2.55	3.00	85.0%	5.3%
Dibenz(a,h)anthracene	2.58	3.00	86.0%	2.37	3.00	79.0%	8.5%
Benzo(g,h,i)perylene	2.70	3.00	90.0%	2.54	3.00	84.7%	6.1%
Dibenzofuran	1.92	3.00	64.0%	1.90	3.00	63.3%	1.0%
Total Benzofluoranthenes	4.93	6.00	82.2%	4.94	6.00	82.3%	0.2%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	63.7%	60.7%
d14-Dibenzo(a,h)anthracene	96.7%	86.3%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

US61MBW1

Lab Name: ANALYTICAL RESOURCES INC

Client: ERM-WEST

ARI Job No: US61

Project: RG SPRING GW SAMPLIN

Lab File ID: 05101203

Date Extracted: 05/08/12

Instrument ID: NT4

Date Analyzed: 05/10/12

Matrix: LIQUID

Time Analyzed: 1659

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	US61LCSW1	US61LCSW1	05101204	05/10/12
02	US61LCSDW1	US61LCSDW1	05101205	05/10/12
03	MW-30S-050212	US61A	05101206	05/10/12
04	MW-29S-050212	US61B	05101207	05/10/12
05	MW-31S-050212	US61C	05101208	05/10/12
06	DUP-050212-1	US61D	05101209	05/10/12
07	MW-34S-050312	US82A	05101210	05/10/12
08	MW-35S-050312	US82B	05101211	05/10/12
09	MW-33S-050212	US82E	05101212	05/10/12
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: MB-050812
METHOD BLANK

Lab Sample ID: MB-050812
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized: VJ
Reported: 05/12/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/08/12
Date Analyzed: 05/10/12 16:59
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.10	< 0.10 U
91-57-6	2-Methylnaphthalene	0.10	< 0.10 U
90-12-0	1-Methylnaphthalene	0.10	< 0.10 U
208-96-8	Acenaphthylene	0.10	< 0.10 U
83-32-9	Acenaphthene	0.10	< 0.10 U
86-73-7	Fluorene	0.10	< 0.10 U
85-01-8	Phenanthrene	0.10	< 0.10 U
120-12-7	Anthracene	0.10	< 0.10 U
206-44-0	Fluoranthene	0.10	< 0.10 U
129-00-0	Pyrene	0.10	< 0.10 U
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
191-24-2	Benzo(g,h,i)perylene	0.10	< 0.10 U
132-64-9	Dibenzofuran	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.20	< 0.20 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	63.0%
d14-Dibenzo(a,h)anthracene	93.7%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT4 Project: RG SPRING GW

DFTPP Injection Date: 03/16/12 DFTPP Injection Time: 1132

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	34.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	41.8
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	10.0 - 80.0% of mass 198	48.8
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.1
275	10.0 - 60.0% of mass 198	28.9
365	Greater than 1.0% of mass 198	3.31
441	0.0 - 24.0% of mass 442	14.6 (17.2)2
442	50.0 - 200.0% of mass 198	84.4
443	15.0 - 24.0% of mass 442	17.0 (20.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC010316	IC010316	03161202	03/16/12	1311
02	IC050316	IC050316	03161203	03/16/12	1340
03	IC100316	IC100316	03161204	03/16/12	1409
04	IC250316	IC250316	03161205	03/16/12	1438
05	IC50316	IC50316	03161206	03/16/12	1507
06	IC100316	IC100316	03161207	03/16/12	1536
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08					
09					
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US52:00246

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT4 Project: RG SPRING GW

DFTPP Injection Date: 05/10/12 DFTPP Injection Time: 1511

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	36.8
68	Less than 2.0% of mass 69	0.2 (0.5)1
69	Mass 69 relative abundance	41.1
70	Less than 2.0% of mass 69	0.2 (0.6)1
127	10.0 - 80.0% of mass 198	46.0
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	27.8
365	Greater than 1.0% of mass 198	2.96
441	0.0 - 24.0% of mass 442	13.4 (15.2)2
442	50.0 - 200.0% of mass 198	88.2
443	15.0 - 24.0% of mass 442	15.1 (17.1)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0510	CC0510	05101202	05/10/12	1554
02	US61MBW1	US61MBW1	05101203	05/10/12	1659
03	US61LCSW1	US61LCSW1	05101204	05/10/12	1728
04	US61LCSDW1	US61LCSDW1	05101205	05/10/12	1757
05	MW-30S-050212	US61A	05101206	05/10/12	1827
06	MW-29S-050212	US61B	05101207	05/10/12	1856
07	MW-31S-050212	US61C	05101208	05/10/12	1925
08	DUP-050212-1	US61D	05101209	05/10/12	1954
09	MW-34S-050312	US82A	05101210	05/10/12	2024
10	MW-35S-050312	US82B	05101211	05/10/12	2053
11	MW-33S-050212	US82E	05101212	05/10/12	2122
12					
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17					
18					
19					
20					
21					
22					

FORM V SV

US52:00247

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT4 Calibration Date: 03/16/12

LAB FILE ID: RRF0.1=03161202 RRF0.5=03161203 RRF1 =03161204
RRF2.5=03161205 RRF5 =03161206 RRF10 =03161207

COMPOUND	RRF 0.1	RRF 0.5	RRF 1	RRF 2.5	RRF 5	RRF 10	___ RRF	%RSD /R^2
Naphthalene	1.249	1.109	1.164	1.063	0.928	0.856	1.062	13.8
2-Methylnaphthalene	0.811	0.660	0.675	0.641	0.552	0.542	0.647	15.1
Acenaphthylene	1.608	1.650	1.669	1.658	1.466	1.543	1.599	5.0
Acenaphthene	1.263	1.194	1.228	1.155	1.025	1.070	1.156	8.0
Dibenzofuran	1.856	1.755	1.741	1.656	1.442	1.474	1.654	10.0
Fluorene	1.420	1.291	1.346	1.280	1.127	1.180	1.274	8.4
Phenanthrene	1.285	1.172	1.220	1.146	0.996	1.004	1.137	10.2
Anthracene	1.304	1.068	1.187	1.119	0.986	1.020	1.114	10.5
Fluoranthene	1.538	1.209	1.324	1.265	1.099	1.143	1.263	12.5
Pyrene	1.262	1.140	1.202	1.123	1.005	1.048	1.130	8.4
Benzo(a)anthracene	1.224	1.012	1.088	1.039	0.949	1.019	1.055	8.9
Chrysene	1.313	1.071	1.094	1.076	0.964	1.012	1.088	11.0
Benzo(b)fluoranthene	1.112	1.194	1.256	1.148	1.030	1.103	1.140	6.9
Benzo(k)fluoranthene	1.235	1.205	1.336	1.233	1.040	1.138	1.198	8.4
Benzo(j)fluoranthene	0.914	1.094	1.218	1.078	0.959	1.091	1.059	10.3
Benzo(a)pyrene		1.002	1.117	1.099	1.006	1.141	1.073	6.0
Indeno(1,2,3-cd)pyrene	1.256	1.245	1.363	1.322	1.209	1.364	1.293	5.1
Dibenzo(a,h)anthracene	1.176	1.014	1.110	1.079	1.017	1.147	1.090	6.1
Benzo(g,h,i)perylene	1.274	1.067	1.226	1.156	1.069	1.165	1.160	7.1
1-methylnaphthalene	0.742	0.607	0.639	0.602	0.525	0.516	0.605	13.7
Perylene	0.725	1.122	1.185	1.130	1.027	1.138	1.054	16.1
2-Methylnaphthalene-d10	0.803	0.619	0.705	0.649	0.553	0.546	0.646	15.1
Dibenzo(a,h)anthracene-d14	0.854	0.755	0.845	0.883	0.808	0.930	0.846	7.2

<- Outside QC limits: %RSD <20% or R^2 > 0.990

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT4 Cont. Calib. Date: 05/10/12

Init. Calib. Date: 03/16/12 Cont. Calib. Time: 1554

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Naphthalene	1.062	1.040	0.700	AVRG	-2.1	
2-Methylnaphthalene	0.647	0.626	0.400	AVRG	-3.2	
Acenaphthylene	1.599	1.441	0.900	AVRG	-9.9	
Acenaphthene	1.156	1.131	0.900	AVRG	-2.2	
Dibenzofuran	1.654	1.712	0.800	AVRG	3.5	
Fluorene	1.274	1.206	0.900	AVRG	-5.3	
Phenanthrene	1.137	1.123	0.700	AVRG	-1.2	
Anthracene	1.114	0.930	0.700	AVRG	-16.5	
Fluoranthene	1.263	1.092	0.600	AVRG	-13.5	
Pyrene	1.130	1.053	0.600	AVRG	-6.8	
Benzo(a)anthracene	1.055	0.803	0.800	AVRG	-23.9	<-
Chrysene	1.088	1.071	0.700	AVRG	-1.6	
Benzo(b)fluoranthene	1.140	1.002	0.700	AVRG	-12.1	
Benzo(k)fluoranthene	1.198	1.200	0.700	AVRG	0.2	
Benzo(j)fluoranthene	1.059	1.061	0.010	AVRG	0.2	
Benzo(a)pyrene	1.073	1.062	0.700	AVRG	-1.0	
Indeno(1,2,3-cd)pyrene	1.293	1.523	0.500	AVRG	17.8	
Dibenzo(a,h)anthracene	1.090	1.188	0.400	AVRG	9.0	
Benzo(g,h,i)perylene	1.160	1.387	0.500	AVRG	19.6	
1-methylnaphthalene	0.605	0.580	0.010	AVRG	-4.1	
Perylene	1.054	1.185	0.010	AVRG	12.4	
2-Methylnaphthalene-d10	0.646	0.616	0.010	AVRG	-4.6	
Dibenzo(a,h)anthracene-d14	0.846	0.891	0.010	AVRG	5.3	

<- Exceeds QC limit of 20% D
* RF less than minimum RF

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Ical Midpoint ID: 03161205 Ical Date: 03/16/12

Instrument ID: NT4 Cont. Cal Date: 05/10/12

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	ICAL MIDPT	364113	5.43	210739	7.72	347113	9.69
	UPPER LIMIT	728226		421478		694226	
	LOWER LIMIT	182056		105370		173556	
	CCAL	318480	4.44	185770	6.68	319995	8.60
	UPPER LIMIT		4.94		7.18		9.10
	LOWER LIMIT		3.94		6.18		8.10
01	US61MBW1	378251	4.44	214410	6.68	371702	8.61
02	US61LCSW1	353042	4.44	193944	6.67	338558	8.60
03	US61LCSDW1	418516	4.43	245447	6.67	421759	8.60
04	MW-30S-05021	404034	4.44	230451	6.67	423327	8.60
05	MW-29S-05021	394389	4.43	223755	6.67	397025	8.60
06	MW-31S-05021	336269	4.43	189687	6.67	351155	8.60
07	DUP-050212-1	334012	4.43	185700	6.67	332500	8.60
08	MW-34S-05031	335126	4.44	178433	6.67	314958	8.60
09	MW-35S-05031	372877	4.44	232072	6.67	409329	8.60
10	MW-33S-05021	390962	4.43	226158	6.67	410423	8.60
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IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Ical Midpoint ID: 03161205 Ical Date: 03/16/12

Instrument ID: NT4 Cont. Cal Date: 05/10/12

		IS4(CRY) AREA #	RT #	IS5(PRY) AREA #	RT #	AREA #	RT #
	ICAL MIDPT	412003	14.89	386633	18.72		
	UPPER LIMIT	824006		773266			
	LOWER LIMIT	206002		193316			
	CCAL	350031	12.98	288947	16.49		
	UPPER LIMIT		13.48		16.99		
	LOWER LIMIT		12.48		15.99		
01	US61MBW1	376195	12.98	247200	16.49		
02	US61LCSW1	367793	12.98	267972	16.49		
03	US61LCSDW1	468653	12.98	345357	16.48		
04	MW-30S-05021	445431	12.98	322985	16.48		
05	MW-29S-05021	428319	12.98	291770	16.49		
06	MW-31S-05021	354408	12.98	241048	16.49		
07	DUP-050212-1	355575	12.98	251048	16.49		
08	MW-34S-05031	329157	12.98	218241	16.49		
09	MW-35S-05031	417303	12.98	291965	16.49		
10	MW-33S-05021	421514	12.98	307966	16.49		
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IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

US52:00251

Butyl Tin Analysis
Report and Summary QC Forms

ARI Job ID: US52, US61, UT31

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS
Page 1 of 1

Sample ID: MW-28S-050112
SAMPLE

Lab Sample ID: US52G
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/07/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/03/12
Date Analyzed: 05/05/12 14:06
Instrument/Analyst: NT12/VTS

Sample Amount: 150 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes

CAS Number	Analyte	RL	Result	Q
36643-28-4	Tributyltin Ion	0.005	< 0.005	U

Reported in µg/L (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	67.7%
Tripentyl Tin Chloride	84.2%

ANALYTICAL RESOURCES INCORPORATED

TBT SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09

Client ID	TPRT	TPNT	TOT OUT
MB-050312	61.6%	73.3%	0
LCS-050312	70.8%	83.2%	0
LCSD-050312	65.3%	80.7%	0
MW-28S-050112	67.7%	84.2%	0

	LCS/MB LIMITS	QC LIMITS
(TPRT) = Tripropyl Tin Chloride	(30-160)	(30-160)
(TPNT) = Tripentyl Tin Chloride	(30-160)	(30-160)

Prep Method: SW3510C
Analytical Method: Low TBT (Hexyl) Krone 1988
Log Number Range: 12-7821 to 12-7821

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS
Page 1 of 1

Sample ID: LCS-050312
LAB CONTROL SAMPLE

Lab Sample ID: LCS-050312
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized: MW
Reported: 05/07/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Date Extracted LCS: 05/03/12

Date Analyzed LCS: 05/05/12 13:24
LCSD: 05/05/12 13:45
Instrument/Analyst LCS: NT12/VTS
LCSD: NT12/VTS

Sample Amount LCS: 150 mL
LCSD: 150 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Alumina Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Tributyltin Ion	0.054	0.074	73.0%	0.048	0.074	64.9%	11.8%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

TBT Surrogate Recovery

	LCS	LCSD
Tripropyl Tin Chloride	70.8%	65.3%
Tripentyl Tin Chloride	83.2%	80.7%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

US52MBW1

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW SAMPLIN

Lab File ID: US52MB Date Extracted: 05/03/12

Instrument ID: NT12 Date Analyzed: 05/05/12

Matrix: LIQUID Time Analyzed: 1303

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	US52LCSW1	US52LCSW1	US52SB	05/05/12
02	US52LCSDW1	US52LCSDW1	US52SBD	05/05/12
03	MW-28S-050112	US52G	US52G	05/05/12
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS
Page 1 of 1

Sample ID: MB-050312
METHOD BLANK

Lab Sample ID: MB-050312
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/07/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/03/12
Date Analyzed: 05/05/12 13:03
Instrument/Analyst: NT12/VTS

Sample Amount: 150 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes

CAS Number	Analyte	RL	Result	Q
36643-28-4	Tributyltin Ion	0.005	< 0.005	U

Reported in µg/L (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	61.6%
Tripentyl Tin Chloride	73.3%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT12 Project: RG SPRING GW

DFTPP Injection Date: 05/05/12 DFTPP Injection Time: 1028

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	26.1
68	Less than 2.0% of mass 69	0.7 (1.1)1
69	Mass 69 relative abundance	59.7
70	Less than 2.0% of mass 69	0.6 (1.1)1
127	10.0 - 80.0% of mass 198	58.9
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 60.0% of mass 198	29.0
365	Greater than 1.0% of mass 198	4.56
441	0.0 - 24.0% of mass 442	21.3 (15.9)2
442	50.0 - 200.0% of mass 198	133.4
443	15.0 - 24.0% of mass 442	27.7 (20.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		PW 25	IC0505A	05/05/12	1046
02		PW 100	IC0505B	05/05/12	1120
03		PW 2	IC0505C	05/05/12	1140
04		PW 50	IC0505D	05/05/12	1201
05		PW 5	IC0505E	05/05/12	1222
06		PW 10	IC0505F	05/05/12	1242
07	US52MBW1	US52MBW1	US52MB	05/05/12	1303
08	US52LCSW1	US52LCSW1	US52SB	05/05/12	1324
09	US52LCSDW1	US52LCSDW1	US52SBD	05/05/12	1345
10	MW-28S-050112	US52G	US52G	05/05/12	1406
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US52:00258

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW

Instrument ID: NT12 Calibration Date: 05/05/12

LAB FILE ID: RRF2 =IC0505C RRF5 =IC0505E RRF10 =IC0505F
RRF25 =IC0505A RRF50 =IC0505D RRF100=IC0505B

COMPOUND	RRF 2	RRF 5	RRF 10	RRF 25	RRF 50	RRF 100	$\overline{RRF}$	%RSD /R^2
Tributyl Tin (Hexyl)	0.842	0.801	0.754	0.708	0.741	0.718	0.761	6.8
Dibutyl Tin (Hexyl)	0.057	0.058	0.056	0.048	0.056	0.056	0.055	6.7
Butyl Tin (Hexyl)	0.084	0.093	0.089	0.077	0.089	0.087	0.086	6.0
Tetrabutyl Tin	0.713	0.761	0.771	0.757	0.792	0.702	0.749	4.7
Tripropyl Tin (Hexyl)	0.728	0.828	0.781	0.769	0.800	0.773	0.780	4.3
Tripentyl Tin (Hexyl)	0.075	0.076	0.077	0.068	0.078	0.077	0.075	4.8

<- Outside QC limits: %RSD <20% or R^2 > 0.990

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW

Instrument ID: NT12 Cont. Calib. Date: 05/05/12

Init. Calib. Date: 05/05/12 Cont. Calib. Time: 1046

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Tributyl Tin (Hexyl)	0.761	0.708	0.010	AVRG	-7.0
Dibutyl Tin (Hexyl)	0.055	0.048	0.010	AVRG	-12.7
Butyl Tin (Hexyl)	0.086	0.077	0.010	AVRG	-10.5
Tetrabutyl Tin	0.749	0.757	0.010	AVRG	1.1
Tripropyl Tin (Hexyl)	0.780	0.769	0.010	AVRG	-1.4
Tripentyl Tin (Hexyl)	0.075	0.068	0.010	AVRG	-9.3

<- Exceeds QC limit of 20% D

* RF less than minimum RF

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US52 Project: RG SPRING GW

Ical Midpoint ID: IC0505A Ical Date: 05/05/12

Instrument ID: NT12 Cont. Cal Date: 05/05/12

		IS1 AREA #	RT #	IS2 AREA #	RT #	AREA #	RT #
	ICAL MIDPT	196077	10.29	194587	11.27		
	UPPER LIMIT	392154		389174			
	LOWER LIMIT	98038		97294			
	CCAL	196077	10.29	194587	11.27		
	UPPER LIMIT		10.79		11.77		
	LOWER LIMIT		9.79		10.77		
01	US52MBW1	191250	10.29	164674	11.27		
02	US52LCSW1	198248	10.29	167809	11.27		
03	US52LCSDW1	195844	10.29	162891	11.27		
04	MW-28S-05011	196046	10.29	166373	11.27		
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IS1 = Tetrapentyl Tin
IS2 = p-Terphenyl-d14

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS
Page 1 of 1

Sample ID: MW-30S-050212
SAMPLE

Lab Sample ID: US61A
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized: MDB
Reported: 05/11/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/07/12
Date Analyzed: 05/09/12 14:00
Instrument/Analyst: NT12/VTS

Sample Amount: 150 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes

CAS Number	Analyte	RL	Result	Q
36643-28-4	Tributyltin Ion	0.005	< 0.005	U

Reported in µg/L (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	78.3%
Tripentyl Tin Chloride	90.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS
Page 1 of 1

Sample ID: MW-29S-050212
SAMPLE

Lab Sample ID: US61B
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized: MJ
Reported: 05/11/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/07/12
Date Analyzed: 05/09/12 14:20
Instrument/Analyst: NT12/VTS

Sample Amount: 150 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes

CAS Number	Analyte	RL	Result	Q
36643-28-4	Tributyltin Ion	0.005	< 0.005	U

Reported in µg/L (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	67.7%
Tripentyl Tin Chloride	80.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS
Page 1 of 1

Sample ID: MW-31S-050212
SAMPLE

Lab Sample ID: US61C
LIMS ID: 12-7886
Matrix: Water
Data Release Authorized: MW
Reported: 05/11/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/07/12
Date Analyzed: 05/09/12 15:30
Instrument/Analyst: NT12/VTS

Sample Amount: 150 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes

CAS Number	Analyte	RL	Result	Q
36643-28-4	Tributyltin Ion	0.005	< 0.005	U

Reported in µg/L (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	71.8%
Tripentyl Tin Chloride	86.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS
Page 1 of 1

Sample ID: DUP-050212-1
SAMPLE

Lab Sample ID: US61D
LIMS ID: 12-7887
Matrix: Water
Data Release Authorized: MJB
Reported: 05/11/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/07/12
Date Analyzed: 05/09/12 15:50
Instrument/Analyst: NT12/VTS

Sample Amount: 150 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes

CAS Number	Analyte	RL	Result	Q
36643-28-4	Tributyltin Ion	0.005	< 0.005	U

Reported in µg/L (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	78.6%
Tripentyl Tin Chloride	86.3%

ANALYTICAL RESOURCES INCORPORATED

TBT SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09

Client ID	TPRT	TPNT	TOT OUT
MW-30S-050212	78.3%	90.6%	0
MB-050712	69.8%	80.0%	0
LCS-050712	68.1%	78.2%	0
MW-29S-050212	67.7%	80.3%	0
MW-29S-050212 MS	72.1%	83.2%	0
MW-29S-050212 MSD	74.2%	85.6%	0
MW-31S-050212	71.8%	86.0%	0
DUP-050212-1	78.6%	86.3%	0

	LCS/MB LIMITS	QC LIMITS
(TPRT) = Tripropyl Tin Chloride	(30-160)	(30-160)
(TPNT) = Tripentyl Tin Chloride	(30-160)	(30-160)

Prep Method: SW3510C
Analytical Method: Low TBT (Hexyl) Krone 1988
Log Number Range: 12-7884 to 12-7887

US52:00266

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS
Page 1 of 1

Sample ID: MW-29S-050212
MATRIX SPIKE

Lab Sample ID: US61B
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted MS: 05/07/12

Date Analyzed MS: 05/09/12 14:41
MSD: 05/09/12 15:09
Instrument/Analyst MS: NT12/VTS
MSD: NT12/VTS

Sample Amount MS: 150 mL
MSD: 150 mL
Final Extract Volume MS: 0.5 mL
MSD: 0.5 mL
Dilution Factor MS: 1.00
MSD: 1.00
Alumina Cleanup: Yes

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Tributyltin Ion	0.000	0.052	0.074	70.1%	0.053	0.074	71.5%	1.9%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS **Sample ID: MW-29S-050212**
Page 1 of 1 **MATRIX SPIKE**

Lab Sample ID: US61B
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/07/12
Date Analyzed: 05/09/12 14:41
Instrument/Analyst: NT12/VTS

Sample Amount: 150 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes

CAS Number	Analyte	RL	Result	Q
36643-28-4	Tributyltin Ion	0.005	---	

Reported in µg/L (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	72.1%
Tripentyl Tin Chloride	83.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS
Page 1 of 1

Sample ID: MW-29S-050212
MATRIX SPIKE DUP

Lab Sample ID: US61B
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/07/12
Date Analyzed: 05/09/12 15:09
Instrument/Analyst: NT12/VTS

Sample Amount: 150 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes

CAS Number	Analyte	RL	Result	Q
36643-28-4	Tributyltin Ion	0.005	---	

Reported in µg/L (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	74.2%
Tripentyl Tin Chloride	85.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS **Sample ID: LCS-050712**
Page 1 of 1 **LAB CONTROL SAMPLE**

Lab Sample ID: LCS-050712
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling 155129.09
Date Sampled: NA
Date Received: NA

Date Extracted LCS: 05/07/12
Date Analyzed LCS: 05/09/12 13:39
Instrument/Analyst LCS: NT12/VTS

Sample Amount LCS: 150 mL
Final Extract Volume LCS: 0.50 mL
Dilution Factor LCS: 1.00
Alumina Cleanup: Yes

Analyte	LCS	Spike Added	Recovery
Tributyltin Ion	0.050	0.074	67.6%

Reported in µg/L (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	68.1%
Tripentyl Tin Chloride	78.2%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

US61MBW1

Lab Name: ANALYTICAL RESOURCES INC

Client: ERM-WEST

ARI Job No: US61

Project: RG SPRING GW SAMPLIN

Lab File ID: US61MB

Date Extracted: 05/07/12

Instrument ID: NT12

Date Analyzed: 05/09/12

Matrix: LIQUID

Time Analyzed: 1318

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	US61LCSW1	US61LCSW1	US61SB	05/09/12
02	MW-30S-050212	US61A	US61A	05/09/12
03	MW-29S-050212	US61B	US61B	05/09/12
04	MW-29S-050212 MS	US61BMS	US61BMS	05/09/12
05	MW-29S-050212 MS	US61BMSD	US61BMSD	05/09/12
06	MW-31S-050212	US61C	US61C	05/09/12
07	DUP-050212-1	US61D	US61D	05/09/12
08				
09				
10				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Tributyl Tins by Krone 1988 SIM GC/MS
Page 1 of 1

Sample ID: MB-050712
METHOD BLANK

Lab Sample ID: MB-050712
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/07/12
Date Analyzed: 05/09/12 13:18
Instrument/Analyst: NT12/VTS

Sample Amount: 150 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Alumina Cleanup: Yes

CAS Number	Analyte	RL	Result	Q
36643-28-4	Tributyltin Ion	0.005	< 0.005	U

Reported in µg/L (ppb)

TBT Surrogate Recovery

Tripropyl Tin Chloride	69.8%
Tripentyl Tin Chloride	80.0%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT12 Project: RG SPRING GW

DFTPP Injection Date: 05/05/12 DFTPP Injection Time: 1028

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	26.1
68	Less than 2.0% of mass 69	0.7 (1.1)1
69	Mass 69 relative abundance	59.7
70	Less than 2.0% of mass 69	0.6 (1.1)1
127	10.0 - 80.0% of mass 198	58.9
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 60.0% of mass 198	29.0
365	Greater than 1.0% of mass 198	4.56
441	0.0 - 24.0% of mass 442	21.3 (15.9)2
442	50.0 - 200.0% of mass 198	133.4
443	15.0 - 24.0% of mass 442	27.7 (20.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		PW 25	IC0505A	05/05/12	1046
02		PW 100	IC0505B	05/05/12	1120
03		PW 2	IC0505C	05/05/12	1140
04		PW 50	IC0505D	05/05/12	1201
05		PW 5	IC0505E	05/05/12	1222
06		PW 10	IC0505F	05/05/12	1242
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

US52:00273

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

Instrument ID: NT12 Project: RG SPRING GW

DFTPP Injection Date: 05/09/12 DFTPP Injection Time: 1220

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	26.2
68	Less than 2.0% of mass 69	0.3 (0.6)1
69	Mass 69 relative abundance	60.7
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	10.0 - 80.0% of mass 198	58.6
197	Less than 2.0% of mass 198	0.1
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.4
275	10.0 - 60.0% of mass 198	27.7
365	Greater than 1.0% of mass 198	4.66
441	0.0 - 24.0% of mass 442	19.9 (15.8)2
442	50.0 - 200.0% of mass 198	126.2
443	15.0 - 24.0% of mass 442	27.2 (21.6)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		TBT 25	CC0509	05/09/12	1238
02	US61MBW1	US61MBW1	US61MB	05/09/12	1318
03	US61LCSW1	US61LCSW1	US61SB	05/09/12	1339
04	MW-30S-050212	US61A	US61A	05/09/12	1400
05	MW-29S-050212	US61B	US61B	05/09/12	1420
06	MW-29S-050212 MS	US61BMS	US61BMS	05/09/12	1441
07	MW-29S-050212 MS	US61BMSD	US61BMSD	05/09/12	1509
08	MW-31S-050212	US61C	US61C	05/09/12	1530
09	DUP-050212-1	US61D	US61D	05/09/12	1550
10					
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19					
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21					
22					

FORM V SV

US52:00274

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT12 Calibration Date: 05/05/12

LAB FILE ID: RRF2 =IC0505C RRF5 =IC0505E RRF10 =IC0505F
RRF25 =IC0505A RRF50 =IC0505D RRF100=IC0505B

COMPOUND	RRF 2	RRF 5	RRF 10	RRF 25	RRF 50	RRF 100	___ RRF	%RSD /R^2
Tributyl Tin (Hexyl)	0.842	0.801	0.754	0.708	0.741	0.718	0.761	6.8
Dibutyl Tin (Hexyl)	0.057	0.058	0.056	0.048	0.056	0.056	0.055	6.7
Butyl Tin (Hexyl)	0.084	0.093	0.089	0.077	0.089	0.087	0.086	6.0
Tetrabutyl Tin	0.713	0.761	0.771	0.757	0.792	0.702	0.749	4.7
Tripropyl Tin (Hexyl)	0.728	0.828	0.781	0.769	0.800	0.773	0.780	4.3
Tripentyl Tin (Hexyl)	0.075	0.076	0.077	0.068	0.078	0.077	0.075	4.8

<- Outside QC limits: %RSD <20% or R^2 > 0.990

US52:00275

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Instrument ID: NT12 Cont. Calib. Date: 05/09/12

Init. Calib. Date: 05/05/12 Cont. Calib. Time: 1238

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Tributyl Tin (Hexyl)	0.761	0.717	0.010	AVRG	-5.8
Dibutyl Tin (Hexyl)	0.055	0.050	0.010	AVRG	-9.1
Butyl Tin (Hexyl)	0.086	0.079	0.010	AVRG	-8.1
Tetrabutyl Tin	0.749	0.746	0.010	AVRG	-0.4
Tripropyl Tin (Hexyl)	0.780	0.761	0.010	AVRG	-2.4
Tripentyl Tin (Hexyl)	0.075	0.069	0.010	AVRG	-8.0

<- Exceeds QC limit of 20% D
* RF less than minimum RF

US52:00276

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No: US61 Project: RG SPRING GW

Ical Midpoint ID: IC0505A Ical Date: 05/05/12

Instrument ID: NT12 Cont. Cal Date: 05/09/12

		IS1 AREA #	RT #	IS2 AREA #	RT #	AREA #	RT #
	ICAL MIDPT	196077	10.29	194587	11.27		
	UPPER LIMIT	392154		389174			
	LOWER LIMIT	98038		97294			
	CCAL	213857	10.29	209352	11.27		
	UPPER LIMIT		10.79		11.77		
	LOWER LIMIT		9.79		10.77		
01	US61MBW1	190249	10.29	163542	11.27		
02	US61LCSW1	207101	10.29	176452	11.27		
03	MW-30S-05021	191276	10.29	160513	11.27		
04	MW-29S-05021	201847	10.29	169158	11.27		
05	MW-29S-05021	201741	10.29	170483	11.27		
06	MW-29S-05021	208273	10.29	177826	11.27		
07	MW-31S-05021	202153	10.29	166067	11.27		
08	DUP-050212-1	206651	10.29	177946	11.27		
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

IS1 = Tetrapentyl Tin
IS2 = p-Terphenyl-d14

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

PCP/Chlorophenols Analysis
Report and Summary QC Forms

ARI Job ID: US52, US61, UT31

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-14-043012
SAMPLE

Lab Sample ID: US52A
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized: VH
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/09/12 19:10
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	56.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Extraction Method: SW3510C
Page 1 of 1

Sample ID: MW-16-043012
SAMPLE

Lab Sample ID: US52B
LIMS ID: 12-7816
Matrix: Water
Data Release Authorized:
Reported: 06/28/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/11/12 09:49
Instrument/Analyst: ECD1/VTS

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 50.0

CAS Number	Analyte	RL	Result
87-86-5	**Pentachlorophenol**	**12**	**340**

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	D

FORM I

US52: 28OR BC 7/3/12

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-5S-050112
SAMPLE

Lab Sample ID: US52C
LIMS ID: 12-7817
Matrix: Water
Data Release Authorized: VT
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/09/12 21:33
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	72.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-11-050112
SAMPLE

Lab Sample ID: US52D
LIMS ID: 12-7818
Matrix: Water
Data Release Authorized: VS
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/11/12 10:25
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 20.0

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	5.0	50

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	D

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-12-050112
SAMPLE

Lab Sample ID: US52E
LIMS ID: 12-7819
Matrix: Water
Data Release Authorized: VJ
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/09/12 22:45
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	68.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-19-050112
SAMPLE

Lab Sample ID: US52F
LIMS ID: 12-7820
Matrix: Water
Data Release Authorized: VT
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/10/12 00:32
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	84.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-28S-050112
SAMPLE

Lab Sample ID: US52G
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized: VJS
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/10/12 01:08
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	73.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-32S-050112
SAMPLE

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized: VD
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/10/12 01:44
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	63.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-32DR-050112
SAMPLE

Lab Sample ID: US52I
LIMS ID: 12-7823
Matrix: Water
Data Release Authorized: VJB
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/10/12 03:31
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in ug/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	56.0%

ANALYTICAL RESOURCES INCORPORATED

SW8041 CHLOROPHENOLICS SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

Client ID	TBP	TOT OUT
MB-050412	71.2%	0
LCS-050412	72.8%	0
MW-14-043012	56.8%	0
MW-14-043012 MS	52.4%	0
MW-14-043012 MSD	57.6%	0
MW-16-043012	D	0
MW-5S-050112	72.4%	0
MW-11-050112	D	0
MW-12-050112	68.4%	0
MW-19-050112	84.0%	0
MW-28S-050112	73.6%	0
MW-32S-050112	63.2%	0
MW-32S-050112 MS	65.8%	0
MW-32S-050112 MSD	56.6%	0
MW-32DR-050112	56.0%	0

	LCS/MB LIMITS	QC LIMITS
(TBP) 2,4,6-Tribromophenol	(41-98)	(26-113)

Prep Method: SW3510C
Log Number Range: 12-7815 to 12-7823

FORM-II SW8041

US52:00288

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-14-043012
MS/MSD

Lab Sample ID: US52A
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized: VJ
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Date Extracted MS/MSD: 05/04/12

Date Analyzed MS: 05/09/12 19:45
MSD: 05/09/12 20:21
Instrument/Analyst MS: ECD1/AAR
MSD: ECD1/AAR

Sample Amount MS: 500 mL
MSD: 500 mL
Final Extract Volume MS: 50 mL
MSD: 50 mL
Dilution Factor MS: 1.00
MSD: 1.00

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Pentachlorophenol	< 0.25 U	2.32	2.50	92.8%	2.42	2.50	96.8%	4.2%

Results reported in ug/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-14-043012
MATRIX SPIKE

Lab Sample ID: US52A
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized: VD
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/09/12 19:45
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	---

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	52.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-14-043012
MATRIX SPIKE DUP

Lab Sample ID: US52A
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized: VD
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/09/12 20:21
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	---

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	57.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-32S-050112
MS/MSD

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized: VTB
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted MS/MSD: 05/04/12

Date Analyzed MS: 05/10/12 02:20
MSD: 05/10/12 02:55
Instrument/Analyst MS: ECD1/AAR
MSD: ECD1/AAR

Sample Amount MS: 500 mL
MSD: 500 mL
Final Extract Volume MS: 50 mL
MSD: 50 mL
Dilution Factor MS: 1.00
MSD: 1.00

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Pentachlorophenol	< 0.25 U	2.47	2.50	98.8%	2.27	2.50	90.8%	8.4%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-32S-050112
MATRIX SPIKE

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized: VD
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/10/12 02:20
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	---

Reported in ug/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	65.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MW-32S-050112
MATRIX SPIKE DUP

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized: VTS
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/10/12 02:55
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	---

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	56.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: LCS-050412
LAB CONTROL

Lab Sample ID: LCS-050412
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized: VJ
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Date Extracted: 05/04/12
Date Analyzed: 05/09/12 17:58
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

Analyte	Lab Control	Spike Added	Recovery
Pentachlorophenol	2.10	2.50	84.0%

Chlorophenols Surrogate Recovery	
2,4,6-Tribromophenol	72.8%

Results reported in µg/L

CHLOROPHENOL METHOD BLANK SUMMARY

SAMPLE NO.

US52MBW1

Lab Name: ANALYTICAL RESOURCES INC — Client: ERM-WEST

ARI Job No.: US52 — Project: RG SPRING GW SAMPLING

Lab Sample ID: US52MBW1 — Lab File ID: 05090006

Matrix (soil/water) LIQUID — Extraction:(SepF/Cont/Sonc) SW3510C

Sulfur Cleanup (Y/N) Y — Date Extracted: 05/04/12

Date Analyzed (1): 05/09/12 — Date Analyzed (2): 05/09/12

Time Analyzed (1): 1722 — Time Analyzed (2): 1722

Instrument ID (1): ECD1 — Instrument ID (2): ECD1

GC Column (1): STX CLP1 ID: 0.53(mm) — GC Column (2): STX CLP2 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	US52LCSW1	US52LCSW1	05/09/12	05/09/12
02	MW-14-043012	US52A	05/09/12	05/09/12
03	MW-14-043012	US52AMS	05/09/12	05/09/12
04	MW-14-043012	US52AMSD	05/09/12	05/09/12
05	MW-5S-050112	US52C	05/09/12	05/09/12
06	MW-12-050112	US52E	05/09/12	05/09/12
07	MW-19-050112	US52F	05/10/12	05/10/12
08	MW-28S-05011	US52G	05/10/12	05/10/12
09	MW-32S-05011	US52H	05/10/12	05/10/12
10	MW-32S-05011	US52HMS	05/10/12	05/10/12
11	MW-32S-05011	US52HMSD	05/10/12	05/10/12
12	MW-32DR-0501	US52I	05/10/12	05/10/12
13	MW-16-043012	US52B	05/11/12	05/11/12
14	MW-11-050112	US52D	05/11/12	05/11/12

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041

Sample ID: MB-050412
METHOD BLANK

Lab Sample ID: MB-050412
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized: VB
Reported: 05/11/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/04/12
Date Analyzed: 05/09/12 17:22
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	71.2%

6D
CHLOROPHENOL INITIAL CALIBRATION
RETENTION TIME WINDOWS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

	RT OF STANDARDS						MEAN	RT WINDOW	
COMPOUND	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	RT	FROM	TO
Pentachlorophenol___	21.11	21.11	21.11	21.10	21.10	21.10	21.10	21.04	21.18
2,4,6-Trichloropheno	13.21	13.20	13.20	13.20	13.20	13.20	13.20	13.13	13.28
2,3,6-Trichloropheno	14.20	14.20	14.20	14.20	14.20	14.20	14.20	14.13	14.27
2,4,5-Trichloropheno	15.97	15.96	15.96	15.95	15.95	15.95	15.96	15.90	16.04
2,3,4-Trichloropheno	17.48	17.47	17.46	17.46	17.46	17.45	17.47	17.41	17.55
2,3,5,6-Tetrachlorop	17.27	17.26	17.26	17.26	17.26	17.25	17.26	17.20	17.34
2,3,4,5-Tetrachlorop	20.28	20.27	20.27	20.26	20.26	20.26	20.27	20.21	20.35
2,4-Dichlorophenol__	12.66	12.66	12.66	12.66	12.65	12.65	12.66	12.59	12.73
2,4,6-Tribromophenol	18.72	18.71	18.71	18.71	18.70	18.70	18.71	18.65	18.79

6D
CHLOROPHENOL INITIAL CALIBRATION
RETENTION TIME WINDOWS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

	RT OF STANDARDS						MEAN	RT WINDOW	
COMPOUND	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	RT	FROM	TO
Pentachlorophenol___	22.85	22.84	22.84	22.84	22.83	22.83	22.84	22.77	22.91
2,4,6-Trichloropheno	14.22	14.21	14.21	14.21	14.21	14.21	14.21	14.14	14.28
2,3,6-Trichloropheno	15.46	15.46	15.46	15.45	15.45	15.45	15.46	15.38	15.53
2,4,5-Trichloropheno	17.38	17.38	17.37	17.37	17.37	17.36	17.37	17.30	17.44
2,3,4-Trichloropheno	18.93	18.92	18.92	18.91	18.91	18.91	18.92	18.84	18.98
2,3,5,6-Tetrachlorop	18.71	18.70	18.70	18.70	18.70	18.69	18.70	18.63	18.77
2,3,4,5-Tetrachlorop	21.97	21.97	21.96	21.96	21.96	21.95	21.96	21.89	22.03
2,4-Dichlorophenol__	13.73	13.73	13.73	13.73	13.72	13.72	13.73	13.66	13.80
2,4,6-Tribromophenol	20.82	20.82	20.82	20.81	20.81	20.81	20.82	20.75	20.89

6E
CHLOROPHENOL INITIAL CALIBRATION
CALIBRATION FACTORS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

COMPOUND	CALIBRATION FACTORS LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	R^2/ %RSD	CT
Pentachlorophenol____	71748	66396	59963	53589	48840	40802	0.9998	Q
2,4,6-Trichlorophenol	36826	37371	34059	30102	26170	22270	19.5	A
2,3,6-Trichlorophenol	35698	33430	35377	29468	25822	21477	18.9	A
2,4,5-Trichlorophenol	20232	21532	22437	19278	15518	12168	0.9998	Q
2,3,4-Trichlorophenol	30789	28670	26135	22318	19586	15750	0.9998	Q
2,3,5,6-Tetrachloroph	53340	50922	48164	43544	39008	33581	16.8	A
2,3,4,5-Tetrachloroph	46968	41050	38658	33500	31676	24932	0.9986	Q
2,4-Dichlorophenol___	2598	2225	1924	1689	1428	1202	0.9997	Q
2,4,6-Tribromophenol	54635	51354	49292	43188	39839	33195	17.7	A
						AVE RSD	20.8	

CT stands for Curve Types:
- A Indicates an Average Response Factor Curve
- L Indicates a Linear Curve
- Q Indicates a Quadratic Curve

CALIBRATION FILES

LVL 1: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A007.d
LVL 2: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A008.d
LVL 3: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A009.d
LVL 4: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A006.d
LVL 5: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A010.d
LVL 6: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A011.d

6E
CHLOROPHENOL INITIAL CALIBRATION
CALIBRATION FACTORS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

COMPOUND	CALIBRATION FACTORS LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	R^2/ %RSD	CT
Pentachlorophenol____	42831	39424	36711	32522	29273	25788	18.6	A
2,4,6-Trichlorophenol	30382	25103	23028	23892	19998	16464	0.9995	Q
2,3,6-Trichlorophenol	26568	24380	23061	20113	17782	14386	0.9998	Q
2,4,5-Trichlorophenol	14270	12029	12379	12236	10871	7648	19.1	A
2,3,4-Trichlorophenol	22416	19090	16404	15938	12846	9204	0.9966	Q
2,3,5,6-Tetrachloroph	33860	31358	29200	27814	25374	21354	15.7	A
2,3,4,5-Tetrachloroph	27646	25163	22972	20080	18218	15133	0.9998	Q
2,4-Dichlorophenol___	1384	1147	1030	1060	879	691	0.9992	Q
2,4,6-Tribromophenol	35777	33525	30723	28406	27585	22686	15.6	A
						AVE RSD	20.5	

CT stands for Curve Types:
- A Indicates an Average Response Factor Curve
- L Indicates a Linear Curve
- Q Indicates a Quadratic Curve

CALIBRATION FILES

LVL 1: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A007.d
LVL 2: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A008.d
LVL 3: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A009.d
LVL 4: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A006.d
LVL 5: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A010.d
LVL 6: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A011.d

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/09/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1646

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.12	21.04	21.18	21.9	25.0	-12.4
2,4,6-Trichlorophenol	13.22	13.13	13.28	22.0	25.0	-12.0
2,3,6-Trichlorophenol	14.22	14.13	14.27	24.0	25.0	-4.0
2,4,5-Trichlorophenol	15.98	15.90	16.04	27.3	25.0	9.2
2,3,4-Trichlorophenol	17.48	17.41	17.55	25.9	25.0	3.6
2,3,5,6-Tetrachlorophenol	17.28	17.20	17.34	22.4	25.0	-10.4
2,3,4,5-Tetrachlorophenol	20.29	20.21	20.35	28.7	25.0	14.8
2,4-Dichlorophenol	12.68	12.59	12.73	258	250	3.2
2,4,6-Tribromophenol (surr	18.73	18.65	18.79	24.2	25.0	-3.2

AVERAGE %D = 8.1

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/09/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1646

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D	
Pentachlorophenol	22.86	22.77	22.91	22.1	25.0	-11.6	
2,4,6-Trichlorophenol	14.23	14.14	14.28	20.4	25.0	-18.4	
2,3,6-Trichlorophenol	15.47	15.38	15.53	17.9	25.0	-28.4	<-
2,4,5-Trichlorophenol	17.39	17.30	17.44	21.7	25.0	-13.2	
2,3,4-Trichlorophenol	18.94	18.84	18.98	18.3	25.0	-26.8	<-
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	19.9	25.0	-20.4	
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	21.0	25.0	-16.0	
2,4-Dichlorophenol	13.75	13.66	13.80	188	250	-24.8	
2,4,6-Tribromophenol (surr	20.83	20.75	20.89	20.2	25.0	-19.2	

AVERAGE %D = 19.9

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/09/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :2357

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.13	21.04	21.18	20.8	25.0	-16.8
2,4,6-Trichlorophenol	13.22	13.13	13.28	20.0	25.0	-20.0
2,3,6-Trichlorophenol	14.22	14.13	14.27	22.2	25.0	-11.2
2,4,5-Trichlorophenol	15.98	15.90	16.04	19.2	25.0	-23.2
2,3,4-Trichlorophenol	17.49	17.41	17.55	21.6	25.0	-13.6
2,3,5,6-Tetrachlorophenol	17.28	17.20	17.34	21.1	25.0	-15.6
2,3,4,5-Tetrachlorophenol	20.29	20.21	20.35	21.7	25.0	-13.2
2,4-Dichlorophenol	12.68	12.59	12.73	208	250	-16.8
2,4,6-Tribromophenol (surr	18.73	18.65	18.79	21.5	25.0	-14.0

AVERAGE %D = 16.0

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/09/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :2357

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D	
Pentachlorophenol	22.86	22.77	22.91	22.4	25.0	-10.4	
2,4,6-Trichlorophenol	14.23	14.14	14.28	18.2	25.0	-27.2	<-
2,3,6-Trichlorophenol	15.48	15.38	15.53	18.6	25.0	-25.6	<-
2,4,5-Trichlorophenol	17.39	17.30	17.44	21.6	25.0	-13.6	
2,3,4-Trichlorophenol	18.94	18.84	18.98	18.5	25.0	-26.0	<-
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	20.5	25.0	-18.0	
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	21.0	25.0	-16.0	
2,4-Dichlorophenol	13.75	13.66	13.80	198	250	-20.8	
2,4,6-Tribromophenol (surr	20.84	20.75	20.89	20.4	25.0	-18.4	

AVERAGE %D = 19.6

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/10/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :0443

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.13	21.04	21.18	21.4	25.0	-14.4
2,4,6-Trichlorophenol	13.23	13.13	13.28	20.6	25.0	-17.6
2,3,6-Trichlorophenol	14.23	14.13	14.27	23.0	25.0	-8.0
2,4,5-Trichlorophenol	15.98	15.90	16.04	20.4	25.0	-18.4
2,3,4-Trichlorophenol	17.49	17.41	17.55	22.2	25.0	-11.2
2,3,5,6-Tetrachlorophenol	17.29	17.20	17.34	21.8	25.0	-12.8
2,3,4,5-Tetrachlorophenol	20.30	20.21	20.35	20.6	25.0	-17.6
2,4-Dichlorophenol	12.69	12.59	12.73	216	250	-13.6
2,4,6-Tribromophenol (surr	18.74	18.65	18.79	21.4	25.0	-14.4

AVERAGE %D = 14.2

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/10/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :0443

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D	
Pentachlorophenol	22.87	22.77	22.91	22.9	25.0	-8.4	
2,4,6-Trichlorophenol	14.24	14.14	14.28	21.6	25.0	-13.6	
2,3,6-Trichlorophenol	15.48	15.38	15.53	18.8	25.0	-24.8	
2,4,5-Trichlorophenol	17.40	17.30	17.44	21.4	25.0	-14.4	
2,3,4-Trichlorophenol	18.94	18.84	18.98	18.6	25.0	-25.6	<-
2,3,5,6-Tetrachlorophenol	18.73	18.63	18.77	20.9	25.0	-16.4	
2,3,4,5-Tetrachlorophenol	21.99	21.89	22.03	21.7	25.0	-13.2	
2,4-Dichlorophenol	13.75	13.66	13.80	196	250	-21.6	
2,4,6-Tribromophenol (surr	20.84	20.75	20.89	20.8	25.0	-16.8	

AVERAGE %D = 17.2

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :0914

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.13	21.04	21.18	24.2	25.0	-3.2
2,4,6-Trichlorophenol	13.23	13.13	13.28	23.3	25.0	-6.8
2,3,6-Trichlorophenol	14.22	14.13	14.27	23.8	25.0	-4.8
2,4,5-Trichlorophenol	15.98	15.90	16.04	24.1	25.0	-3.6
2,3,4-Trichlorophenol	17.49	17.41	17.55	24.7	25.0	-1.2
2,3,5,6-Tetrachlorophenol	17.29	17.20	17.34	24.0	25.0	-4.0
2,3,4,5-Tetrachlorophenol	20.29	20.21	20.35	23.6	25.0	-5.6
2,4-Dichlorophenol	12.68	12.59	12.73	232	250	-7.2
2,4,6-Tribromophenol (surr	18.73	18.65	18.79	24.4	25.0	-2.4

AVERAGE %D = 4.3

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :0914

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	22.86	22.77	22.91	23.2	25.0	-7.2
2,4,6-Trichlorophenol	14.24	14.14	14.28	24.5	25.0	-2.0
2,3,6-Trichlorophenol	15.48	15.38	15.53	22.8	25.0	-8.8
2,4,5-Trichlorophenol	17.39	17.30	17.44	25.2	25.0	0.8
2,3,4-Trichlorophenol	18.94	18.84	18.98	23.8	25.0	-4.8
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	22.9	25.0	-8.4
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	22.2	25.0	-11.2
2,4-Dichlorophenol	13.75	13.66	13.80	248	250	-0.8
2,4,6-Tribromophenol (surr	20.84	20.75	20.89	22.4	25.0	-10.4

AVERAGE %D = 6.0

FORM VII PCP

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1137

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.12	21.04	21.18	24.6	25.0	-1.6
2,4,6-Trichlorophenol	13.22	13.13	13.28	24.0	25.0	-4.0
2,3,6-Trichlorophenol	14.22	14.13	14.27	25.9	25.0	3.6
2,4,5-Trichlorophenol	15.97	15.90	16.04	24.7	25.0	-1.2
2,3,4-Trichlorophenol	17.48	17.41	17.55	25.4	25.0	1.6
2,3,5,6-Tetrachlorophenol	17.28	17.20	17.34	24.4	25.0	-2.4
2,3,4,5-Tetrachlorophenol	20.28	20.21	20.35	23.9	25.0	-4.4
2,4-Dichlorophenol	12.68	12.59	12.73	236	250	-5.6
2,4,6-Tribromophenol (surr	18.73	18.65	18.79	24.0	25.0	-4.0

AVERAGE %D = 3.2

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1137

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	22.86	22.77	22.91	23.6	25.0	-5.6
2,4,6-Trichlorophenol	14.23	14.14	14.28	22.5	25.0	-10.0
2,3,6-Trichlorophenol	15.47	15.38	15.53	23.1	25.0	-7.6
2,4,5-Trichlorophenol	17.39	17.30	17.44	25.2	25.0	0.8
2,3,4-Trichlorophenol	18.93	18.84	18.98	21.7	25.0	-13.2
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	23.2	25.0	-7.2
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	22.6	25.0	-9.6
2,4-Dichlorophenol	13.74	13.66	13.80	208	250	-16.8
2,4,6-Tribromophenol (surr	20.83	20.75	20.89	22.8	25.0	-8.8

AVERAGE %D = 8.8

FORM VII PCP

CHLOROPHENOL ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm) Instrument ID: ECD1

Init. Calib. Date(s): 03/23/12 03/23/12

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.72

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #
01		PCP D	03/23/12	1336	18.71
02		PCP A	03/23/12	1412	18.72
03		PCP B	03/23/12	1448	18.71
04		PCP C	03/23/12	1524	18.71
05		PCP E	03/23/12	1600	18.70
06		PCP F	03/23/12	1636	18.70
07	ZZZZZ	ZZZZZ	03/23/12	1712	18.71
08	ZZZZZ	ZZZZZ	05/09/12	1422	----
09	ZZZZZ	ZZZZZ	05/09/12	1458	18.73
10	ZZZZZ	ZZZZZ	05/09/12	1534	18.73
11	ZZZZZ	ZZZZZ	05/09/12	1610	18.73
12		PCP CCAL	05/09/12	1646	18.73
13	US52MBW1	US52MBW1	05/09/12	1722	18.75
14	US52LCSW1	US52LCSW1	05/09/12	1758	18.74
15	ZZZZZ	ZZZZZ	05/09/12	1834	18.75
16	MW-14-043012	US52A	05/09/12	1910	18.74
17	MW-14-043012	US52AMS	05/09/12	1945	18.74
18	MW-14-043012	US52AMSD	05/09/12	2021	18.73
19	MW-5S-050112	US52C	05/09/12	2133	18.75
20	MW-12-050112	US52E	05/09/12	2245	18.75
21	ZZZZZ	ZZZZZ	05/09/12	2321	18.73
22		PCP CCAL	05/09/12	2357	18.73
23	MW-19-050112	US52F	05/10/12	0032	18.75
24	MW-28S-05011	US52G	05/10/12	0108	18.75
25	MW-32S-05011	US52H	05/10/12	0144	18.74
26	MW-32S-05011	US52HMS	05/10/12	0220	18.74
27	MW-32S-05011	US52HMSD	05/10/12	0255	18.74
28	MW-32DR-0501	US52I	05/10/12	0331	18.75
29	ZZZZZ	ZZZZZ	05/10/12	0407	18.74
30		PCP CCAL	05/10/12	0443	18.74
31		PCP CCAL	05/11/12	0914	18.73
32	MW-16-043012	US52B	05/11/12	0949	18.76

QC LIMITS

S1 = 2,4,6-Tribromophenol (+/- 0.07 MINUTES)

* Values outside of QC limits.

FORM VIII PCP

CHLOROPHENOL ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm) Instrument ID: ECD1

Init. Calib. Date(s): 03/23/12 03/23/12

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.72

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #
01	MW-11-050112	US52D	05/11/12	1025	18.77
02	ZZZZZ	ZZZZZ	05/11/12	1101	18.72
03		PCP CCAL	05/11/12	1137	18.73

QC LIMITS

S1 = 2,4,6-Tribromophenol (+/- 0.07 MINUTES)

* Values outside of QC limits.

CHLOROPHENOL ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm) Instrument ID: ECD1

Init. Calib. Date(s): 03/23/12 03/23/12

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 20.82

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #
01		PCP D	03/23/12	1336	20.81
02		PCP A	03/23/12	1412	20.82
03		PCP B	03/23/12	1448	20.82
04		PCP C	03/23/12	1524	20.82
05		PCP E	03/23/12	1600	20.81
06		PCP F	03/23/12	1636	20.81
07	ZZZZZ	ZZZZZ	03/23/12	1712	20.82
08	ZZZZZ	ZZZZZ	05/09/12	1422	----
09	ZZZZZ	ZZZZZ	05/09/12	1458	20.84
10	ZZZZZ	ZZZZZ	05/09/12	1534	20.84
11	ZZZZZ	ZZZZZ	05/09/12	1610	20.84
12		PCP CCAL	05/09/12	1646	20.83
13	US52MBW1	US52MBW1	05/09/12	1722	20.85
14	US52LCSW1	US52LCSW1	05/09/12	1758	20.84
15	ZZZZZ	ZZZZZ	05/09/12	1834	20.85
16	MW-14-043012	US52A	05/09/12	1910	20.84
17	MW-14-043012	US52AMS	05/09/12	1945	20.84
18	MW-14-043012	US52AMSD	05/09/12	2021	20.84
19	MW-5S-050112	US52C	05/09/12	2133	20.85
20	MW-12-050112	US52E	05/09/12	2245	20.85
21	ZZZZZ	ZZZZZ	05/09/12	2321	20.84
22		PCP CCAL	05/09/12	2357	20.84
23	MW-19-050112	US52F	05/10/12	0032	20.85
24	MW-28S-05011	US52G	05/10/12	0108	20.85
25	MW-32S-05011	US52H	05/10/12	0144	20.85
26	MW-32S-05011	US52HMS	05/10/12	0220	20.85
27	MW-32S-05011	US52HMSD	05/10/12	0255	20.85
28	MW-32DR-0501	US52I	05/10/12	0331	20.85
29	ZZZZZ	ZZZZZ	05/10/12	0407	20.84
30		PCP CCAL	05/10/12	0443	20.84
31		PCP CCAL	05/11/12	0914	20.84
32	MW-16-043012	US52B	05/11/12	0949	20.86

QC LIMITS

S1 = 2,4,6-Tribromophenol (+/- 0.07 MINUTES)

* Values outside of QC limits.

FORM VIII PCP

8

CHLOROPHENOL ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US52 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm) Instrument ID: ECD1

Init. Calib. Date(s): 03/23/12 03/23/12

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 20.82

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #
01	MW-11-050112	US52D	05/11/12	1025	20.86
02	ZZZZZ	ZZZZZ	05/11/12	1101	20.83
03		PCP CCAL	05/11/12	1137	20.83

QC LIMITS

S1 = 2,4,6-Tribromophenol (+/- 0.07 MINUTES)

* Values outside of QC limits.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Page 1 of 1

Sample ID: MW-30S-050212
SAMPLE

Lab Sample ID: US61A
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized:
Reported: 05/14/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/11/12 14:18
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	82.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Page 1 of 1

Sample ID: MW-29S-050212
SAMPLE

Lab Sample ID: US61B
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized:
Reported: 05/14/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/11/12 14:54
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	78.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Page 1 of 1

Sample ID: MW-31S-050212
SAMPLE

Lab Sample ID: US61C
LIMS ID: 12-7886
Matrix: Water
Data Release Authorized:
Reported: 05/14/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/11/12 15:30
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	80.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Page 1 of 1

Sample ID: DUP-050212-1
SAMPLE

Lab Sample ID: US61D
LIMS ID: 12-7887
Matrix: Water
Data Release Authorized:
Reported: 05/14/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted: 05/08/12
Date Analyzed: 05/11/12 16:06
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery

2,4,6-Tribromophenol	80.8%

ANALYTICAL RESOURCES INCORPORATED

SW8041 CHLOROPHENOLICS SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

Client ID	TBP	TOT OUT
MB-050812	86.0%	0
LCS-050812	86.6%	0
LCSD-050812	88.0%	0
MW-30S-050212	82.0%	0
MW-29S-050212	78.8%	0
MW-31S-050212	80.4%	0
DUP-050212-1	80.8%	0

	LCS/MB LIMITS	QC LIMITS
(TBP) = 2,4,6-Tribromophenol	(41-98)	(26-113)

Prep Method: SW3510C
Log Number Range: 12-7884 to 12-7887

US52 : 00320

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Page 1 of 1

Sample ID: LCS-050812
LCS/LCSD

Lab Sample ID: LCS-050812
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized:
Reported: 05/14/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Date Extracted LCS/LCSD: 05/08/12

Date Analyzed LCS: 05/11/12 13:06
LCSD: 05/11/12 13:42
Instrument/Analyst LCS: ECD1/AAR
LCSD: ECD1/AAR

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 50 mL
LCSD: 50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Pentachlorophenol	2.51	2.50	100%	2.60	2.50	104%	3.5%

Chlorophenols Surrogate Recovery

	LCS	LCSD
2,4,6-Tribromophenol	86.6%	88.0%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4

CHLOROPHENOL METHOD BLANK SUMMARY

SAMPLE NO.

US61MBW1

Lab Name: ANALYTICAL RESOURCES INC — Client: ERM-WEST

ARI Job No.: US61 — Project: RG SPRING GW SAMPLING

Lab Sample ID: US61MBW1 — Lab File ID: 05110008

Matrix (soil/water) LIQUID — Extraction:(SepF/Cont/Sonc) SW3510C

Sulfur Cleanup (Y/N) Y — Date Extracted: 05/08/12

Date Analyzed (1): 05/11/12 — Date Analyzed (2): 05/11/12

Time Analyzed (1): 1230 — Time Analyzed (2): 1230

Instrument ID (1): ECD1 — Instrument ID (2): ECD1

GC Column (1): STX CLP1 ID: 0.53(mm) — GC Column (2): STX CLP2 ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	US61LCSW1	US61LCSW1	05/11/12	05/11/12
02	US61LCSDW1	US61LCSDW1	05/11/12	05/11/12
03	MW-30S-05021	US61A	05/11/12	05/11/12
04	MW-29S-05021	US61B	05/11/12	05/11/12
05	MW-31S-05021	US61C	05/11/12	05/11/12
06	DUP-050212-1	US61D	05/11/12	05/11/12
07	MW-34S-05031	US82A	05/11/12	05/11/12
08	MW-35S-05031	US82B	05/11/12	05/11/12
09	MW-33S-05021	US82E	05/11/12	05/11/12
10	BLAIR 5-4-12	UT05A	05/11/12	05/11/12

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCP by GC/ECD Method SW8041
Page 1 of 1

Sample ID: MB-050812
METHOD BLANK

Lab Sample ID: MB-050812
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized: MW
Reported: 05/14/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Date Extracted: 05/08/12
Date Analyzed: 05/11/12 12:30
Instrument/Analyst: ECD1/AAR

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
87-86-5	Pentachlorophenol	0.25	< 0.25 U

Reported in µg/L (ppb)

Chlorophenol Surrogate Recovery	
2,4,6-Tribromophenol	86.0%

FORM I

6D
CHLOROPHENOL INITIAL CALIBRATION
RETENTION TIME WINDOWS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

	RT OF STANDARDS						MEAN	RT WINDOW	
COMPOUND	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	RT	FROM	TO
Pentachlorophenol	21.11	21.11	21.11	21.10	21.10	21.10	21.10	21.04	21.18
2,4,6-Trichloropheno	13.21	13.20	13.20	13.20	13.20	13.20	13.20	13.13	13.28
2,3,6-Trichloropheno	14.20	14.20	14.20	14.20	14.20	14.20	14.20	14.13	14.27
2,4,5-Trichloropheno	15.97	15.96	15.96	15.95	15.95	15.95	15.96	15.90	16.04
2,3,4-Trichloropheno	17.48	17.47	17.46	17.46	17.46	17.45	17.47	17.41	17.55
2,3,5,6-Tetrachlorop	17.27	17.26	17.26	17.26	17.26	17.25	17.26	17.20	17.34
2,3,4,5-Tetrachlorop	20.28	20.27	20.27	20.26	20.26	20.26	20.27	20.21	20.35
2,4-Dichlorophenol	12.66	12.66	12.66	12.66	12.65	12.65	12.66	12.59	12.73
2,4,6-Tribromophenol	18.72	18.71	18.71	18.71	18.70	18.70	18.71	18.65	18.79

6D
CHLOROPHENOL INITIAL CALIBRATION
RETENTION TIME WINDOWS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

	RT OF STANDARDS						MEAN	RT WINDOW	
COMPOUND	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	RT	FROM	TO
Pentachlorophenol	22.85	22.84	22.84	22.84	22.83	22.83	22.84	22.77	22.91
2,4,6-Trichloropheno	14.22	14.21	14.21	14.21	14.21	14.21	14.21	14.14	14.28
2,3,6-Trichloropheno	15.46	15.46	15.46	15.45	15.45	15.45	15.46	15.38	15.53
2,4,5-Trichloropheno	17.38	17.38	17.37	17.37	17.37	17.36	17.37	17.30	17.44
2,3,4-Trichloropheno	18.93	18.92	18.92	18.91	18.91	18.91	18.92	18.84	18.98
2,3,5,6-Tetrachlorop	18.71	18.70	18.70	18.70	18.70	18.69	18.70	18.63	18.77
2,3,4,5-Tetrachlorop	21.97	21.97	21.96	21.96	21.96	21.95	21.96	21.89	22.03
2,4-Dichlorophenol	13.73	13.73	13.73	13.73	13.72	13.72	13.73	13.66	13.80
2,4,6-Tribromophenol	20.82	20.82	20.82	20.81	20.81	20.81	20.82	20.75	20.89

6E
CHLOROPHENOL INITIAL CALIBRATION
CALIBRATION FACTORS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

COMPOUND	CALIBRATION FACTORS LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	R^2/ %RSD	CT
Pentachlorophenol	71748	66396	59963	53589	48840	40802	0.9998	Q
2,4,6-Trichlorophenol	36826	37371	34059	30102	26170	22270	19.5	A
2,3,6-Trichlorophenol	35698	33430	35377	29468	25822	21477	18.9	A
2,4,5-Trichlorophenol	20232	21532	22437	19278	15518	12168	0.9998	Q
2,3,4-Trichlorophenol	30789	28670	26135	22318	19586	15750	0.9998	Q
2,3,5,6-Tetrachloroph	53340	50922	48164	43544	39008	33581	16.8	A
2,3,4,5-Tetrachloroph	46968	41050	38658	33500	31676	24932	0.9986	Q
2,4-Dichlorophenol	2598	2225	1924	1689	1428	1202	0.9997	Q
2,4,6-Tribromophenol	54635	51354	49292	43188	39839	33195	17.7	A
						AVE RSD	20.8	

CT stands for Curve Types:
- A Indicates an Average Response Factor Curve
- L Indicates a Linear Curve
- Q Indicates a Quadratic Curve

CALIBRATION FILES

LVL 1: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A007.d
LVL 2: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A008.d
LVL 3: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A009.d
LVL 4: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A006.d
LVL 5: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A010.d
LVL 6: /chem2/ecd1.i/PCP20120323.b/ical-1.b/0323A011.d

6E
CHLOROPHENOL INITIAL CALIBRATION
CALIBRATION FACTORS

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm) Instrument ID: ECD1

Calibration Date: 03/23/12

COMPOUND	CALIBRATION FACTORS LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	R^2/ %RSD	CT
Pentachlorophenol	42831	39424	36711	32522	29273	25788	18.6	A
2,4,6-Trichlorophenol	30382	25103	23028	23892	19998	16464	0.9995	Q
2,3,6-Trichlorophenol	26568	24380	23061	20113	17782	14386	0.9998	Q
2,4,5-Trichlorophenol	14270	12029	12379	12236	10871	7648	19.1	A
2,3,4-Trichlorophenol	22416	19090	16404	15938	12846	9204	0.9966	Q
2,3,5,6-Tetrachloroph	33860	31358	29200	27814	25374	21354	15.7	A
2,3,4,5-Tetrachloroph	27646	25163	22972	20080	18218	15133	0.9998	Q
2,4-Dichlorophenol	1384	1147	1030	1060	879	691	0.9992	Q
2,4,6-Tribromophenol	35777	33525	30723	28406	27585	22686	15.6	A

AVE RSD | 20.5

CT stands for Curve Types:
- A Indicates an Average Response Factor Curve
- L Indicates a Linear Curve
- Q Indicates a Quadratic Curve

CALIBRATION FILES

LVL 1: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A007.d
LVL 2: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A008.d
LVL 3: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A009.d
LVL 4: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A006.d
LVL 5: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A010.d
LVL 6: /chem2/ecd1.i/PCP20120323.b/ical-2.b/0323A011.d

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :0914

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.13	21.04	21.18	24.2	25.0	-3.2
2,4,6-Trichlorophenol	13.23	13.13	13.28	23.3	25.0	-6.8
2,3,6-Trichlorophenol	14.22	14.13	14.27	23.8	25.0	-4.8
2,4,5-Trichlorophenol	15.98	15.90	16.04	24.1	25.0	-3.6
2,3,4-Trichlorophenol	17.49	17.41	17.55	24.7	25.0	-1.2
2,3,5,6-Tetrachlorophenol	17.29	17.20	17.34	24.0	25.0	-4.0
2,3,4,5-Tetrachlorophenol	20.29	20.21	20.35	23.6	25.0	-5.6
2,4-Dichlorophenol	12.68	12.59	12.73	232	250	-7.2
2,4,6-Tribromophenol (surr	18.73	18.65	18.79	24.4	25.0	-2.4

AVERAGE %D = 4.3

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :0914

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	22.86	22.77	22.91	23.2	25.0	-7.2
2,4,6-Trichlorophenol	14.24	14.14	14.28	24.5	25.0	-2.0
2,3,6-Trichlorophenol	15.48	15.38	15.53	22.8	25.0	-8.8
2,4,5-Trichlorophenol	17.39	17.30	17.44	25.2	25.0	0.8
2,3,4-Trichlorophenol	18.94	18.84	18.98	23.8	25.0	-4.8
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	22.9	25.0	-8.4
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	22.2	25.0	-11.2
2,4-Dichlorophenol	13.75	13.66	13.80	248	250	-0.8
2,4,6-Tribromophenol (surr	20.84	20.75	20.89	22.4	25.0	-10.4

AVERAGE %D = 6.0

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1137

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.12	21.04	21.18	24.6	25.0	-1.6
2,4,6-Trichlorophenol	13.22	13.13	13.28	24.0	25.0	-4.0
2,3,6-Trichlorophenol	14.22	14.13	14.27	25.9	25.0	3.6
2,4,5-Trichlorophenol	15.97	15.90	16.04	24.7	25.0	-1.2
2,3,4-Trichlorophenol	17.48	17.41	17.55	25.4	25.0	1.6
2,3,5,6-Tetrachlorophenol	17.28	17.20	17.34	24.4	25.0	-2.4
2,3,4,5-Tetrachlorophenol	20.28	20.21	20.35	23.9	25.0	-4.4
2,4-Dichlorophenol	12.68	12.59	12.73	236	250	-5.6
2,4,6-Tribromophenol (surr	18.73	18.65	18.79	24.0	25.0	-4.0

AVERAGE %D = 3.2

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1137

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	22.86	22.77	22.91	23.6	25.0	-5.6
2,4,6-Trichlorophenol	14.23	14.14	14.28	22.5	25.0	-10.0
2,3,6-Trichlorophenol	15.47	15.38	15.53	23.1	25.0	-7.6
2,4,5-Trichlorophenol	17.39	17.30	17.44	25.2	25.0	0.8
2,3,4-Trichlorophenol	18.93	18.84	18.98	21.7	25.0	-13.2
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	23.2	25.0	-7.2
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	22.6	25.0	-9.6
2,4-Dichlorophenol	13.74	13.66	13.80	208	250	-16.8
2,4,6-Tribromophenol (surr	20.83	20.75	20.89	22.8	25.0	-8.8

AVERAGE %D = 8.8

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1718

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.12	21.04	21.18	24.8	25.0	-0.8
2,4,6-Trichlorophenol	13.22	13.13	13.28	24.5	25.0	-2.0
2,3,6-Trichlorophenol	14.22	14.13	14.27	24.9	25.0	-0.4
2,4,5-Trichlorophenol	15.97	15.90	16.04	24.8	25.0	-0.8
2,3,4-Trichlorophenol	17.48	17.41	17.55	25.8	25.0	3.2
2,3,5,6-Tetrachlorophenol	17.28	17.20	17.34	24.8	25.0	-0.8
2,3,4,5-Tetrachlorophenol	20.28	20.21	20.35	24.2	25.0	-3.2
2,4-Dichlorophenol	12.67	12.59	12.73	246	250	-1.6
2,4,6-Tribromophenol (surr	18.72	18.65	18.79	24.4	25.0	-2.4

AVERAGE %D = 1.7

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :1718

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	22.85	22.77	22.91	23.6	25.0	-5.6
2,4,6-Trichlorophenol	14.23	14.14	14.28	25.5	25.0	2.0
2,3,6-Trichlorophenol	15.47	15.38	15.53	23.6	25.0	-5.6
2,4,5-Trichlorophenol	17.39	17.30	17.44	25.5	25.0	2.0
2,3,4-Trichlorophenol	18.93	18.84	18.98	21.3	25.0	-14.8
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	23.3	25.0	-6.8
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	22.7	25.0	-9.2
2,4-Dichlorophenol	13.74	13.66	13.80	254	250	1.6
2,4,6-Tribromophenol (surr	20.83	20.75	20.89	23.0	25.0	-8.0

AVERAGE %D = 6.2

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :2054

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D
Pentachlorophenol	21.12	21.04	21.18	25.1	25.0	0.4
2,4,6-Trichlorophenol	13.22	13.13	13.28	24.7	25.0	-1.2
2,3,6-Trichlorophenol	14.22	14.13	14.27	25.1	25.0	0.4
2,4,5-Trichlorophenol	15.97	15.90	16.04	25.0	25.0	0.0
2,3,4-Trichlorophenol	17.48	17.41	17.55	26.0	25.0	4.0
2,3,5,6-Tetrachlorophenol	17.28	17.20	17.34	25.0	25.0	0.0
2,3,4,5-Tetrachlorophenol	20.28	20.21	20.35	24.3	25.0	-2.8
2,4-Dichlorophenol	12.68	12.59	12.73	249	250	-0.4
2,4,6-Tribromophenol (surr	18.72	18.65	18.79	24.6	25.0	-1.6

AVERAGE %D = 1.2

7E

CHLOROPHENOL CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm)

Init. Calib. Date(s): 03/23/12 03/23/12

Client Sample No.(PCP): Date Analyzed :05/11/12

Lab Sample ID (PCP): PCP CCAL Time Analyzed :2054

PCP MIX COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT	NOM AMOUNT	%D	
Pentachlorophenol	22.85	22.77	22.91	23.8	25.0	-4.8	
2,4,6-Trichlorophenol	14.23	14.14	14.28	25.5	25.0	2.0	
2,3,6-Trichlorophenol	15.47	15.38	15.53	22.8	25.0	-8.8	
2,4,5-Trichlorophenol	17.39	17.30	17.44	22.5	25.0	-10.0	
2,3,4-Trichlorophenol	18.93	18.84	18.98	18.2	25.0	-27.2	<-
2,3,5,6-Tetrachlorophenol	18.72	18.63	18.77	22.8	25.0	-8.8	
2,3,4,5-Tetrachlorophenol	21.98	21.89	22.03	22.8	25.0	-8.8	
2,4-Dichlorophenol	13.74	13.66	13.80	250	250	0.0	
2,4,6-Tribromophenol (surr	20.83	20.75	20.89	23.0	25.0	-8.0	

AVERAGE %D = 8.7

FORM VII PCP

CHLOROPHENOL ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP1 ID: 0.53 (mm) Instrument ID: ECD1

Init. Calib. Date(s): 03/23/12 03/23/12

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 18.72

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #
01		PCP D	03/23/12	1336	18.71
02		PCP A	03/23/12	1412	18.72
03		PCP B	03/23/12	1448	18.71
04		PCP C	03/23/12	1524	18.71
05		PCP E	03/23/12	1600	18.70
06		PCP F	03/23/12	1636	18.70
07	ZZZZZ	ZZZZZ	03/23/12	1712	18.71
08		PCP CCAL	05/11/12	0914	18.73
09	ZZZZZ	ZZZZZ	05/11/12	0949	18.76
10	ZZZZZ	ZZZZZ	05/11/12	1025	18.77
11	ZZZZZ	ZZZZZ	05/11/12	1101	18.72
12		PCP CCAL	05/11/12	1137	18.73
13	US61MBW1	US61MBW1	05/11/12	1230	18.75
14	US61LCSW1	US61LCSW1	05/11/12	1306	18.74
15	US61LCSDW1	US61LCSDW1	05/11/12	1342	18.74
16	MW-30S-05021	US61A	05/11/12	1418	18.73
17	MW-29S-05021	US61B	05/11/12	1454	18.74
18	MW-31S-05021	US61C	05/11/12	1530	18.74
19	DUP-050212-1	US61D	05/11/12	1606	18.74
20	ZZZZZ	ZZZZZ	05/11/12	1642	18.72
21		PCP CCAL	05/11/12	1718	18.72
22	MW-34S-05031	US82A	05/11/12	1754	18.74
23	MW-35S-05031	US82B	05/11/12	1830	18.74
24	MW-33S-05021	US82E	05/11/12	1906	18.73
25	ZZZZZ	ZZZZZ	05/11/12	1942	18.73
26	ZZZZZ	ZZZZZ	05/11/12	2018	18.72
27		PCP CCAL	05/11/12	2054	18.72

QC LIMITS

S1 = 2,4,6-Tribromophenol (+/- 0.07 MINUTES)

* Values outside of QC limits.

FORM VIII PCP

CHLOROPHENOL ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

ARI Job No.: US61 Project: RG SPRING GW SAMPLING

GC Column: STX CLP2 ID: 0.53 (mm) Instrument ID: ECD1

Init. Calib. Date(s): 03/23/12 03/23/12

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MEAN SURROGATE RT FROM INITIAL CALIBRATION
S1 : 20.82

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #
01		PCP D	03/23/12	1336	20.81
02		PCP A	03/23/12	1412	20.82
03		PCP B	03/23/12	1448	20.82
04		PCP C	03/23/12	1524	20.82
05		PCP E	03/23/12	1600	20.81
06		PCP F	03/23/12	1636	20.81
07	ZZZZZ	ZZZZZ	03/23/12	1712	20.82
08		PCP CCAL	05/11/12	0914	20.84
09	ZZZZZ	ZZZZZ	05/11/12	0949	20.86
10	ZZZZZ	ZZZZZ	05/11/12	1025	20.86
11	ZZZZZ	ZZZZZ	05/11/12	1101	20.83
12		PCP CCAL	05/11/12	1137	20.83
13	US61MBW1	US61MBW1	05/11/12	1230	20.85
14	US61LCSW1	US61LCSW1	05/11/12	1306	20.84
15	US61LCSDW1	US61LCSDW1	05/11/12	1342	20.84
16	MW-30S-05021	US61A	05/11/12	1418	20.84
17	MW-29S-05021	US61B	05/11/12	1454	20.84
18	MW-31S-05021	US61C	05/11/12	1530	20.84
19	DUP-050212-1	US61D	05/11/12	1606	20.84
20	ZZZZZ	ZZZZZ	05/11/12	1642	20.83
21		PCP CCAL	05/11/12	1718	20.83
22	MW-34S-05031	US82A	05/11/12	1754	20.85
23	MW-35S-05031	US82B	05/11/12	1830	20.84
24	MW-33S-05021	US82E	05/11/12	1906	20.84
25	ZZZZZ	ZZZZZ	05/11/12	1942	20.83
26	ZZZZZ	ZZZZZ	05/11/12	2018	20.83
27		PCP CCAL	05/11/12	2054	20.83

QC LIMITS

S1 = 2,4,6-Tribromophenol (+/- 0.07 MINUTES)

* Values outside of QC limits.

FORM VIII PCP

TPHD Analysis
Report and Summary QC Forms

ARI Job ID: US52, US61, UT31

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS
NWTPHD by GC/FID
Page 1 of 1
Matrix: Water

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Received: 05/01/12

Data Release Authorized:
Reported: 05/08/12

ARI ID	Sample ID	Extraction Date	Analysis Date	EFV DL	Range/Surrogate	RL	Result
MB-050412	Method Blank	05/04/12	05/08/12	1.00	Diesel Range	0.10	< 0.10 U
12-7821	HC ID: ---		FID4A	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		80.0%
US52G	MW-28S-050112	05/04/12	05/08/12	1.00	Diesel Range	0.10	< 0.10 U
12-7821	HC ID: ---		FID4A	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		70.1%

Reported in mg/L (ppm)

EFV-Effective Final Volume in mL.
DL-Dilution of extract prior to analysis.
RL-Reporting limit.

Diesel range quantitation on total peaks in the range from C12 to C24.
Motor Oil range quantitation on total peaks in the range from C24 to C38.
HC ID: DRO/RRO indicates results of organics or additional hydrocarbons in ranges are not identifiable.

US52:00339

ANALYTICAL RESOURCES INCORPORATED

TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09

Client ID	OTER	TOT OUT
MB-050412	80.0%	0
LCS-050412	87.7%	0
LCSD-050412	78.2%	0
MW-28S-050112	70.1%	0

	LCS/MB LIMITS	QC LIMITS
(OTER) = o-Terphenyl	(50-150)	(50-150)

Prep Method: SW3510C
Log Number Range: 12-7821 to 12-7821

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
NWTPHD by GC/FID
Page 1 of 1

Sample ID: LCS-050412
LCS/LCSD

Lab Sample ID: LCS-050412
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/08/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 05/04/12

Date Analyzed LCS: 05/08/12 10:25
LCSD: 05/08/12 10:49
Instrument/Analyst LCS: FID4A/JGR
LCSD: FID4A/JGR

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 1.0 mL
LCSD: 1.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Range	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Diesel	2.49	3.00	83.0%	2.31	3.00	77.0%	7.5%

TPHD Surrogate Recovery

	LCS	LCSD
o-Terphenyl	87.7%	78.2%

Results reported in mg/L
RPD calculated using sample concentrations per SW846.

4

TPH METHOD BLANK SUMMARY

BLANK NO.

US52MBW1

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

SDG No.: US52 Project No.: RG SPRING GW SAMPLING

Date Extracted: 05/04/12 Matrix: LIQUID

Date Analyzed : 05/08/12 Instrument ID : FID4A

Time Analyzed : 1001

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	US52LCSW1	US52LCSW1	05/08/12
02	US52LCSDW1	US52LCSDW1	05/08/12
03	MW-28S-05011	US52G	05/08/12
04			
05			
06			
07			
08			
09			
10			
11			
12			
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30			

FORM IV TPH

ANALYTICAL RESOURCES INCORPORATED

TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

ARI Job: US52
Matrix: Water — Project: RG Spring GW Sampling
Date Received: 05/01/12 — 155129.09

ARI ID	Client ID	Samp Amt	Final Vol	Prep Date
12-7821-050412MB1	Method Blank	500 mL	1.00 mL	05/04/12
12-7821-050412LCS1	Lab Control	500 mL	1.00 mL	05/04/12
12-7821-050412LCSD1	Lab Control Dup	500 mL	1.00 mL	05/04/12
12-7821-US52G	MW-28S-050112	500 mL	1.00 mL	05/04/12

6a

DIESEL INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM WEST

Instrument: FID4A.I Project: RG SPRING

Calibration Date: 08-FEB-2012 SDG No.: US52

Diesel Range	RF1 50	RF2 100	RF3 250	RF4 500	RF5 1000	RF6 2500	Ave RF	%RSD
WA Diesel	14949	15145	15065	15164	14702	15451	15079	1.6
AK Diesel	17627	17893	17841	17989	17500	18388	17873	1.7
OR Diesel	17897	18055	17928	18068	17586	18468	18000	1.6
Cal Diesel	17603	17864	17799	17951	17467	18344	17838	1.7
o-Terph	19594	19585	19531	19489	19354	20804	19726	2.7

<- Indicates %RSD outside limits
Surrogate areas are not included in Diesel RF calculation.

Quant Ranges : WA Diesel C12-C24 (4.212-7.837)
AK Diesel C10-C25 (3.212-8.084)
OR Diesel C10-C28 (3.212-8.776)
Cal Diesel C10-C24 (3.212-7.837)

Calibration Files	Analysis Time
0208a009.d	08-FEB-2012 08:33
0208a008.d	08-FEB-2012 08:09
0208a007.d	08-FEB-2012 07:46
0208a006.d	08-FEB-2012 07:22
0208a005.d	08-FEB-2012 06:59
0208a004.d	08-FEB-2012 06:35

6a

NW MOTOR OIL RANGE INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM WEST

Instrument: FID4A.I Project: RG SPRING

Calibration Date: 19-APR-2012 SDG No.: US52

Product Range	RF1 100	RF2 250	RF3 500	RF4 1000	RF5 2500	RF6 5000	Ave RF	%RSD
WA M.Oil C24-C38	12890	11264	11615	11821	10866	11025	11580	6.3
Triac Surr	13307	14068	15103	15717	15129	*****	14665	6.57

<- Indicates %RSD outside limits
Surrogate areas are not included in Motor Oil RF calculation.

Calibration Files	Analysis Time
0419a037.d	19-APR-2012 21:02
0419a036.d	19-APR-2012 20:38
0419a035.d	19-APR-2012 20:14
0419a034.d	19-APR-2012 19:50
0419a033.d	19-APR-2012 19:26
0419a032.d	19-APR-2012 19:01

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: 20120508

ICal Date: 08-FEB-2012 Project: DIESEL #1

CCal Date: 08-MAY-2012 SDG No.: US52

Analysis Time: 09:12 Lab ID: DIESEL #1

Instrument: FID4A.I Lab File Name: 0508a009.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	3863741	256.2	250	2.5
AK102 (C10-C25)	4557477	255.0	250	2.0
Terphenyl	855078	43.3	45	-3.7

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: 20120508

ICal Date: 19-APR-2012 Project: MOIL #1

CCal Date: 08-MAY-2012 SDG No.: US52

Analysis Time: 09:36 Lab ID: MOIL #1

Instrument: FID4A.I Lab File Name: 0508a010.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D
WAMoil(C24-C38)	5125225	441.9	500	-11.6
AK103 (C25-C36)	4612080	594.4	500	18.9
CRUDE(Tol-C40)	6050623	801.1	500	60.2
n-Triacontane	697158	47.5	45	5.6

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: 20120508

ICal Date: 08-FEB-2012 Project: DIESEL #2

CCal Date: 08-MAY-2012 SDG No.: US52

Analysis Time: 14:53 Lab ID: DIESEL #2

Instrument: FID4A.I Lab File Name: 0508a023.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	3885995	257.7	250	3.1
AK102 (C10-C25)	4597079	257.2	250	2.9
Terphenyl	863192	43.8	45	-2.8

* Surrogate areas are subtracted from range areas

<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: 20120508

ICal Date: 19-APR-2012 Project: MOIL #2

CCal Date: 08-MAY-2012 SDG No.: US52

Analysis Time: 15:17 Lab ID: MOIL #2

Instrument: FID4A.I Lab File Name: 0508a024.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D
WAMoil(C24-C38)	5379835	463.9	500	-7.2
AK103 (C25-C36)	4736464	610.4	500	22.1
CRUDE(Tol-C40)	6327820	837.8	500	67.6
n-Triacontane	703820	48.0	45	6.7

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: SEATTLE PUBLIC UTILITIES

SDG No.: US24 Project: DUWAMISH

Instrument ID: FID4A GC Column: RTX-1

Run Date: 04/19/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.32 TRIAC: 9.18

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01		RINSE	04/19/12	1724	6.32	9.18
02		RT	04/19/12	1748	6.32	9.18
03		IB	04/19/12	1813	6.32	9.18
04		DIESEL #1	04/19/12	1837	6.32	9.19
05		MOIL 5000	04/19/12	1901	6.32	9.27*
06		MOIL 2500	04/19/12	1926	6.32	9.23
07		MOIL 1000	04/19/12	1950	6.32	9.20
08		MOIL 500	04/19/12	2014	6.32	9.18
09		MOIL 250	04/19/12	2038	6.32	9.17
10		MOIL 100	04/19/12	2102	6.34	9.17
11		MOIL ICV	04/19/12	2126	6.33	9.18

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: SEATTLE PUBLIC UTILITIES

SDG No.: US24 Project: DUWAMISH

Instrument ID: FID4A GC Column: RTX-1

Run Date: 02/08/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.38 TRIAC: 9.25

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01		RINSE	02/08/12	0525	6.38	9.25
02		RT	02/08/12	0548	6.38	9.25
03		IB	02/08/12	0612	6.38	9.25
04		DIESEL 2500	02/08/12	0635	6.43*	9.24
05		DIESEL 1000	02/08/12	0659	6.40	9.25
06		DIESEL 500	02/08/12	0722	6.39	9.24
07		DIESEL 250	02/08/12	0746	6.38	9.26
08		DIESEL 100	02/08/12	0809	6.37	9.26
09		DIESEL 50	02/08/12	0833	6.38	9.27
10		DIESEL ICV	02/08/12	0857	6.38	9.25

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

FORM VIII TPH

8

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

SDG No.: US52 Project: RG SPRING GW SAMPLING

Instrument ID: FID4A GC Column: RTX-1

Run Date: 05/08/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.31 TRIAC: 9.18

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01	ZZZZZ	ZZZZZ	05/08/12	0601	6.31	9.18
02	RT	RT	05/08/12	0624	6.31	9.18
03	IB	IB	05/08/12	0648	6.31	9.17
04	ZZZZZ	ZZZZZ	05/08/12	0712	6.31	9.17
05	ZZZZZ	ZZZZZ	05/08/12	0736	6.30	9.17
06	ZZZZZ	ZZZZZ	05/08/12	0800	6.31	9.17
07	ZZZZZ	ZZZZZ	05/08/12	0824	6.31	9.17
08	ZZZZZ	ZZZZZ	05/08/12	0848	6.31	9.17
09	DIESEL #1	DIESEL #1	05/08/12	0912	6.31	9.19
10	MOIL #1	MOIL #1	05/08/12	0936	6.31	9.18
11	US52MBW1	US52MBW1	05/08/12	1001	6.31	9.17
12	US52LCSW1	US52LCSW1	05/08/12	1025	6.31	9.17
13	US52LCSDW1	US52LCSDW1	05/08/12	1049	6.31	9.17
14	MW-28S-05011	US52G	05/08/12	1114	6.31	9.17
15	ZZZZZ	ZZZZZ	05/08/12	1138	6.31	9.17
16	ZZZZZ	ZZZZZ	05/08/12	1202	6.31	9.17
17	ZZZZZ	ZZZZZ	05/08/12	1227	6.31	9.16
18	ZZZZZ	ZZZZZ	05/08/12	1251	6.31	9.17
19	ZZZZZ	ZZZZZ	05/08/12	1315	6.31	9.17
20	ZZZZZ	ZZZZZ	05/08/12	1340	6.31	9.17
21	ZZZZZ	ZZZZZ	05/08/12	1404	6.31	9.17
22	ZZZZZ	ZZZZZ	05/08/12	1428	6.31	9.17
23	DIESEL #2	DIESEL #2	05/08/12	1453	6.31	9.18
24	MOIL #2	MOIL #2	05/08/12	1517	6.32	9.17

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS
NWTPHD by GC/FID
Page 1 of 1
Matrix: Water

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Received: 05/02/12

Data Release Authorized:
Reported: 05/09/12

ARI ID	Sample ID	Extraction Date	Analysis Date	EFV DL	Range/Surrogate	RL	Result
MB-050412	Method Blank	05/04/12	05/08/12	1.00	Diesel Range	0.10	< 0.10 U
12-7884	HC ID: ---		FID4A	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		80.0%
US61A	MW-30S-050212	05/04/12	05/08/12	1.00	Diesel Range	0.10	< 0.10 U
12-7884	HC ID: ---		FID4A	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		87.6%
US61B	MW-29S-050212	05/04/12	05/08/12	1.00	Diesel Range	0.10	< 0.10 U
12-7885	HC ID: ---		FID4A	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		72.2%
US61C	MW-31S-050212	05/04/12	05/08/12	1.00	**Diesel Range**	**0.10**	**0.23**
12-7886	HC ID: **DRO**		FID4A	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		63.8%
US61D	DUP-050212-1	05/04/12	05/08/12	1.00	**Diesel Range**	**0.10**	**0.28**
12-7887	HC ID: **DRO**		FID4A	1.0	Motor Oil Range	0.20	< 0.20 U
					o-Terphenyl		79.5%

Reported in mg/L (ppm)

EFV-Effective Final Volume in mL.
DL-Dilution of extract prior to analysis.
RL-Reporting limit.

Diesel range quantitation on total peaks in the range from C12 to C24.
Motor Oil range quantitation on total peaks in the range from C24 to C38.
HC ID: DRO/RRO indicates results of organics or additional hydrocarbons in ranges are not identifiable.

MH 5/9/12

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20120508.b/0508a011.d
Method: /chem3/fid4a.i/20120508.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MH
Report Date: 05/09/2012
Macro: 08-MAY-2012
Calibration Dates: Gas:08-MAY-2012 Diesel:08-FEB-2012 M.Oil:19-APR-2012

ARI ID: US52MBW1
Client ID: US52MBW1
Injection: 08-MAY-2012 10:01
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.334	0.021	4482	5716	GAS (Tol-C12)	250807	18.26
C8	1.563	0.033	864	765	DIESEL (C12-C24)	55591	3.69
C10	3.131	-0.010	614	1245	M.OIL (C24-C38)	109385	9.43
C12	4.174	0.005	300	472	AK-102 (C10-C25)	79335	4.44
C14	4.915	-0.001	222	59	AK-103 (C25-C36)	98340	12.67
C16	5.560	0.005	117	52			
C18	6.144	0.007	147	361			
C20	6.705	-0.014	1823	3350	MIN.OIL (C24-C38)	109385	8.16
C22	7.277	0.016	485	599			
C24	7.757	-0.014	214	518			
C25	8.023	0.005	257	313			
C26	8.253	-0.003	213	129			
C28	8.706	-0.001	539	1042			
C32	9.632	-0.010	1409	3293			
C34	10.097	-0.025	739	2109	CREOSOT (C12-C22)	50696	13.80
Filter Peak	10.544	0.006	382	131			
C36	10.606	0.003	375	341			
C38	11.075	-0.005	584	1677			
C40	11.573	0.003	426	614			
o-terph	6.310	-0.002	494733	709799	JET-A (C10-C18)	39931	2.69
Triacon Surr	9.167	-0.009	415034	599725			

M Indicates manual integration within range.
Range Times: NW Diesel(4.170 - 7.771) AK102(3.14 - 8.02) Jet A(3.14 - 6.14)
NW M.Oil(7.77 - 11.08) AK103(8.02 - 10.60) OR Diesel(3.14 - 8.71)

Surrogate	Area	Amount	%Rec
o-Terphenyl	709799	36.0	80.0
Triacontane	599725	40.9	90.9

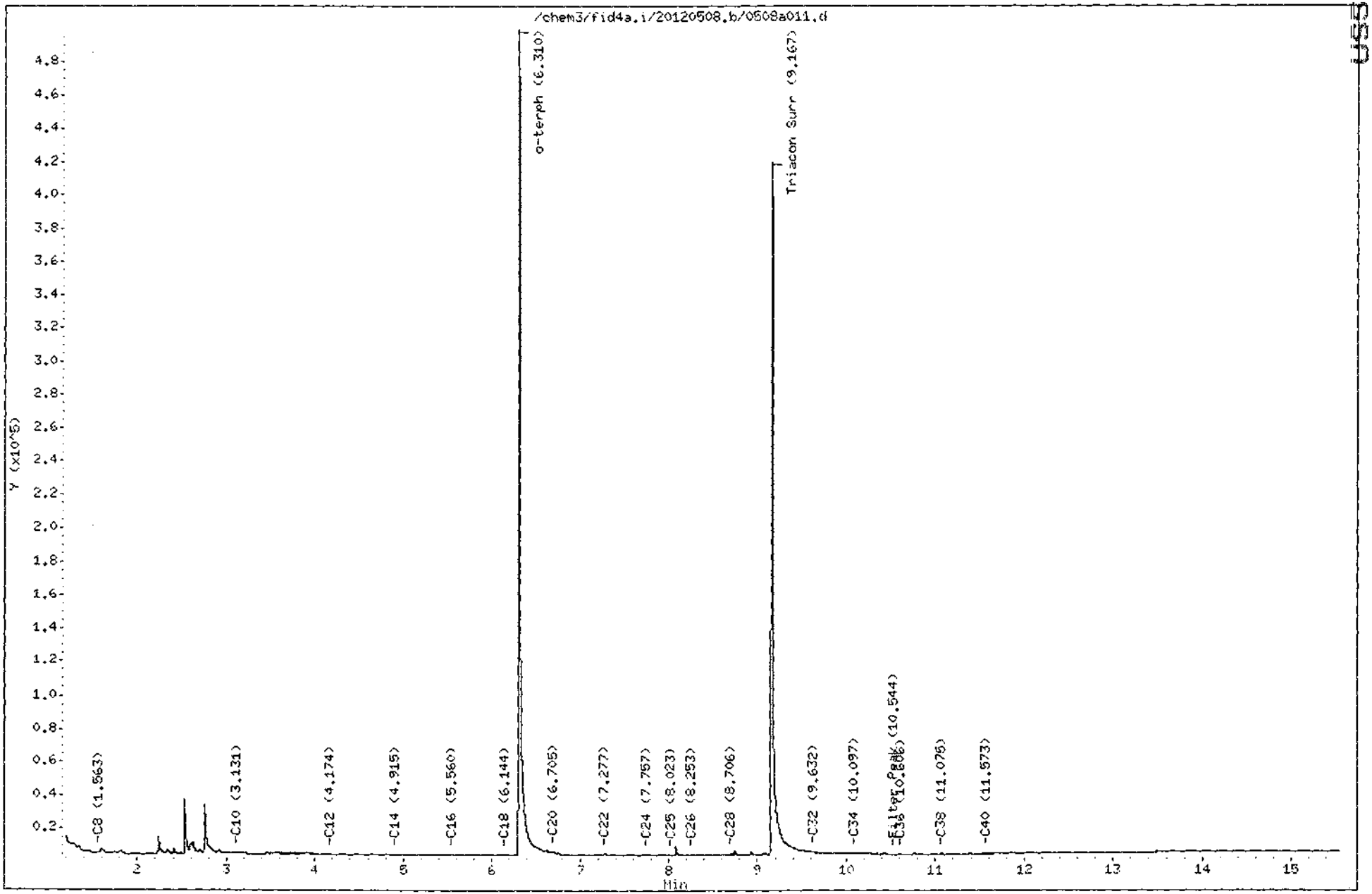
Analyte	RF	Curve Date
o-Terph Surr	19726.1	08-FEB-2012
Triacon Surr	14664.8	19-APR-2012
Gas	13737.9	08-MAY-2012
Diesel	15079.0	08-FEB-2012
Motor Oil	11597.0	19-APR-2012
AK102	17873.0	08-FEB-2012
AK103	7759.3	29-DEC-2011
JetA	14842.0	13-APR-2011
Min Oil	13405.9	18-JAN-2011
Bunker C	7100.0	16-DEC-2011
Creosote	3674.2	15-AUG-2011

Data File: /chem3/fid4a.i/20120508.b/0508a011.d
Date : 08-MAY-2012 10:01
Client ID: US52MBW1
Sample Info: US52MBW1

Instrument: fid4a.i

Operator: MH
Column phase: RTX-1
Column diameter: 0.25

US52-008355



MH
5/9/12

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20120508.b/0508a017.d
Method: /chem3/fid4a.i/20120508.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MH
Report Date: 05/09/2012
Macro: 08-MAY-2012
Calibration Dates: Gas:08-MAY-2012 Diesel:08-FEB-2012 M.Oil:19-APR-2012

ARI ID: US61C
Client ID: MW-31S-050212
Injection: 08-MAY-2012 12:27
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.337	0.024	4593	14075	GAS (Tol-C12)	197007	14.34
C8	1.549	0.018	776	305	DIESEL (C12-C24)	1727218	114.54
C10	3.152	0.011	371	383	M.OIL (C24-C38)	189295	16.32
C12	4.170	0.001	306	394	AK-102 (C10-C25)	1762314	98.60
C14	----				AK-103 (C25-C36)	167516	21.59
C16	5.547	-0.008	3149	1314			
C18	6.141	0.005	2335	1161			
C20	6.700	-0.019	3740	8816	MIN.OIL (C24-C38)	189295	14.12
C22	7.266	0.005	2397	3745			
C24	7.766	-0.005	2280	8641			
C25	8.027	0.010	1928	4713			
C26	8.252	-0.003	1213	886			
C28	8.717	0.010	1531	2528			
C32	9.645	0.004	1506	3763			
C34	10.134	0.012	574	799	CREOSOT (C12-C22)	1673477	455.47
Filter Peak	10.539	0.001	364	371			
C36	10.602	0.000	346	295			
C38	11.069	-0.010	664	1716			
C40	11.572	0.002	291	95			
o-terph	6.309	-0.002	395920	566616	JET-A (C10-C18)	1545793	104.15
Triacon Surr	9.163	-0.013	261078	442100			

M Indicates manual integration within range.
Range Times: NW Diesel(4.170 - 7.771) AK102(3.14 - 8.02) Jet A(3.14 - 6.14)
NW M.Oil(7.77 - 11.08) AK103(8.02 - 10.60) OR Diesel(3.14 - 8.71)

Surrogate	Area	Amount	%Rec
o-Terphenyl	566616	28.7	63.8
Triacontane	442100	30.1	67.0

Analyte	RF	Curve Date
o-Terph Surr	19726.1	08-FEB-2012
Triacon Surr	14664.8	19-APR-2012
Gas	13737.9	08-MAY-2012
Diesel	15079.0	08-FEB-2012
Motor Oil	11597.0	19-APR-2012
AK102	17873.0	08-FEB-2012
AK103	7759.3	29-DEC-2011
JetA	14842.0	13-APR-2011
Min Oil	13405.9	18-JAN-2011
Bunker C	7100.0	16-DEC-2011
Creosote	3674.2	15-AUG-2011

Data File: /chem3/fid4a.i/20120508.b/0508a017.d

Date : 08-MAY-2012 12:27

Client ID: MW-31S-050212

Sample Info: US61C

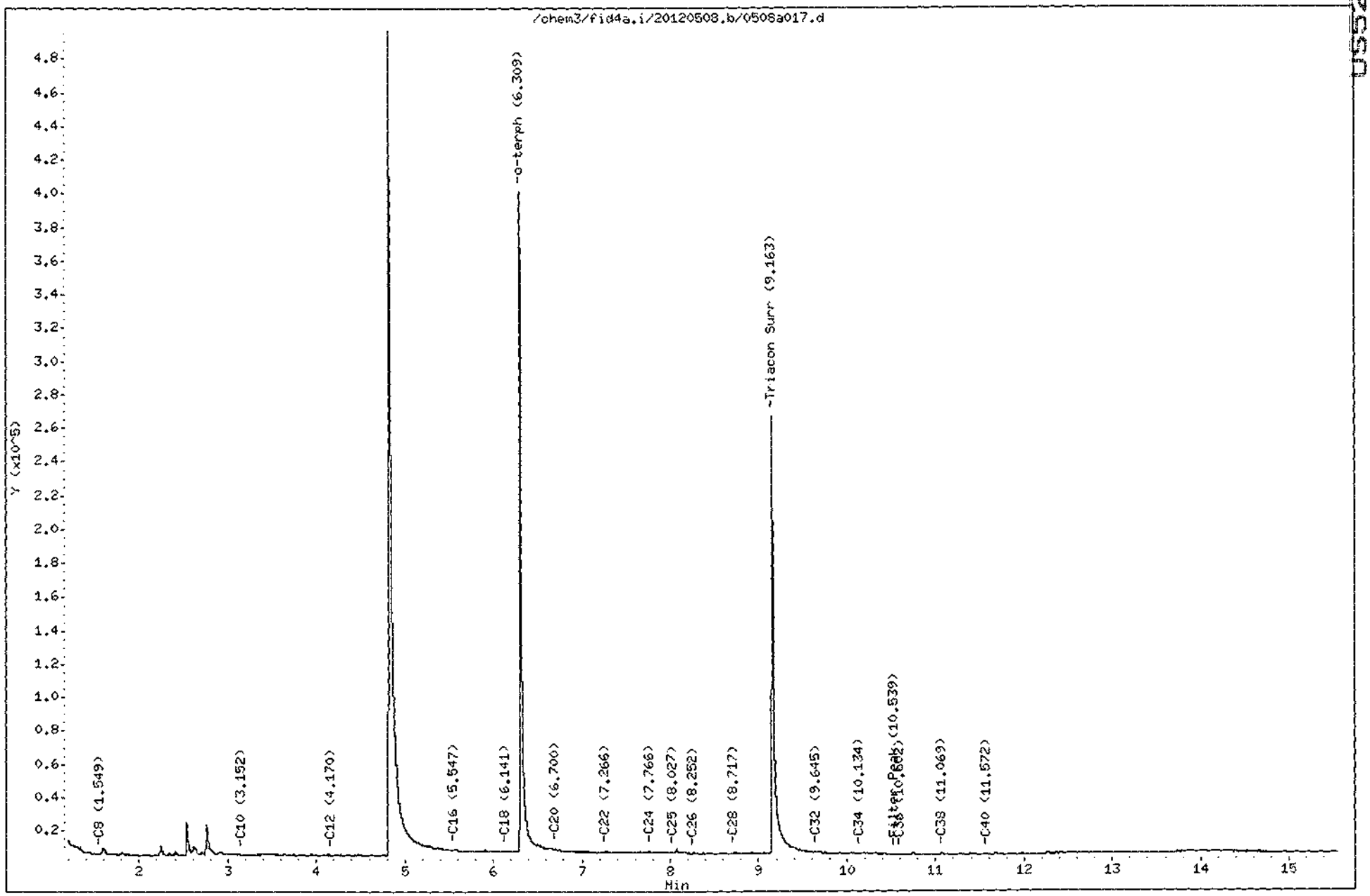
Column phase: RTX-1

Instrument: fid4a.i

Operator: MH

Column diameter: 0.25

US52 00357



MH
5/7/12

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20120508.b/0508a018.d
Method: /chem3/fid4a.i/20120508.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MH
Report Date: 05/09/2012
Macro: 08-MAY-2012
Calibration Dates: Gas:08-MAY-2012 Diesel:08-FEB-2012 M.Oil:19-APR-2012

ARI ID: US61D
Client ID: DUP-050212-1
Injection: 08-MAY-2012 12:51
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.323	0.010	6654	6081	GAS (Tol-C12)	245487	17.87
C8	1.546	0.016	854	400	DIESEL (C12-C24)	2088997	138.54
C10	3.146	0.005	541	576	M.OIL (C24-C38)	252090	21.74
C12	4.168	-0.002	467	377	AK-102 (C10-C25)	2141179	119.80
C14	----				AK-103 (C25-C36)	218948	28.22
C16	5.555	0.000	3426	1291			
C18	6.142	0.005	3609	4649			
C20	6.734	0.016	5409	8435	MIN.OIL (C24-C38)	252090	18.80
C22	7.260	-0.001	3744	4564			
C24	7.756	-0.014	3409	5911			
C25	8.021	0.003	2601	6480			
C26	8.260	0.005	1958	4619			
C28	8.714	0.006	2437	3853			
C32	9.650	0.009	1427	3500			
C34	10.134	0.011	729	402	CREOSOT (C12-C22)	2008729	546.72
Filter Peak	10.545	0.007	516	362			
C36	10.596	-0.007	515	803			
C38	11.061	-0.019	1132	2685			
C40	11.578	0.009	356	178			
o-terph	6.308	-0.003	592471	705941	JET-A (C10-C18)	1840462	124.00
Triacon Surr	9.168	-0.009	426387	606897			

M Indicates manual integration within range.
Range Times: NW Diesel(4.170 - 7.771) AK102(3.14 - 8.02) Jet A(3.14 - 6.14)
NW M.Oil(7.77 - 11.08) AK103(8.02 - 10.60) OR Diesel(3.14 - 8.71)

Surrogate	Area	Amount	%Rec
o-Terphenyl	705941	35.8	79.5
Triacontane	606897	41.4	92.0

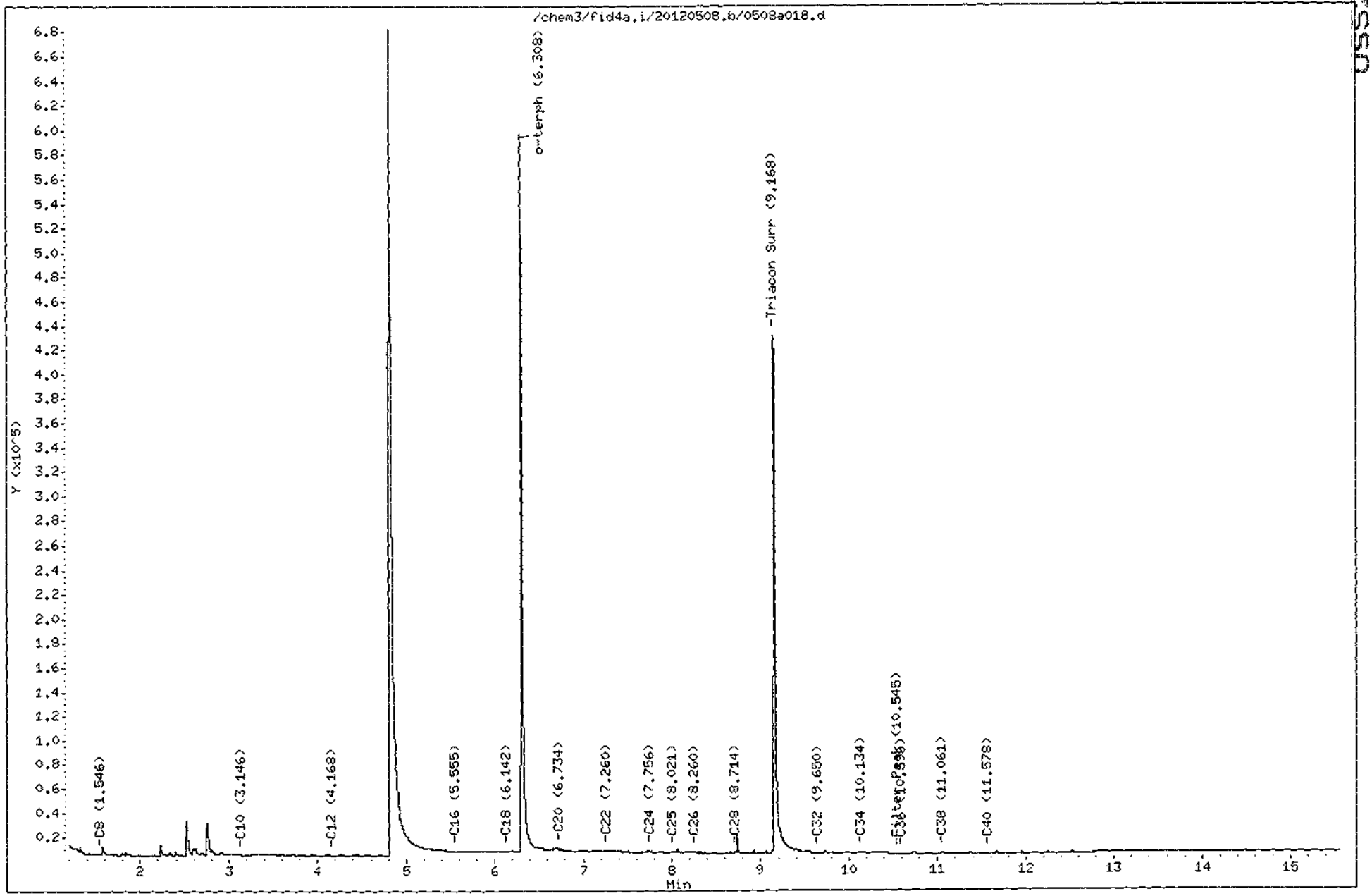
Analyte	RF	Curve Date
o-Terph Surr	19726.1	08-FEB-2012
Triacon Surr	14664.8	19-APR-2012
Gas	13737.9	08-MAY-2012
Diesel	15079.0	08-FEB-2012
Motor Oil	11597.0	19-APR-2012
AK102	17873.0	08-FEB-2012
AK103	7759.3	29-DEC-2011
JetA	14842.0	13-APR-2011
Min Oil	13405.9	18-JAN-2011
Bunker C	7100.0	16-DEC-2011
Creosote	3674.2	15-AUG-2011

Data File: /chem3/fid4a.i/20120508.b/0508a018.d
Date : 08-MAY-2012 12:51
Client ID: DUP-050212-1
Sample Info: US61D

Instrument: fid4a.i

Operator: NH
Column diameter: 0.25

Column phase: RTX-1



US52 00353

ANALYTICAL RESOURCES INCORPORATED

TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09

Client ID	OTER	TOT OUT
MB-050412	80.0%	0
LCS-050412	87.7%	0
LCSD-050412	78.2%	0
MW-30S-050212	87.6%	0
MW-29S-050212	72.2%	0
MW-31S-050212	63.8%	0
DUP-050212-1	79.5%	0

	LCS/MB LIMITS	QC LIMITS
(OTER) = o-Terphenyl	(50-150)	(50-150)

Prep Method: SW3510C
Log Number Range: 12-7884 to 12-7887

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
NWTPHD by GC/FID
Page 1 of 1

Sample ID: LCS-050412
LCS/LCSD

Lab Sample ID: LCS-050412
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized:
Reported: 05/09/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 05/04/12

Date Analyzed LCS: 05/08/12 10:25
LCSD: 05/08/12 10:49
Instrument/Analyst LCS: FID4A/MH
LCSD: FID4A/MH

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 1.0 mL
LCSD: 1.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Range	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Diesel	2.49	3.00	83.0%	2.31	3.00	77.0%	7.5%

TPHD Surrogate Recovery

	LCS	LCSD
o-Terphenyl	87.7%	78.2%

Results reported in mg/L
RPD calculated using sample concentrations per SW846.

MH 5/9/12

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20120508.b/0508a012.d
Method: /chem3/fid4a.i/20120508.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MH
Report Date: 05/09/2012
Macro: 08-MAY-2012
Calibration Dates: Gas:08-MAY-2012 Diesel:08-FEB-2012 M.Oil:19-APR-2012

ARI ID: US52LCSW1
Client ID: US52LCSW1
Injection: 08-MAY-2012 10:25
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.324	0.010	10464	8185	GAS (Tol-C12)	4046968	294.58
C8	1.540	0.009	5004	8975	DIESEL (C12-C24)	18787197	1245.92
C10	3.140	-0.001	74357	65571	M.OIL (C24-C38)	311665	26.87
C12	4.168	-0.002	40749	29801	AK-102 (C10-C25)	21672879	1212.60 M
C14	4.909	-0.008	115427	90714	AK-103 (C25-C36)	218004	28.10
C16	5.546	-0.010	543916	440345			
C18	6.139	0.002	461850	497238			
C20	6.709	-0.010	308961	336098	MIN.OIL (C24-C38)	311665	23.25
C22	7.254	-0.007	133356	187554			
C24	7.780	0.009	25200	64902			
C25	8.028	0.010	14927	26938			
C26	8.259	0.003	7168	14888			
C28	8.705	-0.003	1761	3684			
C32	9.650	0.008	963	917			
C34	10.140	0.017	224	186	CREOSOT (C12-C22)	18220610	4959.13 M
Filter Peak	10.537	-0.001	75	70			
C36	10.598	-0.005	66	57			
C38	11.074	-0.006	311	503			
C40	11.565	-0.005	55	19			
o-terph	6.314	0.002	927975	778126	JET-A (C10-C18)	16042219	1080.87
Triacon Surr	9.167	-0.010	445144	620180			

M Indicates manual integration within range.
Range Times: NW Diesel(4.170 - 7.771) AK102(3.14 - 8.02) Jet A(3.14 - 6.14)
NW M.Oil(7.77 - 11.08) AK103(8.02 - 10.60) OR Diesel(3.14 - 8.71)

Surrogate	Area	Amount	%Rec
o-Terphenyl	778126	39.4	87.7
Triacontane	620180	42.3	94.0

Analyte	RF	Curve Date
o-Terph Surr	19726.1	08-FEB-2012
Triacon Surr	14664.8	19-APR-2012
Gas	13737.9	08-MAY-2012
Diesel	15079.0	08-FEB-2012
Motor Oil	11597.0	19-APR-2012
AK102	17873.0	08-FEB-2012
AK103	7759.3	29-DEC-2011
JetA	14842.0	13-APR-2011
Min Oil	13405.9	18-JAN-2011
Bunker C	7100.0	16-DEC-2011
Creosote	3674.2	15-AUG-2011

Data File: /chem3/fid4a.i/20120508.b/0508a012.d

Date : 08-MAY-2012 10:25

Client ID: US52LCSW1

Sample Info: US52LCSW1

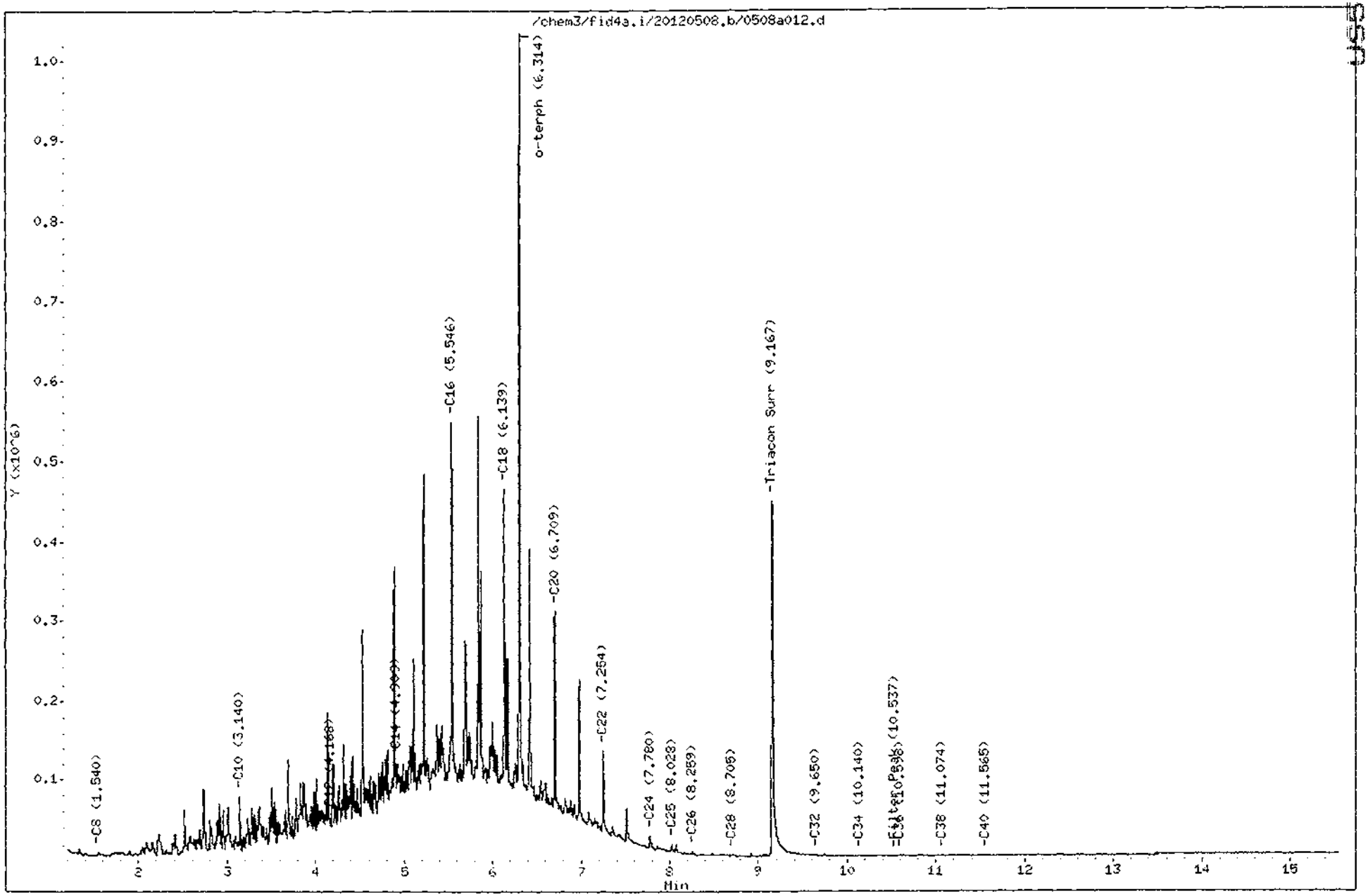
Column phase: RTX-1

Instrument: fid4a.i

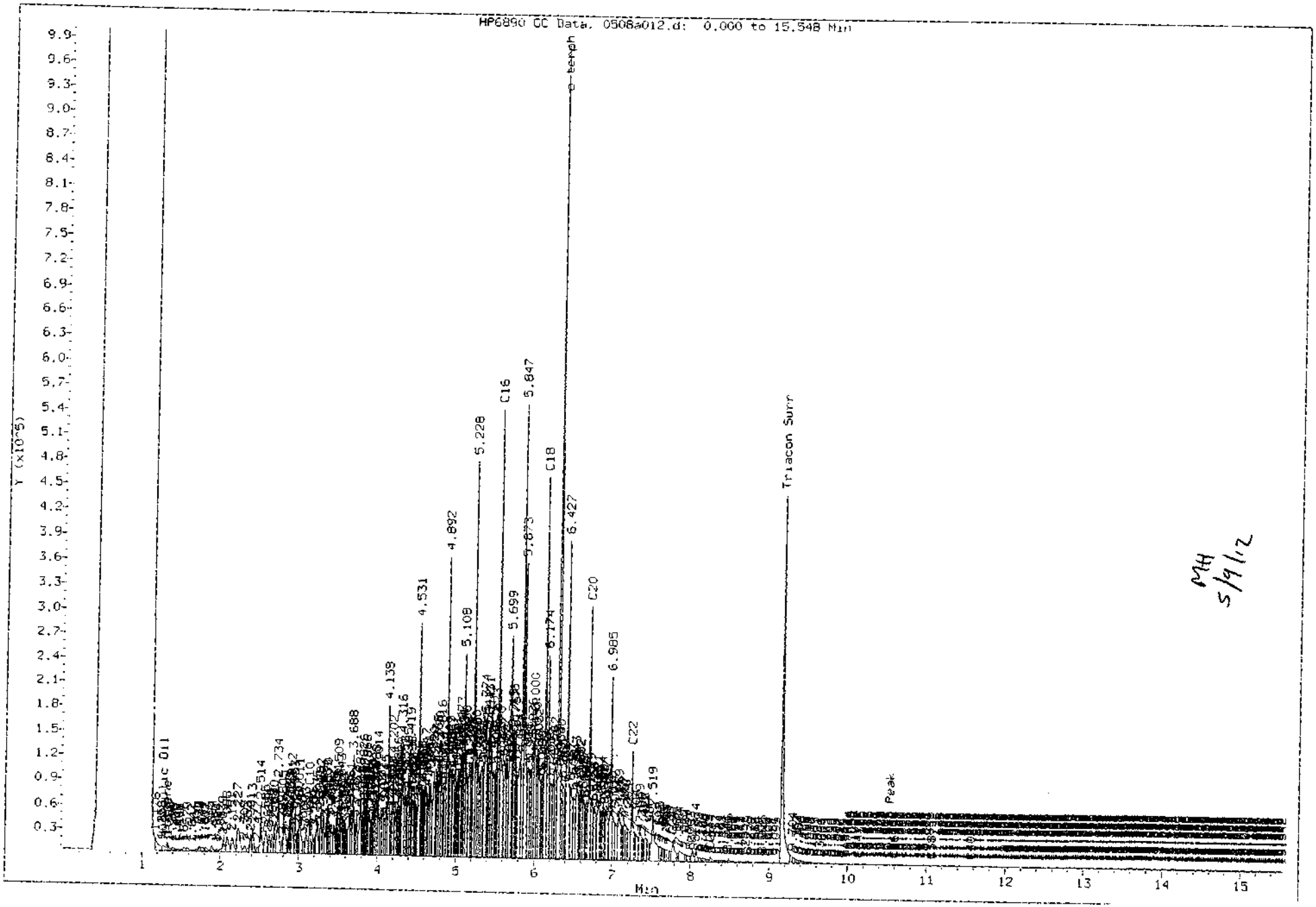
Operator: MH

Column diameter: 0.25

US52 : 00353



Data File: /chem3/fid4a.i/20120508.b/0508a012.d
Injection Date: 08-MAY-2012 10:25
Instrument: fid4a.i
Client Sample ID: US52LCSW1

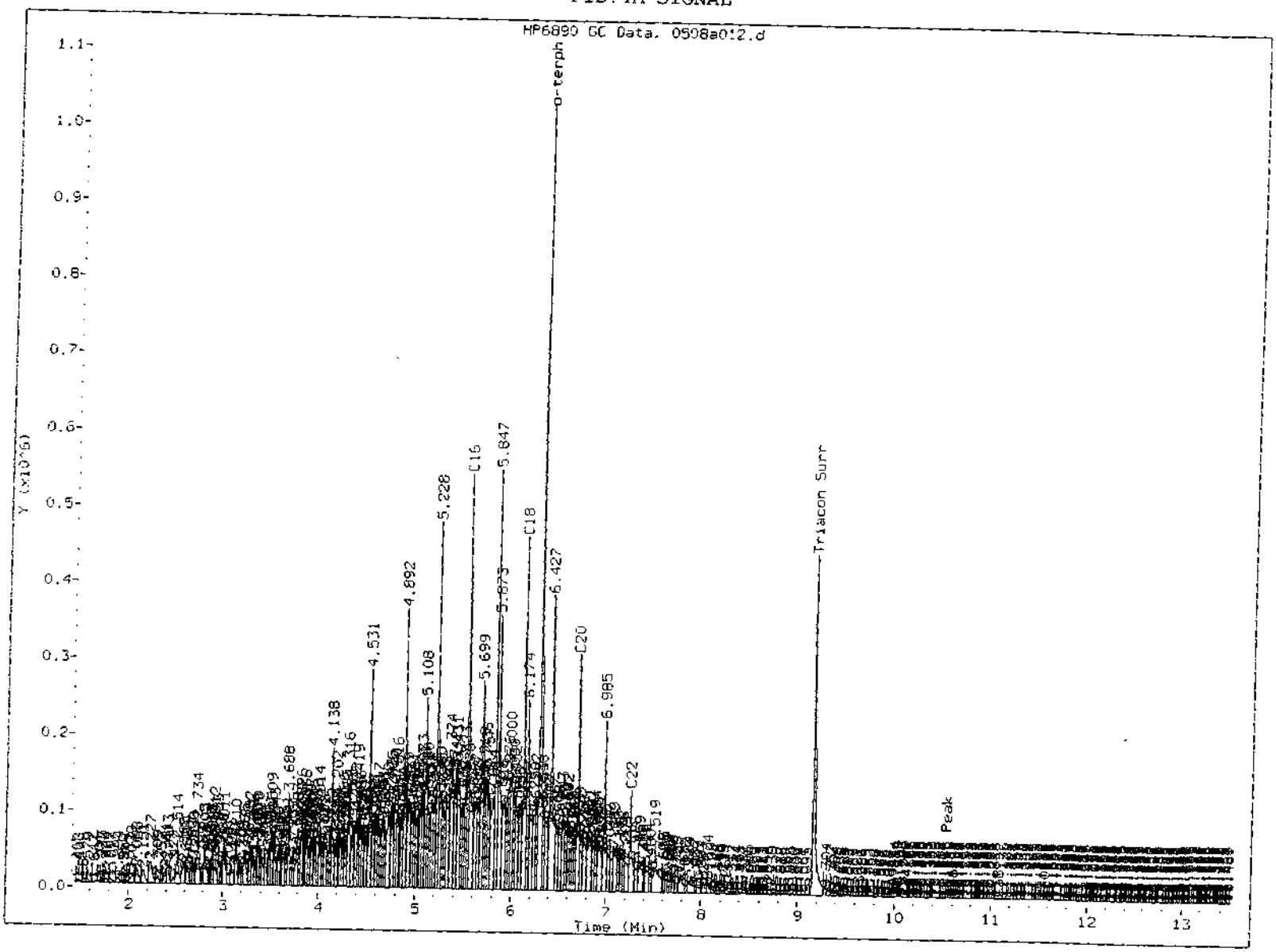


MH
5/9/12

US52 : 00364

FID:4A-2C/RTX-1 US52LCSW1

FID:4A SIGNAL



MANUAL INTEGRATION

X 1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation

5. Other _____

Analyst: MH Date: 5/9/12

MH
5/9/12

Analytical Resources Inc.
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20120508.b/0508a013.d
Method: /chem3/fid4a.i/20120508.b/ftphfid4a.m
Instrument: fid4a.i
Operator: MH
Report Date: 05/09/2012
Macro: 08-MAY-2012
Calibration Dates: Gas:08-MAY-2012 Diesel:08-FEB-2012 M.Oil:19-APR-2012

ARI ID: US52LCSDW1
Client ID: US52LCSDW1
Injection: 08-MAY-2012 10:49

Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.335	0.022	7731	11627	GAS (Tol-C12)	3273903	238.31
C8	1.547	0.017	4155	7205	DIESEL (C12-C24)	17390035	1153.26
C10	3.144	0.003	58711	51903	M.OIL (C24-C38)	236775	20.42
C12	4.170	0.000	33484	23299	AK-102 (C10-C25)	19718999	1103.28 M
C14	4.908	-0.008	108098	87780	AK-103 (C25-C36)	194344	25.05
C16	5.545	-0.010	514514	453074			
C18	6.139	0.002	431353	443335			
C20	6.710	-0.009	295066	303432	MIN.OIL (C24-C38)	236775	17.66
C22	7.256	-0.005	120975	212210			
C24	7.764	-0.007	10778	4249			
C25	8.030	0.013	13057	24102			
C26	8.261	0.005	6104	14124			
C28	8.705	-0.002	1570	2931			
C32	9.635	-0.007	1068	2657			
C34	10.144	0.022	197	269	CREOSOT (C12-C22)	16819135	4577.69 M
Filter Peak	10.530	-0.008	58	89			
C36	10.598	-0.004	52	43			
C38	11.075	-0.005	333	527			
C40	11.562	-0.007	70	112			
o-terph	6.314	0.002	859282	694021	JET-A (C10-C18)	14530207	978.99
Triacon Surr	9.166	-0.010	363793	535146			

M Indicates manual integration within range.
Range Times: NW Diesel(4.170 - 7.771) AK102(3.14 - 8.02) Jet A(3.14 - 6.14)
NW M.Oil(7.77 - 11.08) AK103(8.02 - 10.60) OR Diesel(3.14 - 8.71)

Surrogate	Area	Amount	%Rec
o-Terphenyl	694021	35.2	78.2
Triacontane	535146	36.5	81.1

Analyte	RF	Curve Date
o-Terph Surr	19726.1	08-FEB-2012
Triacon Surr	14664.8	19-APR-2012
Gas	13737.9	08-MAY-2012
Diesel	15079.0	08-FEB-2012
Motor Oil	11597.0	19-APR-2012
AK102	17873.0	08-FEB-2012
AK103	7759.3	29-DEC-2011
JetA	14842.0	13-APR-2011
Min Oil	13405.9	18-JAN-2011
Bunker C	7100.0	16-DEC-2011
Creosote	3674.2	15-AUG-2011

Data File: /chem3/fid4a.i/20120508.b/0508a013.d

Date : 08-MAY-2012 10:49

Client ID: US52LCSDW1

Sample Info: US52LCSDW1

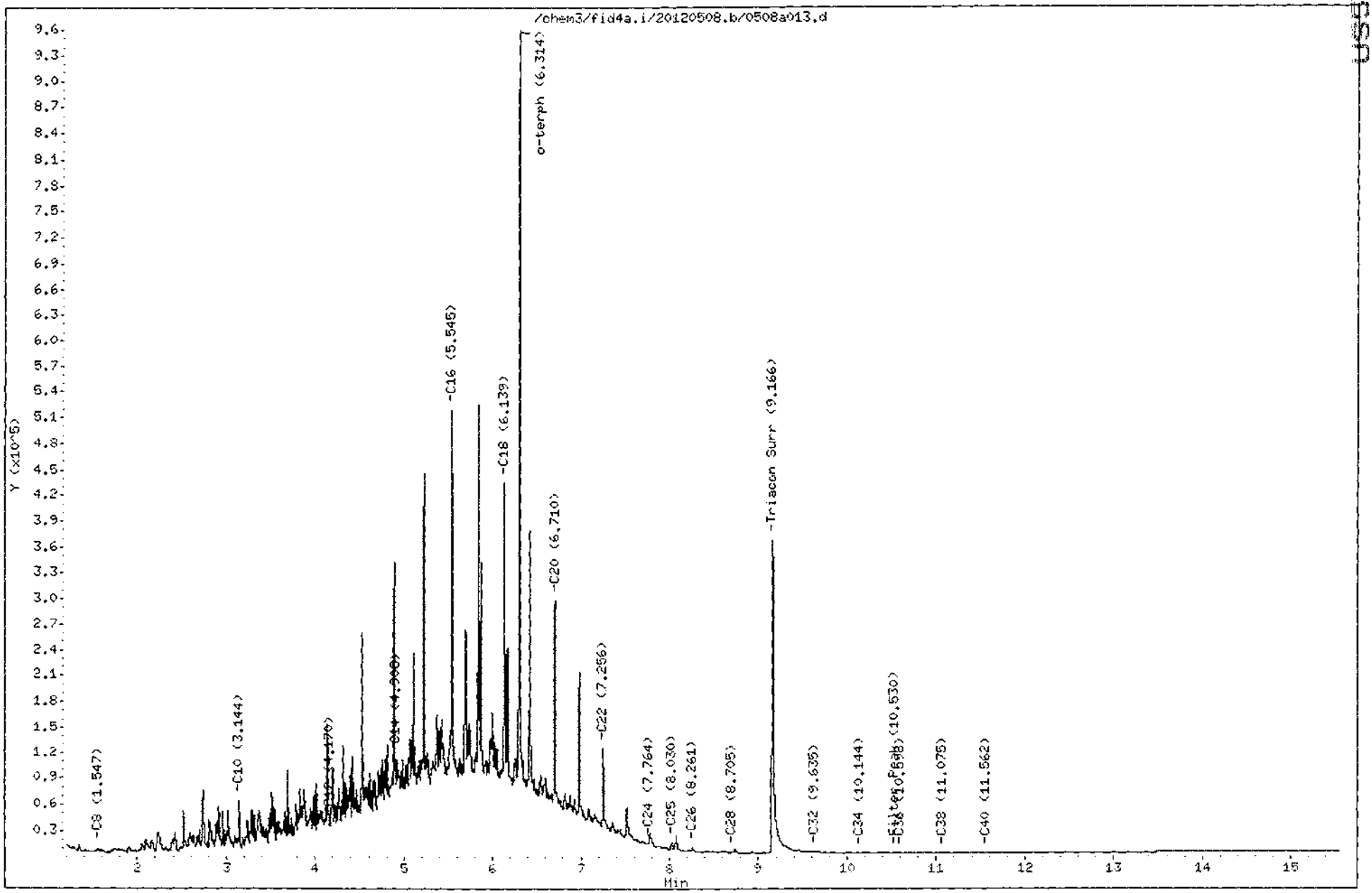
Column phase: RTX-1

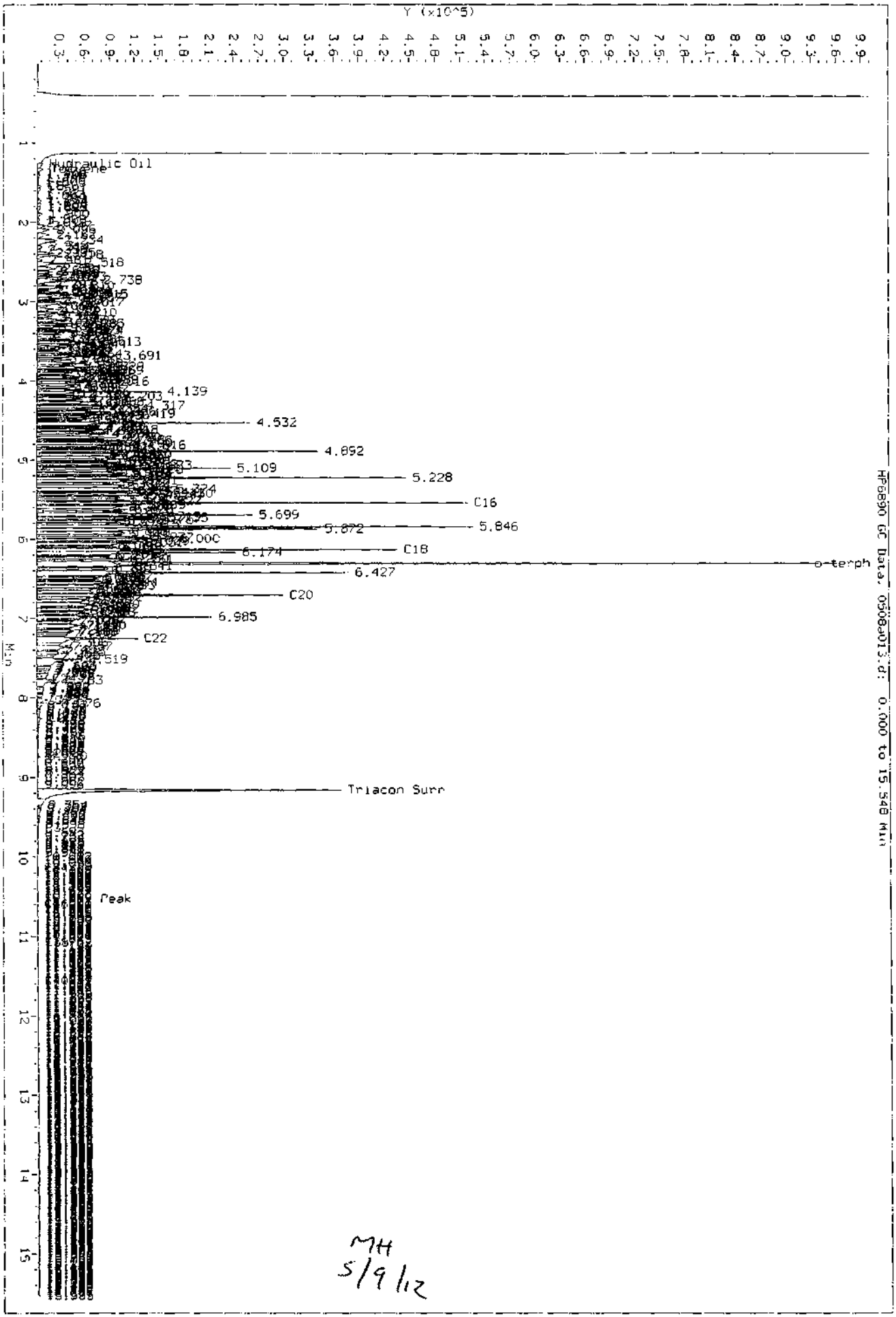
Instrument: fid4a.i

Operator: MH

Column diameter: 0.25

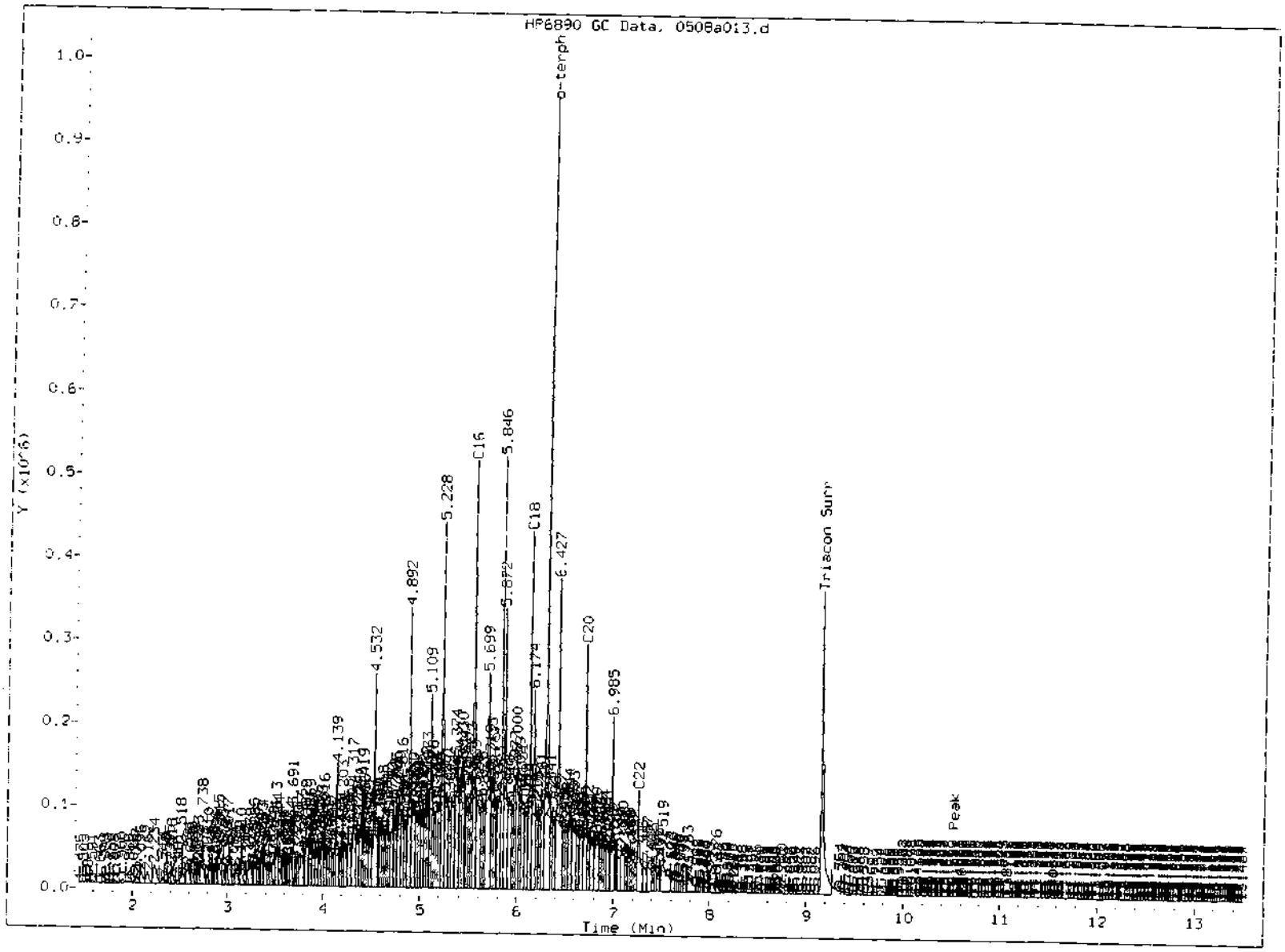
US52:00367




Data File: /chem3/fid4a.i/20120508.b/0508a013.d
Injection Date: 08-MAY-2012 10:49
Instrument: fid4a.i
Client Sample ID: US52LCSDW1
Y (x10^5)
Hydraulic Oil
4.532
4.892
5.109
5.228
C16
5.699
5.872
5.846
6.174
C18
o-terph
6.427
C20
6.985
C22
Triacon Surr
Peak
HP6890 GC Data: 0508a013.d: 0.000 to 15.548 Min
Min

MH
5/9/12

FID:4A-2C/RTX-1 US52LCSDW1 FID:4A SIGNAL



MANUAL INTEGRATION

X 1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation

5. Other _____

Analyst: MH Date: 5/9/12

ANALYTICAL RESOURCES INCORPORATED

TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

Matrix: Water
Date Received: 05/02/12

ARI Job: US61
Project: RG Spring GW Sampling
155129.09

ARI ID	Client ID	Samp Amt	Final Vol	Prep Date
12-7884-050412MB1	Method Blank	500 mL	1.00 mL	05/04/12
12-7884-050412LCS1	Lab Control	500 mL	1.00 mL	05/04/12
12-7884-050412LCSD1	Lab Control Dup	500 mL	1.00 mL	05/04/12
12-7884-US61A	MW-30S-050212	500 mL	1.00 mL	05/04/12
12-7885-US61B	MW-29S-050212	500 mL	1.00 mL	05/04/12
12-7886-US61C	MW-31S-050212	500 mL	1.00 mL	05/04/12
12-7887-US61D	DUP-050212-1	500 mL	1.00 mL	05/04/12

4

TPH METHOD BLANK SUMMARY

BLANK NO.

US52MBW1

Lab Name: ANALYTICAL RESOURCES INC Client: ERM

SDG No.: US61 Project No.: RG SPRING GW SAMPLING

Date Extracted: 05/04/12 Matrix: LIQUID

Date Analyzed : 05/08/12 Instrument ID : FID4A

Time Analyzed : 1001

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	US52LCSW1	US52LCSW1	05/08/12
02	US52LCSDW1	US52LCSDW1	05/08/12
03	MW-30S-05021	US61A	05/08/12
04	MW-29S-05021	US61B	05/08/12
05	MW-31S-05021	US61C	05/08/12
06	DUP-050212-1	US61D	05/08/12
07			

FORM IV TPH

6a
DIESEL INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM WEST

Instrument: FID4A.I Project: RG SPRING

Calibration Date: 08-FEB-2012 SDG No.: US61

Diesel Range	RF1 50	RF2 100	RF3 250	RF4 500	RF5 1000	RF6 2500	Ave RF	%RSD
WA Diesel	14949	15145	15065	15164	14702	15451	15079	1.6
AK Diesel	17627	17893	17841	17989	17500	18388	17873	1.7
OR Diesel	17897	18055	17928	18068	17586	18468	18000	1.6
Cal Diesel	17603	17864	17799	17951	17467	18344	17838	1.7
o-Terph	19594	19585	19531	19489	19354	20804	19726	2.7

<- Indicates %RSD outside limits
Surrogate areas are not included in Diesel RF calculation.

Quant Ranges : WA Diesel C12-C24 (4.212-7.837)
AK Diesel C10-C25 (3.212-8.084)
OR Diesel C10-C28 (3.212-8.776)
Cal Diesel C10-C24 (3.212-7.837)

Calibration Files	Analysis Time
0208a009.d	08-FEB-2012 08:33
0208a008.d	08-FEB-2012 08:09
0208a007.d	08-FEB-2012 07:46
0208a006.d	08-FEB-2012 07:22
0208a005.d	08-FEB-2012 06:59
0208a004.d	08-FEB-2012 06:35

6a

NW MOTOR OIL RANGE INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM WEST

Instrument: FID4A.I Project: RG SPRING

Calibration Date: 19-APR-2012 SDG No.: US61

Product Range	RF1 100	RF2 250	RF3 500	RF4 1000	RF5 2500	RF6 5000	Ave RF	%RSD
WA M.Oil C24-C38	12890	11264	11615	11821	10866	11025	11580	6.3
Triac Surr	13307	14068	15103	15717	15129	*****	14665	6.57

<- Indicates %RSD outside limits
Surrogate areas are not included in Motor Oil RF calculation.

Calibration Files	Analysis Time
0419a037.d	19-APR-2012 21:02
0419a036.d	19-APR-2012 20:38
0419a035.d	19-APR-2012 20:14
0419a034.d	19-APR-2012 19:50
0419a033.d	19-APR-2012 19:26
0419a032.d	19-APR-2012 19:01

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: 20120508

ICal Date: 08-FEB-2012 Project: DIESEL #1

CCal Date: 08-MAY-2012 SDG No.: US61

Analysis Time: 09:12 Lab ID: DIESEL #1

Instrument: FID4A.I Lab File Name: 0508a009.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	3863741	256.2	250	2.5
AK102 (C10-C25)	4557477	255.0	250	2.0
Terphenyl	855078	43.3	45	-3.7

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

US52:00374

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: 20120508

ICal Date: 19-APR-2012 Project: MOIL #1

CCal Date: 08-MAY-2012 SDG No.: US61

Analysis Time: 09:36 Lab ID: MOIL #1

Instrument: FID4A.I Lab File Name: 0508a010.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D
WAMoil(C24-C38)	5125225	441.9	500	-11.6
AK103 (C25-C36)	4612080	594.4	500	18.9
CRUDE(Tol-C40)	6050623	801.1	500	60.2
n-Triacontane	697158	47.5	45	5.6

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: 20120508

ICal Date: 08-FEB-2012
Project: DIESEL #2

CCal Date: 08-MAY-2012
SDG No.: US61

Analysis Time: 14:53
Lab ID: DIESEL #2

Instrument: FID4A.I
Lab File Name: 0508a023.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	3885995	257.7	250	3.1
AK102 (C10-C25)	4597079	257.2	250	2.9
Terphenyl	863192	43.8	45	-2.8

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

FORM VII-Diesel

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: 20120508

ICal Date: 19-APR-2012 Project: MOIL #2

CCal Date: 08-MAY-2012 SDG No.: US61

Analysis Time: 15:17 Lab ID: MOIL #2

Instrument: FID4A.I Lab File Name: 0508a024.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D
WAMoil(C24-C38)	5379835	463.9	500	-7.2
AK103 (C25-C36)	4736464	610.4	500	22.1
CRUDE(Tol-C40)	6327820	837.8	500	67.6
n-Triacontane	703820	48.0	45	6.7

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM

SDG No.: US61 Project: RG SPRING GW SAMPLING

Instrument ID: FID4A GC Column: RTX-1

Run Date: 05/08/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.31 TRIAC: 9.18

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01	ZZZZZ	ZZZZZ	05/08/12	0601	6.31	9.18
02	RT	RT	05/08/12	0624	6.31	9.18
03	IB	IB	05/08/12	0648	6.31	9.17
04	ZZZZZ	ZZZZZ	05/08/12	0712	6.31	9.17
05	ZZZZZ	ZZZZZ	05/08/12	0736	6.30	9.17
06	ZZZZZ	ZZZZZ	05/08/12	0800	6.31	9.17
07	ZZZZZ	ZZZZZ	05/08/12	0824	6.31	9.17
08	ZZZZZ	ZZZZZ	05/08/12	0848	6.31	9.17
09	DIESEL #1	DIESEL #1	05/08/12	0912	6.31	9.19
10	MOIL #1	MOIL #1	05/08/12	0936	6.31	9.18
11	US52MBW1	US52MBW1	05/08/12	1001	6.31	9.17
12	US52LCSW1	US52LCSW1	05/08/12	1025	6.31	9.17
13	US52LCSDW1	US52LCSDW1	05/08/12	1049	6.31	9.17
14	ZZZZZ	ZZZZZ	05/08/12	1114	6.31	9.17
15	MW-30S-05021	US61A	05/08/12	1138	6.31	9.17
16	MW-29S-05021	US61B	05/08/12	1202	6.31	9.17
17	MW-31S-05021	US61C	05/08/12	1227	6.31	9.16
18	DUP-050212-1	US61D	05/08/12	1251	6.31	9.17
19	ZZZZZ	ZZZZZ	05/08/12	1315	6.31	9.17
20	ZZZZZ	ZZZZZ	05/08/12	1340	6.31	9.17
21	ZZZZZ	ZZZZZ	05/08/12	1404	6.31	9.17
22	ZZZZZ	ZZZZZ	05/08/12	1428	6.31	9.17
23	DIESEL #2	DIESEL #2	05/08/12	1453	6.31	9.18
24	MOIL #2	MOIL #2	05/08/12	1517	6.32	9.17

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

US52:00378

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM

SDG No.: US61 Project: RG SPRING GW SAMPLING

Instrument ID: FID4A GC Column: RTX-1

Run Date: 02/08/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.38 TRIAC: 9.25

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01		RINSE	02/08/12	0525	6.38	9.25
02		RT	02/08/12	0548	6.38	9.25
03		IB	02/08/12	0612	6.38	9.25
04		DIESEL 2500	02/08/12	0635	6.43*	9.24
05		DIESEL 1000	02/08/12	0659	6.40	9.25
06		DIESEL 500	02/08/12	0722	6.39	9.24
07		DIESEL 250	02/08/12	0746	6.38	9.26
08		DIESEL 100	02/08/12	0809	6.37	9.26
09		DIESEL 50	02/08/12	0833	6.38	9.27
10		DIESEL ICV	02/08/12	0857	6.38	9.25

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

FORM VIII TPH

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM

SDG No.: US61 Project: RG SPRING GW

Instrument ID: FID4A GC Column: RTX-1

Run Date: 04/19/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.32 TRIAC: 9.18

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01		RINSE	04/19/12	1724	6.32	9.18
02		RT	04/19/12	1748	6.32	9.18
03		IB	04/19/12	1813	6.32	9.18
04		DIESEL #1	04/19/12	1837	6.32	9.19
05		MOIL 5000	04/19/12	1901	6.32	9.27*
06		MOIL 2500	04/19/12	1926	6.32	9.23
07		MOIL 1000	04/19/12	1950	6.32	9.20
08		MOIL 500	04/19/12	2014	6.32	9.18
09		MOIL 250	04/19/12	2038	6.32	9.17
10		MOIL 100	04/19/12	2102	6.34	9.17
11		MOIL ICV	04/19/12	2126	6.33	9.18

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

TPHG Analysis
Report and Summary QC Forms

ARI Job ID: US52, US61, UT31

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Matrix: Water

Data Release Authorized:
Reported: 05/24/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

ARI ID	Client ID	Analysis Date	DL	Range	Result
MB-050312	Method Blank	05/03/12	1.0	Gasoline	< 0.03 U
12-7821		PID2		HC ID	---
				Trifluorotoluene	104%
				Bromobenzene	96.6%
US52G	MW-28S-050112	05/03/12	1.0	Gasoline	< 0.03 U
12-7821		PID2		HC ID	---
				Trifluorotoluene	102%
				Bromobenzene	94.0%
US52S	TB-043012-2	05/03/12	1.0	Gasoline	< 0.03 U
12-7833		PID2		HC ID	---
				Trifluorotoluene	106%
				Bromobenzene	96.8%

Gasoline values reported in mg/L (ppm)

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ANALYTICAL RESOURCES INCORPORATED

TPHG WATER SURROGATE RECOVERY SUMMARY

ARI Job: US52
Matrix: Water

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09

Client ID	TFT	BBZ	TOT OUT
MB-050312	104%	96.6%	0
LCS-050312	114%	101%	0
LCSD-050312	110%	99.7%	0
MW-28S-050112	102%	94.0%	0
TB-043012-2	106%	96.8%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-120)	(80-120)
(BBZ) = Bromobenzene	(80-120)	(80-120)

Log Number Range: 12-7821 to 12-7833

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Matrix: Water

Data Release Authorized:
Reported: 05/24/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

ARI ID	Client ID	Analysis Date	DL	Range	Result
MB-050312	Method Blank	05/03/12	1.0	Gasoline	< 0.03 U
12-7884		PID2		HC ID	---
				Trifluorotoluene	104%
				Bromobenzene	96.6%
US61A	MW-30S-050212	05/03/12	1.0	Gasoline	< 0.03 U
12-7884		PID2		HC ID	---
				Trifluorotoluene	99.2%
				Bromobenzene	91.7%
US61B	MW-29S-050212	05/03/12	1.0	Gasoline	< 0.03 U
12-7885		PID2		HC ID	---
				Trifluorotoluene	98.0%
				Bromobenzene	91.3%
US61C	MW-31S-050212	05/03/12	1.0	Gasoline	< 0.03 U
12-7886		PID2		HC ID	---
				Trifluorotoluene	97.5%
				Bromobenzene	91.4%
US61D	DUP-050212-1	05/03/12	1.0	Gasoline	< 0.03 U
12-7887		PID2		HC ID	---
				Trifluorotoluene	91.6%
				Bromobenzene	90.0%
US61E	FB-050212-1	05/03/12	1.0	Gasoline	< 0.03 U
12-7888		PID2		HC ID	---
				Trifluorotoluene	99.6%
				Bromobenzene	91.7%
US61F	TB-050212-1	05/03/12	1.0	Gasoline	< 0.03 U
12-7889		PID2		HC ID	---
				Trifluorotoluene	98.0%
				Bromobenzene	90.6%

Gasoline values reported in mg/L (ppm)

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ANALYTICAL RESOURCES INCORPORATED

TPHG WATER SURROGATE RECOVERY SUMMARY

ARI Job: US61
Matrix: Water

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09

Client ID	TFT	BBZ	TOT OUT
MB-050312	104%	96.6%	0
LCS-050312	114%	101%	0
LCSD-050312	110%	99.7%	0
MW-30S-050212	99.2%	91.7%	0
MW-29S-050212	98.0%	91.3%	0
MW-31S-050212	97.5%	91.4%	0
DUP-050212-1	91.6%	90.0%	0
FB-050212-1	99.6%	91.7%	0
TB-050212-1	98.0%	90.6%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(80-120)	(80-120)
(BBZ) = Bromobenzene	(80-120)	(80-120)

Log Number Range: 12-7884 to 12-7889

US52:00385

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Page 1 of 1

Sample ID: LCS-050312
LAB CONTROL SAMPLE

Lab Sample ID: LCS-050312
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/08/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
Event: 155129.09
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 05/03/12 10:06
LCSD: 05/03/12 10:35
Instrument/Analyst LCS: PID2/JLW
LCSD: PID2/JLW

Purge Volume: 15. mL
Dilution Factor LCS: 1.0
LCSD: 1.0

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Gasoline Range Hydrocarbons	1.13	1.00	113%	1.13	1.00	113%	0.0%

Reported in mg/L (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	114%	110%
Bromobenzene	101%	99.7%

BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB0503

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

SDG No.: US52 Project No.: RG SPRING GW

Date Analyzed : 05/03/12 Matrix: WATER

Time Analyzed : 1103 Instrument ID : PID2

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	RT+BCAL1	RT+BCAL1	05/03/12
02	LCS0503	LCS0503	05/03/12
03	LCSD0503	LCSD0503	05/03/12
04	TB-043012-2	US52S	05/03/12
05	MW-28S-05011	US52G	05/03/12
06	TB-050212-1	US61F	05/03/12
07	FB-050212-1	US61E	05/03/12
08	MW-30S-05021	US61A	05/03/12
09	MW-29S-05021	US61B	05/03/12
10	MW-31S-05021	US61C	05/03/12
11	DUP-050212-1	US61D	05/03/12
12			
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6a
GAS INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: ERM-West

Instrument/Det: PID2.I/RTX 502-2 FID Project: RG Spring GW

Calibration Date: 01-MAY-2012 SDG No.: US52

Gas Range	RF1 .03	RF2 0.10	RF3 0.25	RF4 1.0	RF5 2.5	RF6 5.0	Ave RF	%RSD
WA Gas	1007983	1044085	1022993	1177328	1128428	1152604	1088904	6.7
AK Gas	1899600	1909090	1877938	2056336	1948528	2008122	1949936	3.6
NW Gas	1020717	1168555	1114665	1232936	1175982	1192482	1150889	6.5
Cal Gas	2336983	2315800	2256735	2497025	2375199	2439706	2370241	3.7
8015Gas	2447150	2385070	2310928	2534321	2402639	2469214	2424887	3.2

Surrogates Rel. Rec.	RF1	RF2	RF3	RF4	RF5	RF6	Ave RF	%RSD
$TFT(Surr)	45.50000	51.68182	46.04478	43.33000	45.07519	4.10112		
	44.16000						45.69899	6.116
$BB(Surr)	25.31818	29.93182	26.58209	25.14000	26.40602	25.26404		
	24.68500						26.18959	6.828

<- Indicates %RSD outside limits
Surrogate areas are not included in RF calculation.

Quant Ranges : WA Gas Toluene - nC12
AK Gas nC6 - nC10
NW Gas Toluene - Naphthalene
Cal Gas nC6 - nC12
8015 Gas 2-Methylpentane - 1,2,4-Trimethylbenzene

Calibration Files	Analysis Time
0501a022.d	01-MAY-2012 21:15
0501a021.d	01-MAY-2012 20:47
0501a020.d	01-MAY-2012 20:19
0501a019.d	01-MAY-2012 19:50
0501a018.d	01-MAY-2012 19:22
0501a017.d	01-MAY-2012 18:54

Surr. Calibration Files	Analysis Time
0501a015.d	01-MAY-2012 17:58
0501a014.d	01-MAY-2012 17:30
0501a013.d	01-MAY-2012 17:01
0501a012.d	01-MAY-2012 16:33
0501a011.d	01-MAY-2012 16:05
0501a010.d	01-MAY-2012 15:37
0501a009.d	01-MAY-2012 15:09

7a

GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: ERM-West

ICal Date: 01-MAY-2012

Project: RG Spring GW

CCal Date: 03-MAY-2012

SDG No.: US52

Lab File Name: 0503a003.d

Inst/Det: PID2.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	1242886	1.14	1.00	14.1
AKGas (C6-C10)	2269415	1.16	1.00	16.4
NWGas (Tol-Nap)	1286234	1.12	1.00	11.8
8015B (2MP-TMB)	2770586	1.14	1.00	14.3

* Surrogate areas are subtracted from Total Area
<- Indicates an RPD outside QC limits

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: ERM-West

ICal Date: 01-MAY-2012
Project: RG Spring GW

CCal Date: 03-MAY-2012
SDG No.: US52

Lab File Name: 0503a003.d
Inst/Det: PID2.I/RTX 502-2 FID

Surrogate	Area	CalcAmnt	NomAmnt	RPD
Trifluorotol	69814	103.2	100.0	3.2
Bromoflrbenz	25241	91.4	100.0	-8.6

FORM VII-Surr

7a
GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: ERM-West

ICal Date: 01-MAY-2012
Project: RG Spring GW

CCal Date: 03-MAY-2012
SDG No.: US52

Lab File Name: 0503a014.d
Inst/Det: PID2.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	1191504	1.09	1.00	9.4
AKGas (C6-C10)	2187890	1.12	1.00	12.2
NWGas (Tol-Nap)	1235162	1.07	1.00	7.3
8015B (2MP-TMB)	2667336	1.10	1.00	10.0

* Surrogate areas are subtracted from Total Area
<- Indicates an RPD outside QC limits

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: ERM-West

ICal Date: 01-MAY-2012
Project: RG Spring GW

CCal Date: 03-MAY-2012
SDG No.: US52

Lab File Name: 0503a014.d
Inst/Det: PID2.I/RTX 502-2 FID

Surrogate	Area	CalcAmnt	NomAmnt	RPD
Trifluorotol	74247	110.4	100.0	10.4
Bromoflrbenz	27399	99.0	100.0	-1.0

7a

GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: ERM-West

ICal Date: 01-MAY-2012

Project: RG Spring GW

CCal Date: 03-MAY-2012

SDG No.: US52

Lab File Name: 0503a021.d

Inst/Det: PID2.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	1257340	1.15	1.00	15.5
AKGas (C6-C10)	2204486	1.13	1.00	13.1
NWGas (Tol-Nap)	1301393	1.13	1.00	13.1
8015B (2MP-TMB)	2696259	1.11	1.00	11.2

* Surrogate areas are subtracted from Total Area

<- Indicates an RPD outside QC limits

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: ERM-West

ICal Date: 01-MAY-2012
Project: RG Spring GW

CCal Date: 03-MAY-2012
SDG No.: US52

Lab File Name: 0503a021.d
Inst/Det: PID2.I/RTX 502-2 FID

Surrogate	Area	CalcAmnt	NomAmnt	RPD
Trifluorotol	72377	105.4	100.0	5.4
Bromoflrbenz	27095	97.5	100.0	-2.5

8

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

SDG No.: US52 Project: RG SPRING GW

Instrument ID: PID2 GC Detector: RTX 502-2 FID

Run Date: 05/01/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

	METHOD SURROGATE RT S1 : 7.46 S2 : 15.08						
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	#	S2 RT	#
01		RT+BCAL1	05/01/12	1441	7.47		15.09	
02		B100	05/01/12	1509	7.47		15.09	
03		B50	05/01/12	1537	7.46		15.08	
04		B25	05/01/12	1605	7.46		15.08	
05		B5	05/01/12	1633	7.46		15.08	
06		B1	05/01/12	1701	7.46		15.08	
07		B0.25	05/01/12	1730	7.46		15.08	
08		B0.08	05/01/12	1758	7.46		15.08	
09		BICV5	05/01/12	1826	7.46		15.08	
10		G5	05/01/12	1854	7.46		15.08	
11		G2.5	05/01/12	1922	7.46		15.08	
12		G1	05/01/12	1950	7.46		15.08	
13		G0.25	05/01/12	2019	7.46		15.08	
14		G0.10	05/01/12	2047	7.46		15.08	
15		G0.03	05/01/12	2115	7.46		15.08	
16		GICV1	05/01/12	2143	7.46		15.08	

QC LIMITS

S1 = TFT(Surr) (+/- 0.07 MINUTES)

S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: ERM-WEST

SDG No.: US52 Project: RG SPRING GW

Instrument ID: PID2 GC Detector: RTX 502-2 FID

Run Date: 05/03/12

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

METHOD SURROGATE RT
S1 : 7.24 S2 : 14.85

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT	S1 #	S2 RT	S2 #
01	RT+BCAL1	RT+BCAL1	05/03/12	0910	7.24		14.86	
02	RG SPRING GW	GCAL1	05/03/12	0938	7.24		14.86	
03	LCS0503	LCS0503	05/03/12	1006	7.24		14.85	
04	LCSD0503	LCSD0503	05/03/12	1035	7.24		14.85	
05	MB0503	MB0503	05/03/12	1103	7.24		14.85	
06	TB-043012-2	US52S	05/03/12	1305	7.24		14.86	
07	MW-28S-05011	US52G	05/03/12	1333	7.24		14.86	
08	RG SPRING GW	CCAL3	05/03/12	1612	7.24		14.85	
09	TB-050212-1	US61F	05/03/12	1640	7.24		14.86	
10	FB-050212-1	US61E	05/03/12	1708	7.24		14.86	
11	MW-30S-05021	US61A	05/03/12	1736	7.24		14.85	
12	MW-29S-05021	US61B	05/03/12	1804	7.24		14.85	
13	MW-31S-05021	US61C	05/03/12	1833	7.23		14.85	
14	DUP-050212-1	US61D	05/03/12	1901	7.24		14.85	
15	RG SPRING GW	GCAL4	05/03/12	1929	7.24		14.85	

QC LIMITS

S1 = TFT(Surr) (+/- 0.07 MINUTES)

S2 = BB(Surr) (+/- 0.07 MINUTES)

* Values outside of QC limits.

Metals Analysis
Report and Summary QC Forms

ARI Job ID: US52, US61, UT31

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
MW-14-043012	US52A	12-7815	
MW-14-043012D	US52ADUP	12-7815	
MW-14-043012S	US52ASPK	12-7815	
MW-16-043012	US52B	12-7816	
MW-5S-050112	US52C	12-7817	
MW-11-050112	US52D	12-7818	
MW-12-050112	US52E	12-7819	
MW-19-050112	US52F	12-7820	
MW-28S-050112	US52G	12-7821	
MW-28S-050112D	US52GDUP	12-7821	
MW-28S-050112S	US52GSPK	12-7821	
PBW	US52MB1	12-7821	
LCSW	US52MB1SPK	12-7821	
MW-32S-050112	US52H	12-7822	
MW-32DR-050112	US52I	12-7823	
MW-14-043012	US52J	12-7824	
MW-14-043012D	US52JDUP	12-7824	
MW-14-043012S	US52JSPK	12-7824	
MW-16-043012	US52K	12-7825	
MW-5S-050112	US52L	12-7826	
MW-11-050112	US52M	12-7827	

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: _____ Name: Jay Kuhn

Date: 3/24/12 Title: Inorganics Director

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
MW-12-050112	US52N	12-7828	
MW-19-050112	US52O	12-7829	
PBW	US52MB2	12-7830	
LCSW	US52MB2SPK	12-7830	
MW-28S-050112	US52P	12-7830	
MW-28S-050112D	US52PDUP	12-7830	
MW-28S-050112S	US52PSPK	12-7830	
MW-32S-050112	US52Q	12-7831	
MW-32DR-050112	US52R	12-7832	

Were ICP interelement corrections applied ?	Yes/No	YES
Were ICP background corrections applied ?	Yes/No	YES
If yes - were raw data generated before application of background corrections ?	Yes/No	NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: _____ Name: Jay Kuhn

Date: 5/24/12 Title: Inorganics Director

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-14-043012
SAMPLE

Lab Sample ID: US52A
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	10	**6,130**	
200.8	05/08/12	6020A	05/14/12	**7440-47-3**	**Chromium**	0.5	**0.7**	
200.8	05/08/12	6020A	05/14/12	**7440-50-8**	**Copper**	0.5	**24.2**	
200.8	05/08/12	6020A	05/14/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	**7440-66-6**	**Zinc**	4	**35**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-16-043012
SAMPLE

Lab Sample ID: US52B
LIMS ID: 12-7816
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**22.6**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-5S-050112
SAMPLE

Lab Sample ID: US52C
LIMS ID: 12-7817
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**8.7**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-11-050112
SAMPLE

Lab Sample ID: US52D
LIMS ID: 12-7818
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	1	**467**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-12-050112
SAMPLE

Lab Sample ID: US52E
LIMS ID: 12-7819
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**159**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-19-050112
SAMPLE

Lab Sample ID: US52F
LIMS ID: 12-7820
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	1	**246**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-28S-050112
SAMPLE

Lab Sample ID: US52G
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/07/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/08/12	6020A	05/14/12	7440-36-0	Antimony	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**14.0**	
200.8	05/08/12	6020A	05/14/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-43-9	Cadmium	0.1	0.1	U
3010A	05/07/12	6010C	05/09/12	**7440-70-2**	**Calcium**	50	**67,100**	
200.8	05/08/12	6020A	05/14/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/08/12	6020A	05/14/12	**7440-50-8**	**Copper**	0.5	**0.8**	
3010A	05/07/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**11,900**	
200.8	05/08/12	6020A	05/14/12	7439-92-1	Lead	0.1	0.1	U
3010A	05/07/12	6010C	05/09/12	**7439-95-4**	**Magnesium**	50	**6,500**	
3010A	05/07/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**367**	
7470A	05/07/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/08/12	6020A	05/14/12	**7440-02-0**	**Nickel**	0.5	**4.0**	
3010A	05/07/12	6010C	05/09/12	**7440-09-7**	**Potassium**	500	**5,210**	
200.8	05/08/12	6020A	05/14/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/08/12	6020A	05/14/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/07/12	6010C	05/09/12	**7440-23-5**	**Sodium**	500	**11,500**	
200.8	05/08/12	6020A	05/14/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/08/12	6020A	05/17/12	7440-66-6	Zinc	4	4	U

Calculated Hardness (mg-CaCO3/L): 190

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-32S-050112
SAMPLE

Lab Sample ID: US52H
LIMS ID: 12-7822
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/07/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**8.5**	
3010A	05/07/12	6010C	05/09/12	**7440-70-2**	**Calcium**	50	**30,400**	
200.8	05/08/12	6020A	05/14/12	**7440-47-3**	**Chromium**	0.5	**0.8**	
200.8	05/08/12	6020A	05/14/12	7440-50-8	Copper	0.5	0.5	U
3010A	05/07/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**25,000**	
3010A	05/07/12	6010C	05/09/12	**7439-95-4**	**Magnesium**	50	**24,700**	
3010A	05/07/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**673**	
3010A	05/07/12	6010C	05/09/12	**7440-09-7**	**Potassium**	500	**18,000**	
200.8	05/08/12	6020A	05/14/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/07/12	6010C	05/09/12	**7440-23-5**	**Sodium**	500	**34,800**	
200.8	05/08/12	6020A	05/14/12	**7440-66-6**	**Zinc**	4	**5**	

Calculated Hardness (mg-CaCO3/L): 180

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-32DR-050112
SAMPLE

Lab Sample ID: US52I
LIMS ID: 12-7823
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/07/12	6010C	05/09/12	**7429-90-5**	**Aluminum**	50	**870**	
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**1.7**	
3010A	05/07/12	6010C	05/09/12	**7440-70-2**	**Calcium**	50	**10,100**	
200.8	05/08/12	6020A	05/14/12	**7440-47-3**	**Chromium**	0.5	**12.9**	
200.8	05/08/12	6020A	05/14/12	**7440-50-8**	**Copper**	0.5	**6.5**	
3010A	05/07/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**9,080**	
3010A	05/07/12	6010C	05/09/12	**7439-95-4**	**Magnesium**	50	**16,400**	
3010A	05/07/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**369**	
3010A	05/07/12	6010C	05/09/12	**7440-09-7**	**Potassium**	500	**14,500**	
200.8	05/08/12	6020A	05/14/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/07/12	6010C	05/09/12	**7440-23-5**	**Sodium**	500	**211,000**	
200.8	05/08/12	6020A	05/14/12	**7440-66-6**	**Zinc**	4	**8**	

Calculated Hardness (mg-CaCO3/L): 93

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-14-043012
MATRIX SPIKE

Lab Sample ID: US52A
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6020A	6,130	6,550	25.0	1680%	H
Chromium	6020A	0.680	22.2	25.0	86.1%	
Copper	6020A	24.2	48.7	25.0	98.0%	
Silver	6020A	0.200 U	21.9	25.0	87.6%	
Zinc	6020A	34.8	129	80.0	118%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked
NR-Not Recovered

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-14-043012
DUPLICATE

Lab Sample ID: US52A
LIMS ID: 12-7815
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6020A	6,130	6,420	4.6%	+/- 20%	
Chromium	6020A	0.7	0.7	0.0%	+/- 0.5	L
Copper	6020A	24.2	25.2	4.0%	+/- 20%	
Silver	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	6020A	35	37	5.6%	+/- 20%	

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-28S-050112
MATRIX SPIKE

Lab Sample ID: US52G
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Aluminum	6010C	50.0 U	1,960	2,000	98.0%	
Antimony	6020A	0.200 U	24.7	25.0	98.8%	
Arsenic	6020A	14.0	39.2	25.0	101%	
Beryllium	6020A	0.200 U	23.7	25.0	94.8%	
Cadmium	6020A	0.100 U	23.2	25.0	92.8%	
Calcium	6010C	67,100	75,900	10,000	88.0%	H
Chromium	6020A	0.500 U	23.0	25.0	92.0%	
Copper	6020A	0.820	25.0	25.0	96.7%	
Iron	6010C	11,900	13,700	2,000	90.0%	H
Lead	6020A	0.100 U	23.4	25.0	93.6%	
Magnesium	6010C	6,500	16,500	10,000	100%	
Manganese	6010C	367	827	500	92.0%	
Mercury	7470A	0.100 U	1.10	1.00	110%	
Nickel	6020A	4.03	28.4	25.0	97.5%	
Potassium	6010C	5,210	15,000	10,000	97.9%	
Selenium	6020A	0.500 U	75.2	80.0	94.0%	
Silver	6020A	0.200 U	21.7	25.0	86.8%	
Sodium	6010C	11,500	20,600	10,000	91.0%	
Thallium	6020A	0.200 U	23.8	25.0	95.2%	
Zinc	6020A	4.00 U	71.7	80.0	89.6%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked
NR-Not Recovered

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-28S-050112
DUPLICATE

Lab Sample ID: US52G
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Aluminum	6010C	50 U	50 U	0.0%	+/- 50	L
Antimony	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Arsenic	6020A	14.0	14.0	0.0%	+/- 20%	
Beryllium	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Cadmium	6020A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Calcium	6010C	67,100	65,900	1.8%	+/- 20%	
Chromium	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	6020A	0.8	0.9	11.8%	+/- 0.5	L
Iron	6010C	11,900	11,900	0.0%	+/- 20%	
Lead	6020A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Magnesium	6010C	6,500	6,430	1.1%	+/- 20%	
Manganese	6010C	367	365	0.5%	+/- 20%	
Mercury	7470A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Nickel	6020A	4.0	4.0	0.0%	+/- 20%	
Potassium	6010C	5,210	5,160	1.0%	+/- 20%	
Selenium	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Silver	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Sodium	6010C	11,500	11,300	1.8%	+/- 20%	
Thallium	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	6020A	4 U	4 U	0.0%	+/- 4	L

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: LAB CONTROL**

Lab Sample ID: US52LCS
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Aluminum	6010C	1990	2000	99.5%	
Antimony	6020A	25.9	25.0	104%	
Arsenic	6020A	27.3	25.0	109%	
Beryllium	6020A	25.6	25.0	102%	
Cadmium	6020A	24.7	25.0	98.8%	
Calcium	6010C	9800	10000	98.0%	
Chromium	6020A	25.4	25.0	102%	
Copper	6020A	26.2	25.0	105%	
Iron	6010C	1980	2000	99.0%	
Lead	6020A	25.0	25.0	100%	
Magnesium	6010C	9590	10000	95.9%	
Manganese	6010C	482	500	96.4%	
Mercury	7470A	2.08	2.00	104%	
Nickel	6020A	26.0	25.0	104%	
Potassium	6010C	9730	10000	97.3%	
Selenium	6020A	79.9	80.0	99.9%	
Silver	6020A	24.9	25.0	99.6%	
Sodium	6010C	9250	10000	92.5%	
Thallium	6020A	25.0	25.0	100%	
Zinc	6020A	80.1	80.0	100%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: US52MB
LIMS ID: 12-7821
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/07/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/08/12	6020A	05/14/12	7440-36-0	Antimony	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-38-2	Arsenic	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-43-9	Cadmium	0.1	0.1	U
3010A	05/07/12	6010C	05/09/12	7440-70-2	Calcium	50	50	U
200.8	05/08/12	6020A	05/14/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/08/12	6020A	05/16/12	7440-50-8	Copper	0.5	0.5	U
3010A	05/07/12	6010C	05/09/12	7439-89-6	Iron	50	50	U
200.8	05/08/12	6020A	05/14/12	7439-92-1	Lead	0.1	0.1	U
3010A	05/07/12	6010C	05/09/12	7439-95-4	Magnesium	50	50	U
3010A	05/07/12	6010C	05/09/12	7439-96-5	Manganese	1	1	U
7470A	05/07/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/08/12	6020A	05/14/12	7440-02-0	Nickel	0.5	0.5	U
3010A	05/07/12	6010C	05/09/12	7440-09-7	Potassium	500	500	U
200.8	05/08/12	6020A	05/14/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/08/12	6020A	05/14/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/07/12	6010C	05/09/12	7440-23-5	Sodium	500	500	U
200.8	05/08/12	6020A	05/14/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/08/12	6020A	05/16/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

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Sample ID: MW-14-043012
SAMPLE

Lab Sample ID: US52J
LIMS ID: 12-7824
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/17/12	**7440-38-2**	**Arsenic**	10	**5,810**	
200.8	05/08/12	6020A	05/14/12	**7440-47-3**	**Chromium**	0.5	**0.7**	
200.8	05/08/12	6020A	05/14/12	**7440-50-8**	**Copper**	0.5	**2.3**	
200.8	05/08/12	6020A	05/14/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	**7440-66-6**	**Zinc**	4	**35**	

U-Analyte undetected at given RL
RL-Reporting Limit

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Sample ID: MW-16-043012
SAMPLE

Lab Sample ID: US52K
LIMS ID: 12-7825
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**16.9**	

U-Analyte undetected at given RL
RL-Reporting Limit

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Sample ID: MW-5S-050112
SAMPLE

Lab Sample ID: US52L
LIMS ID: 12-7826
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**8.1**	

U-Analyte undetected at given RL
RL-Reporting Limit

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INORGANICS ANALYSIS DATA SHEET
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Sample ID: MW-11-050112
SAMPLE

Lab Sample ID: US52M
LIMS ID: 12-7827
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	1	**471**	

U-Analyte undetected at given RL
RL-Reporting Limit

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Sample ID: MW-12-050112
SAMPLE

Lab Sample ID: US52N
LIMS ID: 12-7828
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**149**	

U-Analyte undetected at given RL
RL-Reporting Limit

FORM-I

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Sample ID: MW-19-050112
SAMPLE

Lab Sample ID: US520
LIMS ID: 12-7829
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	6020A	05/16/12	**7440-38-2**	**Arsenic**	1	**249**	

U-Analyte undetected at given RL
RL-Reporting Limit

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Sample ID: MW-28S-050112
SAMPLE

Lab Sample ID: US52P
LIMS ID: 12-7830
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/07/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/08/12	6020A	05/14/12	7440-36-0	Antimony	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**13.8**	
200.8	05/08/12	6020A	05/14/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	05/08/12	6020A	05/14/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/08/12	6020A	05/14/12	**7440-50-8**	**Copper**	0.5	**0.8**	
6010C	05/07/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**12,100**	
200.8	05/08/12	6020A	05/14/12	7439-92-1	Lead	0.1	0.1	U
6010C	05/07/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**350**	
7470A	05/07/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/08/12	6020A	05/14/12	**7440-02-0**	**Nickel**	0.5	**0.9**	
200.8	05/08/12	6020A	05/14/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/08/12	6020A	05/14/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
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Sample ID: MW-32S-050112
SAMPLE

Lab Sample ID: US52Q
LIMS ID: 12-7831
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/07/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**8.5**	
200.8	05/08/12	6020A	05/14/12	**7440-47-3**	**Chromium**	0.5	**0.7**	
200.8	05/08/12	6020A	05/14/12	7440-50-8	Copper	0.5	0.5	U
6010C	05/07/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**25,100**	
6010C	05/07/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**684**	
200.8	05/08/12	6020A	05/14/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
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Sample ID: MW-32DR-050112
SAMPLE

Lab Sample ID: US52R
LIMS ID: 12-7832
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/07/12	6010C	05/09/12	**7429-90-5**	**Aluminum**	50	**330**	
200.8	05/08/12	6020A	05/14/12	**7440-38-2**	**Arsenic**	0.2	**1.4**	
200.8	05/08/12	6020A	05/14/12	**7440-47-3**	**Chromium**	0.5	**13.1**	
200.8	05/08/12	6020A	05/14/12	**7440-50-8**	**Copper**	0.5	**4.9**	
6010C	05/07/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**8,460**	
6010C	05/07/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**339**	
200.8	05/08/12	6020A	05/14/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	**7440-66-6**	**Zinc**	4	**4**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
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Sample ID: MW-14-043012
MATRIX SPIKE

Lab Sample ID: US52J
LIMS ID: 12-7824
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6020A	5,810	6,000	25.0	760%	H
Chromium	6020A	0.670	22.9	25.0	88.9%	
Copper	6020A	2.33	27.2	25.0	99.5%	
Silver	6020A	0.200 U	23.5	25.0	94.0%	
Zinc	6020A	34.6	108	80.0	91.8%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: MW-14-043012
DUPLICATE

Lab Sample ID: US52J
LIMS ID: 12-7824
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 04/30/12
Date Received: 05/01/12

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6020A	5,810	6,060	4.2%	+/- 20%	
Chromium	6020A	0.7	0.7	0.0%	+/- 0.5	L
Copper	6020A	2.3	3.0	26.4%	+/- 0.5	L*
Silver	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	6020A	35	36	2.8%	+/- 20%	

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW-28S-050112
MATRIX SPIKE

Lab Sample ID: US52P
LIMS ID: 12-7830
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample		Spike	Spike Added	% Recovery	Q
Aluminum	6010C	50.0	U	2,090	2,000	104%	
Antimony	6020A	0.200	U	24.8	25.0	99.2%	
Arsenic	6020A	13.8		39.4	25.0	102%	
Beryllium	6020A	0.200	U	23.7	25.0	94.8%	
Cadmium	6020A	0.100	U	23.4	25.0	93.6%	
Chromium	6020A	0.500	U	22.9	25.0	91.6%	
Copper	6020A	0.750		25.5	25.0	99.0%	
Iron	6010C	12,100		14,000	2,000	95.0%	H
Lead	6020A	0.100	U	24.2	25.0	96.8%	
Manganese	6010C	350		814	500	92.8%	
Mercury	7470A	0.100	U	1.06	1.00	106%	
Nickel	6020A	0.880		25.9	25.0	100%	
Selenium	6020A	0.500	U	76.2	80.0	95.2%	
Silver	6020A	0.200	U	19.5	25.0	78.0%	
Thallium	6020A	0.200	U	24.3	25.0	97.2%	
Zinc	6020A	4.00	U	72.3	80.0	90.4%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
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Sample ID: MW-28S-050112
DUPLICATE

Lab Sample ID: US52P
LIMS ID: 12-7830
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/01/12
Date Received: 05/01/12

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Aluminum	6010C	50 U	50 U	0.0%	+/- 50	L
Antimony	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Arsenic	6020A	13.8	14.2	2.9%	+/- 20%	
Beryllium	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Cadmium	6020A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Chromium	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	6020A	0.8	1.1	31.6%	+/- 0.5	L
Iron	6010C	12,100	11,900	1.7%	+/- 20%	
Lead	6020A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Manganese	6010C	350	346	1.1%	+/- 20%	
Mercury	7470A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Nickel	6020A	0.9	0.9	0.0%	+/- 0.5	L
Selenium	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Silver	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Thallium	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	6020A	4 U	4 U	0.0%	+/- 4	L

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS **Sample ID: LAB CONTROL**

Lab Sample ID: US52LCS
LIMS ID: 12-7830
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Aluminum	6010C	2080	2000	104%	
Antimony	6020A	25.4	25.0	102%	
Arsenic	6020A	26.5	25.0	106%	
Beryllium	6020A	25.0	25.0	100%	
Cadmium	6020A	24.8	25.0	99.2%	
Chromium	6020A	24.8	25.0	99.2%	
Copper	6020A	26.2	25.0	105%	
Iron	6010C	2060	2000	103%	
Lead	6020A	24.7	25.0	98.8%	
Manganese	6010C	493	500	98.6%	
Mercury	7470A	2.0	2.0	100%	
Nickel	6020A	26.1	25.0	104%	
Selenium	6020A	80.3	80.0	100%	
Silver	6020A	25.3	25.0	101%	
Thallium	6020A	24.8	25.0	99.2%	
Zinc	6020A	80	80	100%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
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Sample ID: METHOD BLANK

Lab Sample ID: US52MB
LIMS ID: 12-7830
Matrix: Water
Data Release Authorized:
Reported: 05/18/12

QC Report No: US52-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/07/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/08/12	6020A	05/14/12	7440-36-0	Antimony	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-38-2	Arsenic	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	05/08/12	6020A	05/14/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/08/12	6020A	05/14/12	7440-50-8	Copper	0.5	0.5	U
6010C	05/07/12	6010C	05/09/12	7439-89-6	Iron	50	50	U
200.8	05/08/12	6020A	05/14/12	7439-92-1	Lead	0.1	0.1	U
6010C	05/07/12	6010C	05/09/12	7439-96-5	Manganese	1	1	U
7470A	05/07/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/08/12	6020A	05/14/12	7440-02-0	Nickel	0.5	0.5	U
200.8	05/08/12	6020A	05/14/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/08/12	6020A	05/14/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/08/12	6020A	05/14/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Aluminum	AL	ICP	IP050971	2000.0	2009.51	**100.5**	2000.0	1981.26	**99.1**	1943.43	**97.2**	1991.90	**99.6**	1980.13	**99.0**	1938.01	**96.9**
Antimony	SB	PMS	MS051411	50.0	51.00	**102.0**	50.0	50.81	**101.6**	51.64	**103.3**	51.84	**103.7**	51.49	**103.0**	50.96	**101.9**
Arsenic	AS	PMS	MS051411	50.0	51.58	**103.2**	50.0	50.06	**100.1**	51.78	**103.6**	51.81	**103.6**	51.72	**103.4**	51.04	**102.1**
Beryllium	BE	PMS	MS051411	50.0	51.81	**103.6**	50.0	51.23	**102.5**	52.51	**105.0**	52.53	**105.1**	51.60	**103.2**	51.06	**102.1**
Cadmium	CD	PMS	MS051411	50.0	49.74	**99.5**	50.0	51.32	**102.6**	50.64	**101.3**	50.96	**101.9**	50.58	**101.2**	50.47	**100.9**
Calcium	CA	ICP	IP050971	2000.0	2066.48	**103.3**	2000.0	2037.69	**101.9**	2026.33	**101.3**	2056.37	**102.8**	2035.07	**101.8**	2008.19	**100.4**
Chromium	CR	PMS	MS051411	50.0	50.64	**101.3**	50.0	50.26	**100.5**	49.66	**99.3**	48.94	**97.9**	49.64	**99.3**	50.49	**101.0**
Copper	CU	PMS	MS051411	50.0	51.42	**102.8**	50.0	50.56	**101.1**	51.98	**104.0**	51.33	**102.7**	51.91	**103.8**	51.81	**103.6**
Iron	FE	ICP	IP050971	2000.0	2056.57	**102.8**	2000.0	2027.05	**101.4**	2000.36	**100.0**	2020.68	**101.0**	1999.45	**100.0**	1956.52	**97.8**
Lead	PB	PMS	MS051411	50.0	50.60	**101.2**	50.0	50.45	**100.9**	49.63	**99.3**	49.77	**99.5**	48.51	**97.0**	48.23	**96.5**
Magnesium	MG	ICP	IP050971	2000.0	2029.99	**101.5**	2000.0	1992.51	**99.6**	1974.69	**98.7**	2012.89	**100.6**	1989.48	**99.5**	1962.01	**98.1**
Manganese	MN	ICP	IP050971	1000.0	950.76	**95.1**	1000.0	925.13	**92.5**	951.19	**95.1**	925.33	**92.5**	899.81	**90.0**	963.46	**96.3**
Mercury	HG	CVA	HG050802	8.0	7.98	**99.8**	4.0	4.09	**102.3**	4.21	**105.3**	4.06	**101.5**	4.22	**105.5**		
Nickel	NI	PMS	MS051411	50.0	51.52	**103.0**	50.0	50.25	**100.5**	51.50	**103.0**	51.25	**102.5**	51.81	**103.6**	50.56	**101.1**
Potassium	K	ICP	IP050971	20000.0	20408.59	**102.0**	20000.0	19994.11	**100.0**	19738.67	**98.7**	20042.30	**100.2**	19571.01	**97.9**	19539.66	**97.7**
Selenium	SE	PMS	MS051411	80.0	83.51	**104.4**	50.0	53.21	**106.4**	54.94	**109.9**	54.78	**109.6**	55.16	**110.3**	54.40	**108.8**
Silver	AG	PMS	MS051411	50.0	49.85	**99.7**	50.0	50.60	**101.2**	53.27	**106.5**	53.16	**106.3**	50.77	**101.5**	47.87	**95.7**
Sodium	NA	ICP	IP050971	50000.0	52693.61	**105.4**	50000.0	48605.32	**97.2**	47450.03	**94.9**	48503.71	**97.0**	47453.42	**94.9**	47264.82	**94.5**
Thallium	TL	PMS	MS051411	50.0	51.28	**102.6**	50.0	50.70	**101.4**	50.13	**100.3**	50.30	**100.6**	48.85	**97.7**	48.68	**97.4**
Zinc	ZN	PMS	MS051411	50.0	50.90	**101.8**	50.0	51.27	**102.5**	52.86	**105.7**	52.44	**104.9**	53.20	**106.4**	52.36	**104.7**

Control Limits: Mercury 80-120; Other Metals 90-110

F2150-2551

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

UNITS: ug/L

SDG: US52

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Aluminum	AL	ICP	IP050971	2000.0	1988.25	**99.4**	1951.82	**97.6**	1960.15	**98.0**						
Antimony	SB	PMS	MS051411	50.0	50.57	**101.1**	50.82	**101.6**	49.93	**99.9**	50.42	**100.8**				
Arsenic	AS	PMS	MS051411	50.0	52.04	**104.1**	50.53	**101.1**	50.67	**101.3**	51.22	**102.4**				
Beryllium	BE	PMS	MS051411	50.0	52.56	**105.1**	51.38	**102.8**	51.52	**103.0**	51.19	**102.4**				
Cadmium	CD	PMS	MS051411	50.0	50.58	**101.2**	50.23	**100.5**	49.79	**99.6**	50.52	**101.0**				
Calcium	CA	ICP	IP050971	2000.0	2064.17	**103.2**	2022.39	**101.1**	1999.42	**100.0**						
Chromium	CR	PMS	MS051411	50.0	50.72	**101.4**	49.58	**99.2**	49.04	**98.1**	52.57	**105.1**				
Copper	CU	PMS	MS051411	50.0	50.53	**101.1**	49.80	**99.6**	50.41	**100.8**	50.49	**101.0**				
Iron	FE	ICP	IP050971	2000.0	2014.35	**100.7**	1971.37	**98.6**	1963.09	**98.2**						
Lead	PB	PMS	MS051411	50.0	49.23	**98.5**	49.07	**98.1**	49.24	**98.5**	50.17	**100.3**				
Magnesium	MG	ICP	IP050971	2000.0	2010.61	**100.5**	1971.44	**98.6**	1958.59	**97.9**						
Manganese	MN	ICP	IP050971	1000.0	993.27	**99.3**	969.94	**97.0**	968.82	**96.9**						
Mercury	HG	CVA	HG050802	4.0												
Nickel	NI	PMS	MS051411	50.0	51.36	**102.7**	50.13	**100.3**	50.71	**101.4**	51.51	**103.0**				
Potassium	K	ICP	IP050971	20000.0	20012.02	**100.1**	19631.56	**98.2**	19804.97	**99.0**						
Selenium	SE	PMS	MS051411	50.0	55.19	**110.4**	53.55	**107.1**	53.93	**107.9**	54.49	**109.0**				
Silver	AG	PMS	MS051411	50.0	48.25	**96.5**	49.21	**98.4**	47.37	**94.7**	47.18	**94.4**				
Sodium	NA	ICP	IP050971	50000.0	47884.99	**95.8**	46870.48	**93.7**	47124.81	**94.2**						
Thallium	TL	PMS	MS051411	50.0	49.16	**98.3**	49.28	**98.6**	49.57	**99.1**	50.31	**100.6**				
Zinc	ZN	PMS	MS051411	50.0	52.50	**105.0**	52.41	**104.8**	52.18	**104.4**	52.73	**105.5**				

Control Limits: Mercury 80-120; Other Metals 90-110

25190-2551

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	PMS	MS051611	50.0	49.75	99.5	50.0	50.01	100.0	50.01	100.0	50.16	100.3	51.82	103.6	51.43	102.9
Copper	CU	PMS	MS051611	50.0	50.32	100.6	50.0	50.44	100.9	50.29	100.6	49.49	99.0	50.88	101.8	51.09	102.2
Zinc	ZN	PMS	MS051611	50.0	49.38	98.8	50.0	49.97	99.9	49.03	98.1	49.89	99.8	50.43	100.9	49.95	99.9

Control Limits: Mercury 80-120; Other Metals 90-110

US52 : 2951

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

UNITS: ug/L

SDG: US52

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Arsenic	AS	PMS	MS051611	50.0	51.50	103.0										
Copper	CU	PMS	MS051611	50.0	50.47	100.9										
Zinc	ZN	PMS	MS051611	50.0	50.20	100.5										

Control Limits: Mercury 80-120; Other Metals 90-110

US52.00434

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	PMS	MS051711	50.0	49.71	99.4	50.0	49.98	100.0	49.31	98.6	49.32	98.6	49.47	98.9	49.80	99.6
Zinc	ZN	PMS	MS051711	50.0	50.04	100.1	50.0	51.37	102.7	49.78	99.6	50.01	100.0	49.45	98.9	49.72	99.4

Control Limits: Mercury 80-120; Other Metals 90-110

US52-0055

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Aluminum	AL	ICP	IP050971	50.0	56.34	112.7	57.51	115.0								
Antimony	SB	PMS	MS051411	0.2	0.19	95.0										
Arsenic	AS	PMS	MS051411	0.2	0.29	145.0										
Beryllium	BE	PMS	MS051411	0.2	0.22	110.0										
Cadmium	CD	PMS	MS051411	0.1	0.12	120.0										
Calcium	CA	ICP	IP050971	50.0	48.45	96.9	49.35	98.7								
Chromium	CR	PMS	MS051411	0.5	0.54	108.0										
Copper	CU	PMS	MS051411	0.5	0.56	112.0										
Iron	FE	ICP	IP050971	50.0	49.94	99.9	47.63	95.3								
Lead	PB	PMS	MS051411	0.1	0.11	110.0										
Magnesium	MG	ICP	IP050971	50.0	48.06	96.1	49.83	99.7								
Manganese	MN	ICP	IP050971	1.0	0.96	96.0	0.99	99.0								
Mercury	HG	CVA	HG050802	0.1	0.10	100.0										
Nickel	NI	PMS	MS051411	0.5	0.54	108.0										
Potassium	K	ICP	IP050971	500.0	495.73	99.1	449.77	90.0								
Selenium	SE	PMS	MS051411	0.5	0.71	142.0										
Silver	AG	PMS	MS051411	0.2	0.21	105.0										
Sodium	NA	ICP	IP050971	500.0	435.03	87.0	261.23	52.2								
Thallium	TL	PMS	MS051411	0.2	0.21	105.0										
Zinc	ZN	PMS	MS051411	4.0	4.36	109.0										
Arsenic	AS	PMS	MS051611	0.2	0.19	95.0										
Copper	CU	PMS	MS051611	0.5	0.52	104.0										
Zinc	ZN	PMS	MS051611	4.0	3.99	99.8										

Control Limits: no control limits have been established by the EPA at this time.

US52 · 09h05 · 25SEP95

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Arsenic	AS	PMS	MS051711	0.2	0.28	140.0										
Zinc	ZN	PMS	MS051711	4.0	4.50	112.5										

Control Limits: no control limits have been established by the EPA at this time.

USGS-2550

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Aluminum	AL	ICP	IP050971	200.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Antimony	SB	PMS	MS051411	60.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Arsenic	AS	PMS	MS051411	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Beryllium	BE	PMS	MS051411	5.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	CD	PMS	MS051411	5.0	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Calcium	CA	ICP	IP050971	5000.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Chromium	CR	PMS	MS051411	10.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Copper	CU	PMS	MS051411	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Iron	FE	ICP	IP050971	100.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Lead	PB	PMS	MS051411	3.0	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Magnesium	MG	ICP	IP050971	5000.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Manganese	MN	ICP	IP050971	15.0	1.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Mercury	HG	CVA	HG050802	0.2	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		
Nickel	NI	PMS	MS051411	40.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Potassium	K	ICP	IP050971	5000.0	500.0	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U
Selenium	SE	PMS	MS051411	5.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Silver	AG	PMS	MS051411	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Sodium	NA	ICP	IP050971	5000.0	500.0	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U
Thallium	TL	PMS	MS051411	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Zinc	ZN	PMS	MS051411	20.0	4.0	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U

US52.2551

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	C	CCB7	C	CCB8	C	CCB9	C	CCB10	C	CCB11	C
Aluminum	AL	ICP	IP050971	200.0	50.0	50.0	U	50.0	U	50.0	U						
Antimony	SB	PMS	MS051411	60.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U				
Arsenic	AS	PMS	MS051411	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U				
Beryllium	BE	PMS	MS051411	5.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U				
Cadmium	CD	PMS	MS051411	5.0	0.1	0.1	U	0.1	U	0.1	U	0.1	U				
Calcium	CA	ICP	IP050971	5000.0	50.0	50.0	U	50.0	U	50.0	U						
Chromium	CR	PMS	MS051411	10.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U				
Copper	CU	PMS	MS051411	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U				
Iron	FE	ICP	IP050971	100.0	50.0	50.0	U	50.0	U	50.0	U						
Lead	PB	PMS	MS051411	3.0	0.1	0.1	U	0.1	U	0.1	U	0.1	U				
Magnesium	MG	ICP	IP050971	5000.0	50.0	50.0	U	50.0	U	50.0	U						
Manganese	MN	ICP	IP050971	15.0	1.0	1.0	U	1.0	U	1.0	U						
Mercury	HG	CVA	HG050802	0.2	0.1												
Nickel	NI	PMS	MS051411	40.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U				
Potassium	K	ICP	IP050971	5000.0	500.0	500.0	U	500.0	U	500.0	U						
Selenium	SE	PMS	MS051411	5.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U				
Silver	AG	PMS	MS051411	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U				
Sodium	NA	ICP	IP050971	5000.0	500.0	500.0	U	500.0	U	500.0	U						
Thallium	TL	PMS	MS051411	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U				
Zinc	ZN	PMS	MS051411	20.0	4.0	4.0	U	4.0	U	4.0	U	4.0	U				

US52-00139

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	PMS	MS051611	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Copper	CU	PMS	MS051611	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Zinc	ZN	PMS	MS051611	20.0	4.0	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U

US52 : 051610

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	C	CCB7	C	CCB8	C	CCB9	C	CCB10	C	CCB11	C
Arsenic	AS	PMS	MS051611	10.0	0.2	0.2	U										
Copper	CU	PMS	MS051611	25.0	0.5	0.5	U										
Zinc	ZN	PMS	MS051611	20.0	4.0	4.0	U										

Filed 02/15/05 US52

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	PMS	MS051711	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Zinc	ZN	PMS	MS051711	20.0	4.0	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U

US52 : 09:12

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: IP050971

SDG: US52

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	197889.8	197444.0	98.7	194615.1	196273.7	98.1			
Antimony		1000	20.3	936.2	93.6	15.5	915.2	91.5			
Arsenic		1000	-16.6	970.4	97.0	-14.2	942.8	94.3			
Barium		1000	2.5	982.7	98.3	2.9	1013.5	101.4			
Beryllium		1000	0.1	964.9	96.5	0.1	937.6	93.8			
Boron			5.7	5.4		4.5	4.2				
Cadmium		1000	0.7	996.3	99.6	0.8	1035.0	103.5			
Calcium	100000	100000	99903.6	99400.2	99.4	96808.6	98294.2	98.3			
Chromium		1000	0.1	997.3	99.7	-0.5	1017.1	101.7			
Cobalt		1000	2.5	916.1	91.6	2.4	950.4	95.0			
Copper		1000	-2.8	1023.4	102.3	-2.7	1030.7	103.1			
Iron	200000	200000	196775.6	196182.9	98.1	190591.8	192910.6	96.5			
Lead		1000	-5.9	957.5	95.8	-6.0	941.4	94.1			
Magnesium	100000	100000	97424.5	96862.9	96.9	98404.2	95704.5	95.7			
Manganese		1000	0.1	929.5	93.0	0.1	962.4	96.2			
Molybdenum			5.2	4.9		4.7	4.5				
Nickel		1000	-0.9	946.3	94.6	-0.6	912.3	91.2			
Potassium			21.7	1.9		2.7	-17.4				
Selenium		1000	14.0	998.2	99.8	12.2	966.1	96.6			
Silicon			-14.0	-16.6		3.2	-6.7				
Silver		1000	-1.7	1044.0	104.4	-1.5	998.5	99.9			
Sodium			-0.4	-12.6		-166.1	-173.5				
Strontium			10.0	9.9		9.5	9.6				
Thallium		1000	8.4	930.8	93.1	11.6	912.3	91.2			
Tin			-10.5	-10.8		-11.7	-11.8				
Titanium			-0.3	-0.4		-0.1	-0.2				
Vanadium		1000	8.4	975.6	97.6	8.0	987.7	98.8			
Zinc		1000	-5.1	927.0	92.7	-6.0	900.4	90.0			

Sinbad 2551

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: MS051411

SDG: US52

INSTRUMENT ID: NEXION 300D

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Arsenic		20	0.0	19.6	98.0						
Cadmium		20	0.1	19.4	97.0						
Chromium		20	0.8	20.9	104.5						
Cobalt		20	0.0	18.9	94.5						
Copper		20	1.0	21.4	107.0						
Manganese		20	0.1	19.6	98.0						
Molybdenum	400	400	421.5	431.9	108.0						
Nickel		20	0.4	20.0	100.0						
Selenium			-0.3	-0.2							
Silver		20	0.0	20.1	100.5						
Thorium			0.2	0.1							
Vanadium			0.1	0.3							
Zinc		20	0.7	19.8	99.0						

US52 : 05/14/11

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: MS051611

SDG: US52

INSTRUMENT ID: NEXION 300D

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Antimony			0.0	0.1							
Arsenic		20	0.0	19.5	**97.5**						
Cadmium		20	0.1	19.6	**98.0**						
Chromium		20	0.8	19.9	**99.5**						
Cobalt		20	0.0	18.8	**94.0**						
Copper		20	1.1	21.0	**105.0**						
Manganese		20	0.1	19.1	**95.5**						
Molybdenum	400	400	427.7	437.4	**109.4**						
Nickel		20	0.5	19.5	**97.5**						
Selenium			-0.4	-0.5							
Silver		20	0.0	19.5	**97.5**						
Thorium			0.2	0.1							
Vanadium			0.1	0.1							
Zinc		20	0.8	19.5	**97.5**						

Sth60 : 2550

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: MS051711

SDG: US52

INSTRUMENT ID: NEXION 300D

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Arsenic		20	0.1	18.6	93.0						
Cadmium		20	0.2	19.6	98.0						
Chromium		20	0.8	20.4	102.0						
Cobalt		20	0.0	18.8	94.0						
Copper		20	1.0	20.7	103.5						
Manganese		20	0.1	19.3	96.5						
Molybdenum	400	400	425.3	415.8	104.0						
Nickel		20	0.3	19.8	99.0						
Selenium			-0.2	-0.3							
Silver		20	0.0	18.9	94.5						
Thorium			0.2	0.1							
Vanadium			0.1	0.2							
Zinc		20	0.7	19.2	96.0						

Sth99 :2SSN

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: ICP

SDG: US52

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFERENCE	Q
Aluminum	MW-28S-050112L	US52G-L	Water	IP050971	11.07	U	250.00	U		
Calcium	MW-28S-050112L	US52G-L	Water	IP050971	67138.33		64598.50		3.8	
Iron	MW-28S-050112L	US52G-L	Water	IP050971	11942.88		11449.50		4.1	
Magnesium	MW-28S-050112L	US52G-L	Water	IP050971	6496.85		6546.15	B	0.8	
Manganese	MW-28S-050112L	US52G-L	Water	IP050971	367.24		351.95		4.2	
Potassium	MW-28S-050112L	US52G-L	Water	IP050971	5206.87		4938.50	B	5.2	
Sodium	MW-28S-050112L	US52G-L	Water	IP050971	11481.58		10234.90	B	10.9	

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: ICP

SDG: US52

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFER-ENCE	Q
Aluminum	MW-28S-050112L	US52P-L	Water	IP050971	5.57	U	250.00	U		
Iron	MW-28S-050112L	US52P-L	Water	IP050971	12066.65		11784.65		2.3	
Manganese	MW-28S-050112L	US52P-L	Water	IP050971	350.44		340.05		3.0	

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: PMS

SDG: US52

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFERENCE	Q
Copper	MW-14-043012L	US52A-L	Water	MS051411	24.19	B	26.56	B	4.9	
Silver	MW-14-043012L	US52A-L	Water	MS051411	0.01	U	0.00	B		
Zinc	MW-14-043012L	US52A-L	Water	MS051411	34.76		62.70	B	80.4	

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: PMS

SDG: US52

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFERENCE	Q
Antimony	MW-28S-050112L	US52G-L	Water	MS051411	0.03	U	0.05	B		
Beryllium	MW-28S-050112L	US52G-L	Water	MS051411	0.02	U	0.00	B		
Cadmium	MW-28S-050112L	US52G-L	Water	MS051411	0.02	U	0.00	B		
Chromium	MW-28S-050112L	US52G-L	Water	MS051411	0.27	U	0.75	B		
Copper	MW-28S-050112L	US52G-L	Water	MS051411	0.82	B	0.90	B	9.8	
Lead	MW-28S-050112L	US52G-L	Water	MS051411	0.03	U	0.10	B		
Nickel	MW-28S-050112L	US52G-L	Water	MS051411	4.03	B	4.20	B	4.2	
Selenium	MW-28S-050112L	US52G-L	Water	MS051411	0.13	U	0.95	B		
Silver	MW-28S-050112L	US52G-L	Water	MS051411	0.00	U	0.00	B		
Thallium	MW-28S-050112L	US52G-L	Water	MS051411	0.01	U	0.05	B		
Antimony	MW-28S-050112L	US52P-L	Water	MS051411	0.03	U	0.05	B		
Arsenic	MW-28S-050112L	US52P-L	Water	MS051411	13.83		14.15	B	2.3	
Beryllium	MW-28S-050112L	US52P-L	Water	MS051411	0.02	U	0.00	B		
Cadmium	MW-28S-050112L	US52P-L	Water	MS051411	0.02	U	0.00	B		
Chromium	MW-28S-050112L	US52P-L	Water	MS051411	0.18	U	0.30	B		
Copper	MW-28S-050112L	US52P-L	Water	MS051411	0.75	B	1.20	B	60.0	
Lead	MW-28S-050112L	US52P-L	Water	MS051411	0.06	U	0.50	B		
Nickel	MW-28S-050112L	US52P-L	Water	MS051411	0.88	B	0.90	B	2.3	
Selenium	MW-28S-050112L	US52P-L	Water	MS051411	0.24	U	0.75	B		
Silver	MW-28S-050112L	US52P-L	Water	MS051411	0.00	U	0.00	B		
Thallium	MW-28S-050112L	US52P-L	Water	MS051411	0.02	U	0.05	B		
Zinc	MW-28S-050112L	US52P-L	Water	MS051411	3.25	U	19.43	B		

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: PMS

SDG: US52

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFER-ENCE	Q
Arsenic	MW-14-043012L	US52A-L	Water	MS051611	122.55		124.85		1.9	
Chromium	MW-14-043012L	US52A-L	Water	MS051611	0.68	B	0.95	B	39.7	
Antimony	MW-28S-050112L	US52G-L	Water	MS051711	0.03	U	-0.05	B		
Zinc	MW-28S-050112L	US52G-L	Water	MS051711	1.76	U	3.95	B		
Arsenic	MW-14-043012L	US52J-L	Water	MS051711	116.12		114.55		1.4	
Chromium	MW-14-043012L	US52J-L	Water	MS051711	0.67	B	0.80	B	19.4	
Copper	MW-14-043012L	US52J-L	Water	MS051711	2.33	B	4.70	B	101.7	
Silver	MW-14-043012L	US52J-L	Water	MS051711	0.00	U	0.00	B		
Zinc	MW-14-043012L	US52J-L	Water	MS051711	34.65		41.40	B	19.5	

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52 UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Aluminum	AL	ICP	OPTIMA ICP 2	308.22		200	50.0	4/1/2011	250000.0	3/19/2012
Antimony	SB	PMS	NEXION 300D MS	0.00		60	0.2	4/1/2011		
Arsenic	AS	PMS	NEXION 300D MS	0.00		10	0.2	4/1/2011		
Beryllium	BE	PMS	NEXION 300D MS	0.00		5	0.2	4/1/2011		
Cadmium	CD	PMS	NEXION 300D MS	0.00		5	0.1	4/1/2011		
Calcium	CA	ICP	OPTIMA ICP 2	317.93		5000	50.0	4/1/2011	500000.0	3/19/2012
Chromium	CR	PMS	NEXION 300D MS	0.00		10	0.5	4/1/2011		
Copper	CU	PMS	NEXION 300D MS	0.00		25	0.5	4/1/2011		
Iron	FE	ICP	OPTIMA ICP 2	259.94		100	50.0	4/1/2011	250000.0	3/19/2012
Lead	PB	PMS	NEXION 300D MS	0.00		3	0.1	4/1/2011		
Magnesium	MG	ICP	OPTIMA ICP 2	279.08		5000	50.0	4/1/2011	500000.0	3/19/2012
Manganese	MN	ICP	OPTIMA ICP 2	257.61		15	1.0	4/1/2011	30000.0	3/19/2012
Mercury	HG	CVA	CETAC MERCURY	253.70		0.2	0.1	4/1/2011		
Nickel	NI	PMS	NEXION 300D MS	0.00		40	0.5	4/1/2011		
Potassium	K	ICP	OPTIMA ICP 2	766.49		5000	500.0	4/1/2011	500000.0	3/19/2012
Selenium	SE	PMS	NEXION 300D MS	0.00		5	0.5	4/1/2011		
Silver	AG	PMS	NEXION 300D MS	0.00		10	0.2	4/1/2011		
Sodium	NA	ICP	OPTIMA ICP 2	589.00		5000	500.0	4/1/2011	5000000.0	3/19/2012
Thallium	TL	PMS	NEXION 300D MS	0.00		10	0.2	4/1/2011		
Zinc	ZN	PMS	NEXION 300D MS	0.00		20	4.0	4/1/2011		

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

IEC DATE: 3/19/2012

SDG: US52

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.3219720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	10.2020000	0.0000000	0.1202730
Arsenic	188.98	0.0676681	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.9907570	1.0929900	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1617070	0.0000000	0.0000000	0.0509863
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	3.4090200	0.0000000	0.0000000	0.0000000	0.0000000	0.1642300	0.0000000	0.0000000	0.0094737
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0229989	0.0000000	-0.0409619	0.0000000	0.0000000	-0.0447283
Cobalt	228.62	0.0000000	0.0000000	0.2151410	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2203550	-0.0248240	0.0000000	-0.0717630
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7214060	0.0000000	0.0000000
Lead	220.35	-0.1395300	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-2.0199800	1.2549900	0.0665058
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.7927700	-1.2197100	0.0000000	0.5858900
Manganese	257.61	0.0071452	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.0059831
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0169987	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1147630
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.7375200	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0067168	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	6.5303700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.5520300	0.3828500	0.0000000	-0.1317480
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0292008	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0348510	0.0000000	0.0000000	0.2207060	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.2513600	0.0000000	0.1207740
Zinc	206.20	-0.0433063	0.0000000	0.0000000	0.0000000	0.0131448	0.0000000	0.0000000	-0.4942180	0.0000000	0.0000000

ES52..0515

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

IEC DATE: 3/19/2012

SDG: US52

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	8.7251100	0.0000000	0.0000000	0.0000000	1.2350800	0.0000000	19.6337000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.6262000	0.0000000	-2.0479800	0.0000000
Arsenic	188.98	0.0231456	0.0000000	1.4466600	0.0000000	0.0000000	0.0000000	-6.9568100	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0777109	0.0000000	0.0000000	0.0000000	0.0000000	0.4101220	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0114175	0.0000000	0.6735850	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0576937	-0.6515750	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0373272	0.0000000	0.1461890	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.2854520	0.0267072
Cobalt	228.62	0.0000000	0.0000000	-0.2518640	0.1618730	0.0000000	0.0000000	1.6854600	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0046107	0.0000000	0.1890580	0.0000000	0.0000000	0.0000000	0.2839350	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	5.2682800	0.0000000
Lead	220.35	0.0000000	0.0000000	-0.3516970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-3.2487800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0062324	0.0000000	0.0000000	0.0000000	-0.3367650	0.0000000	0.0000000	0.0000000	-0.0331334	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.9494270	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.9119740	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.2105810	0.1262930	0.0000000	0.0000000	0.0000000	-0.0406459	0.0000000	-0.2398130	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	271.7310000	0.0000000	0.0000000	373.0000000
Thallium	190.80	0.0000000	0.0000000	-3.8706100	0.0000000	0.0917790	0.0000000	0.5514110	0.0000000	1.6549500	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0344764	-0.7123520	-0.4958940	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	1.3260700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1562030	-0.7955440	0.0000000	0.0000000	0.0000000	0.6246810	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2669400	0.0000000	-0.1628880	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

US52 0915

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

ANALYSIS METHOD: ICP

ARI PREP CODE: TWC

PREPDATE: 5/7/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW-28S-050112	US52G	0.000	50.0	50.0
MW-28S-050112D	US52GDUP	0.000	50.0	50.0
MW-28S-050112S	US52GSPK	0.000	50.0	50.0
MW-32S-050112	US52H	0.000	50.0	50.0
MW-32DR-050112	US52I	0.000	50.0	50.0
PBW	US52MB1	0.000	50.0	50.0
LCSW	US52MB1SPK	0.000	50.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

ANALYSIS METHOD: ICP

ARI PREP CODE: WMN

PREPDATE: 5/7/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
PBW	US52MB2	0.000	50.0	50.0
LCSW	US52MB2SPK	0.000	50.0	50.0
MW-28S-050112	US52P	0.000	50.0	50.0
MW-28S-050112D	US52PDUP	0.000	50.0	50.0
MW-28S-050112S	US52PSPK	0.000	50.0	50.0
MW-32S-050112	US52Q	0.000	50.0	50.0
MW-32DR-050112	US52R	0.000	50.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

ANALYSIS METHOD: PMS

ARI PREP CODE: REN

PREPDATE: 5/8/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW-14-043012	US52A	0.000	50.0	25.0
MW-14-043012D	US52ADUP	0.000	50.0	25.0
MW-14-043012S	US52ASPK	0.000	50.0	25.0
MW-16-043012	US52B	0.000	50.0	25.0
MW-5S-050112	US52C	0.000	50.0	25.0
MW-11-050112	US52D	0.000	50.0	25.0
MW-12-050112	US52E	0.000	50.0	25.0
MW-19-050112	US52F	0.000	50.0	25.0
MW-28S-050112	US52G	0.000	50.0	25.0
MW-28S-050112D	US52GDUP	0.000	50.0	25.0
MW-28S-050112S	US52GSPK	0.000	50.0	25.0
MW-32S-050112	US52H	0.000	50.0	25.0
MW-32DR-050112	US52I	0.000	50.0	25.0
MW-14-043012	US52J	0.000	50.0	25.0
MW-14-043012D	US52JDUP	0.000	50.0	25.0
MW-14-043012S	US52JSPK	0.000	50.0	25.0
MW-16-043012	US52K	0.000	50.0	25.0
MW-5S-050112	US52L	0.000	50.0	25.0
MW-11-050112	US52M	0.000	50.0	25.0
PBW	US52MB1	0.000	50.0	25.0
LCSW	US52MB1SPK	0.000	50.0	25.0
PBW	US52MB2	0.000	50.0	25.0
LCSW	US52MB2SPK	0.000	50.0	25.0
MW-12-050112	US52N	0.000	50.0	25.0
MW-19-050112	US52O	0.000	50.0	25.0
MW-28S-050112	US52P	0.000	50.0	25.0
MW-28S-050112D	US52PDUP	0.000	50.0	25.0
MW-28S-050112S	US52PSPK	0.000	50.0	25.0
MW-32S-050112	US52Q	0.000	50.0	25.0
MW-32DR-050112	US52R	0.000	50.0	25.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US52

ANALYSIS METHOD: CVA

ARI PREP CODE: TWM

PREPDATE: 5/7/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW-28S-050112	US52G	0.000	20.0	20.0
MW-28S-050112D	US52GDUP	0.000	20.0	20.0
MW-28S-050112S	US52GSPK	0.000	20.0	20.0
PBW	US52MB1	0.000	20.0	20.0
LCSW	US52MB1SPK	0.000	20.0	20.0
PBW	US52MB2	0.000	20.0	20.0
LCSW	US52MB2SPK	0.000	20.0	20.0
MW-28S-050112	US52P	0.000	20.0	20.0
MW-28S-050112D	US52PDUP	0.000	20.0	20.0
MW-28S-050112S	US52PSPK	0.000	20.0	20.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 5/9/2012

SDG: US52 | RUNID: IP050971 | METHOD: ICP | END DATE: 5/9/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	08444			X					X					X		X	X	X		X											
S2	S2	1.00	08485																	X													
S4	S4	1.00	08531																														
S5	S5	1.00	08553			X					X					X		X	X			X											
ICV	ICV	1.00	08585			X					X					X		X	X	X		X											
ICB	ICB	1.00	09024			X					X					X		X	X	X		X											
CRI	CRII	1.00	09065			X					X					X		X	X	X		X											
ICSA	ICSAI	1.00	09111			X					X					X		X	X	X		X											
ICSAB	ICSABI	1.00	09152			X					X					X		X	X	X		X											
CCV	CCV1	1.00	09203			X					X					X		X	X	X		X											
CCB	CCB1	1.00	09241			X					X					X		X	X	X		X											
ZZZZZZ	UT36MB	2.00	09283																														
ZZZZZZ	US34MB	2.00	09324																														
ZZZZZZ	US34A	2.00	09365																														
ZZZZZZ	UT36B	2.00	09400																														
ZZZZZZ	UT36C	2.00	09440																														
ZZZZZZ	UT36D	2.00	09480																														
ZZZZZZ	UT36ADUP	2.00	09520																														
ZZZZZZ	UT36A	2.00	09555																														
ZZZZZZ	UT36ASPK	2.00	09594																														
ZZZZZZ	UT36MBSPK	2.00	10024																														
CCV	CCV2	1.00	10064			X					X					X		X	X	X		X											
CCB	CCB2	1.00	10100			X					X					X		X	X	X		X											
PBW	US52MB2	1.00	10141			X										X				X													
MW-28S-050112L	US52P-L	5.00	10183			X										X				X													
MW-28S-050112	US52P	1.00	10224			X										X				X													
MW-28S-050112D	US52PDUP	1.00	10265			X										X				X													
MW-28S-050112S	US52PSPK	1.00	10310			X										X				X													
MW-32S-050112	US52Q	1.00	10345			X										X				X													
MW-32DR-050112	US52R	1.00	10390			X										X				X													
MW-32S-050112	US52H	1.00	10432			X					X					X		X	X	X		X											
ZZZZZZ	UT36E	2.00	10473																														
LCSW	US52MB2SPK	1.00	10512			X										X				X													
CCV	CCV3	1.00	10551			X					X					X		X	X	X		X											
CCB	CCB3	1.00	10590			X					X					X		X	X	X		X											

FORM XIV

US52 09159

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 5/9/2012

SDG: US52 | RUNID: IP050971 | METHOD: ICP | END DATE: 5/9/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
PBW	US52MB1	1.00	11032																														
ZZZZZZ	ZZZZZZ	5.00	11073																														
MW-28S-050112	US52G	1.00	11114																														
MW-28S-050112D	US52GDUP	1.00	11155																														
MW-28S-050112S	US52GSPK	1.00	11201																														
ZZZZZZ	ZZZZZZ	1.00	11241																														
MW-32DR-050112	US52I	1.00	11281																														
ZZZZZZ	US61H	1.00	11322																														
ZZZZZZ	US61I	1.00	11363																														
LCSW	US52MB1SPK	1.00	11405																														
CCV	CCV4	1.00	11445			X					X					X		X	X	X		X										
CCB	CCB4	1.00	11483			X					X					X		X	X	X		X										
S2	S2	1.00	11541																	X												
CCV	CCV5	1.00	11564			X					X					X		X	X	X		X										
CCB	CCB5	1.00	12004			X					X					X		X	X	X		X										
ZZZZZZ	US61MB2	1.00	12050																														
ZZZZZZ	US61G-L	5.00	12091																														
ZZZZZZ	US61G	1.00	12132																														
ZZZZZZ	US61GDUP	1.00	12174																														
ZZZZZZ	US61GSPK	1.00	12215																														
ZZZZZZ	US61J	1.00	12255																														
ZZZZZZ	US61A	1.00	12300																														
ZZZZZZ	US61B	1.00	12341																														
ZZZZZZ	US61C	1.00	12382																														
ZZZZZZ	US61MB2SPK	1.00	12424																														
CCV	CCV6	1.00	12464			X					X					X		X	X	X		X										
CCB	CCB6	1.00	12504			X					X					X		X	X	X		X										
PBW	US52MB1	1.00	12545			X					X					X		X	X	X		X										
MW-28S-050112L	US52G-L	5.00	12590			X					X					X		X	X	X		X										
MW-28S-050112	US52G	1.00	13032			X					X					X		X	X	X		X										
MW-28S-050112D	US52GDUP	1.00	13073			X					X					X		X	X	X		X										
MW-28S-050112S	US52GSPK	1.00	13114			X					X					X		X	X	X		X										
MW-32DR-050112	US52I	1.00	13154			X					X					X		X	X	X		X										
ZZZZZZ	US61H	1.00	13195																														
ZZZZZZ	US61I	1.00	13241																														

FORM XIV

US52 05/09/2012

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 5/9/2012

SDG: US52 | RUNID: IP050971 | METHOD: ICP | END DATE: 5/9/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
LCSW	US52MB1SPK	1.00	13282			X					X					X		X	X	X		X											
CCV	CCV7	1.00	13322			X					X					X		X	X	X		X											
CCB	CCB7	1.00	13362			X					X					X		X	X	X		X											
ZZZZZZ	US61MB1	1.00	13403																														
ZZZZZZ	ZZZZZZ	5.00	13445																														
ZZZZZZ	US61D	1.00	13490																														
ZZZZZZ	US61DDUP	1.00	13531																														
ZZZZZZ	US61DSPK	1.00	13572																														
ZZZZZZ	ZZZZZZ	1.00	14011																														
ZZZZZZ	US61MB1SPK	1.00	14045																														
CRI	CRIF	1.00	14091			X					X					X		X	X	X		X											
ICSA	ICSAF	1.00	14133			X					X					X		X	X	X		X											
ICSAB	ICSABF	1.00	14173			X					X					X		X	X	X		X											
CCV	CCV8	1.00	14222			X					X					X		X	X	X		X											
CCB	CCB8	1.00	14262			X					X					X		X	X	X		X											

US52_09452

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/14/2012

SDG: US52 | RUNID: MS051411 | METHOD: PMS | END DATE: 5/14/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	12370		X		X			X		X		X	X								X	X	X	X				X			X
S1	S1	1.00	12410		X		X			X		X		X	X								X	X	X	X				X			X
S2	S2	1.00	12450		X		X			X		X		X	X								X	X	X	X				X			X
S3	S3	1.00	12490		X		X			X		X		X	X								X	X	X	X				X			X
S4	S4	1.00	12540		X		X			X		X		X	X								X	X	X	X				X			X
S5	S5	1.00	12590																														
ZZZZZZ	Rinse sampl	1.00	13060																														
S0	S0	1.00	13150		X		X			X		X		X	X								X	X	X	X				X			X
ICV	MICV	1.00	13190		X		X			X		X		X	X								X	X	X	X				X			X
ICB	ICB	1.00	13260		X		X			X		X		X	X								X	X	X	X				X			X
CCV	MCCV1	1.00	13300		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB1	1.00	13360		X		X			X		X		X	X								X	X	X	X				X			X
ZZZZZZ	DI	1.00	13400																														
CRI	MCRI	1.00	13440		X		X			X		X		X	X								X	X	X	X				X			X
ICSA	ICSAI	1.00	13490		X		X			X		X		X	X								X	X	X	X				X			X
ICSAB	ICSABI	1.00	13550		X		X			X		X		X	X								X	X	X	X				X			X
ZZZZZZ	B1	1.00	14000																														
ZZZZZZ	B2	1.00	14050																														
ZZZZZZ	ERAP197-500	10.00	14110																														
CCV	MCCV2	1.00	14180		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB2	1.00	14240		X		X			X		X		X	X								X	X	X	X				X			X
S0	S0	1.00	14340		X		X			X		X		X	X								X	X	X	X				X			X
CCV	MCCV3	1.00	14380		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB3	1.00	14440		X		X			X		X		X	X								X	X	X	X				X			X
ZZZZZZ	US15MB1	2.00	14490																														
ZZZZZZ	US15MB2	2.00	14530																														
ZZZZZZ	US15MB2SPK	2.00	14570																														
ZZZZZZ	US15MB1SPK	2.00	15010																														
ZZZZZZ	US15A-L	10.00	15050																														
ZZZZZZ	US15A	2.00	15090																														
ZZZZZZ	US15ADUP	2.00	15130																														
ZZZZZZ	US15ASPK	2.00	15170																														
ZZZZZZ	US15B	10.00	15220																														
ZZZZZZ	US15H	10.00	15270																														
CCV	MCCV4	1.00	15340		X		X			X		X		X	X								X	X	X	X				X			X

FORM XIV

US52 09152

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/14/2012

SDG: US52 | RUNID: MS051411 | METHOD: PMS | END DATE: 5/14/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
CCB	CCB4	1.00	15410		X		X			X		X		X	X								X	X	X	X				X			X
ZZZZZZ	US15MB2	2.00	16000																														
ZZZZZZ	US15G-L	10.00	16040																														
ZZZZZZ	US15G	2.00	16080																														
ZZZZZZ	US15GDUP	2.00	16130																														
ZZZZZZ	US15GSPK	2.00	16170																														
ZZZZZZ	LR200	1.00	16210																														
ZZZZZZ	B3	1.00	16280																														
ZZZZZZ	B4	1.00	16360																														
CCV	MCCV5	1.00	16400		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB5	1.00	16470		X		X			X		X		X	X								X	X	X	X				X			X
PBW	US52MB1	2.00	16510		X		X			X		X		X									X	X	X	X				X			
PBW	US52MB2	2.00	16560		X		X			X		X		X	X								X	X	X	X				X			X
LCSW	US52MB2SPK	2.00	17000		X		X			X		X		X	X								X	X	X	X				X			X
LCSW	US52MB1SPK	2.00	17040		X		X			X		X		X	X								X	X	X	X				X			X
MW-14-043012L	US52A-L	10.00	17080		X		X							X	X																		X
MW-14-043012	US52A	2.00	17120		X									X	X																		X
MW-14-043012D	US52ADUP	2.00	17160		X									X	X																		X
MW-14-043012S	US52ASPK	2.00	17200		X									X	X																		X
ZZZZZZ	ZZZZZZ	2.00	17240																														
ZZZZZZ	B5	1.00	17310																														
CCV	MCCV6	1.00	17350		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB6	1.00	17420		X		X			X		X		X	X								X	X	X	X				X			X
MW-28S-050112L	US52G-L	10.00	17460		X		X			X		X		X	X								X	X	X	X				X			X
MW-28S-050112	US52G	2.00	17510		X		X			X		X		X	X								X	X	X	X				X			
MW-28S-050112D	US52GDUP	2.00	17550		X		X			X		X		X	X								X	X	X	X				X			
MW-28S-050112S	US52GSPK	2.00	17590		X		X			X		X		X	X								X	X	X	X				X			
ZZZZZZ	ZZZZZZ	2.00	18030																														
MW-16-043012	US52B	2.00	18070				X																										
MW-5S-050112	US52C	2.00	18110				X																										
MW-11-050112	US52D	2.00	18150																														
MW-12-050112	US52E	2.00	18190				X																										
MW-19-050112	US52F	2.00	18260																														
CCV	MCCV7	1.00	18320		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB7	1.00	18390		X		X			X		X		X	X								X	X	X	X				X			X

FORM XIV

SDG: 2550

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/14/2012

SDG: US52 | RUNID: MS051411 | METHOD: PMS | END DATE: 5/14/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
ZZZZZZ	ZZZZZZ	10.00	18430																														
MW-14-043012	US52J	2.00	18480		X									X	X																		X
MW-14-043012D	US52JDUP	2.00	18520		X									X	X																		X
MW-14-043012S	US52JSPK	2.00	18560		X									X	X																		X
ZZZZZZ	ZZZZZZ	2.00	19000																														
MW-32S-050112	US52H	2.00	19040		X		X							X	X																		X
MW-32DR-050112	US52I	2.00	19080		X		X							X	X																		X
MW-16-043012	US52K	2.00	19120				X																										
MW-5S-050112	US52L	2.00	19180				X																										
CCV	MCCV8	1.00	19250		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB8	1.00	19320		X		X			X		X		X	X								X	X	X	X				X			X
MW-28S-050112L	US52P-L	10.00	19360		X		X			X		X		X	X								X	X	X	X				X			X
MW-28S-050112	US52P	2.00	19400		X		X			X		X		X	X								X	X	X	X				X			X
MW-28S-050112D	US52PDUP	2.00	19440		X		X			X		X		X	X								X	X	X	X				X			X
MW-28S-050112S	US52PSPK	2.00	19480		X		X			X		X		X	X								X	X	X	X				X			X
ZZZZZZ	ZZZZZZ	2.00	19530																														
MW-11-050112	US52M	2.00	19570																														
MW-12-050112	US52N	2.00	20010				X																										
MW-19-050112	US52O	2.00	20050																														
MW-32S-050112	US52Q	2.00	20090		X		X							X	X																		X
MW-32DR-050112	US52R	2.00	20150		X		X							X	X																		X
CCV	MCCV9	1.00	20220		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB9	1.00	20290		X		X			X		X		X	X								X	X	X	X				X			X

ESS 2 : 2015 : 0150

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/16/2012

SDG: US52 | RUNID: MS051611 METHOD: PMS | END DATE: 5/16/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10480				X								X																		X
S1	S1	1.00	10520				X								X																		X
S2	S2	1.00	10560				X								X																		X
S3	S3	1.00	11010				X								X																		X
S4	S4	1.00	11050				X								X																		X
S5	S5	1.00	11110																														
ZZZZZZ	Rinse sampl	1.00	11180																														
S0	S0	1.00	11260				X								X																		X
ICV	MICV	1.00	11300				X								X																		X
ICB	ICB	1.00	11360				X								X																		X
CCV	MCCV1	1.00	11400				X								X																		X
CCB	CCB1	1.00	11460				X								X																		X
ZZZZZZ	ZZZZZZ	1.00	11510																														
S0	S0	1.00	11580				X								X																		X
CCV	MCCV2	1.00	12020				X								X																		X
CCB	CCB2	1.00	12080				X								X																		X
CRI	MCRI	1.00	12130				X								X																		X
ICSA	ICSAI	1.00	12170				X								X																		X
ICSAB	ICSABI	1.00	12230				X								X																		X
ZZZZZZ	LR200	1.00	12300																														
ZZZZZZ	B1	1.00	12390																														
ZZZZZZ	B2	1.00	12440																														
CCV	MCCV3	1.00	12500				X								X																		X
CCB	CCB3	1.00	12570				X								X																		X
PBW	US52MB1	2.00	13010												X																		X
ZZZZZZ	US27C	2.00	13050																														
ZZZZZZ	US15B	2.00	13090																														
ZZZZZZ	US15H	2.00	13160																														
MW-28S-050112	US52G	2.00	13230																														
ZZZZZZ	B3	1.00	13300																														
ZZZZZZ	B4	1.00	13350																														
ZZZZZZ	BLANK	1.00	13410																														
CCV	MCCV4	1.00	13460				X								X																		X
CCB	CCB4	1.00	13530				X								X																		X
ZZZZZZ	AIR	1.00	14040																														

FORM XIV

US52 05162012

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/16/2012

SDG: US52 | RUNID: MS051611 | METHOD: PMS | END DATE: 5/16/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	14110				X								X																		X
CCV	MCCV5	1.00	14150				X								X																		X
CCB	CCB5	1.00	14210				X								X																		X
MW-14-043012L	US52A-L	10.00	14280		X		X							X	X																		X
MW-14-043012L	US52A-L	500.00	14340		X		X							X	X																		X
MW-14-043012	US52A	100.00	14400				X																										
MW-14-043012D	US52ADUP	100.00	14450				X																										
MW-14-043012S	US52ASPK	100.00	14490				X																										
MW-11-050112	US52D	10.00	14530				X																										
MW-19-050112	US52F	10.00	14580				X																										
MW-11-050112	US52M	10.00	15030				X																										
MW-19-050112	US52O	10.00	15080				X																										
CCV	CCV6	1.00	15140				X								X																		X
CCB	CCB6	1.00	15200				X								X																		X

US52 : 05/16/12

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/17/2012

SDG: US52 | RUNID: MS051711 | METHOD: PMS | END DATE: 5/17/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	12030				X																										X
S1	S1	1.00	12070				X																										X
S2	S2	1.00	12110				X																										X
S3	S3	1.00	12160				X																										X
S4	S4	1.00	12200				X																										X
S5	S5	1.00	12270																														
ZZZZZZ	Rinse sampl	1.00	12330																														
ICV	MICV	1.00	12400				X																										X
ICB	ICB	1.00	12470				X																										X
CCV	MCCV1	1.00	12510				X																										X
CCB	CCB1	1.00	12570				X																										X
CRI	MCRI	1.00	13010				X																										X
ICSA	ICSAI	1.00	13060				X																										X
ICSAB	ICSABI	1.00	13120				X																										X
ZZZZZZ	LR200	1.00	13190																														
ZZZZZZ	B1	1.00	13260																														
ZZZZZZ	B2	1.00	13310																														
CCV	MCCV2	1.00	13360				X																										X
CCB	CCB2	1.00	13430				X																										X
ZZZZZZ	US27C	2.00	13490																														
ZZZZZZ	B2	1.00	13530																														
ZZZZZZ	NEX.BLANK	1.00	13570																														
CCV	MCCV3	1.00	14020				X																										X
CCB	CCB3	1.00	14080				X																										X
MW-14-043012L	US52J-L	10.00	14250		X		X							X	X																		X
ZZZZZZ	ZZZZZZ	2.00	14320																														
MW-14-043012L	US52J-L	500.00	14390		X		X							X	X																		X
MW-14-043012	US52J	100.00	14430				X																										
MW-14-043012D	US52JDUP	100.00	14470				X																										
MW-14-043012S	US52JSPK	100.00	14510				X																										
ZZZZZZ	B3	1.00	14550																														
CCV	MCCV4	1.00	15020				X																										X
CCB	CCB4	1.00	15090				X																										X
MW-28S-050112L	US52G-L	10.00	15160		X		X			X		X		X	X								X	X	X	X				X			X
MW-28S-050112	US52G	2.00	15200																														X

FORM XIV

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/17/2012

SDG: US52 | RUNID: MS051711 | METHOD: PMS | END DATE: 5/17/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
MW-28S-050112D	US52GDUP	2.00	15240																														
MW-28S-050112S	US52GSPK	2.00	15290																														X
ZZZZZZ	ZZZZZZ	2.00	15330																														
MW-28S-050112D	US52GDUP	2.00	15420																														X
ZZZZZZ	B5	1.00	15490																														
CCV	MCCV5	1.00	15530				X																										X
CCB	CCB5	1.00	16000				X																										X

US52 : 69468

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: CETAC MERCURY | START DATE: 5/8/2012

SDG: US52 | RUNID: HG050802 | METHOD: CVA | END DATE: 5/8/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10470														X																
S0.1	S0.1	1.00	10484														X																
S0.5	S0.5	1.00	10501														X																
S1	S1	1.00	10515														X																
S2	S2	1.00	10533														X																
S5	S5	1.00	10551														X																
S10	S10	1.00	10564														X																
ICV	AICV	1.00	10595														X																
ICB	ICB	1.00	11013														X																
CCV	ACCV1	1.00	11031														X																
CCB	CCB1	1.00	11045														X																
CRA	CRA	1.00	11062														X																
ZZZZZZ	US15MB1	1.00	11080																														
ZZZZZZ	US15MB1SPK	1.00	11093																														
ZZZZZZ	US15A	1.00	11111																														
ZZZZZZ	US15ADUP	1.00	11125																														
ZZZZZZ	US15ASPK	1.00	11142																														
ZZZZZZ	US15B	1.00	11160																														
ZZZZZZ	US15MB2	1.00	11174																														
ZZZZZZ	US15MB2SPK	1.00	11192																														
ZZZZZZ	US15G	1.00	11205																														
CCV	ACCV2	1.00	11223														X																
CCB	CCB2	1.00	11241														X																
ZZZZZZ	US15GDUP	1.00	11255																														
ZZZZZZ	US15GSPK	1.00	11273																														
ZZZZZZ	US15H	1.00	11290																														
PBW	US52MB1	1.00	11304														X																
LCSW	US52MB1SPK	1.00	11321														X																
MW-28S-050112	US52G	1.00	11335														X																
MW-28S-050112D	US52GDUP	1.00	11353														X																
MW-28S-050112S	US52GSPK	1.00	11370														X																
PBW	US52MB2	1.00	11384														X																
LCSW	US52MB2SPK	1.00	11402														X																
CCV	ACCV3	1.00	11420														X																
CCB	CCB3	1.00	11434														X																

FORM XIV

US52.0068

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: CETAC MERCURY | START DATE: 5/8/2012

SDG: US52 | RUNID: HG050802 | METHOD: CVA | END DATE: 5/8/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
MW-28S-050112	US52P	1.00	11452														X																
MW-28S-050112D	US52PDUP	1.00	11470														X																
MW-28S-050112S	US52PSPK	1.00	11483														X																
ZZZZZZ	US61MB1	1.00	11501																														
ZZZZZZ	US61MB1SPK	1.00	11514																														
ZZZZZZ	US61A	1.00	11532																														
ZZZZZZ	US61B	1.00	11550																														
ZZZZZZ	US61C	1.00	11563																														
ZZZZZZ	US61D	1.00	11581																														
ZZZZZZ	US61DDUP	1.00	11595																														
CCV	ACCV4	1.00	12013														X																
CCB	CCB4	1.00	12031														X																

US52 : 2S91705

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US61

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
MW-30S-050212	US61A	12-7884	
PBW	US61MB1	12-7884	
LCSW	US61MB1SPK	12-7884	
MW-29S-050212	US61B	12-7885	
MW-31S-050212	US61C	12-7886	
DUP-050212-1	US61D	12-7887	
DUP-050212-1D	US61DDUP	12-7887	
DUP-050212-1S	US61DSPK	12-7887	
MW-30S-050212	US61G	12-7890	
MW-30S-050212D	US61GDUP	12-7890	
MW-30S-050212S	US61GSPK	12-7890	
MW-29S-050212	US61H	12-7891	
PBW	US61MB2	12-7891	
LCSW	US61MB2SPK	12-7891	
MW-31S-050212	US61I	12-7892	
DUP-050212-1	US61J	12-7893	

Were ICP interelement corrections applied ?	Yes/No	YES
Were ICP background corrections applied ?	Yes/No	YES
If yes - were raw data generated before application of background corrections ?	Yes/No	NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: _____ Name: Jay Kuhn

Date: 5/10/12 Title: Inorganics Director

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-30S-050212
SAMPLE

Lab Sample ID: US61A
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/04/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/07/12	6020A	05/08/12	**7440-38-2**	**Arsenic**	0.2	**9.5**	
200.8	05/07/12	6020A	05/08/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-43-9	Cadmium	0.1	0.1	U
3010A	05/04/12	6010C	05/09/12	**7440-70-2**	**Calcium**	50	**45,000**	
200.8	05/07/12	6020A	05/08/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/07/12	6020A	05/11/12	7440-50-8	Copper	0.5	0.5	U
3010A	05/04/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**7,040**	
200.8	05/07/12	6020A	05/08/12	7439-92-1	Lead	0.1	0.1	U
3010A	05/04/12	6010C	05/09/12	**7439-95-4**	**Magnesium**	50	**9,660**	
3010A	05/04/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**377**	
7470A	05/04/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	**7440-02-0**	**Nickel**	0.5	**0.8**	
3010A	05/04/12	6010C	05/09/12	**7440-09-7**	**Potassium**	500	**6,470**	
200.8	05/07/12	6020A	05/08/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/04/12	6010C	05/09/12	**7440-23-5**	**Sodium**	500	**10,600**	
200.8	05/07/12	6020A	05/08/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-66-6	Zinc	4	4	U

Calculated Hardness (mg-CaCO3/L): 150

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-29S-050212
SAMPLE

Lab Sample ID: US61B
LIMS ID: 12-7885
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/04/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/07/12	6020A	05/08/12	**7440-38-2**	**Arsenic**	0.2	**3.4**	
200.8	05/07/12	6020A	05/08/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-43-9	Cadmium	0.1	0.1	U
3010A	05/04/12	6010C	05/09/12	**7440-70-2**	**Calcium**	50	**48,000**	
200.8	05/07/12	6020A	05/08/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/07/12	6020A	05/11/12	**7440-50-8**	**Copper**	0.5	**0.5**	
3010A	05/04/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**9,700**	
200.8	05/07/12	6020A	05/08/12	7439-92-1	Lead	0.1	0.1	U
3010A	05/04/12	6010C	05/09/12	**7439-95-4**	**Magnesium**	50	**11,200**	
3010A	05/04/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**377**	
7470A	05/04/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	**7440-02-0**	**Nickel**	0.5	**0.8**	
3010A	05/04/12	6010C	05/09/12	**7440-09-7**	**Potassium**	500	**7,680**	
200.8	05/07/12	6020A	05/08/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/04/12	6010C	05/09/12	**7440-23-5**	**Sodium**	500	**32,400**	
200.8	05/07/12	6020A	05/08/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-66-6	Zinc	4	4	U

Calculated Hardness (mg-CaCO3/L): 170

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-31S-050212
SAMPLE

Lab Sample ID: US61C
LIMS ID: 12-7886
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/04/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/07/12	6020A	05/08/12	**7440-38-2**	**Arsenic**	0.2	**1.5**	
200.8	05/07/12	6020A	05/08/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-43-9	Cadmium	0.1	0.1	U
3010A	05/04/12	6010C	05/09/12	**7440-70-2**	**Calcium**	50	**68,000**	
200.8	05/07/12	6020A	05/08/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/07/12	6020A	05/11/12	**7440-50-8**	**Copper**	0.5	**0.9**	
3010A	05/04/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**7,510**	
200.8	05/07/12	6020A	05/08/12	7439-92-1	Lead	0.1	0.1	U
3010A	05/04/12	6010C	05/09/12	**7439-95-4**	**Magnesium**	50	**6,390**	
3010A	05/04/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**191**	
7470A	05/04/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	**7440-02-0**	**Nickel**	0.5	**2.0**	
3010A	05/04/12	6010C	05/09/12	**7440-09-7**	**Potassium**	500	**5,480**	
200.8	05/07/12	6020A	05/08/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/04/12	6010C	05/09/12	**7440-23-5**	**Sodium**	500	**6,130**	
200.8	05/07/12	6020A	05/08/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-66-6	Zinc	4	4	U

Calculated Hardness (mg-CaCO3/L): 200

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: DUP-050212-1
SAMPLE

Lab Sample ID: US61D
LIMS ID: 12-7887
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/07/12	6020A	05/08/12	**7440-36-0**	**Antimony**	0.2	**0.2**	
200.8	05/07/12	6020A	05/08/12	**7440-38-2**	**Arsenic**	0.2	**1.3**	
200.8	05/07/12	6020A	05/08/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	**7440-50-8**	**Copper**	0.5	**8.1**	
200.8	05/07/12	6020A	05/08/12	7439-92-1	Lead	0.1	0.1	U
7470A	05/04/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	**7440-02-0**	**Nickel**	0.5	**15.6**	
200.8	05/07/12	6020A	05/08/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: DUP-050212-1
MATRIX SPIKE

Lab Sample ID: US61D
LIMS ID: 12-7887
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Antimony	6020A	0.230	24.7	25.0	97.9%	
Arsenic	6020A	1.32	26.8	25.0	102%	
Beryllium	6020A	0.200 U	24.4	25.0	97.6%	
Cadmium	6020A	0.100 U	23.6	25.0	94.4%	
Chromium	6020A	0.500 U	23.1	25.0	92.4%	
Copper	6020A	8.11	32.7	25.0	98.4%	
Lead	6020A	0.100 U	24.5	25.0	98.0%	
Mercury	7470A	0.100 U	1.03	1.00	103%	
Nickel	6020A	15.6	40.2	25.0	98.4%	
Selenium	6020A	0.500 U	74.0	80.0	92.5%	
Silver	6020A	0.200 U	23.1	25.0	92.4%	
Thallium	6020A	0.200 U	23.9	25.0	95.6%	
Zinc	6020A	4.00 U	72.0	80.0	90.0%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked
NR-Not Recovered

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: DUP-050212-1
DUPLICATE

Lab Sample ID: US61D
LIMS ID: 12-7887
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Antimony	6020A	0.2	0.2	0.0%	+/- 0.2	L
Arsenic	6020A	1.3	1.4	7.4%	+/- 20%	
Beryllium	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Cadmium	6020A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Chromium	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	6020A	8.1	6.5	21.9%	+/- 20%	*
Lead	6020A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Mercury	7470A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Nickel	6020A	15.6	12.7	20.5%	+/- 20%	*
Selenium	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Silver	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Thallium	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	6020A	4 U	4 U	0.0%	+/- 4	L

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: LAB CONTROL**

Lab Sample ID: US61LCS
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Aluminum	6010C	2020	2000	101%	
Arsenic	6020A	25.8	25.0	103%	
Beryllium	6020A	24.5	25.0	98.0%	
Cadmium	6020A	24.7	25.0	98.8%	
Calcium	6010C	9900	10000	99.0%	
Chromium	6020A	24.7	25.0	98.8%	
Copper	6020A	26.7	25.0	107%	
Iron	6010C	2010	2000	100%	
Lead	6020A	25.9	25.0	104%	
Magnesium	6010C	9690	10000	96.9%	
Manganese	6010C	486	500	97.2%	
Mercury	7470A	2.02	2.00	101%	
Nickel	6020A	25.6	25.0	102%	
Potassium	6010C	9880	10000	98.8%	
Selenium	6020A	77.7	80.0	97.1%	
Silver	6020A	24.5	25.0	98.0%	
Sodium	6010C	9320	10000	93.2%	
Thallium	6020A	25.0	25.0	100%	
Zinc	6020A	76.6	80.0	95.8%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: US61MB
LIMS ID: 12-7884
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
3010A	05/04/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/07/12	6020A	05/08/12	7440-38-2	Arsenic	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-43-9	Cadmium	0.1	0.1	U
3010A	05/04/12	6010C	05/09/12	7440-70-2	Calcium	50	50	U
200.8	05/07/12	6020A	05/08/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/07/12	6020A	05/09/12	7440-50-8	Copper	0.5	0.5	U
3010A	05/04/12	6010C	05/09/12	7439-89-6	Iron	50	50	U
200.8	05/07/12	6020A	05/08/12	7439-92-1	Lead	0.1	0.1	U
3010A	05/04/12	6010C	05/09/12	7439-95-4	Magnesium	50	50	U
3010A	05/04/12	6010C	05/09/12	7439-96-5	Manganese	1	1	U
7470A	05/04/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	7440-02-0	Nickel	0.5	0.5	U
3010A	05/04/12	6010C	05/09/12	7440-09-7	Potassium	500	500	U
200.8	05/07/12	6020A	05/08/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7440-22-4	Silver	0.2	0.2	U
3010A	05/04/12	6010C	05/09/12	7440-23-5	Sodium	500	500	U
200.8	05/07/12	6020A	05/08/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

US52 : 00479

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
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Sample ID: MW-30S-050212
SAMPLE

Lab Sample ID: US61G
LIMS ID: 12-7890
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/04/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/07/12	6020A	05/08/12	7440-36-0	Antimony	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	**7440-38-2**	**Arsenic**	0.2	**9.6**	
200.8	05/07/12	6020A	05/08/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7440-50-8	Copper	0.5	0.5	U
6010C	05/04/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**6,800**	
200.8	05/07/12	6020A	05/08/12	7439-92-1	Lead	0.1	0.1	U
6010C	05/04/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**366**	
7470A	05/04/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	**7440-02-0**	**Nickel**	0.5	**0.5**	
200.8	05/07/12	6020A	05/08/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
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Sample ID: MW-29S-050212
SAMPLE

Lab Sample ID: US61H
LIMS ID: 12-7891
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/04/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/07/12	6020A	05/08/12	**7440-36-0**	**Antimony**	0.2	**0.3**	
200.8	05/07/12	6020A	05/08/12	**7440-38-2**	**Arsenic**	0.2	**3.5**	
200.8	05/07/12	6020A	05/08/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/07/12	6020A	05/11/12	**7440-50-8**	**Copper**	0.5	**1.9**	
6010C	05/04/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**9,300**	
200.8	05/07/12	6020A	05/08/12	7439-92-1	Lead	0.1	0.1	U
6010C	05/04/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**366**	
7470A	05/04/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	**7440-02-0**	**Nickel**	0.5	**0.6**	
200.8	05/07/12	6020A	05/08/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
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Sample ID: MW-31S-050212
SAMPLE

Lab Sample ID: US61I
LIMS ID: 12-7892
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/04/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/07/12	6020A	05/08/12	**7440-36-0**	**Antimony**	0.2	**0.2**	
200.8	05/07/12	6020A	05/08/12	**7440-38-2**	**Arsenic**	0.2	**1.3**	
200.8	05/07/12	6020A	05/08/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/07/12	6020A	05/11/12	**7440-50-8**	**Copper**	0.5	**0.5**	
6010C	05/04/12	6010C	05/09/12	**7439-89-6**	**Iron**	50	**7,070**	
200.8	05/07/12	6020A	05/08/12	7439-92-1	Lead	0.1	0.1	U
6010C	05/04/12	6010C	05/09/12	**7439-96-5**	**Manganese**	1	**185**	
7470A	05/04/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	**7440-02-0**	**Nickel**	0.5	**1.0**	
200.8	05/07/12	6020A	05/08/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
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Sample ID: DUP-050212-1
SAMPLE

Lab Sample ID: US61J
LIMS ID: 12-7893
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/07/12	6020A	05/08/12	**7440-36-0**	**Antimony**	0.2	**0.2**	
200.8	05/07/12	6020A	05/08/12	**7440-38-2**	**Arsenic**	0.2	**1.2**	
200.8	05/07/12	6020A	05/08/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/07/12	6020A	05/11/12	**7440-50-8**	**Copper**	0.5	**0.9**	
200.8	05/07/12	6020A	05/08/12	7439-92-1	Lead	0.1	0.1	U
7470A	05/04/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	**7440-02-0**	**Nickel**	0.5	**1.0**	
200.8	05/07/12	6020A	05/08/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

US52:00483

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS **Sample ID: MW-30S-050212**
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Lab Sample ID: US61G
LIMS ID: 12-7890
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample		Spike	Spike Added	% Recovery	Q
Aluminum	6010C	50.0	U	2,080	2,000	104%	
Antimony	6020A	0.200	U	23.4	25.0	93.6%	
Arsenic	6020A	9.57		34.9	25.0	101%	
Beryllium	6020A	0.200	U	22.8	25.0	91.2%	
Cadmium	6020A	0.100	U	22.8	25.0	91.2%	
Chromium	6020A	0.500	U	21.7	25.0	86.8%	
Copper	6020A	0.500	U	24.4	25.0	97.6%	
Iron	6010C	6,800		8,750	2,000	97.5%	
Lead	6020A	0.100	U	23.4	25.0	93.6%	
Manganese	6010C	366		855	500	97.8%	
Mercury	7470A	0.100	U	1.07	1.00	107%	
Nickel	6020A	0.520		24.3	25.0	95.1%	
Selenium	6020A	0.500	U	74.0	80.0	92.5%	
Silver	6020A	0.200	U	22.7	25.0	90.8%	
Thallium	6020A	0.200	U	22.9	25.0	91.6%	
Zinc	6020A	4.00	U	70.5	80.0	88.1%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 11

Sample ID: MW-30S-050212

Lab Sample ID: US61G
LIMS ID: 12-7890
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Aluminum	6010C	50 U	50 U	0.0%	+/- 50	L
Antimony	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Arsenic	6020A	9.6	9.6	0.0%	+/- 20%	
Beryllium	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Cadmium	6020A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Chromium	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Iron	6010C	6,800	6,710	1.3%	+/- 20%	
Lead	6020A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Manganese	6010C	366	363	0.8%	+/- 20%	
Mercury	7470A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Nickel	6020A	0.5	0.5	0.0%	+/- 0.5	L
Selenium	6020A	0.5 U	0.5 U	0.0%	+/- 0.5	L
Silver	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Thallium	6020A	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	6020A	4 U	4 U	0.0%	+/- 4	L

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS **Sample ID: LAB CONTROL**

Lab Sample ID: US61LCS
LIMS ID: 12-7891
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Aluminum	6010C	2100	2000	105%	
Antimony	6020A	25.4	25.0	102%	
Arsenic	6020A	26.2	25.0	105%	
Beryllium	6020A	24.8	25.0	99.2%	
Cadmium	6020A	24.6	25.0	98.4%	
Chromium	6020A	24.8	25.0	99.2%	
Copper	6020A	25.6	25.0	102%	
Iron	6010C	2060	2000	103%	
Lead	6020A	26.2	25.0	105%	
Manganese	6010C	504	500	101%	
Mercury	7470A	2.0	2.0	100%	
Nickel	6020A	25.6	25.0	102%	
Selenium	6020A	78.6	80.0	98.2%	
Silver	6020A	25.2	25.0	101%	
Thallium	6020A	25.4	25.0	102%	
Zinc	6020A	79	80	98.8%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

US52:00486

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS **Sample ID: METHOD BLANK**

Lab Sample ID: US61MB
LIMS ID: 12-7891
Matrix: Water
Data Release Authorized:
Reported: 05/16/12

QC Report No: US61-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
6010C	05/04/12	6010C	05/09/12	7429-90-5	Aluminum	50	50	U
200.8	05/07/12	6020A	05/08/12	7440-36-0	Antimony	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-38-2	Arsenic	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-41-7	Beryllium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-43-9	Cadmium	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	7440-47-3	Chromium	0.5	0.5	U
200.8	05/07/12	6020A	05/09/12	7440-50-8	Copper	0.5	0.5	U
6010C	05/04/12	6010C	05/09/12	7439-89-6	Iron	50	50	U
200.8	05/07/12	6020A	05/08/12	7439-92-1	Lead	0.1	0.1	U
6010C	05/04/12	6010C	05/09/12	7439-96-5	Manganese	1	1	U
7470A	05/04/12	7470A	05/08/12	7439-97-6	Mercury	0.1	0.1	U
200.8	05/07/12	6020A	05/08/12	7440-02-0	Nickel	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7782-49-2	Selenium	0.5	0.5	U
200.8	05/07/12	6020A	05/08/12	7440-22-4	Silver	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-28-0	Thallium	0.2	0.2	U
200.8	05/07/12	6020A	05/08/12	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US61

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Aluminum	AL	ICP	IP050971	2000.0	2009.51	**100.5**	2000.0	1981.26	**99.1**	1943.43	**97.2**	1991.90	**99.6**	1980.13	**99.0**	1938.01	**96.9**
Antimony	SB	PMS	MS050811	50.0	48.40	**96.8**	50.0	48.30	**96.6**	47.65	**95.3**	49.25	**98.5**	48.36	**96.7**	48.13	**96.3**
Arsenic	AS	PMS	MS050811	50.0	48.82	**97.6**	50.0	48.65	**97.3**	47.69	**95.4**	48.28	**96.6**	48.36	**96.7**	47.79	**95.6**
Beryllium	BE	PMS	MS050811	50.0	50.27	**100.5**	50.0	50.45	**100.9**	49.71	**99.4**	50.53	**101.1**	49.51	**99.0**	48.46	**96.9**
Cadmium	CD	PMS	MS050811	50.0	49.44	**98.9**	50.0	49.34	**98.7**	48.82	**97.6**	49.38	**98.8**	48.80	**97.6**	49.21	**98.4**
Calcium	CA	ICP	IP050971	2000.0	2066.48	**103.3**	2000.0	2037.69	**101.9**	2026.33	**101.3**	2056.37	**102.8**	2035.07	**101.8**	2008.19	**100.4**
Chromium	CR	PMS	MS050811	50.0	49.51	**99.0**	50.0	49.22	**98.4**	48.15	**96.3**	47.96	**95.9**	48.14	**96.3**	49.27	**98.5**
Copper	CU	PMS	MS050811	50.0	50.35	**100.7**	50.0	50.28	**100.6**	49.38	**98.8**	48.60	**97.2**	53.06	**106.1**	49.78	**99.6**
Iron	FE	ICP	IP050971	2000.0	2056.57	**102.8**	2000.0	2027.05	**101.4**	2000.36	**100.0**	2020.68	**101.0**	1999.45	**100.0**	1956.52	**97.8**
Lead	PB	PMS	MS050811	50.0	49.52	**99.0**	50.0	49.49	**99.0**	48.95	**97.9**	49.40	**98.8**	49.29	**98.6**	49.60	**99.2**
Magnesium	MG	ICP	IP050971	2000.0	2029.99	**101.5**	2000.0	1992.51	**99.6**	1974.69	**98.7**	2012.89	**100.6**	1989.48	**99.5**	1962.01	**98.1**
Manganese	MN	ICP	IP050971	1000.0	950.76	**95.1**	1000.0	925.13	**92.5**	951.19	**95.1**	925.33	**92.5**	899.81	**90.0**	963.46	**96.3**
Mercury	HG	CVA	HG050802	8.0	7.98	**99.8**	4.0	4.09	**102.3**	4.21	**105.3**	4.06	**101.5**	4.22	**105.5**	4.21	**105.3**
Nickel	NI	PMS	MS050811	50.0	48.53	**97.1**	50.0	49.66	**99.3**	48.47	**96.9**	48.01	**96.0**	48.64	**97.3**	47.76	**95.5**
Potassium	K	ICP	IP050971	20000.0	20408.59	**102.0**	20000.0	19994.11	**100.0**	19738.67	**98.7**	20042.30	**100.2**	19571.01	**97.9**	19539.66	**97.7**
Selenium	SE	PMS	MS050811	80.0	80.01	**100.0**	50.0	52.16	**104.3**	50.90	**101.8**	51.38	**102.8**	51.77	**103.5**	51.14	**102.3**
Silver	AG	PMS	MS050811	50.0	50.05	**100.1**	50.0	49.38	**98.8**	47.97	**95.9**	48.44	**96.9**	46.82	**93.6**	47.64	**95.3**
Sodium	NA	ICP	IP050971	50000.0	52693.61	**105.4**	50000.0	48605.32	**97.2**	47450.03	**94.9**	48503.71	**97.0**	47453.42	**94.9**	47264.82	**94.5**
Thallium	TL	PMS	MS050811	50.0	48.41	**96.8**	50.0	47.81	**95.6**	47.13	**94.3**	48.01	**96.0**	47.91	**95.8**	48.23	**96.5**
Zinc	ZN	PMS	MS050811	50.0	48.73	**97.5**	50.0	49.87	**99.7**	49.33	**98.7**	48.55	**97.1**	48.87	**97.7**	49.04	**98.1**

Control Limits: Mercury 80-120; Other Metals 90-110

US52.00136

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

UNITS: ug/L

SDG: US61

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Aluminum	AL	ICP	IP050971	2000.0	1988.25	99.4	1951.82	97.6	1960.15	98.0						
Antimony	SB	PMS	MS050811	50.0	49.19	98.4	47.92	95.8								
Arsenic	AS	PMS	MS050811	50.0	49.42	98.8	48.14	96.3								
Beryllium	BE	PMS	MS050811	50.0	48.91	97.8	50.46	100.9								
Cadmium	CD	PMS	MS050811	50.0	49.86	99.7	48.68	97.4								
Calcium	CA	ICP	IP050971	2000.0	2064.17	103.2	2022.39	101.1	1999.42	100.0						
Chromium	CR	PMS	MS050811	50.0	48.40	96.8	46.44	92.9								
Copper	CU	PMS	MS050811	50.0	50.73	101.5	48.94	97.9								
Iron	FE	ICP	IP050971	2000.0	2014.35	100.7	1971.37	98.6	1963.09	98.2						
Lead	PB	PMS	MS050811	50.0	48.98	98.0	49.08	98.2								
Magnesium	MG	ICP	IP050971	2000.0	2010.61	100.5	1971.44	98.6	1958.59	97.9						
Manganese	MN	ICP	IP050971	1000.0	993.27	99.3	969.94	97.0	968.82	96.9						
Mercury	HG	CVA	HG050802	4.0												
Nickel	NI	PMS	MS050811	50.0	48.75	97.5	47.21	94.4								
Potassium	K	ICP	IP050971	20000.0	20012.02	100.1	19631.56	98.2	19804.97	99.0						
Selenium	SE	PMS	MS050811	50.0	52.38	104.8	51.38	102.8								
Silver	AG	PMS	MS050811	50.0	47.77	95.5	46.38	92.8								
Sodium	NA	ICP	IP050971	50000.0	47884.99	95.8	46870.48	93.7	47124.81	94.2						
Thallium	TL	PMS	MS050811	50.0	47.44	94.9	47.28	94.6								
Zinc	ZN	PMS	MS050811	50.0	51.08	102.2	48.73	97.5								

Control Limits: Mercury 80-120; Other Metals 90-110

US52:00189

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

UNITS: ug/L

SDG: US61

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Copper	CU	PMS	MS050911	50.0	51.50	103.0	50.0	50.55	101.1	50.86	101.7	50.49	101.0	51.50	103.0		

Control Limits: Mercury 80-120; Other Metals 90-110

US52 : 2SSN

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US61

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Copper	CU	PMS	MS051111	50.0	50.14	100.3	50.0	49.89	99.8	50.56	101.1	51.36	102.7				

Control Limits: Mercury 80-120; Other Metals 90-110

US52.0051

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

UNITS: ug/L

SDG: US61

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Aluminum	AL	ICP	IP050971	50.0	56.34	112.7	57.51	115.0								
Antimony	SB	PMS	MS050811	0.2	0.20	100.0										
Arsenic	AS	PMS	MS050811	0.2	0.23	115.0										
Beryllium	BE	PMS	MS050811	0.2	0.20	100.0										
Cadmium	CD	PMS	MS050811	0.1	0.11	110.0										
Calcium	CA	ICP	IP050971	50.0	48.45	96.9	49.35	98.7								
Chromium	CR	PMS	MS050811	0.5	0.50	100.0										
Copper	CU	PMS	MS050811	0.5	0.51	102.0										
Iron	FE	ICP	IP050971	50.0	49.94	99.9	47.63	95.3								
Lead	PB	PMS	MS050811	0.1	0.11	110.0										
Magnesium	MG	ICP	IP050971	50.0	48.06	96.1	49.83	99.7								
Manganese	MN	ICP	IP050971	1.0	0.96	96.0	0.99	99.0								
Mercury	HG	CVA	HG050802	0.1	0.10	100.0										
Nickel	NI	PMS	MS050811	0.5	0.50	100.0										
Potassium	K	ICP	IP050971	500.0	495.73	99.1	449.77	90.0								
Selenium	SE	PMS	MS050811	0.5	0.53	106.0										
Silver	AG	PMS	MS050811	0.2	0.20	100.0										
Sodium	NA	ICP	IP050971	500.0	435.03	87.0	261.23	52.2								
Thallium	TL	PMS	MS050811	0.2	0.20	100.0										
Zinc	ZN	PMS	MS050811	4.0	3.98	99.5										
Copper	CU	PMS	MS050911	0.5	0.55	110.0										
Copper	CU	PMS	MS051111	0.5	0.53	106.0										

Control Limits: no control limits have been established by the EPA at this time.

US52:05192

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US61

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Aluminum	AL	ICP	IP050971	200.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Antimony	SB	PMS	MS050811	60.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Arsenic	AS	PMS	MS050811	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Beryllium	BE	PMS	MS050811	5.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	CD	PMS	MS050811	5.0	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Calcium	CA	ICP	IP050971	5000.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Chromium	CR	PMS	MS050811	10.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Copper	CU	PMS	MS050811	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	2.2	B	0.9	B
Iron	FE	ICP	IP050971	100.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Lead	PB	PMS	MS050811	3.0	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Magnesium	MG	ICP	IP050971	5000.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Manganese	MN	ICP	IP050971	15.0	1.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Mercury	HG	CVA	HG050802	0.2	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nickel	NI	PMS	MS050811	40.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Potassium	K	ICP	IP050971	5000.0	500.0	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U
Selenium	SE	PMS	MS050811	5.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Silver	AG	PMS	MS050811	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Sodium	NA	ICP	IP050971	5000.0	500.0	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U	500.0	U
Thallium	TL	PMS	MS050811	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Zinc	ZN	PMS	MS050811	20.0	4.0	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U

6h99-2551

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

UNITS: ug/L

SDG: US61

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	C	CCB7	C	CCB8	C	CCB9	C	CCB10	C	CCB11	C
Aluminum	AL	ICP	IP050971	200.0	50.0	50.0	U	50.0	U	50.0	U						
Antimony	SB	PMS	MS050811	60.0	0.2	0.2	U	0.2	U								
Arsenic	AS	PMS	MS050811	10.0	0.2	0.2	U	0.2	U								
Beryllium	BE	PMS	MS050811	5.0	0.2	0.2	U	0.2	U								
Cadmium	CD	PMS	MS050811	5.0	0.1	0.1	U	0.1	U								
Calcium	CA	ICP	IP050971	5000.0	50.0	50.0	U	50.0	U	50.0	U						
Chromium	CR	PMS	MS050811	10.0	0.5	0.5	U	0.5	U								
Copper	CU	PMS	MS050811	25.0	0.5	0.5	U	0.5	U								
Iron	FE	ICP	IP050971	100.0	50.0	50.0	U	50.0	U	50.0	U						
Lead	PB	PMS	MS050811	3.0	0.1	0.1	U	0.1	U								
Magnesium	MG	ICP	IP050971	5000.0	50.0	50.0	U	50.0	U	50.0	U						
Manganese	MN	ICP	IP050971	15.0	1.0	1.0	U	1.0	U	1.0	U						
Mercury	HG	CVA	HG050802	0.2	0.1												
Nickel	NI	PMS	MS050811	40.0	0.5	0.5	U	0.5	U								
Potassium	K	ICP	IP050971	5000.0	500.0	500.0	U	500.0	U	500.0	U						
Selenium	SE	PMS	MS050811	5.0	0.5	0.5	U	0.5	U								
Silver	AG	PMS	MS050811	10.0	0.2	0.2	U	0.2	U								
Sodium	NA	ICP	IP050971	5000.0	500.0	500.0	U	500.0	U	500.0	U						
Thallium	TL	PMS	MS050811	10.0	0.2	0.2	U	0.2	U								
Zinc	ZN	PMS	MS050811	20.0	4.0	4.0	U	4.0	U								

US52-0651

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US61

UNITS:ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Copper	CU	PMS	MS050911	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		

US2-0159

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US61

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Copper	CU	PMS	MS051111	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U				

95199.2551

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: IP050971

SDG: US61

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	197889.8	197444.0	98.7	194615.1	196273.7	98.1			
Antimony		1000	20.3	936.2	93.6	15.5	915.2	91.5			
Arsenic		1000	-16.6	970.4	97.0	-14.2	942.8	94.3			
Barium		1000	2.5	982.7	98.3	2.9	1013.5	101.4			
Beryllium		1000	0.1	964.9	96.5	0.1	937.6	93.8			
Boron			5.7	5.4		4.5	4.2				
Cadmium		1000	0.7	996.3	99.6	0.8	1035.0	103.5			
Calcium	100000	100000	99903.6	99400.2	99.4	96808.6	98294.2	98.3			
Chromium		1000	0.1	997.3	99.7	-0.5	1017.1	101.7			
Cobalt		1000	2.5	916.1	91.6	2.4	950.4	95.0			
Copper		1000	-2.8	1023.4	102.3	-2.7	1030.7	103.1			
Iron	200000	200000	196775.6	196182.9	98.1	190591.8	192910.6	96.5			
Lead		1000	-5.9	957.5	95.8	-6.0	941.4	94.1			
Magnesium	100000	100000	97424.5	96862.9	96.9	98404.2	95704.5	95.7			
Manganese		1000	0.1	929.5	93.0	0.1	962.4	96.2			
Molybdenum			5.2	4.9		4.7	4.5				
Nickel		1000	-0.9	946.3	94.6	-0.6	912.3	91.2			
Potassium			21.7	1.9		2.7	-17.4				
Selenium		1000	14.0	998.2	99.8	12.2	966.1	96.6			
Silicon			-14.0	-16.6		3.2	-6.7				
Silver		1000	-1.7	1044.0	104.4	-1.5	998.5	99.9			
Sodium			-0.4	-12.6		-166.1	-173.5				
Strontium			10.0	9.9		9.5	9.6				
Thallium		1000	8.4	930.8	93.1	11.6	912.3	91.2			
Tin			-10.5	-10.8		-11.7	-11.8				
Titanium			-0.3	-0.4		-0.1	-0.2				
Vanadium		1000	8.4	975.6	97.6	8.0	987.7	98.8			
Zinc		1000	-5.1	927.0	92.7	-6.0	900.4	90.0			

1691 - 2551

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: MS050811

SDG: US61

INSTRUMENT ID: NEXION 300D

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Cadmium		20	0.2	19.0	95.0						
Chromium		20	0.8	20.5	102.5						
Cobalt		20	0.0	19.0	95.0						
Copper		20	1.3	20.8	104.0						
Manganese		20	0.1	19.0	95.0						
Molybdenum	400	400	391.3	399.9	100.0						
Nickel		20	0.4	19.0	95.0						
Selenium			-0.3	-0.3							
Silver		20	0.0	18.9	94.5						
Thorium			0.2	0.1							
Vanadium			0.1	0.2							
Zinc		20	0.8	18.9	94.5						

US52-00198

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: MS050911

SDG: US61

INSTRUMENT ID: NEXION 300D

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Cadmium		20	0.1	19.0	**95.0**						
Chromium		20	0.9	20.3	**101.5**						
Cobalt		20	0.0	19.2	**96.0**						
Copper		20	1.0	19.8	**99.0**						
Manganese		20	0.1	18.8	**94.0**						
Molybdenum	400	400	404.6	417.6	**104.4**						
Nickel		20	0.4	19.1	**95.5**						
Selenium			-0.3	-0.5							
Silver		20	0.0	19.7	**98.5**						
Thorium			0.2	0.1							
Vanadium			0.1	0.1							
Zinc		20	0.7	18.4	**92.0**						

US52:00499

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: MS051111

SDG: US61

INSTRUMENT ID: NEXION 300D

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Antimony			0.1	0.1							
Cadmium		20	0.1	19.1	95.5						
Chromium		20	0.9	19.6	98.0						
Cobalt		20	0.0	18.5	92.5						
Copper		20	1.2	20.6	103.0						
Manganese		20	0.1	19.0	95.0						
Molybdenum	400	400	416.6	435.2	108.8						
Nickel		20	0.4	18.9	94.5						
Selenium			-0.2	-0.3							
Silver		20	0.0	20.5	102.5						
Thorium			0.3	0.1							
Zinc		20	0.7	18.7	93.5						

0550 :2551

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: ICP

SDG: US61

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFERENCE	Q
Aluminum	MW-30S-050212L	US61G-L	Water	IP050971	5.57	U	250.00	U		
Iron	MW-30S-050212L	US61G-L	Water	IP050971	6797.26		6688.70		1.6	
Manganese	MW-30S-050212L	US61G-L	Water	IP050971	366.24		348.75		4.8	

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: PMS

SDG: US61

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFERENCE	Q
Antimony	DUP-050212-1L	US61D-L	Water	MS050811	0.23	B	0.25	B	8.7	
Arsenic	DUP-050212-1L	US61D-L	Water	MS050811	1.32	B	1.85	B	40.2	
Beryllium	DUP-050212-1L	US61D-L	Water	MS050811	0.02	U	0.00	B		
Cadmium	DUP-050212-1L	US61D-L	Water	MS050811	0.02	U	0.05	B		
Chromium	DUP-050212-1L	US61D-L	Water	MS050811	0.33	U	0.05	B		
Copper	DUP-050212-1L	US61D-L	Water	MS050811	8.11	B	9.15	B	12.8	
Lead	DUP-050212-1L	US61D-L	Water	MS050811	0.02	U	0.10	B		
Nickel	DUP-050212-1L	US61D-L	Water	MS050811	15.56	B	16.15	B	3.8	
Selenium	DUP-050212-1L	US61D-L	Water	MS050811	0.12	U	0.40	B		
Silver	DUP-050212-1L	US61D-L	Water	MS050811	0.00	U	0.00	B		
Thallium	DUP-050212-1L	US61D-L	Water	MS050811	0.00	U	0.00	B		
Zinc	DUP-050212-1L	US61D-L	Water	MS050811	0.74	U	3.40	B		

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: PMS

SDG: US61

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFERENCE	Q
Antimony	MW-30S-050212L	US61G-L	Water	MS050811	0.03	U	0.20	B		
Arsenic	MW-30S-050212L	US61G-L	Water	MS050811	9.57	B	10.70	B	11.8	
Beryllium	MW-30S-050212L	US61G-L	Water	MS050811	0.01	U	0.05	B		
Cadmium	MW-30S-050212L	US61G-L	Water	MS050811	0.02	U	0.05	B		
Chromium	MW-30S-050212L	US61G-L	Water	MS050811	0.37	U	0.00	B		
Copper	MW-30S-050212L	US61G-L	Water	MS050811	0.46	U	1.05	B		
Lead	MW-30S-050212L	US61G-L	Water	MS050811	0.01	U	0.10	B		
Nickel	MW-30S-050212L	US61G-L	Water	MS050811	0.52	B	0.60	B	15.4	
Selenium	MW-30S-050212L	US61G-L	Water	MS050811	0.14	U	0.50	B		
Silver	MW-30S-050212L	US61G-L	Water	MS050811	0.00	U	0.00	B		
Thallium	MW-30S-050212L	US61G-L	Water	MS050811	0.00	U	0.00	B		
Zinc	MW-30S-050212L	US61G-L	Water	MS050811	0.67	U	3.10	B		

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US61 UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Aluminum	AL	ICP	OPTIMA ICP 2	308.22		200	50.0	4/1/2011	250000.0	8/3/2011
Antimony	SB	PMS	NEXION 300D MS	0.00		60	0.2	4/1/2011		
Arsenic	AS	PMS	NEXION 300D MS	0.00		10	0.2	4/1/2011		
Beryllium	BE	PMS	NEXION 300D MS	0.00		5	0.2	4/1/2011		
Cadmium	CD	PMS	NEXION 300D MS	0.00		5	0.1	4/1/2011		
Calcium	CA	ICP	OPTIMA ICP 2	317.93		5000	50.0	4/1/2011	500000.0	8/3/2011
Chromium	CR	PMS	NEXION 300D MS	0.00		10	0.5	4/1/2011		
Copper	CU	PMS	NEXION 300D MS	0.00		25	0.5	4/1/2011		
Iron	FE	ICP	OPTIMA ICP 2	259.94		100	50.0	4/1/2011	250000.0	8/3/2011
Lead	PB	PMS	NEXION 300D MS	0.00		3	0.1	4/1/2011		
Magnesium	MG	ICP	OPTIMA ICP 2	279.08		5000	50.0	4/1/2011	500000.0	8/3/2011
Manganese	MN	ICP	OPTIMA ICP 2	257.61		15	1.0	4/1/2011	30000.0	8/3/2011
Mercury	HG	CVA	CETAC MERCURY	253.70		0.2	0.1	4/1/2011		
Nickel	NI	PMS	NEXION 300D MS	0.00		40	0.5	4/1/2011		
Potassium	K	ICP	OPTIMA ICP 2	766.49		5000	500.0	4/1/2011	500000.0	8/3/2011
Selenium	SE	PMS	NEXION 300D MS	0.00		5	0.5	4/1/2011		
Silver	AG	PMS	NEXION 300D MS	0.00		10	0.2	4/1/2011		
Sodium	NA	ICP	OPTIMA ICP 2	589.00		5000	500.0	4/1/2011	5000000.0	8/3/2011
Thallium	TL	PMS	NEXION 300D MS	0.00		10	0.2	4/1/2011		
Zinc	ZN	PMS	NEXION 300D MS	0.00		20	4.0	4/1/2011		

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

IEC DATE: 3/19/2012

SDG: US61

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.3219720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	10.2020000	0.0000000	0.1202730
Arsenic	188.98	0.0676681	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.9907570	1.0929900	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1617070	0.0000000	0.0000000	0.0509863
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	3.4090200	0.0000000	0.0000000	0.0000000	0.0000000	0.1642300	0.0000000	0.0000000	0.0094737
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0229989	0.0000000	-0.0409619	0.0000000	0.0000000	-0.0447283
Cobalt	228.62	0.0000000	0.0000000	0.2151410	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2203550	-0.0248240	0.0000000	-0.0717630
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7214060	0.0000000	0.0000000
Lead	220.35	-0.1395300	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-2.0199800	1.2549900	0.0665058
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.7927700	-1.2197100	0.0000000	0.5858900
Manganese	257.61	0.0071452	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.0059831
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0169987	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1147630
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.7375200	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0067168	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	6.5303700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.5520300	0.3828500	0.0000000	-0.1317480
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0292008	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0348510	0.0000000	0.0000000	0.2207060	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.2513600	0.0000000	0.1207740
Zinc	206.20	-0.0433063	0.0000000	0.0000000	0.0000000	0.0131448	0.0000000	0.0000000	-0.4942180	0.0000000	0.0000000

US52.9555

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

IEC DATE: 3/19/2012

SDG: US61

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	8.7251100	0.0000000	0.0000000	0.0000000	1.2350800	0.0000000	19.6337000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.6262000	0.0000000	-2.0479800	0.0000000
Arsenic	188.98	0.0231456	0.0000000	1.4466600	0.0000000	0.0000000	0.0000000	-6.9568100	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0777109	0.0000000	0.0000000	0.0000000	0.0000000	0.4101220	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0114175	0.0000000	0.6735850	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0576937	-0.6515750	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0373272	0.0000000	0.1461890	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.2854520	0.0267072
Cobalt	228.62	0.0000000	0.0000000	-0.2518640	0.1618730	0.0000000	0.0000000	1.6854600	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0046107	0.0000000	0.1890580	0.0000000	0.0000000	0.0000000	0.2839350	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	5.2682800	0.0000000
Lead	220.35	0.0000000	0.0000000	-0.3516970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-3.2487800	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0062324	0.0000000	0.0000000	0.0000000	-0.3367650	0.0000000	0.0000000	0.0000000	-0.0331334	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.9494270	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.9119740	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.2105810	0.1262930	0.0000000	0.0000000	0.0000000	-0.0406459	0.0000000	-0.2398130	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	271.7310000	0.0000000	0.0000000	373.0000000
Thallium	190.80	0.0000000	0.0000000	-3.8706100	0.0000000	0.0917790	0.0000000	0.5514110	0.0000000	1.6549500	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0344764	-0.7123520	-0.4958940	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	1.3260700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1562030	-0.7955440	0.0000000	0.0000000	0.0000000	0.6246810	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2669400	0.0000000	-0.1628880	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

1552.0556

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US61

ANALYSIS METHOD: ICP

ARI PREP CODE: TWC

PREPDATE: 5/4/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW-30S-050212	US61A	0.000	50.0	50.0
MW-29S-050212	US61B	0.000	50.0	50.0
MW-31S-050212	US61C	0.000	50.0	50.0
PBW	US61MB1	0.000	50.0	50.0
LCSW	US61MB1SPK	0.000	50.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US61

ANALYSIS METHOD: ICP

ARI PREP CODE: WMN

PREPDATE: 5/4/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW-30S-050212	US61G	0.000	50.0	50.0
MW-30S-050212D	US61GDUP	0.000	50.0	50.0
MW-30S-050212S	US61GSPK	0.000	50.0	50.0
MW-29S-050212	US61H	0.000	50.0	50.0
MW-31S-050212	US61I	0.000	50.0	50.0
PBW	US61MB2	0.000	50.0	50.0
LCSW	US61MB2SPK	0.000	50.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US61

ANALYSIS METHOD: PMS

ARI PREP CODE: REN

PREPDATE: 5/7/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW-30S-050212	US61A	0.000	50.0	25.0
MW-29S-050212	US61B	0.000	50.0	25.0
MW-31S-050212	US61C	0.000	50.0	25.0
DUP-050212-1	US61D	0.000	50.0	25.0
DUP-050212-1D	US61DDUP	0.000	50.0	25.0
DUP-050212-1S	US61DSPK	0.000	50.0	25.0
MW-30S-050212	US61G	0.000	50.0	25.0
MW-30S-050212D	US61GDUP	0.000	50.0	25.0
MW-30S-050212S	US61GSPK	0.000	50.0	25.0
MW-29S-050212	US61H	0.000	50.0	25.0
MW-31S-050212	US61I	0.000	50.0	25.0
DUP-050212-1	US61J	0.000	50.0	25.0
PBW	US61MB1	0.000	50.0	25.0
LCSW	US61MB1SPK	0.000	50.0	25.0
PBW	US61MB2	0.000	50.0	25.0
LCSW	US61MB2SPK	0.000	50.0	25.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: US61

ANALYSIS METHOD: CVA

ARI PREP CODE: TWM

PREPDATE: 5/4/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW-30S-050212	US61A	0.000	20.0	20.0
MW-29S-050212	US61B	0.000	20.0	20.0
MW-31S-050212	US61C	0.000	20.0	20.0
DUP-050212-1	US61D	0.000	20.0	20.0
DUP-050212-1D	US61DDUP	0.000	20.0	20.0
DUP-050212-1S	US61DSPK	0.000	20.0	20.0
MW-30S-050212	US61G	0.000	20.0	20.0
MW-30S-050212D	US61GDUP	0.000	20.0	20.0
MW-30S-050212S	US61GSPK	0.000	20.0	20.0
MW-29S-050212	US61H	0.000	20.0	20.0
MW-31S-050212	US61I	0.000	20.0	20.0
DUP-050212-1	US61J	0.000	20.0	20.0
PBW	US61MB1	0.000	20.0	20.0
LCSW	US61MB1SPK	0.000	20.0	20.0
PBW	US61MB2	0.000	20.0	20.0
LCSW	US61MB2SPK	0.000	20.0	20.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 5/9/2012

SDG: US61 | RUNID: IP050971 | METHOD: ICP | END DATE: 5/9/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	08444			X					X					X		X	X	X		X											
S2	S2	1.00	08485																	X													
S3	S3	1.00	08504																														
S4	S4	1.00	08531																														
S5	S5	1.00	08553			X					X					X		X	X			X											
ICV	ICV	1.00	08585			X					X					X		X	X	X		X											
ICB	ICB	1.00	09024			X					X					X		X	X	X		X											
CRI	CRII	1.00	09065			X					X					X		X	X	X		X											
ICSA	ICSAI	1.00	09111			X					X					X		X	X	X		X											
ICSAB	ICSABI	1.00	09152			X					X					X		X	X	X		X											
CCV	CCV1	1.00	09203			X					X					X		X	X	X		X											
CCB	CCB1	1.00	09241			X					X					X		X	X	X		X											
ZZZZZZ	UT36MB	2.00	09283																														
ZZZZZZ	US34MB	2.00	09324																														
ZZZZZZ	US34A	2.00	09365																														
ZZZZZZ	UT36B	2.00	09400																														
ZZZZZZ	UT36C	2.00	09440																														
ZZZZZZ	UT36D	2.00	09480																														
ZZZZZZ	UT36ADUP	2.00	09520																														
ZZZZZZ	UT36A	2.00	09555																														
ZZZZZZ	UT36ASPK	2.00	09594																														
ZZZZZZ	UT36MBSPK	2.00	10024																														
CCV	CCV2	1.00	10064			X					X					X		X	X	X		X											
CCB	CCB2	1.00	10100			X					X					X		X	X	X		X											
ZZZZZZ	US52MB2	1.00	10141																														
ZZZZZZ	US52P-L	5.00	10183																														
ZZZZZZ	US52P	1.00	10224																														
ZZZZZZ	US52PDUP	1.00	10265																														
ZZZZZZ	US52PSPK	1.00	10310																														
ZZZZZZ	US52Q	1.00	10345																														
ZZZZZZ	US52R	1.00	10390																														
ZZZZZZ	US52H	1.00	10432																														
ZZZZZZ	UT36E	2.00	10473																														
ZZZZZZ	US52MB2SPK	1.00	10512																														
CCV	CCV3	1.00	10551			X					X					X		X	X	X		X											

FORM XIV

1552-0951

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 5/9/2012

SDG: US61 | RUNID: IP050971 METHOD: ICP | END DATE: 5/9/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
CCB	CCB3	1.00	10590			X					X					X		X	X	X		X											
ZZZZZZ	US52MB1	1.00	11032																														
ZZZZZZ	ZZZZZZ	5.00	11073																														
ZZZZZZ	US52G	1.00	11114																														
ZZZZZZ	US52GDUP	1.00	11155																														
ZZZZZZ	US52GSPK	1.00	11201																														
ZZZZZZ	ZZZZZZ	1.00	11241																														
ZZZZZZ	US52I	1.00	11281																														
MW-29S-050212	US61H	1.00	11322																														
MW-31S-050212	US61I	1.00	11363																														
ZZZZZZ	US52MB1SPK	1.00	11405																														
CCV	CCV4	1.00	11445			X					X					X		X	X	X		X											
CCB	CCB4	1.00	11483			X					X					X		X	X	X		X											
S2	S2	1.00	11541																	X													
CCV	CCV5	1.00	11564			X					X					X		X	X	X		X											
CCB	CCB5	1.00	12004			X					X					X		X	X	X		X											
PBW	US61MB2	1.00	12050			X										X				X													
MW-30S-050212L	US61G-L	5.00	12091			X										X				X													
MW-30S-050212	US61G	1.00	12132			X										X				X													
MW-30S-050212D	US61GDUP	1.00	12174			X										X				X													
MW-30S-050212S	US61GSPK	1.00	12215			X										X				X													
DUP-050212-1	US61J	1.00	12255																														
MW-30S-050212	US61A	1.00	12300			X					X					X		X	X	X		X											
MW-29S-050212	US61B	1.00	12341			X					X					X		X	X	X		X											
MW-31S-050212	US61C	1.00	12382			X					X					X		X	X	X		X											
LCSW	US61MB2SPK	1.00	12424			X										X				X													
CCV	CCV6	1.00	12464			X					X					X		X	X	X		X											
CCB	CCB6	1.00	12504			X					X					X		X	X	X		X											
ZZZZZZ	US52MB1	1.00	12545																														
ZZZZZZ	US52G-L	5.00	12590																														
ZZZZZZ	US52G	1.00	13032																														
ZZZZZZ	US52GDUP	1.00	13073																														
ZZZZZZ	US52GSPK	1.00	13114																														
ZZZZZZ	US52I	1.00	13154																														
MW-29S-050212	US61H	1.00	13195			X										X				X													

FORM XIV

US52_050512

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 5/9/2012

SDG: US61 | RUNID: IP050971 | METHOD: ICP | END DATE: 5/9/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
MW-31S-050212	US61I	1.00	13241			X										X				X													
ZZZZZZ	US52MB1SPK	1.00	13282																														
CCV	CCV7	1.00	13322			X					X					X		X	X	X		X											
CCB	CCB7	1.00	13362			X					X					X		X	X	X		X											
PBW	US61MB1	1.00	13403			X					X					X		X	X	X		X											
ZZZZZZ	ZZZZZZ	5.00	13445																														
DUP-050212-1	US61D	1.00	13490																														
DUP-050212-1D	US61DDUP	1.00	13531																														
DUP-050212-1S	US61DSPK	1.00	13572																														
ZZZZZZ	ZZZZZZ	1.00	14011																														
LCSW	US61MB1SPK	1.00	14045			X					X					X		X	X	X		X											
CRI	CRIF	1.00	14091			X					X					X		X	X	X		X											
ICSA	ICSAF	1.00	14133			X					X					X		X	X	X		X											
ICSAB	ICSABF	1.00	14173			X					X					X		X	X	X		X											
CCV	CCV8	1.00	14222			X					X					X		X	X	X		X											
CCB	CCB8	1.00	14262			X					X					X		X	X	X		X											

ESS00255

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/8/2012

SDG: US61 | RUNID: MS050811 METHOD: PMS | END DATE: 5/8/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	12070		X		X			X		X		X	X								X	X	X	X				X			X
S1	S1	1.00	12110		X		X			X		X		X	X								X	X	X	X				X			X
S2	S2	1.00	12150		X		X			X		X		X	X								X	X	X	X				X			X
S3	S3	1.00	12190		X		X			X		X		X	X								X	X	X	X				X			X
S4	S4	1.00	12240		X		X			X		X		X	X								X	X	X	X				X			X
S5	S5	1.00	12290																														
ZZZZZZ	Rinse sampl	1.00	12360																														
S0	S0	1.00	12440		X		X			X		X		X	X								X	X	X	X				X			X
ICV	MICV	1.00	12490		X		X			X		X		X	X								X	X	X	X				X			X
ICB	ICB	1.00	12540		X		X			X		X		X	X								X	X	X	X				X			X
CCV	MCCV1	1.00	12580		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB1	1.00	13040		X		X			X		X		X	X								X	X	X	X				X			X
CRI	MCRI	1.00	13080		X		X			X		X		X	X								X	X	X	X				X			X
ICSA	ICSAI	1.00	13130		X		X			X		X		X	X								X	X	X	X				X			X
ICSAB	ICSABI	1.00	13180		X		X			X		X		X	X								X	X	X	X				X			X
ZZZZZZ	B1	1.00	13230																														
ZZZZZZ	B2	1.00	13290																														
CCV	MCCV2	1.00	13340		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB2	1.00	13400		X		X			X		X		X	X								X	X	X	X				X			X
ZZZZZZ	US27E-L	100.00	13550																														
ZZZZZZ	US27E	20.00	13590																														
ZZZZZZ	US27EDUP	20.00	14030																														
ZZZZZZ	US27ESPK	20.00	14070																														
ZZZZZZ	US27A	40.00	14110																														
ZZZZZZ	US27D	20.00	14160																														
ZZZZZZ	US27G	40.00	14200																														
ZZZZZZ	US27I	20.00	14240																														
ZZZZZZ	LR200	1.00	14290																														
ZZZZZZ	B3	1.00	14350																														
CCV	MCCV3	1.00	14400		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB3	1.00	14470		X		X			X		X		X	X								X	X	X	X				X			X
ZZZZZZ	US27H-L	10.00	15020																														
ZZZZZZ	US27H	2.00	15060																														
ZZZZZZ	US27HDUP	2.00	15110																														
ZZZZZZ	US27HSPK	2.00	15150																														

FORM XIV

11SDG2CSSL

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/8/2012

SDG: US61 | RUNID: MS050811 METHOD: PMS | END DATE: 5/8/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
ZZZZZZ	US27J-L	10.00	15190																														
ZZZZZZ	US27J	2.00	15230																														
ZZZZZZ	US27JDUP	2.00	15270																														
ZZZZZZ	US27JSPK	2.00	15310																														
CCV	MCCV4	1.00	15390		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB4	1.00	15460		X		X			X		X		X	X								X	X	X	X				X			X
ZZZZZZ	US27J-L	100.00	15500																														
ZZZZZZ	US27J	20.00	15550																														
ZZZZZZ	US27JDUP	20.00	15590																														
ZZZZZZ	US27JSPK	20.00	16030																														
ZZZZZZ	LR300	1.00	16090																														
ZZZZZZ	B4	1.00	16160																														
ZZZZZZ	B5	1.00	16230																														
ZZZZZZ	US27HSPK	2.00	16290																														
CCB	CCB5	1.00	16360		X		X			X		X		X	X								X	X	X	X				X			X
CCV	MCCV5	1.00	16430		X		X			X		X		X	X								X	X	X	X				X			X
PBW	US61MB1	2.00	16470		X		X			X		X		X									X	X	X	X				X			X
PBW	US61MB2	2.00	16510		X		X			X		X		X									X	X	X	X				X			X
LCSW	US61MB2SPK	2.00	16550		X		X			X		X		X									X	X	X	X				X			X
LCSW	US61MB1SPK	2.00	16590		X		X			X		X		X									X	X	X	X				X			X
MW-30S-050212	US61A	2.00	17030		X		X			X		X		X									X	X		X				X			X
MW-29S-050212	US61B	2.00	17070		X		X			X		X		X									X	X		X				X			X
MW-31S-050212	US61C	2.00	17110		X		X			X		X		X									X	X		X				X			X
MW-29S-050212	US61H	2.00	17160		X		X			X		X		X									X	X	X	X				X			X
MW-31S-050212	US61I	2.00	17200		X		X			X		X		X									X	X	X	X				X			X
DUP-050212-1	US61J	2.00	17240		X		X			X		X		X									X	X	X	X				X			X
CCV	MCCV6	1.00	17310		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB6	1.00	17380		X		X			X		X		X	X								X	X	X	X				X			X
DUP-050212-1L	US61D-L	10.00	17420		X		X			X		X		X	X								X	X	X	X				X			X
DUP-050212-1	US61D	2.00	17460		X		X			X		X		X	X								X	X	X	X				X			X
DUP-050212-1D	US61DDUP	2.00	17500		X		X			X		X		X	X								X	X	X	X				X			X
DUP-050212-1S	US61DSPK	2.00	17540		X		X			X		X		X	X								X	X	X	X				X			X
ZZZZZZ	ZZZZZZ	2.00	17580																														
MW-30S-050212L	US61G-L	10.00	18020		X		X			X		X		X	X								X	X	X	X				X			X
MW-30S-050212	US61G	2.00	18070		X		X			X		X		X	X								X	X	X	X				X			X

FORM XIV

USG2 0059

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/8/2012

SDG: US61 | RUNID: MS050811 | METHOD: PMS | END DATE: 5/8/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
MW-30S-050212D	US61GDUP	2.00	18110		X		X			X		X		X	X								X	X	X	X				X			X
MW-30S-050212S	US61GSPK	2.00	18150		X		X			X		X		X	X								X	X	X	X				X			X
ZZZZZZ	ZZZZZZ	2.00	18190																														
CCV	MCCV7	1.00	18260		X		X			X		X		X	X								X	X	X	X				X			X
CCB	CCB7	1.00	18330		X		X			X		X		X	X								X	X	X	X				X			X

US52:0016

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/9/2012

SDG: US61 | RUNID: MS050911 METHOD: PMS | END DATE: 5/9/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10580												X																		
S1	S1	1.00	11020												X																		
S2	S2	1.00	11060												X																		
S3	S3	1.00	11100												X																		
S4	S4	1.00	11150												X																		
S5	S5	1.00	11200																														
ZZZZZZ	Rinse sampl	1.00	11270																														
S0	S0	1.00	11370												X																		
ICV	MICV	1.00	11410												X																		
ICB	ICB	1.00	11460												X																		
CCV	MCCV1	1.00	11510												X																		
CCB	CCB1	1.00	11560												X																		
CRI	MCRI	1.00	12000												X																		
ICSA	ICSAI	1.00	12040												X																		
ICSAB	ICSABI	1.00	12090												X																		
ZZZZZZ	B1	1.00	12150																														
ZZZZZZ	B2	1.00	12200																														
CCV	MCCV2	1.00	12250												X																		
CCB	CCB2	1.00	12310												X																		
CCV	MCCV3	1.00	12370												X																		
CCB	CCB3	1.00	12430												X																		
PBW	US61MB1	2.00	12490												X																		
PBW	US61MB2	2.00	12530												X																		
ZZZZZZ	US02R	2.00	12570																														
ZZZZZZ	US02RMB2	2.00	13010																														
ZZZZZZ	US02RMB2SPK	2.00	13060																														
ZZZZZZ	US02RMB1SPK	2.00	13100																														
ZZZZZZ	US02RA-L	10.00	13140																														
ZZZZZZ	US02RA	2.00	13180																														
ZZZZZZ	US02RADUP	2.00	13220																														
ZZZZZZ	US02RASPK	2.00	13260																														
CCV	MCCV4	1.00	13320												X																		
CCB	CCB4	1.00	13380												X																		

US52 0055 7

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: NEXION 300D MS | START DATE: 5/11/2012

SDG: US61 | RUNID: MS051111 METHOD: PMS | END DATE: 5/11/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	11410												X																		
S1	S1	1.00	11450												X																		
S2	S2	1.00	11490												X																		
S3	S3	1.00	11530												X																		
S4	S4	1.00	11580												X																		
S5	S5	1.00	12040																														
ZZZZZZ	Rinse sampl	1.00	12100																														
ICV	MICV	1.00	12250												X																		
ICB	ICB	1.00	12300												X																		
CCV	MCCV1	1.00	12340												X																		
CCB	CCB1	1.00	12390												X																		
CRI	MCRI	1.00	12430												X																		
ICSA	ICSAI	1.00	12480												X																		
ICSAB	ICSABI	1.00	12530												X																		
ZZZZZZ	B1	1.00	12580																														
ZZZZZZ	B2	1.00	13040																														
CCV	MCCV2	1.00	13120												X																		
CCB	CCB2	1.00	13160												X																		
LCSW	US61MB1SPK	2.00	13200												X																		
LCSW	US61MB2SPK	2.00	13240												X																		
ZZZZZZ	US27J	2.00	13280																														
ZZZZZZ	US27JPOST	2.00	13320																														
MW-30S-050212	US61A	2.00	13380												X																		
MW-29S-050212	US61B	2.00	13420												X																		
MW-31S-050212	US61C	2.00	13460												X																		
MW-29S-050212	US61H	2.00	13500												X																		
MW-31S-050212	US61I	2.00	13540												X																		
DUP-050212-1	US61J	2.00	13580												X																		
CCV	MCCV3	1.00	14040												X																		
CCB	CCB3	1.00	14100												X																		

US52 00538

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: CETAC MERCURY | START DATE: 5/8/2012

SDG: US61 | RUNID: HG050802 | METHOD: CVA | END DATE: 5/8/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10470														X																
S0.1	S0.1	1.00	10484														X																
S0.5	S0.5	1.00	10501														X																
S1	S1	1.00	10515														X																
S2	S2	1.00	10533														X																
S5	S5	1.00	10551														X																
S10	S10	1.00	10564														X																
ICV	AICV	1.00	10595														X																
ICB	ICB	1.00	11013														X																
CCV	ACCV1	1.00	11031														X																
CCB	CCB1	1.00	11045														X																
CRA	CRA	1.00	11062														X																
ZZZZZZ	US15MB1	1.00	11080																														
ZZZZZZ	US15MB1SPK	1.00	11093																														
ZZZZZZ	US15A	1.00	11111																														
ZZZZZZ	US15ADUP	1.00	11125																														
ZZZZZZ	US15ASPK	1.00	11142																														
ZZZZZZ	US15B	1.00	11160																														
ZZZZZZ	US15MB2	1.00	11174																														
ZZZZZZ	US15MB2SPK	1.00	11192																														
ZZZZZZ	US15G	1.00	11205																														
CCV	ACCV2	1.00	11223														X																
CCB	CCB2	1.00	11241														X																
ZZZZZZ	US15GDUP	1.00	11255																														
ZZZZZZ	US15GSPK	1.00	11273																														
ZZZZZZ	US15H	1.00	11290																														
ZZZZZZ	US52MB1	1.00	11304																														
ZZZZZZ	US52MB1SPK	1.00	11321																														
ZZZZZZ	US52G	1.00	11335																														
ZZZZZZ	US52GDUP	1.00	11353																														
ZZZZZZ	US52GSPK	1.00	11370																														
ZZZZZZ	US52MB2	1.00	11384																														
ZZZZZZ	US52MB2SPK	1.00	11402																														
CCV	ACCV3	1.00	11420														X																
CCB	CCB3	1.00	11434														X																

FORM XIV

US52_0051S

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: CETAC MERCURY | START DATE: 5/8/2012

SDG: US61 | RUNID: HG050802 | METHOD: CVA | END DATE: 5/8/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
ZZZZZZ	US52P	1.00	11452																														
ZZZZZZ	US52PDUP	1.00	11470																														
ZZZZZZ	US52PSPK	1.00	11483																														
PBW	US61MB1	1.00	11501														X																
LCSW	US61MB1SPK	1.00	11514														X																
MW-30S-050212	US61A	1.00	11532														X																
MW-29S-050212	US61B	1.00	11550														X																
MW-31S-050212	US61C	1.00	11563														X																
DUP-050212-1	US61D	1.00	11581														X																
DUP-050212-1D	US61DDUP	1.00	11595														X																
CCV	ACCV4	1.00	12013														X																
CCB	CCB4	1.00	12031														X																
DUP-050212-1S	US61DSPK	1.00	12045														X																
PBW	US61MB2	1.00	12063														X																
LCSW	US61MB2SPK	1.00	12080														X																
MW-30S-050212	US61G	1.00	12094														X																
MW-30S-050212D	US61GDUP	1.00	12112														X																
MW-30S-050212S	US61GSPK	1.00	12130														X																
MW-29S-050212	US61H	1.00	12143														X																
MW-31S-050212	US61I	1.00	12161														X																
DUP-050212-1	US61J	1.00	12175														X																
CCV	ACCV5	1.00	12192														X																
CCB	CCB5	1.00	12210														X																

US52 : 005228

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: UT31

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
MW-30S-050212	UT31A	12-8209	
MW-30S-050212D	UT31ADUP	12-8209	
MW-30S-050212S	UT31ASPK	12-8209	
MW-29S-050212	UT31B	12-8210	
PBW	UT31MB1	12-8210	
LCSW	UT31MB1SPK	12-8210	
MW-31S-050212	UT31C	12-8211	

Were ICP interelement corrections applied ?	Yes/No	YES
Were ICP background corrections applied ?	Yes/No	YES
If yes - were raw data generated before application of background corrections ?	Yes/No	NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: _____ Name: Jay Kuhn

Date: _____ Title: Inorganics Director

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-30S-050212
SAMPLE

Lab Sample ID: UT31A
LIMS ID: 12-8209
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: UT31-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	200.8	05/09/12	7440-36-0	Antimony	0.2	0.2	U

U-Analyte undetected at given RL
RL-Reporting Limit

US52 00522

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-29S-050212
SAMPLE

Lab Sample ID: UT31B
LIMS ID: 12-8210
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: UT31-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	200.8	05/09/12	**7440-36-0**	**Antimony**	0.2	0.3	

U-Analyte undetected at given RL
RL-Reporting Limit

US52 08523

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-31S-050212
SAMPLE

Lab Sample ID: UT31C
LIMS ID: 12-8211
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: UT31-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	200.8	05/09/12	**7440-36-0**	**Antimony**	0.2	**0.3**	

U-Analyte undetected at given RL
RL-Reporting Limit

US52 00524

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-30S-050212
MATRIX SPIKE

Lab Sample ID: UT31A
LIMS ID: 12-8209
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: UT31-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Antimony	200.8	0.200 U	24.3	25.0	97.2%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked
NR-Not Recovered

Percent Recovery Limits: 75-125%

US52:00525

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW-30S-050212
DUPLICATE

Lab Sample ID: UT31A
LIMS ID: 12-8209
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: UT31-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: 05/02/12
Date Received: 05/02/12

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Antimony	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: LAB CONTROL**

Lab Sample ID: UT31LCS
LIMS ID: 12-8210
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: UT31-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Antimony	200.8	23.6	25.0	94.4%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**
Page 1 of 1

Lab Sample ID: UT31MB
LIMS ID: 12-8210
Matrix: Water
Data Release Authorized:
Reported: 05/10/12

QC Report No: UT31-ERM-West
Project: RG Spring GW Sampling
155129.09
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/08/12	200.8	05/09/12	7440-36-0	Antimony	0.2	0.2	U

U-Analyte undetected at given RL
RL-Reporting Limit

US52 00528

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: UT31

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Antimony	SB	PMS	MS050981	50.0	49.62	99.2	50.0	47.78	95.6	48.49	97.0	48.69	97.4	49.23	98.5		

Control Limits: Mercury 80-120; Other Metals 90-110

USS2 09529

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: UT31

UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Antimony	SB	PMS	MS050981		0.2	0.22	110.0										

Control Limits: no control limits have been established by the EPA at this time.

USSR 0055

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: UT31

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Antimony	SB	PMS	MS050981	60.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U		

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

ICS SOURCE: I.V.

PROJECT: RG Spring GW Samplin

RUNID: MS050981

SDG: UT31

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Antimony			0.1	0.1							
Arsenic		20	0.0	19.7	98.5						
Cadmium		20	0.0	19.8	99.0						
Chromium		20	0.8	20.3	101.5						
Cobalt		20	0.0	19.5	97.5						
Copper		20	0.5	19.9	99.5						
Manganese		20	0.0	19.7	98.5						
Molybdenum	400	400	411.2	407.2	101.8						
Nickel		20	0.6	19.3	96.5						
Silver		20	0.0	19.7	98.5						
Thorium			0.1	0.1							
Vanadium			0.0	-0.4							
Zinc		20	1.1	19.9	99.5						

0552-0552

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

ANALYSIS METHOD: PMS

SDG: UT31

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFERENCE	Q
Antimony	MW-30S-050212L	UT31A-L	Water	MS050981	0.02	U	0.00	B		

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: UT31 UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Antimony	SB	PMS	PE ELAN 6000 MS	0.00		60	0.2	4/1/2011		

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin

SDG: UT31

ANALYSIS METHOD: PMS

ARI PREP CODE: REN

PREPDATE: 5/8/2012

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
MW-30S-050212	UT31A	0.000	50.0	25.0
MW-30S-050212D	UT31ADUP	0.000	50.0	25.0
MW-30S-050212S	UT31ASPK	0.000	50.0	25.0
MW-29S-050212	UT31B	0.000	50.0	25.0
MW-31S-050212	UT31C	0.000	50.0	25.0
PBW	UT31MB1	0.000	50.0	25.0
LCSW	UT31MB1SPK	0.000	50.0	25.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 5/9/2012

SDG: UT31 | RUNID: MS050981 METHOD: PMS | END DATE: 5/9/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10500																						X								
S1	S1	1.00	10560																						X								
S2	S2	1.00	11020																						X								
S3	S3	1.00	11080																						X								
S4	S4	1.00	11140																						X								
ZZZZZZ	Rinse Sampl	1.00	11210																														
S0	S0	1.00	11290																						X								
ICV	MICV	1.00	11360																						X								
ICB	ICB	1.00	11420																						X								
CCV	MCCV1	1.00	11480																						X								
CCB	CCB1	1.00	11550																						X								
CRI	MCRI	1.00	12000																						X								
ICSA	ICSAI	1.00	12060																						X								
ICSAB	ICSAB1	1.00	12120																						X								
ZZZZZZ	LR200	1.00	12190																														
ZZZZZZ	LR300	1.00	12250																														
CCV	MCCV2	1.00	12320																						X								
CCB	CCB2	1.00	12390																						X								
ZZZZZZ	UR75RODUP	5.00	12440																														
ZZZZZZ	UR75RO	5.00	12510																														
ZZZZZZ	UR75ROSPK	5.00	12570																														
ZZZZZZ	UR75RJ	5.00	13030																														
ZZZZZZ	UR75RK	5.00	13100																														
ZZZZZZ	UR75RP	5.00	13160																														
ZZZZZZ	UR75RR	5.00	13220																														
ZZZZZZ	US97A	10.00	13290																														
ZZZZZZ	US97B	10.00	13350																														
MW-29S-050212	UT31B	2.00	13410																						X								
CCV	MCCV3	1.00	13470																						X								
CCB	CCB3	1.00	13540																						X								
PBW	UT31MB1	2.00	14030																						X								
ZZZZZZ	US50MB	2.00	14080																														
ZZZZZZ	US50MBSPK	2.00	14140																														
LCSW	UT31MB1SPK	2.00	14200																						X								
MW-30S-050212L	UT31A-L	10.00	14270																						X								

FORM XIV

USSS09 : 2555

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: ERM-West

PROJECT: RG Spring GW Samplin | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 5/9/2012

SDG: UT31 | RUNID: MS050981 METHOD: PMS | END DATE: 5/9/2012

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
MW-30S-050212	UT31A	2.00	14330																						X								
MW-30S-050212D	UT31ADUP	2.00	14390																						X								
MW-30S-050212S	UT31ASPK	2.00	14460																						X								
ZZZZZZ	ZZZZZZ	2.00	14520																														
MW-31S-050212	UT31C	2.00	14580																						X								
CCV	MCCV4	1.00	15050																						X								
CCB	CCB4	1.00	15110																						X								

Analytical Resources,Incorporated
Analytical Chemists and Consultants

SPIKING LOG

US52 PSPK, MB2SPK

Analyst: MJ

Final Volume _____

Sample ID US15 ASPK, MB1SPK, GSPK, MB2SPK

Date: 05.07.12

Final Volume (Hg): 20

	Prepcode:			
	Spike Solution:	ICP Routine	ICP No GFA	GFA
	Standard No.:			
	Vol Added (mL):			
STOCK CONCENTRATION	Ag	50		2.0
	Al	200	200	
	As	200		10
	Ba	200	200	
	Be	50	50	
	Ca	1000	1000	
	Cd	50		2.0
	Co	50	50	
	Cr	50	50	
	Cu	50	50	
	Fe	200	200	
	K	1000	1000	
	Mg	1000	1000	
	Mn	50	50	
	Na	1000	1000	
	Ni	50	50	
	Pb	200		10
	Se	200		10
	Sr	50	50	
	Ti	200		10
	V	50	50	
	Zn	50	50	

	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg	TWM	CVA	1.0	0.02	2908-7
Hg MBSPK	TWM	CVA	1.0	0.04	2908-7
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

US52.0052S

Analytical Resources,Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: MJ

Date: 05.07.12

Final Volume _____

Final Volume (Hg): 20

Sample ID US52 GSPK, MBSPK

Prepcode:		TWC		
Spike Solution:		ICP Routine	ICP No GFA	GFA
Standard No.:		2902-1		
Vol Added (mL):		0.5		
STOCK CONCENTRATION	Ag	50		2.0
	Al	200 ✓	200	
	As	200		10
	Ba	200	200	
	Be	50	50	
	Ca	1000 ✓	1000	
	Cd	50		2.0
	Co	50	50	
	Cr	50	50	
	Cu	50	50	
	Fe	200 ✓	200	
	K	1000 ✓	1000	
	Mg	1000 ✓	1000	
	Mn	50 ✓	50	
	Na	1000 ✓	1000	
	Ni	50	50	
	Pb	200		10
	Se	200		10
	Sr	50	50	
	Tl	200		10
	V	50	50	
	Zn	50	50	

	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg	TWM	CVA	1.0	0.02	2908-7
Hg MBSPK	TWM	CVA	1.0	0.04	2905-7
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

US52 GSPK MBSPK

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MJ Date: 05.07.12 Time: 1205

Matrix: Water Block ID: #7 Block Temp: 91°C Thermometer: MP28

ARI Sample ID	Btl #	pH<2	Prep Code: TWC Initial ~~Wt (g)~~ Vol (mL)	Prep Code: TWC Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
UT02 A	2	✓	50.0	50.0			
UT02 ASPK	2	✓	50.0	50.0			
UT02 MB	—	✓	50.0	50.0			
UT02 MBSPK	—	✓	50.0	50.0			
UT08 A	2	✓	50.0	50.0			
UT08 MB	—	✓	50.0	50.0			
UT08 MBSPK	—	✓	50.0	50.0			
UT16 A	3	✓	50.0	50.0			
UT16 B	3	✓	50.0	50.0			
UT16 MB	—	✓	50.0	50.0			
UT16 MBSPK	—	✓	50.0	50.0			
US86 A	1	✓	50.0	50.0			
US86 B	1	✓	50.0	50.0			
US86 MB	—	✓	50.0	50.0			
US86 MBSPK	—	✓	50.0	50.0			
US52 G	7	✓	50.0	50.0			
US52 GDUP	7	✓	50.0	50.0			
US52 GSPK	7	✓	50.0	50.0			
US52 H	2	✓	50.0	50.0			
US52 I	2	✓	50.0	50.0			
US52 MB1	—	✓	50.0	50.0			
US52 MBSPK	—	✓	50.0	50.0			
				05.07.12 MJ			

Chemical/Reagent ID:

HNO_3: I74166 HCl: MP2290 H_2O_2: —— Tube Lot #: 111173

US52:00540

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MJ Date: 05.07.12 Time: 1430

Matrix: Water Block ID: — Block Temp: — Thermometer: —

ARI Sample ID	Btl #	pH<2	Prep Code: WHN Initial Wt (g) Vol (mL)	Prep Code: WHN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
US52 P	1	✓	—	—			
US52 PDUP	1	✓	—	—			
US52 PSPK	1	✓	—	—			
US52 Q	1	✓	—	—			
US52 R	1	✓	—	—			

05.07.12 MJ

Chemical/Reagent ID:

HNO_3: — HCl: — H_2O_2: — Tube Lot #: 111173

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Mercury Digestion Log

Prep Code: TWM
Analyst: MJ
Bath Temp: 90°C
Start Time: 1335
Matrix: water
Date: 05.07.12
End Time: 1535

ARI Sample ID	Sample Bottle #	pH<2	~~Weight (g)~~ Volume (mL)	Final Volume (mL)	# $KMnO_4$ Aliquots	CLP	Comments
US15 A	1	✓	20.0	20.0	05.11 1	Y	
US15 ADUP	1	✓	20.0	20.0	1	Y	
US15 ASPK	1	✓	20.0	20.0	1	Y	
US15 B	1	✓	20.0	20.0	1	Y	
US15 MB1	—	✓	20.0	20.0	1	Y	
US15 MB1SPK	—	✓	20.0	20.0	1	Y	
US15 G	1	✓	20.0	20.0	1	Y	
US15 GDUP	1	✓	20.0	20.0	1	Y	
US15 GSPK	1	✓	20.0	20.0	1	Y	
US15 H	1	✓	20.0	20.0	1	Y	
US15 MB2	—	✓	20.0	20.0	1	Y	
US15 MB2SPK	—	✓	20.0	20.0	1	Y	
US52 G	7	✓	20.0	20.0	05.13 1	Y	
US52 GDUP	7	✓	20.0	20.0	1	Y	
US52 GSPK	7	✓	20.0	20.0	1	Y	
US52 MB1	—	✓	20.0	20.0	1	Y	
US52 MB1SPK	—	✓	20.0	20.0	1	Y	
US52 P	1	✓	20.0	20.0	1	Y	
US52 PDUP	1	✓	20.0	20.0	1	Y	
US52 PSPK	1	✓	20.0	20.0	1	Y	
US52 MB2	—	✓	20.0	20.0	1	Y	
US52 MB2SPK	—	✓	20.0	20.0	1	Y	
				05.07.12 MJ			

Chemical/Reagent ID:

HNO_3: I7370
H_2SO_4: I7184
HCl: —
5% $K_2S_2O_8$: MP2272
5% $KMnO_4$: MP2273
Digest Tube Lot: 111173

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: MJ **Final Volume** 25 **Sample ID** US52 ASPK, JSPK

Date: 05.08.12 **Final Volume (Hg):**

	Prepcode:			
	Spike Solution:	ICP Routine	ICP No GFA	GFA
	Standard No.:			
	Vol Added (mL):			
	Ag	50		2.0
S	Al	200	200	
T	As	200		10
O	Ba	200	200	
C	Be	50	50	
K	Ca	1000	1000	
	Cd	50		2.0
	Co	50	50	
C	Cr	50	50	
O	Cu	50	50	
N	Fe	200	200	
C	K	1000	1000	
E	Mg	1000	1000	
N	Mn	50	50	
T	Na	1000	1000	
R	Ni	50	50	
A	Pb	200		10
T	Se	200		10
I	Sr	50	50	
O	Tl	200		10
N	V	50	50	
	Zn	50	50	

	REN		
	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
	2927-9		
	0.05		
Ag	25 ✓		
Al			500
As	25 ✓		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25 ✓		
Cu	25 ✓		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80 ✓		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

01S08-2155T

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: MJ

Date: 05.05.12

Final Volume 25

Final Volume (Hg): _____

Sample ID U515 ASPK, MBISPK, GSPK, MB2SPK
U552 GSPK, MBISPK, PSPK, MB2SPK

	Prepcode:			
	Spike Solution:	ICP Routine	ICP No GFA	GFA
	Standard No.:			
	Vol Added (mL):			
STOCK CONCENTRATION	Ag	50		2.0
	Al	200	200	
	As	200		10
	Ba	200	200	
	Be	50	50	
	Ca	1000	1000	
	Cd	50		2.0
	Co	50	50	
	Cr	50	50	
	Cu	50	50	
	Fe	200	200	
	K	1000	1000	
	Mg	1000	1000	
	Mn	50	50	
	Na	1000	1000	
	Ni	50	50	
	Pb	200		10
	Se	200		10
	Sr	50	50	
	Ti	200		10
	V	50	50	
	Zn	50	50	

	REN	REN	
	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
	29279	28931b	
	0.05	0.05	
Ag	25 ✓		
Al			500
As	25 ✓		
Ba	25		
Be	25 ✓		
Ca			500
Cd	25 ✓		
Co	25		
Cr	25 ✓		
Cu	25 ✓		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25 ✓		
Pb	25 ✓		
Sb		25 ✓	
Se	80 ✓		
Ti	25 ✓		
U	25		
V	25		
Zn	80 ✓		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MJ Date: 05.08.12 Time: 0905

Matrix: Water Block ID: #12 Block Temp: 93°C Thermometer: MP39

ARI Sample ID	Btl #	pH<2	Prep Code: REN Initial ~~Wt (g)~~ Vol (mL)	Prep Code: REN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
US02R A	1	✓	50.0	25.0			
US02R ADUP	1	✓	50.0	25.0			
US02R ASPK	1	✓	50.0	25.0			
US02R MB1	—	✓	50.0	25.0			
US02R MB1SPK	—	✓	50.0	25.0			
US02R I	1	✓	50.0	25.0			
US02R IDUP	1	✓	50.0	25.0			
US02R ISPK	1	✓	50.0	25.0			
US02R MB2	—	✓	50.0	25.0			
US02R MB2SPK	—	✓	50.0	25.0			
US52 A	1	✓	50.0	25.0			
US52 ADUP	1	✓	50.0	25.0			
US52 ASPK	1	✓	50.0	25.0			
US52 B	10	✓	50.0	25.0			
US52 C	1	✓	50.0	25.0			
US52 D	1	✓	50.0	25.0			
US52 E	1	✓	50.0	25.0			
US52 F	1	✓	50.0	25.0			
US52 G	7	✓	50.0	25.0			
US52 GDUP	7	✓	50.0	25.0			
US52 GSPK	7	✓	50.0	25.0			
US52 H	2	✓	50.0	25.0			
US52 I	2	✓	50.0	25.0			
US52 MB1	—	✓	50.0	25.0			
US52 MB1SPK	—	✓	50.0	25.0			

Chemical/Reagent ID:

HNO_3: MP2287 HCl: ——— H_2O_2: I7403 Tube Lot #: 111173

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MJ Date: 05.08.12 Time: 0905

Matrix: Water Block ID: #12 Block Temp: 93°C Thermometer: MP39

ARI Sample ID	Btl #	pH<2	Prep Code: REN Initial ~~Wt (g)~~ Vol (mL)	Prep Code: REN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
US52 J	1	✓	50.0	25.0			
US52 JDUP	1	✓	50.0	25.0			
US52 JSPK	1	✓	50.0	25.0			
US52 K	1	✓	50.0	25.0			
US52 L	1	✓	50.0	25.0			
US52 M	1	✓	50.0	25.0			
US52 N	1	✓	50.0	25.0			
US52 O	1	✓	50.0	25.0			
US52 P	1	✓	50.0	25.0			
US52 PDUP	1	✓	50.0	25.0			
US52 PSPK	1	✓	50.0	25.0			
US52 Q	1	✓	50.0	25.0			
US52 R	1	✓	50.0	25.0			
US52 MB2	—	✓	50.0	25.0			
US52 MB2SPK	—	✓	50.0	25.0			
UT31 A	1	✓	50.0	25.0			
UT31 ADUP	1	✓	50.0	25.0			
UT31 ASPK	1	✓	50.0	25.0			
UT31 B	1	✓	50.0	25.0			
UT31 C	1	✓	50.0	25.0			
UT31 MB1	—	✓	50.0	25.0			
UT31 MB1SPK	—	✓	50.0	25.0			
				05.08.12 MJ			

Chemical/Reagent ID:

HNO_3: MP2257 HCl: ——— H_2O_2: I7403 Tube Lot #: 111173

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Metals Laboratory Analyst Notes

ARI Job No.: US52 Client ID: ERM

Parameter: CCV6, CCB6 Client Project:

List problems, concerns, corrective actions and any other pertinent information
CV, CB #6 run in wrong order — otherwise ok except Se was high in the CV and Ag was low. Samples will be reran for Se, Ag.
Analyst Initials: JB 11.16.17 Date:

5048F

Revision 005
6/11/10

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: MJ

Date: 05-04-12

Final Volume 50

Final Volume (Hg): 20

Sample ID USGS DSPK, MBSPK

		Prepcode:	TWC		
		Spike Solution:	ICP Routine	ICP No GFA	GFA
		Standard No.:	2902-1		
		Vol Added (mL):	0.5		
	Ag		50		2.0
S	Al		200 ✓	200	
T	As		200		10
O	Ba		200	200	
C	Be		50	50	
K	Ca		1000 ✓	1000	
	Cd		50		2.0
	Co		50	50	
C	Cr		50	50	
O	Cu		50	50	
N	Fe		200 ✓	200	
C	K		1000 ✓	1000	
E	Mg		1000 ✓	1000	
N	Mn		50 ✓	50	
T	Na		1000 ✓	1000	
R	Ni		50	50	
A	Pb		200		10
T	Se		200		10
I	Sr		50	50	
O	Tl		200		10
N	V		50	50	
	Zn		50	50	

	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg	TWM	CVA	1.0	0.02	2905-7
Hg MBSPK	TWM	CVA	1.0	0.04	2905-7
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

BTS08-2555

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MJ Date: 05.04.12 Time: 1300

Matrix: Water Block ID: #7 Block Temp: 90°C Thermometer: MF28

ARI Sample ID	Btl #	pH<2	Prep Code: TWC Initial ~~Wt (g)~~ Vol (mL)	Prep Code: TWC Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
US60 A	11	✓	50.0	50.0			
US60 ADUP	11	✓	50.0	50.0			
US60 ASPK	11	✓	50.0	50.0			
US60 B	11	✓	50.0	50.0			
US60 C	11	✓	50.0	50.0			
US60 D	11	✓	50.0	50.0			
US60 E	11	✓	50.0	50.0			
US60 F	7	—	50.0	50.0			preserved in lab
US60 G	6	✓	50.0	50.0			
US60 MB	—	✓	50.0	50.0			
US60 MBSPK	—	✓	50.0	50.0			
US61 A	6	✓	50.0	50.0			
US61 B	6	✓	50.0	50.0			
US61 C	6	✓	50.0	50.0			
US61 D	7	✓	50.0	50.0			
US61 DDUP	7	✓	50.0	50.0			
US61 DSPK	7	✓	50.0	50.0			
US61 MB1	—	✓	50.0	50.0			
US61 MBSPK	—	✓	50.0	50.0			
US74 A	1	—	50.0	50.0			preserved in lab
US74 B	1	✓	50.0	50.0			
US74 MB	—	✓	50.0	50.0			
US74 MBSPK	—	✓	50.0	50.0			
				05.04.12 MJ			

Chemical/Reagent ID:

HNO_3: I74666 HCl: MP2290 H_2O_2: —— Tube Lot #: 111173

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MJ Date: 05-04-12 Time: 1500

Matrix: Water Block ID: — Block Temp: — Thermometer: —

ARI Sample ID	Btl #	pH<2	Prep Code: WMN Initial Wt (g) Vol (mL)	Prep Code: WMN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
US61 G	1	✓	—	—			
US61 GDUP	1	✓	—	—			
US61 GSPK	1	✓	—	—			
US61 H	1	✓	—	—			
US61 I	1	✓	—	—			
US61 J	1	✓	—	—			

05-04-12 MJ

Chemical/Reagent ID:

HNO_3: — HCl: — H_2O_2: — Tube Lot #: 111173

US52 : 00550

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Mercury Digestion Log

Prep Code: TWM Matrix: water
Analyst: MJ Date: 05.04.12
Bath Temp: 92°C Start Time: 1505 End Time: 1705

ARI Sample ID	Sample Bottle #	pH<2	Initial ~~Weight (g)~~ Volume (mL)	Final Volume (mL)	# $KMnO_4$ Aliquots	CLP	Comments
US61 A	6	✓	20.0	20.0	05.13 1	Y	
US61 B	6	✓	20.0	20.0	1	Y	
US61 C	6	✓	20.0	20.0	1	Y	
US61 D	7	✓	20.0	20.0	1	Y	
US61 DDUP	7	✓	20.0	20.0	1	Y	
US61 DSPK	7	✓	20.0	20.0	1	Y	
US61 MB1	—	✓	20.0	20.0	1	Y	
US61 MB1SPK	—	✓	20.0	20.0	1	Y	
US61 G	1	✓	20.0	20.0	1	Y	
US61 GDUP	1	✓	20.0	20.0	1	Y	
US61 GSPK	1	✓	20.0	20.0	1	Y	
US61 H	1	✓	20.0	20.0	1	Y	
US61 I	1	✓	20.0	20.0	1	Y	
US61 J	1	✓	20.0	20.0	1	Y	
US61 MB2	—	✓	20.0	20.0	1	Y	
US61 MB2SPK	—	✓	20.0	20.0	1	Y	
US74 A	1	—	20.0	20.0	05.04 1	N	preserved in lab
US74 B	1	✓	20.0	20.0	1	N	
US74 MB	—	✓	20.0	20.0	1	N	
US74 MBSPK	—	✓	20.0	20.0	1	N	

05.04.12 MJ

Chemical/Reagent ID:

HNO_3: I7370 H_2SO_4: I7184 HCl: —
5% $K_2S_2O_8$: MP2272 5% $KMnO_4$: MP2273 Digest Tube Lot: 111173

US52 : 00551

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: MJ

Date: 05.04.12

Final Volume _____

Final Volume (Hg): 20

Sample ID US61 GSPK, MB2SPK

	Prepcode:			
	Spike Solution:	ICP Routine	ICP No GFA	GFA
	Standard No.:			
	Vol Added (mL):			
STOCK CONCENTRATION	Ag	50		2.0
	Al	200	200	
	As	200		10
	Ba	200	200	
	Be	50	50	
	Ca	1000	1000	
	Cd	50		2.0
	Co	50	50	
	Cr	50	50	
	Cu	50	50	
	Fe	200	200	
	K	1000	1000	
	Mg	1000	1000	
	Mn	50	50	
	Na	1000	1000	
	Ni	50	50	
	Pb	200		10
	Se	200		10
	Sr	50	50	
	Tl	200		10
	V	50	50	
	Zn	50	50	

	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg	TWM	CVA	1.0	0.02	2908-7
Hg MBSPK	TWM	CVA	1.0	0.04	2908-7
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

US52:09552

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: MJ

Date: 05.07.12

Final Volume 25

Final Volume (Hg):

Sample ID USW1 DSPK, MBISPK, GSPK, MB2SPK

	Prepcode:			
	Spike Solution:	ICP Routine	ICP No GFA	GFA
	Standard No.:			
	Vol Added (mL):			
STOCK CONCENTRATION	Ag	50		2.0
	Al	200	200	
	As	200		10
	Ba	200	200	
	Be	50	50	
	Ca	1000	1000	
	Cd	50		2.0
	Co	50	50	
	Cr	50	50	
	Cu	50	50	
	Fe	200	200	
	K	1000	1000	
	Mg	1000	1000	
	Mn	50	50	
	Na	1000	1000	
	Ni	50	50	
	Pb	200		10
	Se	200		10
	Sr	50	50	
	Tl	200		10
	V	50	50	
	Zn	50	50	

	REN	REN	
	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
	2927-9	2893-1N	
	0.05	0.05	
Ag	25 ✓		
Al			500
As	25 ✓		
Ba	25		
Be	25 ✓		
Ca			500
Cd	25 ✓		
Co	25		
Cr	25 ✓		
Cu	25 ✓		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25 ✓		
Pb	25 ✓		
Sb		25 ✓	
Se	80 ✓		
Tl	25 ✓		
U	25		
V	25		
Zn	80 ✓		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

ESS596 : 2SSN

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MJ Date: 05.07.12 Time: 0915

Matrix: Water Block ID: #12 Block Temp: 90°C Thermometer: MP39

ARI Sample ID	Btl #	pH<2	Prep Code: REN Initial ~~Wt (g)~~ Vol (mL)	Prep Code: REN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
US97 A	1	✓	50.0	25.0			
US97 C	1	✓	50.0	25.0			
US97 MB1	—	✓	50.0	25.0			
US97 MB1SPK	—	✓	50.0	25.0			
US97 B	1	—	50.0	25.0			
US97 D	1	—	50.0	25.0			Filtered in lab
US97 MB2	—	—	50.0	25.0			
US97 MB2SPK	—	—	50.0	25.0			
US98 A	1	✓	50.0	25.0			
US98 B	1	✓	50.0	25.0			
US98 C	1	✓	50.0	25.0			
US98 D	1	✓	50.0	25.0			
US98 E	1	✓	50.0	25.0			
US98 MB1	—	✓	50.0	25.0			
US98 MB1SPK	—	✓	50.0	25.0			
US61 A	6	✓	50.0	25.0			
US61 B	6	✓	50.0	25.0			
US61 C	6	✓	50.0	25.0			
US61 D	7	✓	50.0	25.0			
US61 DDUP	7	✓	50.0	25.0			
US61 DSPK	7	✓	50.0	25.0			
US61 MB1	—	✓	50.0	25.0			
US61 MB1SPK	—	✓	50.0	25.0			
				25.0 ~~0.2~~ MJ			

Chemical/Reagent ID:

HNO_3: MP2287 HCl: ——— H_2O_2: I7403 Tube Lot #: 111173

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MJ Date: 05.07.12 Time: 0915

Matrix: water Block ID: #13 Block Temp: 94°C Thermometer: MP29

ARI Sample ID	Btl #	pH<2	Prep Code: REN Initial ~~Wt (g)~~ Vol (mL)	Prep Code: REN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
US99 A	1	✓	50.0	25.0			
US99 C	1	✓	50.0	25.0			
US99 MB1	—	✓	50.0	25.0			
US99 MB1SP	—	✓	50.0	25.0			
US99 B	1	—	50.0	25.0			
US99 D	1	—	50.0	25.0			
US99 MB2	—	—	50.0	25.0			
US99 MB2SP	—	—	50.0	25.0			
US98 F	1	—	50.0	25.0			Filtered in lab
US98 G	1	—	50.0	25.0			
US98 H	1	—	50.0	25.0			
US98 I	1	—	50.0	25.0			
US98 J	1	—	50.0	25.0			
US98 MB2	—	—	50.0	25.0			
US98 MB2SP	—	—	50.0	25.0			
US61 G	1	✓	50.0	25.0			
US61 GDUP	1	✓	50.0	25.0			
US61 GSPK	1	✓	50.0	25.0			
US61 H	1	✓	50.0	25.0			
US61 I	1	✓	50.0	25.0			
US61 J	1	✓	50.0	25.0			
US61 MB2	—	✓	50.0	25.0			
US61 MB2SP	—	✓	50.0	25.0			
				05.07.12 MJ			

Chemical/Reagent ID:

HNO_3: MP2287 HCl: ——— H_2O_2: I7403 Tube Lot #: 111173

US52 : 00555

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Metals Laboratory
Analyst Notes

ARI Job No.: U527, U561

Client ID: ERM

Parameter:

Client Project:

List problems, concerns, corrective actions and any other pertinent information

CCV5, CCB5 were run in reverse order because of mistaken position entries in the sample table.

Analyst Initials:		Date:	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Corrective Actions
Inorganic Analyses

Criteria Flagged:		ARI Job No.:	USQ1
Unacceptable Blank:	☐	Date of Event:	5.8.12
Unacceptable Duplicate:	☑	Client ID:	ERM
Unacceptable Spike:	☐	Method/Element:	MS
Unacceptable Reference:	☐	Prep Code:	RCN

Details of Problem/Recommended Corrective Action:
D, DDUP %RPD Cu 21.4%, Ni 20.2%
Batch OK - noisy

Samples Affected:

Corrective Action Taken:

Analyst Initials: [signature] **Supervisor:** [signature]

Date: 5/10/12 **Date:** 5/11/12

5049F

Revision 007
6/11/10

Analytical Resources,Incorporated
Analytical Chemists and Consultants

SPIKING LOG

Analyst: MJ

Date: 05.08.12

Final Volume 25

Final Volume (Hg):

Sample ID LT31ASPK, MBSPK

Prepcode:				
Spike Solution:		ICP Routine	ICP No GFA	GFA
Standard No.:				
Vol Added (mL):				
STOCK CONCENTRATION	Ag	50		2.0
	Al	200	200	
	As	200		10
	Ba	200	200	
	Be	50	50	
	Ca	1000	1000	
	Cd	50		2.0
	Co	50	50	
	Cr	50	50	
	Cu	50	50	
	Fe	200	200	
	K	1000	1000	
	Mg	1000	1000	
	Mn	50	50	
	Na	1000	1000	
	Ni	50	50	
	Pb	200		10
	Se	200		10
	Sr	50	50	
	Tl	200		10
	V	50	50	
	Zn	50	50	

		REN	
	ICP-MS #1	ICP-MS #2	ICP-MS Minerals
		28931k	
		0.05	
Ag	25		
Al			500
As	25		
Ba	25		
Be	25		
Ca			500
Cd	25		
Co	25		
Cr	25		
Cu	25		
Fe			500
K			500
Mg			500
Mn	25		
Mo		25	
Na			500
Ni	25		
Pb	25		
Sb		25 ✓	
Se	80		
Tl	25		
U	25		
V	25		
Zn	80		

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std No.
Hg		CVA	1.0		
Hg MBSPK		CVA	1.0		
Sb		ICP	2000		
Sb		GFA	100		
B		ICP	500		
Mo		ICP	500		
Si		ICP	10000		
Sn		ICP	500		
Ti		ICP	2000		

Additional Elements:

Element	Prepcode	Analysis	Stock Conc.	Stock Added	Std. No.

0555999 · 2551

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: MJ Date: 05.05.12 Time: 0705

Matrix: Water Block ID: #12 Block Temp: 93 C Thermometer: MP39

ARI Sample ID	Btl #	pH<2	Prep Code: REN Initial ~~Wt (g)~~ Vol (mL)	Prep Code: REN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
US52 J	1	✓	50.0	25.0			
US52 JDUP	1	✓	50.0	25.0			
US52 JSPK	1	✓	50.0	25.0			
US52 K	1	✓	50.0	25.0			
US52 L	1	✓	50.0	25.0			
US52 M	1	✓	50.0	25.0			
US52 N	1	✓	50.0	25.0			
US52 O	1	✓	50.0	25.0			
US52 P	1	✓	50.0	25.0			
US52 PDUP	1	✓	50.0	25.0			
US52 PSPK	1	✓	50.0	25.0			
US52 Q	1	✓	50.0	25.0			
US52 R	1	✓	50.0	25.0			
US52 MB2	—	✓	50.0	25.0			
US52 MB2SPK	—	✓	50.0	25.0			
UT31 A	1	✓	50.0	25.0			
UT31 ADUP	1	✓	50.0	25.0			
UT31 ASPK	1	✓	50.0	25.0			
UT31 B	1	✓	50.0	25.0			
UT31 C	1	✓	50.0	25.0			
UT31 MB1	—	✓	50.0	25.0			
UT31 MB1SPK	—	✓	50.0	25.0			
				05.05.12 MJ			

Chemical/Reagent ID:

HNO_3: MP2257 HCl: ——— H_2O_2: I7403 Tube Lot #: 111173

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7500
Serial No. – 077C8121202

IEC Date: 3-19-12 Analysis Date: 5-9-12 Analyst: AT

LR Date: 3-19-12 Page: 1 of 6

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STD 0			2932-4
		2			2934-1
		3			-2
		4			-3
		5			-4
		ICV			2925-3
		ICB			
		CRI			
		ICSA			V -0.008
		ICSAB			
		CCV1			
		CCB1			
		UT36 MB	SWC	2	
	✓	MS34 MB			PE
	✓	A			
		UT36 B			
		C			
		D			
		ADup			✓
		A			
		Aspk			✓
		MBspk			
		CCV2			✓
		CCB2			

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7500
Serial No. – 077C8121202

IEC Date: ~ Analysis Date: 5-9-12 Analyst: tt

LR Date: ~ Page: 2 of 6

All corrections made by analyst unless otherwise noted. HA 5-9-12

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		US52 MB2	WMN		
		P-L		5 ✓	
		P			
		PDup		✓	
		PSpk		✓	0.08mL ICP spk Fe STL
		Q			
		R			
		H	TWX		
SWX		WT36 E	SWX	2	
		US52 MB2spk	WMN	✓	0.08mL ICP spk
		CCV3			
		CCB3			
		US52 MB1	TWX		CV out
ZZZ		ZZZZZZ ~~GL~~		5	
		G			
		GDup		✓	
		GSpk		✓	Fe Ca STL
ZZZ		ZZZZZZ			
		US52 I			
		US61 H	WMN		
		I			
		US52 MB1spk	TWC	✓	
		CCV4			mn low
		CCB4			

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7500
Serial No. – 077C8121202

IEC Date: — Analysis Date: 5-9-12 Analyst: ☆

LR Date: — Page: 3 of 6

All corrections made by analyst unless otherwise noted. ☆ 5-9-12

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		STDQ2 MS-1012			
		CCV5			
		CCB5			
		US61 MB2	WMW		
G1		G-L		5 ✓	
		G			
		G Dup		✓	
		G Spk			0.08mL ICP Spk
↑	✓	J	↓		Sample not Reg ICP
		A	TWC		
		B	↓		
		C			
		MB2 Spk	WMW	✓	0.08 mL ICP Spk
		CCV6			
		CCB6			
		US52 MB1	TWC		
		G-L		5 ✓	
		G			
		G Dup		✓	
		G Spk		✓	Fe Ca Sr
		DUP I	↓		
		US61 IT	WMW		
		↓ I	↓		
		US52 MB1 Spk	TWC	✓	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SAMPLE RUN LOG-ICP-OES-02
Perkin Elmer OPTIMA 7500
Serial No. – 077C8121202

IEC Date: — Analysis Date: 5-9-12 Analyst: KA

LR Date: ✓ Page: 4 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep. Code	Dilution	Comments
		CCV7			
		CCB7			
		US61 MB1	TWL		
zz		~~zzzzzz D~~		5 ✓	
	✓	D			sample not Req ICP
	✓	DDup		✓	
	✓	Dspk		✓	Ca SZ
zzz		~~zzzzzz DPost~~			0.08mL ICPSPL
		MB1spk		✓	
		CR1			
		ICSA			V 0.008
		ICSAB			
		CCV8			
		CCB8			end pkg
	✓	US60 MB	TWL		RR Ca 0.085, Mgo. ✓
		B		2	
		C			
		D			
		E			
	✓	F			RR If
		ADup		✓	
		A			
		Aspk		✓	Ca Mg SZ
		MBspk		✓	

KA 5-10-12

US52 : 00563

ANALYTICAL RESOURCES INCORPORATED

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA **Analysis Date:** 5-9-12

OPT 2	Analyst MS 5-10	Peer JB 5.10.12	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	See Log
ICB/CCB	✓	✓	
Samples:			
RSD's & SD's	✓	✓	
Internal Standards	✓	✓	
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	See Log
Post Spikes/Serial Dilutions	✓	✓	US52 US61
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	
Matrix Duplicates	✓	✓	
Method Blanks	✓	✓	
Data distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAF's	—	✓	

Nebulizer Parameters: Hg_ReAlign

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

5/9/2012 8:19:12 AM Hg ReAlign... Actual peak offset (nm): 0.004
Drift (nm): -0.000 Slit adjustment: 0

Analysis Begun

Start Time: 5/9/2012 8:20:24 AM **Plasma On Time: 5/9/2012 7:34:27 AM**
Logged In Analyst: metals **Technique: ICP Continuous**
Spectrometer Model: Optima 7300 DV, S/N 077C8121202 **Autosampler Model: AS-93plus**

Sample Information File: C:\pe\metals\Sample Information\BLKS.sif
Batch ID:
Results Data Set: BLANKS
Results Library: C:\pe\metals\Results\Results.mdb

Method Loaded
Method Name: 7300bcESI2FAST **Method Last Saved: 3/19/2012 10:25:21 AM**
IEC File: IEC031612.iec **MSF File:**
Method Description: 12Axial Elements

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Al 308.215	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
B 249.677	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Be 313.042	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ca 317.933	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cd 228.802	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Cr 267.716	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Fe 273.955	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
K 766.490	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Mg 279.077	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mn 257.610	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Na 589.592	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Na 330.237	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Ni 231.604	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Se 196.026	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Si 288.158	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	ScR 361.383	No
Ti 334.903	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	ScA 357.253	Yes
Zn 206.200	Lin Thru 0	Peak Area	Radial	ScR 361.383	Yes
ScA 357.253	Lin, Calc Int	Peak Area	Axial	n/a	n/a
ScR 361.383	Lin, Calc Int	Peak Area	Radial	n/a	n/a

Sequence No.: 1 **Autosampler Location: 1**
Sample ID: B1 **Date Collected: 5/9/2012 8:20:33 AM**
Data Type: Original

Dilution: 1X

Nebulizer Parameters: B1

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

5-9-12

Analysis Begun

Start Time: 5/9/2012 8:44:44 AM
Logged In Analyst: metals
Spectrometer Model: Optima 7300 DV, S/N 077C8121202
Plasma On Time: 5/9/2012 7:34:27 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\metals\Sample Information\CRISET1.sif
Batch ID:
Results Data Set: I2120509
Results Library: C:\pe\metals\Results\Results.mdb

Sequence No.: 1
Sample ID: Calib Blank 1
Autosampler Location: 1
Date Collected: 5/9/2012 8:44:46 AM
Data Type: Original

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2591656.0	13471.07	0.52%	100.0	%
ScR 361.383	387516.3	3757.69	0.97%	100.00	%
Ag 328.068†	-144.4	42.80	29.64%	[0.00]	mg/L
Al 308.215†	135.7	5.48	4.04%	[0.00]	mg/L
As 188.979†	-0.3	1.71	585.81%	[0.00]	mg/L
B 249.677†	32.2	8.26	25.64%	[0.00]	mg/L
Ba 233.527†	17.7	2.58	14.52%	[0.00]	mg/L
Be 313.042†	1205.5	37.51	3.11%	[0.00]	mg/L
Ca 317.933†	406.7	9.50	2.33%	[0.00]	mg/L
Cd 228.802†	268.3	1.17	0.44%	[0.00]	mg/L
Co 228.616†	-21.1	2.90	13.79%	[0.00]	mg/L
Cr 267.716†	-35.4	1.83	5.16%	[0.00]	mg/L
Cu 324.752†	1068.4	11.07	1.04%	[0.00]	mg/L
Fe 273.955†	-20.2	3.10	15.30%	[0.00]	mg/L
K 766.490†	-356.3	16.04	4.50%	[0.00]	mg/L
Mg 279.077†	-93.0	7.37	7.92%	[0.00]	mg/L
Mn 257.610†	-8.6	3.91	45.38%	[0.00]	mg/L
Mo 202.031†	90.9	0.26	0.29%	[0.00]	mg/L
Na 589.592†	3307.5	53.95	1.63%	[0.00]	mg/L
Na 330.237†	-19.2	8.13	42.31%	[0.00]	mg/L
Ni 231.604†	-8.2	1.57	19.11%	[0.00]	mg/L
Pb 220.353†	158.5	5.70	3.59%	[0.00]	mg/L
Sb 206.836†	243.9	1.08	0.44%	[0.00]	mg/L
Se 196.026†	-119.3	3.91	3.28%	[0.00]	mg/L
Si 288.158†	73.2	3.82	5.22%	[0.00]	mg/L
Sn 189.927†	-43.7	2.44	5.59%	[0.00]	mg/L
Sr 421.552†	-561.5	13.77	2.45%	[0.00]	mg/L
Ti 334.903†	-121.3	18.36	15.14%	[0.00]	mg/L
Tl 190.801†	-5.2	1.75	33.66%	[0.00]	mg/L
V 292.402†	520.6	27.83	5.35%	[0.00]	mg/L
Zn 206.200†	-62.6	0.79	1.27%	[0.00]	mg/L

Sequence No.: 2
Sample ID: STD2

Autosampler Location: 2
Date Collected: 5/9/2012 8:48:59 AM
Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2518788.6	7180.22	0.29%	97.19	%
ScR 361.383	382203.2	1316.63	0.34%	98.63	%
Ba 233.527†	90075.4	171.31	0.19%	[10]	mg/L
Cd 228.802†	322385.2	806.83	0.25%	[10]	mg/L
Co 228.616†	415548.7	992.12	0.24%	[10]	mg/L
Cr 267.716†	89827.4	324.42	0.36%	[10]	mg/L
Cu 324.752†	2318518.1	10132.93	0.44%	[10]	mg/L
Mn 257.610†	590729.5	1848.29	0.31%	[10]	mg/L
V 292.402†	1908068.3	21983.28	1.15%	[10]	mg/L

Sequence No.: 3
Sample ID: STD3

Autosampler Location: 3
Date Collected: 5/9/2012 8:50:45 AM
Data Type: Original

Nebulizer Parameters: STD3

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2541055.8	26839.31	1.06%	98.05	%
ScR 361.383	382855.3	1670.83	0.44%	98.80	%
Ag 328.068†	280731.2	1427.37	0.51%	[1.0]	mg/L
As 188.979†	24516.2	213.67	0.87%	[10]	mg/L
B 249.677†	64325.6	564.63	0.88%	[10]	mg/L
Be 313.042†	3759925.1	35623.43	0.95%	[5.0]	mg/L
Na 589.592†	664837.3	7427.23	1.12%	[50]	mg/L
Ni 231.604†	49425.3	391.77	0.79%	[10]	mg/L
Pb 220.353†	124073.5	222.38	0.18%	[10]	mg/L
Se 196.026†	18732.6	155.07	0.83%	[10]	mg/L
Sr 421.552†	4322834.1	14643.55	0.34%	[5]	mg/L
Tl 190.801†	26241.6	282.51	1.08%	[10]	mg/L
Zn 206.200†	29232.2	253.62	0.87%	[10]	mg/L

Sequence No.: 4
Sample ID: STD4

Autosampler Location: 4
Date Collected: 5/9/2012 8:53:18 AM
Data Type: Original

Nebulizer Parameters: STD4

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD4

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2510652.6	12086.01	0.48%	96.87	%
ScR 361.383	384892.5	1692.72	0.44%	99.32	%
Mo 202.031†	221929.4	848.72	0.38%	[10]	mg/L
Sb 206.836†	38053.7	140.50	0.37%	[10]	mg/L
Si 288.158†	22285.1	100.41	0.45%	[10]	mg/L
Sn 189.927†	74760.7	368.75	0.49%	[10]	mg/L
Ti 334.903†	296960.2	912.04	0.31%	[10]	mg/L

Sequence No.: 5
Sample ID: STD5

Autosampler Location: 5
Date Collected: 5/9/2012 8:55:31 AM
Data Type: Original

Nebulizer Parameters: STD5

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2419452.5	10380.91	0.43%	93.36	%
ScR 361.383	383232.7	3839.90	1.00%	98.89	%
Al 308.215†	48450.2	389.36	0.80%	[30]	mg/L
Ca 317.933†	316595.0	888.07	0.28%	[30]	mg/L
Fe 273.955†	144563.3	419.10	0.29%	[100]	mg/L
K 766.490†	230501.4	868.24	0.38%	[100]	mg/L
Mg 279.077†	38818.4	259.02	0.67%	[30]	mg/L
Na 330.237†	3073.1	13.28	0.43%	[100]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin Thru 0	0.0	280700	0.00000	1.000000	
Al 308.215	1	Lin Thru 0	0.0	1615	0.00000	1.000000	
As 188.979	1	Lin Thru 0	0.0	2452	0.00000	1.000000	
B 249.677	1	Lin Thru 0	0.0	6433	0.00000	1.000000	
Ba 233.527	1	Lin Thru 0	0.0	9008	0.00000	1.000000	
Be 313.042	1	Lin Thru 0	0.0	752000	0.00000	1.000000	
Ca 317.933	1	Lin Thru 0	0.0	10550	0.00000	1.000000	
Cd 228.802	1	Lin Thru 0	0.0	32240	0.00000	1.000000	
Co 228.616	1	Lin Thru 0	0.0	41550	0.00000	1.000000	
Cr 267.716	1	Lin Thru 0	0.0	8983	0.00000	1.000000	
Cu 324.752	1	Lin Thru 0	0.0	231900	0.00000	1.000000	
Fe 273.955	1	Lin Thru 0	0.0	1446	0.00000	1.000000	
K 766.490	1	Lin Thru 0	0.0	2305	0.00000	1.000000	
Mg 279.077	1	Lin Thru 0	0.0	1294	0.00000	1.000000	
Mn 257.610	1	Lin Thru 0	0.0	59070	0.00000	1.000000	
Mo 202.031	1	Lin Thru 0	0.0	22190	0.00000	1.000000	
Na 589.592	1	Lin Thru 0	0.0	13300	0.00000	1.000000	
Na 330.237	1	Lin Thru 0	0.0	30.73	0.00000	1.000000	
Ni 231.604	1	Lin Thru 0	0.0	4943	0.00000	1.000000	
Pb 220.353	1	Lin Thru 0	0.0	12410	0.00000	1.000000	
Sb 206.836	1	Lin Thru 0	0.0	3805	0.00000	1.000000	
Se 196.026	1	Lin Thru 0	0.0	1873	0.00000	1.000000	
Si 288.158	1	Lin Thru 0	0.0	2229	0.00000	1.000000	
Sn 189.927	1	Lin Thru 0	0.0	7476	0.00000	1.000000	
Sr 421.552	1	Lin Thru 0	0.0	864600	0.00000	1.000000	
Ti 334.903	1	Lin Thru 0	0.0	29700	0.00000	1.000000	
Tl 190.801	1	Lin Thru 0	0.0	2624	0.00000	1.000000	
V 292.402	1	Lin Thru 0	0.0	190800	0.00000	1.000000	
Zn 206.200	1	Lin Thru 0	0.0	2923	0.00000	1.000000	

Analysis Begun

Start Time: 5/9/2012 8:58:55 AM
Logged In Analyst: metals
Spectrometer Model: Optima 7300 DV, S/N 077C8121202
Plasma On Time: 5/9/2012 7:34:27 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\metals\Sample Information\CRISET1.sif
Batch ID:
Results Data Set: I2120509
Results Library: C:\pe\metals\Results\Results.mdb

Sequence No.: 1
Sample ID: ICV
Autosampler Location: 7
Date Collected: 5/9/2012 8:58:56 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2494397.0	96.25	%	0.090				0.09%
ScR 361.383	380367.1	98.16	%	0.361				0.37%
Ag 328.068†	282624.1	1.007	mg/L	0.0033	1.007	mg/L	0.0033	0.33%
Al 308.215†	3292.8	2.010	mg/L	0.0168	2.010	mg/L	0.0168	0.83%
As 188.979†	4943.0	2.021	mg/L	0.0016	2.021	mg/L	0.0016	0.08%
B 249.677†	6448.6	1.001	mg/L	0.0072	1.001	mg/L	0.0072	0.72%
Ba 233.527†	8954.0	0.9936	mg/L	0.00803	0.9936	mg/L	0.00803	0.81%
Be 313.042†	730659.5	0.9710	mg/L	0.00160	0.9710	mg/L	0.00160	0.17%
Ca 317.933†	21807.9	2.066	mg/L	0.0199	2.066	mg/L	0.0199	0.96%
Cd 228.802†	33033.7	1.018	mg/L	0.0047	1.018	mg/L	0.0047	0.46%
Co 228.616†	40739.8	0.9786	mg/L	0.00244	0.9786	mg/L	0.00244	0.25%
Cr 267.716†	9063.6	1.009	mg/L	0.0075	1.009	mg/L	0.0075	0.75%
Cu 324.752†	229519.9	0.9898	mg/L	0.00204	0.9898	mg/L	0.00204	0.21%
Fe 273.955†	2979.4	2.057	mg/L	0.0168	2.057	mg/L	0.0168	0.82%
K 766.490†	47042.1	20.41	mg/L	0.067	20.41	mg/L	0.067	0.33%
Mg 279.077†	2620.1	2.030	mg/L	0.0115	2.030	mg/L	0.0115	0.56%
Mn 257.610†	56122.0	0.9508	mg/L	0.00146	0.9508	mg/L	0.00146	0.15%
Mo 202.031†	22629.1	1.020	mg/L	0.0014	1.020	mg/L	0.0014	0.14%
Na 589.592†	664999.0	50.01	mg/L	0.118	50.01	mg/L	0.118	0.24%
Na 330.237†	1618.3	52.69	mg/L	0.533	52.69	mg/L	0.533	1.01%
Ni 231.604†	4921.1	0.9976	mg/L	0.00733	0.9976	mg/L	0.00733	0.73%
Pb 220.353†	25545.6	2.060	mg/L	0.0038	2.060	mg/L	0.0038	0.19%
Sb 206.836†	7900.1	2.075	mg/L	0.0066	2.075	mg/L	0.0066	0.32%
Se 196.026†	3786.0	2.020	mg/L	0.0039	2.020	mg/L	0.0039	0.20%
Si 288.158†	4644.7	2.088	mg/L	0.0149	2.088	mg/L	0.0149	0.72%
Sn 189.927†	7623.2	1.022	mg/L	0.0026	1.022	mg/L	0.0026	0.25%
Sr 421.552†	862195.6	0.9973	mg/L	0.00183	0.9973	mg/L	0.00183	0.18%
Ti 334.903†	29524.0	0.9926	mg/L	0.00240	0.9926	mg/L	0.00240	0.24%
Tl 190.801†	5295.0	2.017	mg/L	0.0020	2.017	mg/L	0.0020	0.10%
V 292.402†	186723.9	0.9830	mg/L	0.00743	0.9830	mg/L	0.00743	0.76%
Zn 206.200†	2991.7	1.024	mg/L	0.0081	1.024	mg/L	0.0081	0.79%

Sequence No.: 2
Sample ID: CB

Autosampler Location: 1
Date Collected: 5/9/2012 9:02:44 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2621039.0	101.1	%	0.96				0.95%
ScR 361.383	392669.7	101.3	%	0.55				0.54%
Ag 328.068†	15.2	0.00005	mg/L	0.000019	0.00005	mg/L	0.000019	34.71%
Al 308.215†	6.6	0.00406	mg/L	0.001000	0.00406	mg/L	0.001000	24.64%
As 188.979†	-2.7	-0.00110	mg/L	0.001948	-0.00110	mg/L	0.001948	176.46%
B 249.677†	21.5	0.00335	mg/L	0.000935	0.00335	mg/L	0.000935	27.92%
Ba 233.527†	0.3	0.00003	mg/L	0.000371	0.00003	mg/L	0.000371	>999.9%
Be 313.042†	92.0	0.00012	mg/L	0.000073	0.00012	mg/L	0.000073	59.43%
Ca 317.933†	-6.3	-0.00059	mg/L	0.000507	-0.00059	mg/L	0.000507	85.54%
Cd 228.802†	2.5	0.00008	mg/L	0.000153	0.00008	mg/L	0.000153	188.44%
Co 228.616†	8.9	0.00021	mg/L	0.000146	0.00021	mg/L	0.000146	68.34%
Cr 267.716†	-1.6	-0.00018	mg/L	0.000547	-0.00018	mg/L	0.000547	311.70%
Cu 324.752†	52.6	0.00023	mg/L	0.000109	0.00023	mg/L	0.000109	48.12%
Fe 273.955†	-0.5	-0.00036	mg/L	0.001208	-0.00036	mg/L	0.001208	331.13%
K 766.490†	23.3	0.01011	mg/L	0.008934	0.01011	mg/L	0.008934	88.39%
Mg 279.077†	2.4	0.00186	mg/L	0.002942	0.00186	mg/L	0.002942	158.31%
Mn 257.610†	1.1	0.00002	mg/L	0.000056	0.00002	mg/L	0.000056	302.40%
Mo 202.031†	11.5	0.00052	mg/L	0.000093	0.00052	mg/L	0.000093	17.86%
Na 589.592†	-394.8	-0.02969	mg/L	0.002618	-0.02969	mg/L	0.002618	8.82%
Na 330.237†	2.9	0.09383	mg/L	0.190607	0.09383	mg/L	0.190607	203.14%
Ni 231.604†	-0.9	-0.00018	mg/L	0.000344	-0.00018	mg/L	0.000344	193.35%
Pb 220.353†	0.9	0.00007	mg/L	0.000854	0.00007	mg/L	0.000854	>999.9%
Sb 206.836†	12.3	0.00323	mg/L	0.001726	0.00323	mg/L	0.001726	53.46%
Se 196.026†	5.8	0.00308	mg/L	0.001638	0.00308	mg/L	0.001638	53.15%
Si 288.158†	2.7	0.00119	mg/L	0.002242	0.00119	mg/L	0.002242	188.12%
Sn 189.927†	6.7	0.00090	mg/L	0.000641	0.00090	mg/L	0.000641	71.09%
Sr 421.552†	76.5	0.00009	mg/L	0.000077	0.00009	mg/L	0.000077	87.49%
Ti 334.903†	29.7	0.00100	mg/L	0.000248	0.00100	mg/L	0.000248	24.80%
Tl 190.801†	0.2	0.00007	mg/L	0.000621	0.00007	mg/L	0.000621	880.40%
V 292.402†	-1.2	-0.00001	mg/L	0.000144	-0.00001	mg/L	0.000144	>999.9%
Zn 206.200†	1.2	0.00043	mg/L	0.000847	0.00043	mg/L	0.000847	199.19%

Sequence No.: 3
Sample ID: CRI

Dilution: 1X

Autosampler Location: 301
Date Collected: 5/9/2012 9:06:58 AM
Data Type: Original

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2625042.9	101.3	%	0.57				0.56%
ScR 361.383	391642.1	101.1	%	0.97				0.96%
Ag 328.068†	837.6	0.00298	mg/L	0.000174	0.00298	mg/L	0.000174	5.84%
Al 308.215†	91.2	0.05634	mg/L	0.001892	0.05634	mg/L	0.001892	3.36%
As 188.979†	119.3	0.04866	mg/L	0.001425	0.04866	mg/L	0.001425	2.93%
B 249.677†	131.2	0.02039	mg/L	0.000355	0.02039	mg/L	0.000355	1.74%
Ba 233.527†	24.1	0.00268	mg/L	0.000335	0.00268	mg/L	0.000335	12.51%
Be 313.042†	746.9	0.00099	mg/L	0.000014	0.00099	mg/L	0.000014	1.44%
Ca 317.933†	511.2	0.04845	mg/L	0.001748	0.04845	mg/L	0.001748	3.61%
Cd 228.802†	76.8	0.00222	mg/L	0.000056	0.00222	mg/L	0.000056	2.52%
Co 228.616†	131.0	0.00314	mg/L	0.000061	0.00314	mg/L	0.000061	1.95%
Cr 267.716†	42.5	0.00473	mg/L	0.000386	0.00473	mg/L	0.000386	8.16%
Cu 324.752†	454.7	0.00196	mg/L	0.000148	0.00196	mg/L	0.000148	7.52%
Fe 273.955†	72.2	0.04994	mg/L	0.000338	0.04994	mg/L	0.000338	0.68%
K 766.490†	1142.7	0.4957	mg/L	0.00953	0.4957	mg/L	0.00953	1.92%
Mg 279.077†	62.2	0.04806	mg/L	0.001723	0.04806	mg/L	0.001723	3.58%
Mn 257.610†	56.1	0.00096	mg/L	0.000024	0.00096	mg/L	0.000024	2.54%
Mo 202.031†	108.2	0.00488	mg/L	0.000351	0.00488	mg/L	0.000351	7.19%
Na 589.592†	5784.5	0.4350	mg/L	0.00750	0.4350	mg/L	0.00750	1.73%
Na 330.237†	22.1	0.7191	mg/L	0.14299	0.7191	mg/L	0.14299	19.88%
Ni 231.604†	51.8	0.01054	mg/L	0.000337	0.01054	mg/L	0.000337	3.20%
Pb 220.353†	241.5	0.01948	mg/L	0.000984	0.01948	mg/L	0.000984	5.05%
Sb 206.836†	194.3	0.05107	mg/L	0.001653	0.05107	mg/L	0.001653	3.24%
Se 196.026†	97.5	0.05204	mg/L	0.002324	0.05204	mg/L	0.002324	4.47%
Si 288.158†	132.5	0.05947	mg/L	0.004483	0.05947	mg/L	0.004483	7.54%
Sn 189.927†	79.4	0.01066	mg/L	0.000316	0.01066	mg/L	0.000316	2.96%
Sr 421.552†	851.5	0.00098	mg/L	0.000031	0.00098	mg/L	0.000031	3.17%
Ti 334.903†	135.1	0.00454	mg/L	0.000496	0.00454	mg/L	0.000496	10.92%
Tl 190.801†	122.8	0.04679	mg/L	0.001248	0.04679	mg/L	0.001248	2.67%
V 292.402†	505.2	0.00266	mg/L	0.000079	0.00266	mg/L	0.000079	2.98%
Zn 206.200†	26.0	0.00890	mg/L	0.000798	0.00890	mg/L	0.000798	8.97%

Sequence No.: 4
Sample ID: ICSA

Autosampler Location: 302
Date Collected: 5/9/2012 9:11:12 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2479754.1	95.68	%	0.513				0.54%
ScR 361.383	384477.8	99.22	%	0.345				0.35%
Ag 328.068†	-279.0	-0.00166	mg/L	0.000076	-0.00166	mg/L	0.000076	4.59%
Al 308.215†	319594.3	197.9	mg/L	0.61	197.9	mg/L	0.61	0.31%
As 188.979†	-2.4	-0.01663	mg/L	0.001350	-0.01663	mg/L	0.001350	8.12%
B 249.677†	36.8	0.00573	mg/L	0.001747	0.00573	mg/L	0.001747	30.51%
Ba 233.527†	113.0	0.00250	mg/L	0.000600	0.00250	mg/L	0.000600	24.01%
Be 313.042†	103.8	0.00012	mg/L	0.000026	0.00012	mg/L	0.000026	22.50%
Ca 317.933†	1054299.7	99.90	mg/L	0.392	99.90	mg/L	0.392	0.39%
Cd 228.802†	83.0	0.00071	mg/L	0.000238	0.00071	mg/L	0.000238	33.48%
Co 228.616†	104.7	0.00251	mg/L	0.000096	0.00251	mg/L	0.000096	3.82%
Cr 267.716†	-24.8	0.00009	mg/L	0.000369	0.00009	mg/L	0.000369	399.21%
Cu 324.752†	-3822.3	-0.00282	mg/L	0.000045	-0.00282	mg/L	0.000045	1.60%
Fe 273.955†	284465.7	196.8	mg/L	0.88	196.8	mg/L	0.88	0.45%
K 766.490†	50.1	0.02173	mg/L	0.014827	0.02173	mg/L	0.014827	68.23%
Mg 279.077†	126211.1	97.42	mg/L	0.095	97.42	mg/L	0.095	0.10%
Mn 257.610†	56.4	0.00010	mg/L	0.000242	0.00010	mg/L	0.000242	232.60%
Mo 202.031†	153.5	0.00522	mg/L	0.000811	0.00522	mg/L	0.000811	15.54%
Na 589.592†	-5.7	-0.00043	mg/L	0.001018	-0.00043	mg/L	0.001018	235.51%
Na 330.237†	31.8	0.3862	mg/L	0.19656	0.3862	mg/L	0.19656	50.90%
Ni 231.604†	-5.0	-0.00091	mg/L	0.000684	-0.00091	mg/L	0.000684	75.18%
Pb 220.353†	-253.7	-0.00590	mg/L	0.000615	-0.00590	mg/L	0.000615	10.42%
Sb 206.836†	409.7	0.02030	mg/L	0.002235	0.02030	mg/L	0.002235	11.01%
Se 196.026†	-16.0	0.01402	mg/L	0.005902	0.01402	mg/L	0.005902	42.11%
Si 288.158†	-31.3	-0.01405	mg/L	0.000726	-0.01405	mg/L	0.000726	5.17%
Sn 189.927†	-100.9	-0.01050	mg/L	0.000331	-0.01050	mg/L	0.000331	3.15%
Sr 421.552†	8620.3	0.00997	mg/L	0.000087	0.00997	mg/L	0.000087	0.87%
Ti 334.903†	93.4	-0.00034	mg/L	0.000256	-0.00034	mg/L	0.000256	74.29%
Tl 190.801†	-46.0	0.00835	mg/L	0.001876	0.00835	mg/L	0.001876	22.47%
V 292.402†	6135.0	0.00838	mg/L	0.000316	0.00838	mg/L	0.000316	3.77%
Zn 206.200†	-36.1	-0.00509	mg/L	0.001571	-0.00509	mg/L	0.001571	30.88%

Sequence No.: 5
Sample ID: ICSAB

Dilution: 1X

Autosampler Location: 303
Date Collected: 5/9/2012 9:15:27 AM
Data Type: Original

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2516723.1	97.11	%	0.576				0.59%
ScR 361.383	381984.8	98.57	%	0.430				0.44%
Ag 328.068†	293268.4	1.044	mg/L	0.0060	1.044	mg/L	0.0060	0.57%
Al 308.215†	318904.7	197.4	mg/L	0.77	197.4	mg/L	0.77	0.39%
As 188.979†	2417.8	0.9704	mg/L	0.00599	0.9704	mg/L	0.00599	0.62%
B 249.677†	52.0	0.00542	mg/L	0.001326	0.00542	mg/L	0.001326	24.45%
Ba 233.527†	8944.9	0.9827	mg/L	0.00558	0.9827	mg/L	0.00558	0.57%
Be 313.042†	726128.6	0.9649	mg/L	0.00514	0.9649	mg/L	0.00514	0.53%
Ca 317.933†	1048986.5	99.40	mg/L	0.187	99.40	mg/L	0.187	0.19%
Cd 228.802†	32271.1	0.9963	mg/L	0.00368	0.9963	mg/L	0.00368	0.37%
Co 228.616†	38084.5	0.9161	mg/L	0.00390	0.9161	mg/L	0.00390	0.43%
Cr 267.716†	8935.6	0.9973	mg/L	0.00780	0.9973	mg/L	0.00780	0.78%
Cu 324.752†	234075.9	1.023	mg/L	0.0042	1.023	mg/L	0.0042	0.41%
Fe 273.955†	283615.1	196.2	mg/L	0.50	196.2	mg/L	0.50	0.25%
K 766.490†	4.4	0.00192	mg/L	0.007291	0.00192	mg/L	0.007291	379.29%
Mg 279.077†	125480.3	96.86	mg/L	0.199	96.86	mg/L	0.199	0.21%
Mn 257.610†	54939.7	0.9295	mg/L	0.00572	0.9295	mg/L	0.00572	0.62%
Mo 202.031†	145.5	0.00487	mg/L	0.000211	0.00487	mg/L	0.000211	4.34%
Na 589.592†	-168.1	-0.01264	mg/L	0.001875	-0.01264	mg/L	0.001875	14.83%
Na 330.237†	34.5	0.2744	mg/L	0.21753	0.2744	mg/L	0.21753	79.29%
Ni 231.604†	4672.1	0.9463	mg/L	0.00329	0.9463	mg/L	0.00329	0.35%
Pb 220.353†	11691.4	0.9575	mg/L	0.00761	0.9575	mg/L	0.00761	0.79%
Sb 206.836†	3925.7	0.9362	mg/L	0.00693	0.9362	mg/L	0.00693	0.74%
Se 196.026†	1829.3	0.9982	mg/L	0.00941	0.9982	mg/L	0.00941	0.94%
Si 288.158†	-45.4	-0.01664	mg/L	0.001677	-0.01664	mg/L	0.001677	10.08%
Sn 189.927†	-108.2	-0.01081	mg/L	0.000164	-0.01081	mg/L	0.000164	1.52%
Sr 421.552†	8592.3	0.00994	mg/L	0.000048	0.00994	mg/L	0.000048	0.48%
Ti 334.903†	98.3	-0.00038	mg/L	0.000045	-0.00038	mg/L	0.000045	11.92%
Tl 190.801†	2386.3	0.9308	mg/L	0.01026	0.9308	mg/L	0.01026	1.10%
V 292.402†	189828.7	0.9756	mg/L	0.01082	0.9756	mg/L	0.01082	1.11%
Zn 206.200†	2686.9	0.9270	mg/L	0.00561	0.9270	mg/L	0.00561	0.61%

Sequence No.: 6
Sample ID: CV

Autosampler Location: 7
Date Collected: 5/9/2012 9:20:31 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2545986.3	98.24	%	0.183				0.19%
ScR 361.383	392411.5	101.3	%	0.45				0.44%
Ag 328.068†	278347.3	0.9914	mg/L	0.00293	0.9914	mg/L	0.00293	0.30%
Al 308.215†	3246.6	1.981	mg/L	0.0072	1.981	mg/L	0.0072	0.37%
As 188.979†	4857.8	1.986	mg/L	0.0033	1.986	mg/L	0.0033	0.16%
B 249.677†	6302.7	0.9778	mg/L	0.00529	0.9778	mg/L	0.00529	0.54%
Ba 233.527†	8752.0	0.9712	mg/L	0.00484	0.9712	mg/L	0.00484	0.50%
Be 313.042†	711830.1	0.9459	mg/L	0.00454	0.9459	mg/L	0.00454	0.48%
Ca 317.933†	21504.1	2.038	mg/L	0.0095	2.038	mg/L	0.0095	0.47%
Cd 228.802†	32714.7	1.008	mg/L	0.0026	1.008	mg/L	0.0026	0.26%
Co 228.616†	40464.0	0.9720	mg/L	0.00330	0.9720	mg/L	0.00330	0.34%
Cr 267.716†	8910.0	0.9915	mg/L	0.00440	0.9915	mg/L	0.00440	0.44%
Cu 324.752†	229521.6	0.9899	mg/L	0.00106	0.9899	mg/L	0.00106	0.11%
Fe 273.955†	2936.7	2.027	mg/L	0.0094	2.027	mg/L	0.0094	0.46%
K 766.490†	46086.7	19.99	mg/L	0.107	19.99	mg/L	0.107	0.54%
Mg 279.077†	2571.7	1.993	mg/L	0.0029	1.993	mg/L	0.0029	0.14%
Mn 257.610†	54608.7	0.9251	mg/L	0.00409	0.9251	mg/L	0.00409	0.44%
Mo 202.031†	22232.5	1.002	mg/L	0.0019	1.002	mg/L	0.0019	0.19%
Na 589.592†	646292.7	48.61	mg/L	0.330	48.61	mg/L	0.330	0.68%
Na 330.237†	1577.7	51.37	mg/L	0.313	51.37	mg/L	0.313	0.61%
Ni 231.604†	4806.1	0.9743	mg/L	0.00540	0.9743	mg/L	0.00540	0.55%
Pb 220.353†	25126.5	2.026	mg/L	0.0033	2.026	mg/L	0.0033	0.17%
Sb 206.836†	7773.7	2.042	mg/L	0.0022	2.042	mg/L	0.0022	0.11%
Se 196.026†	3716.3	1.983	mg/L	0.0023	1.983	mg/L	0.0023	0.11%
Si 288.158†	4520.7	2.032	mg/L	0.0163	2.032	mg/L	0.0163	0.80%
Sn 189.927†	7500.9	1.005	mg/L	0.0015	1.005	mg/L	0.0015	0.15%
Sr 421.552†	840858.4	0.9726	mg/L	0.00423	0.9726	mg/L	0.00423	0.43%
Ti 334.903†	28806.9	0.9684	mg/L	0.00415	0.9684	mg/L	0.00415	0.43%
Tl 190.801†	5193.7	1.978	mg/L	0.0036	1.978	mg/L	0.0036	0.18%
V 292.402†	185544.7	0.9767	mg/L	0.00874	0.9767	mg/L	0.00874	0.90%
Zn 206.200†	2932.9	1.004	mg/L	0.0028	1.004	mg/L	0.0028	0.28%

Sequence No.: 7
Sample ID: CB

Autosampler Location: 1
Date Collected: 5/9/2012 9:24:18 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2626621.4	101.3	%	0.99				0.98%
ScR 361.383	393879.5	101.6	%	0.13				0.13%
Ag 328.068†	13.8	0.00005	mg/L	0.000176	0.00005	mg/L	0.000176	359.62%
Al 308.215†	14.1	0.00873	mg/L	0.004501	0.00873	mg/L	0.004501	51.58%
As 188.979†	-3.2	-0.00133	mg/L	0.000478	-0.00133	mg/L	0.000478	35.99%
B 249.677†	14.5	0.00225	mg/L	0.001046	0.00225	mg/L	0.001046	46.51%
Ba 233.527†	0.9	0.00010	mg/L	0.000265	0.00010	mg/L	0.000265	278.81%
Be 313.042†	112.5	0.00015	mg/L	0.000056	0.00015	mg/L	0.000056	37.30%
Ca 317.933†	9.1	0.00086	mg/L	0.001176	0.00086	mg/L	0.001176	136.19%
Cd 228.802†	7.6	0.00024	mg/L	0.000178	0.00024	mg/L	0.000178	74.15%
Co 228.616†	10.1	0.00024	mg/L	0.000133	0.00024	mg/L	0.000133	54.68%
Cr 267.716†	-1.6	-0.00018	mg/L	0.000958	-0.00018	mg/L	0.000958	530.61%
Cu 324.752†	57.9	0.00025	mg/L	0.000143	0.00025	mg/L	0.000143	57.43%
Fe 273.955†	3.6	0.00251	mg/L	0.000685	0.00251	mg/L	0.000685	27.29%
K 766.490†	24.4	0.01057	mg/L	0.020376	0.01057	mg/L	0.020376	192.72%
Mg 279.077†	6.3	0.00487	mg/L	0.003082	0.00487	mg/L	0.003082	63.27%
Mn 257.610†	4.2	0.00007	mg/L	0.000027	0.00007	mg/L	0.000027	37.72%
Mo 202.031†	9.5	0.00043	mg/L	0.000132	0.00043	mg/L	0.000132	30.96%
Na 589.592†	-737.4	-0.05546	mg/L	0.000523	-0.05546	mg/L	0.000523	0.94%
Na 330.237†	7.9	0.2572	mg/L	0.15776	0.2572	mg/L	0.15776	61.34%
Ni 231.604†	1.9	0.00039	mg/L	0.001424	0.00039	mg/L	0.001424	362.66%
Pb 220.353†	0.3	0.00003	mg/L	0.001272	0.00003	mg/L	0.001272	>999.9%
Sb 206.836†	13.8	0.00363	mg/L	0.000828	0.00363	mg/L	0.000828	22.78%
Se 196.026†	3.1	0.00168	mg/L	0.001786	0.00168	mg/L	0.001786	106.33%
Si 288.158†	5.5	0.00246	mg/L	0.002331	0.00246	mg/L	0.002331	94.80%
Sn 189.927†	5.1	0.00069	mg/L	0.000507	0.00069	mg/L	0.000507	73.79%
Sr 421.552†	94.1	0.00011	mg/L	0.000048	0.00011	mg/L	0.000048	43.89%
Ti 334.903†	-5.5	-0.00018	mg/L	0.000563	-0.00018	mg/L	0.000563	304.25%
Tl 190.801†	1.8	0.00068	mg/L	0.000774	0.00068	mg/L	0.000774	113.92%
V 292.402†	-15.4	-0.00008	mg/L	0.000031	-0.00008	mg/L	0.000031	38.69%
Zn 206.200†	2.3	0.00080	mg/L	0.001733	0.00080	mg/L	0.001733	215.61%

Sequence No.: 8
Sample ID: UT36 MB SWC

Autosampler Location: 304
Date Collected: 5/9/2012 9:28:32 AM
Data Type: Original

Dilution: 2X

Nebulizer Parameters: UT36 MB SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: UT36 MB SWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2648266.9	102.2	%	0.34				0.33%
ScR 361.383	401412.7	103.6	%	0.75				0.72%
Ag 328.068†	-2.0	-0.00001	mg/L	0.000149	-0.00001	mg/L	0.000298	>999.9%
Al 308.215†	5.3	0.00330	mg/L	0.001242	0.00660	mg/L	0.002484	37.65%
As 188.979†	-2.5	-0.00100	mg/L	0.000739	-0.00200	mg/L	0.001479	73.76%
B 249.677†	6.4	0.00099	mg/L	0.001098	0.00197	mg/L	0.002196	111.22%
Ba 233.527†	1.3	0.00014	mg/L	0.000443	0.00028	mg/L	0.000886	314.86%
Be 313.042†	21.3	0.00003	mg/L	0.000004	0.00006	mg/L	0.000007	12.98%
Ca 317.933†	81.8	0.00776	mg/L	0.000189	0.01551	mg/L	0.000378	2.44%
Cd 228.802†	-0.0	0.00000	mg/L	0.000086	0.00000	mg/L	0.000173	>999.9%
Co 228.616†	1.4	0.00003	mg/L	0.000104	0.00006	mg/L	0.000208	322.57%
Cr 267.716†	-3.4	-0.00038	mg/L	0.000174	-0.00076	mg/L	0.000347	45.92%
Cu 324.752†	99.3	0.00043	mg/L	0.000121	0.00086	mg/L	0.000241	28.17%
Fe 273.955†	5.3	0.00367	mg/L	0.001424	0.00735	mg/L	0.002848	38.75%
K 766.490†	27.6	0.01199	mg/L	0.014005	0.02398	mg/L	0.028011	116.83%
Mg 279.077†	3.2	0.00250	mg/L	0.004621	0.00499	mg/L	0.009241	185.08%
Mn 257.610†	0.1	0.00000	mg/L	0.000069	0.00000	mg/L	0.000138	>999.9%
Mo 202.031†	0.1	0.00000	mg/L	0.000227	0.00001	mg/L	0.000453	>999.9%
Na 589.592†	-748.6	-0.05630	mg/L	0.001585	-0.1126	mg/L	0.00317	2.82%
Na 330.237†	1.7	0.05575	mg/L	0.404071	0.1115	mg/L	0.80814	724.77%
Ni 231.604†	1.3	0.00026	mg/L	0.000500	0.00052	mg/L	0.001000	193.83%
Pb 220.353†	-7.4	-0.00060	mg/L	0.000389	-0.00120	mg/L	0.000778	64.68%
Sb 206.836†	4.2	0.00110	mg/L	0.001276	0.00221	mg/L	0.002552	115.57%
Se 196.026†	5.3	0.00283	mg/L	0.001035	0.00566	mg/L	0.002069	36.58%
Si 288.158†	10.9	0.00489	mg/L	0.002908	0.00978	mg/L	0.005815	59.45%
Sn 189.927†	3.3	0.00045	mg/L	0.000276	0.00089	mg/L	0.000552	61.82%
Sr 421.552†	28.1	0.00003	mg/L	0.000033	0.00006	mg/L	0.000065	100.42%
Ti 334.903†	38.9	0.00131	mg/L	0.000416	0.00262	mg/L	0.000833	31.77%
Tl 190.801†	2.7	0.00104	mg/L	0.001079	0.00208	mg/L	0.002158	103.91%
V 292.402†	-13.5	-0.00007	mg/L	0.000150	-0.00015	mg/L	0.000300	204.16%
Zn 206.200†	5.2	0.00179	mg/L	0.000655	0.00358	mg/L	0.001309	36.55%

Sequence No.: 9
Sample ID: US34 MB SWC

Autosampler Location: 305
Date Collected: 5/9/2012 9:32:46 AM
Data Type: Original

Dilution: 2X

DE

Nebulizer Parameters: US34 MB SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US34 MB SWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2638783.7	101.8	%	0.81				0.79%
ScR 361.383	397726.6	102.6	%	0.98				0.95%
Ag 328.068†	25.0	0.00009	mg/L	0.000192	0.00018	mg/L	0.000384	215.51%
Al 308.215†	11.0	0.00684	mg/L	0.002626	0.01368	mg/L	0.005253	38.41%
As 188.979†	-1.0	-0.00039	mg/L	0.001290	-0.00079	mg/L	0.002580	327.80%
B 249.677†	11.1	0.00172	mg/L	0.000438	0.00345	mg/L	0.000875	25.40%
Ba 233.527†	7.4	0.00083	mg/L	0.000305	0.00165	mg/L	0.000611	36.93%
Be 313.042†	5.0	0.00001	mg/L	0.000034	0.00001	mg/L	0.000068	524.15%
Ca 317.933†	116.2	0.01101	mg/L	0.000778	0.02203	mg/L	0.001555	7.06%
Cd 228.802†	-0.2	0.00000	mg/L	0.000160	-0.00001	mg/L	0.000320	>999.9%
Co 228.616†	6.6	0.00016	mg/L	0.000129	0.00032	mg/L	0.000258	81.91%
Cr 267.716†	-2.8	-0.00031	mg/L	0.000328	-0.00063	mg/L	0.000657	104.95%
Cu 324.752†	104.8	0.00045	mg/L	0.000099	0.00090	mg/L	0.000199	21.99%
Fe 273.955†	5.2	0.00358	mg/L	0.003542	0.00717	mg/L	0.007085	98.87%
K 766.490†	16.6	0.00721	mg/L	0.005681	0.01442	mg/L	0.011363	78.79%
Mg 279.077†	2.8	0.00218	mg/L	0.004465	0.00436	mg/L	0.008931	204.81%
Mn 257.610†	1.1	0.00002	mg/L	0.000073	0.00004	mg/L	0.000145	384.47%
Mo 202.031†	0.7	0.00003	mg/L	0.000185	0.00006	mg/L	0.000371	622.13%
Na 589.592†	-798.6	-0.06006	mg/L	0.004105	-0.1201	mg/L	0.00821	6.83%
Na 330.237†	8.8	0.2853	mg/L	0.19919	0.5707	mg/L	0.39839	69.81%
Ni 231.604†	4.3	0.00087	mg/L	0.000247	0.00174	mg/L	0.000493	28.33%
Pb 220.353†	-5.6	-0.00046	mg/L	0.000855	-0.00091	mg/L	0.001709	187.61%
Sb 206.836†	7.2	0.00190	mg/L	0.000552	0.00381	mg/L	0.001105	29.03%
Se 196.026†	-0.6	-0.00034	mg/L	0.002490	-0.00068	mg/L	0.004981	728.95%
Si 288.158†	3.7	0.00166	mg/L	0.001768	0.00332	mg/L	0.003536	106.47%
Sn 189.927†	4.3	0.00058	mg/L	0.000437	0.00117	mg/L	0.000874	74.98%
Sr 421.552†	39.8	0.00005	mg/L	0.000013	0.00009	mg/L	0.000026	28.03%
Ti 334.903†	-2.5	-0.00008	mg/L	0.000333	-0.00017	mg/L	0.000665	399.62%
Tl 190.801†	-0.4	-0.00015	mg/L	0.000971	-0.00030	mg/L	0.001942	641.67%
V 292.402†	23.1	0.00012	mg/L	0.000085	0.00024	mg/L	0.000170	71.06%
Zn 206.200†	7.1	0.00243	mg/L	0.001506	0.00486	mg/L	0.003013	61.95%

Sequence No.: 10
Sample ID: US34 A SWC

Autosampler Location: 306
Date Collected: 5/9/2012 9:36:59 AM
Data Type: Original

Dilution: 2X

Nebulizer Parameters: US34 A SWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US34 A SWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2549223.7	98.36	%	0.575				0.58%
ScR 361.383	398034.2	102.7	%	0.55				0.53%
Ag 328.068†	101441.6	0.3589	mg/L	0.00279	0.7179	mg/L	0.00557	0.78%
Al 308.215†	178634.8	110.6	mg/L	0.60	221.1	mg/L	1.19	0.54%
As 188.979†	2830.7	1.149	mg/L	0.0095	2.297	mg/L	0.0190	0.83%
B 249.677†	7751.7	1.200	mg/L	0.0099	2.400	mg/L	0.0199	0.83%
Ba 233.527†	76612.0	8.501	mg/L	0.0411	17.00	mg/L	0.082	0.48%
Be 313.042†	1305947.8	1.735	mg/L	0.0098	3.470	mg/L	0.0195	0.56%
Ca 317.933†	351598.6	33.32	mg/L	0.004	66.63	mg/L	0.008	0.01%
Cd 228.802†	31983.1	0.9901	mg/L	0.00652	1.980	mg/L	0.0130	0.66%
Co 228.616†	75925.0	1.824	mg/L	0.0082	3.648	mg/L	0.0164	0.45%
Cr 267.716†	21254.2	2.366	mg/L	0.0183	4.732	mg/L	0.0367	0.78%
Cu 324.752†	670482.6	2.896	mg/L	0.0178	5.792	mg/L	0.0357	0.62%
Fe 273.955†	77595.3	53.66	mg/L	0.399	107.3	mg/L	0.80	0.74%
K 766.490†	94336.5	40.93	mg/L	0.131	81.85	mg/L	0.261	0.32%
Mg 279.077†	24021.4	18.54	mg/L	0.147	37.08	mg/L	0.294	0.79%
Mn 257.610†	787025.2	13.32	mg/L	0.081	26.65	mg/L	0.162	0.61%
Mo 202.031†	8414.7	0.3786	mg/L	0.00232	0.7572	mg/L	0.00464	0.61%
Na 589.592†	81532.1	6.132	mg/L	0.0672	12.26	mg/L	0.134	1.10%
Na 330.237†	264.5	6.560	mg/L	0.4094	13.12	mg/L	0.819	6.24%
Ni 231.604†	21008.4	4.251	mg/L	0.0296	8.502	mg/L	0.0592	0.70%
Pb 220.353†	10092.6	0.8266	mg/L	0.00580	1.653	mg/L	0.0116	0.70%
Sb 206.836†	1138.6	0.2480	mg/L	0.00257	0.4960	mg/L	0.00513	1.04%
Se 196.026†	3625.2	1.929	mg/L	0.0110	3.858	mg/L	0.0219	0.57%
Si 288.158†	4852.4	2.181	mg/L	0.0236	4.362	mg/L	0.0472	1.08%
Sn 189.927†	9407.8	1.260	mg/L	0.0104	2.520	mg/L	0.0208	0.83%
Sr 421.552†	1723779.6	1.994	mg/L	0.0083	3.988	mg/L	0.0165	0.41%
Ti 334.903†	13856.4	0.4644	mg/L	0.00316	0.9288	mg/L	0.00633	0.68%
Tl 190.801†	1504.6	0.5714	mg/L	0.00130	1.143	mg/L	0.0026	0.23%
V 292.402†	525139.2	2.758	mg/L	0.0422	5.516	mg/L	0.0844	1.53%
Zn 206.200†	26375.3	9.028	mg/L	0.0705	18.06	mg/L	0.141	0.78%

Sequence No.: 11
Sample ID: UT36 B SWC

Autosampler Location: 307
Date Collected: 5/9/2012 9:40:01 AM
Data Type: Original

Dilution: 2X

Nebulizer Parameters: UT36 B SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: UT36 B SWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2645010.2	102.1	%	0.25				0.25%
ScR 361.383	406885.5	105.0	%	0.20				0.19%
Ag 328.068†	-285.9	-0.00166	mg/L	0.000089	-0.00333	mg/L	0.000179	5.37%
Al 308.215†	243194.5	150.6	mg/L	0.77	301.1	mg/L	1.55	0.51%
As 188.979†	23.3	0.05763	mg/L	0.001286	0.1153	mg/L	0.00257	2.23%
B 249.677†	144.0	0.02210	mg/L	0.001336	0.04419	mg/L	0.002673	6.05%
Ba 233.527†	6459.9	0.7067	mg/L	0.00087	1.413	mg/L	0.0017	0.12%
Be 313.042†	1951.2	0.00218	mg/L	0.000058	0.00436	mg/L	0.000116	2.65%
Ca 317.933†	490469.8	46.48	mg/L	0.178	92.95	mg/L	0.355	0.38%
Cd 228.802†	91.6	0.00113	mg/L	0.000268	0.00226	mg/L	0.000535	23.72%
Co 228.616†	4264.9	0.08789	mg/L	0.000347	0.1758	mg/L	0.00069	0.39%
Cr 267.716†	2543.2	0.2886	mg/L	0.00216	0.5771	mg/L	0.00432	0.75%
Cu 324.752†	42850.7	0.1965	mg/L	0.00163	0.3931	mg/L	0.00327	0.83%
Fe 273.955†	290806.9	201.2	mg/L	1.20	402.3	mg/L	2.40	0.60%
K 766.490†	24409.6	10.59	mg/L	0.042	21.18	mg/L	0.084	0.40%
Mg 279.077†	80816.3	62.34	mg/L	0.043	124.7	mg/L	0.09	0.07%
Mn 257.610†	223524.5	3.784	mg/L	0.0181	7.567	mg/L	0.0361	0.48%
Mo 202.031†	143.9	0.00569	mg/L	0.000501	0.01139	mg/L	0.001002	8.80%
Na 589.592†	39026.0	2.935	mg/L	0.0214	5.870	mg/L	0.0429	0.73%
Na 330.237†	19.5	2.596	mg/L	0.2206	5.192	mg/L	0.4411	8.50%
Ni 231.604†	1838.4	0.3720	mg/L	0.00161	0.7440	mg/L	0.00323	0.43%
Pb 220.353†	494.4	0.04783	mg/L	0.001080	0.09565	mg/L	0.002159	2.26%
Sb 206.836†	254.7	0.00629	mg/L	0.001633	0.01257	mg/L	0.003267	25.99%
Se 196.026†	-29.7	0.00378	mg/L	0.005740	0.00755	mg/L	0.011479	151.96%
Si 288.158†	3209.3	1.440	mg/L	0.0063	2.880	mg/L	0.0125	0.44%
Sn 189.927†	-85.7	-0.00578	mg/L	0.000635	-0.01156	mg/L	0.001271	10.99%
Sr 421.552†	223583.6	0.2586	mg/L	0.00120	0.5172	mg/L	0.00239	0.46%
Ti 334.903†	256037.8	8.620	mg/L	0.0361	17.24	mg/L	0.072	0.42%
Tl 190.801†	-36.5	0.00672	mg/L	0.002210	0.01344	mg/L	0.004420	32.90%
V 292.402†	89955.9	0.4436	mg/L	0.00359	0.8871	mg/L	0.00718	0.81%
Zn 206.200†	1067.2	0.3711	mg/L	0.00147	0.7423	mg/L	0.00294	0.40%

Sequence No.: 12
Sample ID: UT36 C SWC

Autosampler Location: 308
Date Collected: 5/9/2012 9:44:00 AM
Data Type: Original

Dilution: 2X

Nebulizer Parameters: UT36 C SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: UT36 C SWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2515499.0	97.06	%	0.605				0.62%
ScR 361.383	391904.3	101.1	%	1.04				1.03%
Ag 328.068†	190.9	-0.00105	mg/L	0.000192	-0.00210	mg/L	0.000385	18.33%
Al 308.215†	162181.2	100.4	mg/L	0.94	200.8	mg/L	1.87	0.93%
As 188.979†	-78.7	0.00455	mg/L	0.001186	0.00910	mg/L	0.002372	26.06%
B 249.677†	333.4	0.05167	mg/L	0.001691	0.1033	mg/L	0.00338	3.27%
Ba 233.527†	3841.8	0.4200	mg/L	0.00569	0.8400	mg/L	0.01138	1.35%
Be 313.042†	1521.4	0.00173	mg/L	0.000044	0.00346	mg/L	0.000088	2.54%
Ca 317.933†	2632680.0	249.5	mg/L	1.22	498.9	mg/L	2.44	0.49%
Cd 228.802†	77.5	0.00144	mg/L	0.000261	0.00289	mg/L	0.000522	18.09%
Co 228.616†	2358.3	0.04584	mg/L	0.000161	0.09168	mg/L	0.000321	0.35%
Cr 267.716†	1670.8	0.1843	mg/L	0.00291	0.3685	mg/L	0.00581	1.58%
Cu 324.752†	22388.7	0.1036	mg/L	0.00030	0.2071	mg/L	0.00059	0.29%
Fe 273.955†	181229.1	125.4	mg/L	1.44	250.7	mg/L	2.89	1.15%
K 766.490†	14308.5	6.208	mg/L	0.0322	12.42	mg/L	0.064	0.52%
Mg 279.077†	52226.2	40.29	mg/L	0.249	80.58	mg/L	0.498	0.62%
Mn 257.610†	109709.3	1.857	mg/L	0.0130	3.714	mg/L	0.0261	0.70%
Mo 202.031†	189.0	0.00428	mg/L	0.000238	0.00855	mg/L	0.000475	5.56%
Na 589.592†	59460.5	4.472	mg/L	0.0295	8.944	mg/L	0.0590	0.66%
Na 330.237†	137.1	4.519	mg/L	0.1399	9.038	mg/L	0.2798	3.10%
Ni 231.604†	959.3	0.1941	mg/L	0.00284	0.3883	mg/L	0.00567	1.46%
Pb 220.353†	28.7	0.00825	mg/L	0.000961	0.01650	mg/L	0.001921	11.64%
Sb 206.836†	185.5	0.01041	mg/L	0.000975	0.02083	mg/L	0.001950	9.36%
Se 196.026†	20.8	0.02379	mg/L	0.005283	0.04758	mg/L	0.010566	22.21%
Si 288.158†	1462.3	0.6562	mg/L	0.01284	1.312	mg/L	0.0257	1.96%
Sn 189.927†	-114.2	-0.00478	mg/L	0.000746	-0.00956	mg/L	0.001493	15.62%
Sr 421.552†	476916.0	0.5516	mg/L	0.00345	1.103	mg/L	0.0069	0.63%
Ti 334.903†	190094.5	6.393	mg/L	0.0418	12.79	mg/L	0.084	0.65%
Tl 190.801†	-12.8	0.00739	mg/L	0.001935	0.01477	mg/L	0.003870	26.20%
V 292.402†	62122.0	0.3075	mg/L	0.00092	0.6150	mg/L	0.00183	0.30%
Zn 206.200†	713.2	0.2451	mg/L	0.00292	0.4902	mg/L	0.00584	1.19%

Sequence No.: 13
Sample ID: UT36 D SWC

Autosampler Location: 309
Date Collected: 5/9/2012 9:48:01 AM
Data Type: Original

Dilution: 2X

Nebulizer Parameters: UT36 D SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: UT36 D SWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2630198.7	101.5	%	0.33				0.33%
ScR 361.383	403469.9	104.1	%	0.92				0.88%
Ag 328.068†	-291.0	-0.00174	mg/L	0.000224	-0.00348	mg/L	0.000447	12.86%
Al 308.215†	256661.8	158.9	mg/L	0.62	317.8	mg/L	1.23	0.39%
As 188.979†	-14.6	0.04000	mg/L	0.001717	0.08001	mg/L	0.003435	4.29%
B 249.677†	149.4	0.02291	mg/L	0.000575	0.04583	mg/L	0.001151	2.51%
Ba 233.527†	8751.7	0.9605	mg/L	0.00621	1.921	mg/L	0.0124	0.65%
Be 313.042†	1986.0	0.00222	mg/L	0.000033	0.00444	mg/L	0.000065	1.47%
Ca 317.933†	599112.9	56.77	mg/L	0.308	113.5	mg/L	0.62	0.54%
Cd 228.802†	99.8	0.00137	mg/L	0.000036	0.00273	mg/L	0.000071	2.60%
Co 228.616†	4425.1	0.09201	mg/L	0.000402	0.1840	mg/L	0.00080	0.44%
Cr 267.716†	3228.9	0.3649	mg/L	0.00099	0.7299	mg/L	0.00198	0.27%
Cu 324.752†	45915.4	0.2107	mg/L	0.00212	0.4213	mg/L	0.00424	1.01%
Fe 273.955†	308273.9	213.2	mg/L	0.71	426.5	mg/L	1.42	0.33%
K 766.490†	25712.8	11.16	mg/L	0.053	22.31	mg/L	0.105	0.47%
Mg 279.077†	90094.6	69.50	mg/L	0.201	139.0	mg/L	0.40	0.29%
Mn 257.610†	218266.7	3.695	mg/L	0.0173	7.389	mg/L	0.0346	0.47%
Mo 202.031†	146.3	0.00563	mg/L	0.000332	0.01125	mg/L	0.000664	5.90%
Na 589.592†	36799.8	2.768	mg/L	0.0229	5.535	mg/L	0.0457	0.83%
Na 330.237†	17.2	2.377	mg/L	0.3322	4.754	mg/L	0.6644	13.98%
Ni 231.604†	2190.4	0.4432	mg/L	0.00277	0.8865	mg/L	0.00554	0.63%
Pb 220.353†	963.2	0.08610	mg/L	0.001538	0.1722	mg/L	0.00308	1.79%
Sb 206.836†	276.4	0.00679	mg/L	0.000647	0.01358	mg/L	0.001294	9.53%
Se 196.026†	-22.5	0.00908	mg/L	0.003875	0.01816	mg/L	0.007750	42.68%
Si 288.158†	3841.6	1.724	mg/L	0.0039	3.448	mg/L	0.0078	0.23%
Sn 189.927†	-44.0	0.00000	mg/L	0.000639	0.00000	mg/L	0.001278	>999.9%
Sr 421.552†	452331.3	0.5232	mg/L	0.00255	1.046	mg/L	0.0051	0.49%
Ti 334.903†	250171.4	8.422	mg/L	0.0327	16.84	mg/L	0.065	0.39%
Tl 190.801†	-36.4	0.00838	mg/L	0.002314	0.01676	mg/L	0.004628	27.62%
V 292.402†	92246.6	0.4545	mg/L	0.00112	0.9091	mg/L	0.00223	0.25%
Zn 206.200†	1359.7	0.4715	mg/L	0.00386	0.9430	mg/L	0.00773	0.82%

Sequence No.: 14
Sample ID: UT36 ADUP SWC

Dilution: 2X

Autosampler Location: 310
Date Collected: 5/9/2012 9:52:00 AM
Data Type: Original

Nebulizer Parameters: UT36 ADUP SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: UT36 ADUP SWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2641591.1	101.9	%	0.72				0.71%
ScR 361.383	412601.9	106.5	%	1.23				1.16%
Ag 328.068†	-392.6	-0.00204	mg/L	0.000018	-0.00408	mg/L	0.000035	0.86%
Al 308.215†	263699.3	163.3	mg/L	1.24	326.5	mg/L	2.47	0.76%
As 188.979†	-76.5	0.02264	mg/L	0.004302	0.04527	mg/L	0.008604	19.00%
B 249.677†	125.8	0.01923	mg/L	0.000246	0.03846	mg/L	0.000491	1.28%
Ba 233.527†	7041.8	0.7707	mg/L	0.00988	1.541	mg/L	0.0198	1.28%
Be 313.042†	2004.3	0.00222	mg/L	0.000064	0.00443	mg/L	0.000129	2.90%
Ca 317.933†	523631.3	49.62	mg/L	0.193	99.24	mg/L	0.387	0.39%
Cd 228.802†	88.2	0.00108	mg/L	0.000049	0.00216	mg/L	0.000098	4.56%
Co 228.616†	4730.3	0.09746	mg/L	0.000651	0.1949	mg/L	0.00130	0.67%
Cr 267.716†	3607.4	0.4076	mg/L	0.00473	0.8151	mg/L	0.00947	1.16%
Cu 324.752†	46119.1	0.2112	mg/L	0.00211	0.4224	mg/L	0.00421	1.00%
Fe 273.955†	307299.2	212.6	mg/L	2.00	425.1	mg/L	4.01	0.94%
K 766.490†	17159.7	7.444	mg/L	0.0615	14.89	mg/L	0.123	0.83%
Mg 279.077†	77726.2	59.95	mg/L	0.229	119.9	mg/L	0.46	0.38%
Mn 257.610†	228794.5	3.873	mg/L	0.0470	7.746	mg/L	0.0939	1.21%
Mo 202.031†	142.4	0.00557	mg/L	0.000179	0.01115	mg/L	0.000357	3.21%
Na 589.592†	28463.0	2.141	mg/L	0.0425	4.281	mg/L	0.0851	1.99%
Na 330.237†	-15.9	1.676	mg/L	0.1195	3.353	mg/L	0.2390	7.13%
Ni 231.604†	2057.6	0.4164	mg/L	0.00485	0.8327	mg/L	0.00970	1.16%
Pb 220.353†	286.9	0.03233	mg/L	0.000371	0.06466	mg/L	0.000743	1.15%
Sb 206.836†	277.6	0.00725	mg/L	0.003219	0.01451	mg/L	0.006438	44.38%
Se 196.026†	-34.1	0.00265	mg/L	0.009007	0.00530	mg/L	0.018014	340.03%
Si 288.158†	4439.9	1.992	mg/L	0.0262	3.985	mg/L	0.0524	1.32%
Sn 189.927†	-80.2	-0.00448	mg/L	0.000143	-0.00895	mg/L	0.000285	3.18%
Sr 421.552†	257968.1	0.2984	mg/L	0.00299	0.5968	mg/L	0.00598	1.00%
Ti 334.903†	284429.5	9.576	mg/L	0.0930	19.15	mg/L	0.186	0.97%
Tl 190.801†	-35.1	0.00810	mg/L	0.000674	0.01620	mg/L	0.001348	8.32%
V 292.402†	96164.2	0.4746	mg/L	0.00330	0.9493	mg/L	0.00660	0.70%
Zn 206.200†	1161.4	0.4039	mg/L	0.00519	0.8078	mg/L	0.01038	1.29%

Sequence No.: 15
Sample ID: UT36 A SWC

Dilution: 2X

Autosampler Location: 311
Date Collected: 5/9/2012 9:55:59 AM
Data Type: Original

Nebulizer Parameters: UT36 A SWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: UT36 A SWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2560245.6	98.79	%	0.187				0.19%
ScR 361.383	408955.1	105.5	%	0.98				0.93%
Ag 328.068†	-379.3	-0.00199	mg/L	0.000188	-0.00398	mg/L	0.000375	9.42%
Al 308.215†	263594.4	163.2	mg/L	1.56	326.4	mg/L	3.12	0.96%
As 188.979†	-71.4	0.02390	mg/L	0.000896	0.04781	mg/L	0.001792	3.75%
B 249.677†	131.9	0.02017	mg/L	0.000422	0.04034	mg/L	0.000845	2.09%
Ba 233.527†	7334.7	0.8031	mg/L	0.01093	1.606	mg/L	0.0219	1.36%
Be 313.042†	2089.3	0.00232	mg/L	0.000050	0.00465	mg/L	0.000099	2.14%
Ca 317.933†	491987.0	46.62	mg/L	0.187	93.24	mg/L	0.373	0.40%
Cd 228.802†	96.6	0.00133	mg/L	0.000354	0.00265	mg/L	0.000707	26.68%
Co 228.616†	4896.6	0.1016	mg/L	0.00085	0.2033	mg/L	0.00170	0.84%
Cr 267.716†	3727.9	0.4211	mg/L	0.00653	0.8421	mg/L	0.01306	1.55%
Cu 324.752†	46673.6	0.2137	mg/L	0.00042	0.4275	mg/L	0.00084	0.20%
Fe 273.955†	309414.1	214.0	mg/L	2.09	428.1	mg/L	4.18	0.98%
K 766.490†	17064.4	7.403	mg/L	0.0757	14.81	mg/L	0.151	1.02%
Mg 279.077†	79723.0	61.49	mg/L	0.332	123.0	mg/L	0.66	0.54%
Mn 257.610†	233905.6	3.959	mg/L	0.0426	7.919	mg/L	0.0851	1.07%
Mo 202.031†	150.2	0.00597	mg/L	0.000486	0.01195	mg/L	0.000972	8.14%
Na 589.592†	29181.8	2.195	mg/L	0.0204	4.389	mg/L	0.0408	0.93%
Na 330.237†	-12.5	1.774	mg/L	0.0160	3.548	mg/L	0.0320	0.90%
Ni 231.604†	2103.6	0.4257	mg/L	0.00463	0.8514	mg/L	0.00925	1.09%
Pb 220.353†	322.7	0.03513	mg/L	0.000782	0.07027	mg/L	0.001564	2.23%
Sb 206.836†	288.5	0.00965	mg/L	0.001419	0.01929	mg/L	0.002837	14.70%
Se 196.026†	-43.6	-0.00230	mg/L	0.002728	-0.00460	mg/L	0.005457	118.52%
Si 288.158†	3933.5	1.765	mg/L	0.0301	3.530	mg/L	0.0601	1.70%
Sn 189.927†	-92.0	-0.00620	mg/L	0.000970	-0.01241	mg/L	0.001940	15.64%
Sr 421.552†	256398.1	0.2966	mg/L	0.00306	0.5931	mg/L	0.00613	1.03%
Ti 334.903†	281039.8	9.462	mg/L	0.0953	18.92	mg/L	0.191	1.01%
Tl 190.801†	-37.0	0.00758	mg/L	0.001139	0.01515	mg/L	0.002277	15.03%
V 292.402†	98092.3	0.4847	mg/L	0.00041	0.9694	mg/L	0.00083	0.09%
Zn 206.200†	1165.3	0.4053	mg/L	0.00526	0.8106	mg/L	0.01052	1.30%

Sequence No.: 16
Sample ID: UT36 ASPK SWC

Autosampler Location: 312
Date Collected: 5/9/2012 9:59:44 AM
Data Type: Original

Dilution: 2X

Nebulizer Parameters: UT36 ASPK SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: UT36 ASPK SWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2667114.0	102.9	%	0.88				0.86%
ScR 361.383	424017.7	109.4	%	0.53				0.49%
Ag 328.068†	131928.7	0.4692	mg/L	0.00243	0.9385	mg/L	0.00485	0.52%
Al 308.215†	261028.7	161.6	mg/L	0.99	323.2	mg/L	1.99	0.61%
As 188.979†	4525.2	1.896	mg/L	0.0179	3.792	mg/L	0.0359	0.95%
B 249.677†	133.4	0.01908	mg/L	0.001541	0.03815	mg/L	0.003083	8.08%
Ba 233.527†	23567.6	2.605	mg/L	0.0066	5.210	mg/L	0.0132	0.25%
Be 313.042†	349991.8	0.4647	mg/L	0.00299	0.9294	mg/L	0.00599	0.64%
Ca 317.933†	613183.8	58.10	mg/L	0.340	116.2	mg/L	0.68	0.59%
Cd 228.802†	16359.7	0.4996	mg/L	0.00718	0.9992	mg/L	0.01435	1.44%
Co 228.616†	23863.1	0.5582	mg/L	0.00611	1.116	mg/L	0.0122	1.10%
Cr 267.716†	7980.5	0.8938	mg/L	0.00399	1.788	mg/L	0.0080	0.45%
Cu 324.752†	160417.7	0.7047	mg/L	0.00207	1.409	mg/L	0.0041	0.29%
Fe 273.955†	313195.8	216.6	mg/L	1.46	433.3	mg/L	2.93	0.68%
K 766.490†	37023.5	16.06	mg/L	0.147	32.12	mg/L	0.293	0.91%
Mg 279.077†	92063.8	71.02	mg/L	0.478	142.0	mg/L	0.96	0.67%
Mn 257.610†	258362.1	4.374	mg/L	0.0374	8.748	mg/L	0.0748	0.86%
Mo 202.031†	153.0	0.00591	mg/L	0.000272	0.01181	mg/L	0.000544	4.60%
Na 589.592†	151963.4	11.43	mg/L	0.080	22.86	mg/L	0.159	0.70%
Na 330.237†	299.5	11.65	mg/L	0.087	23.30	mg/L	0.173	0.74%
Ni 231.604†	4280.0	0.8660	mg/L	0.00096	1.732	mg/L	0.0019	0.11%
Pb 220.353†	23567.4	1.909	mg/L	0.0149	3.817	mg/L	0.0298	0.78%
Sb 206.836†	297.6	0.00767	mg/L	0.002731	0.01535	mg/L	0.005462	35.59%
Se 196.026†	3481.4	1.879	mg/L	0.0122	3.759	mg/L	0.0245	0.65%
Si 288.158†	4121.5	1.851	mg/L	0.0082	3.703	mg/L	0.0164	0.44%
Sn 189.927†	-98.5	-0.00685	mg/L	0.000873	-0.01371	mg/L	0.001747	12.74%
Sr 421.552†	659374.9	0.7627	mg/L	0.00631	1.525	mg/L	0.0126	0.83%
Ti 334.903†	269770.3	9.082	mg/L	0.0734	18.16	mg/L	0.147	0.81%
Tl 190.801†	4668.6	1.799	mg/L	0.0114	3.598	mg/L	0.0227	0.63%
V 292.402†	181684.9	0.9248	mg/L	0.00356	1.850	mg/L	0.0071	0.39%
Zn 206.200†	2497.0	0.8612	mg/L	0.00436	1.722	mg/L	0.0087	0.51%

Sequence No.: 17
Sample ID: UT36 MBSPK SWC

Autosampler Location: 313
Date Collected: 5/9/2012 10:02:45 AM
Data Type: Original

Dilution: 2X

Nebulizer Parameters: UT36 MBSPK SWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: UT36 MBSPK SWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2733068.3	105.5	%	1.07				1.01%
ScR 361.383	419540.4	108.3	%	0.84				0.78%
Ag 328.068†	141376.0	0.5036	mg/L	0.00573	1.007	mg/L	0.0115	1.14%
Al 308.215†	3187.3	1.964	mg/L	0.0266	3.928	mg/L	0.0531	1.35%
As 188.979†	4776.0	1.948	mg/L	0.0266	3.895	mg/L	0.0533	1.37%
B 249.677†	8.8	-0.00002	mg/L	0.000385	-0.00005	mg/L	0.000770	>999.9%
Ba 233.527†	17348.8	1.926	mg/L	0.0196	3.852	mg/L	0.0391	1.02%
Be 313.042†	354424.8	0.4710	mg/L	0.00184	0.9420	mg/L	0.00368	0.39%
Ca 317.933†	103139.4	9.773	mg/L	0.0765	19.55	mg/L	0.153	0.78%
Cd 228.802†	16086.9	0.4926	mg/L	0.00698	0.9851	mg/L	0.01395	1.42%
Co 228.616†	19936.3	0.4793	mg/L	0.00731	0.9585	mg/L	0.01463	1.53%
Cr 267.716†	4421.3	0.4916	mg/L	0.00622	0.9831	mg/L	0.01244	1.27%
Cu 324.752†	113588.2	0.4901	mg/L	0.00670	0.9803	mg/L	0.01339	1.37%
Fe 273.955†	2906.9	2.009	mg/L	0.0284	4.017	mg/L	0.0568	1.41%
K 766.490†	22664.7	9.833	mg/L	0.0253	19.67	mg/L	0.051	0.26%
Mg 279.077†	13031.6	10.07	mg/L	0.134	20.14	mg/L	0.268	1.33%
Mn 257.610†	27775.9	0.4708	mg/L	0.00457	0.9416	mg/L	0.00915	0.97%
Mo 202.031†	34.6	0.00139	mg/L	0.000204	0.00279	mg/L	0.000409	14.65%
Na 589.592†	122511.7	9.214	mg/L	0.0899	18.43	mg/L	0.180	0.98%
Na 330.237†	319.6	10.23	mg/L	0.184	20.47	mg/L	0.368	1.80%
Ni 231.604†	2316.6	0.4687	mg/L	0.00450	0.9374	mg/L	0.00900	0.96%
Pb 220.353†	24058.9	1.940	mg/L	0.0243	3.879	mg/L	0.0486	1.25%
Sb 206.836†	15.5	-0.00083	mg/L	0.002601	-0.00167	mg/L	0.005202	311.70%
Se 196.026†	3646.3	1.946	mg/L	0.0242	3.893	mg/L	0.0483	1.24%
Si 288.158†	-6.7	-0.00113	mg/L	0.003002	-0.00226	mg/L	0.006005	265.87%
Sn 189.927†	-8.6	-0.00080	mg/L	0.000322	-0.00159	mg/L	0.000643	40.36%
Sr 421.552†	414926.8	0.4799	mg/L	0.00225	0.9598	mg/L	0.00450	0.47%
Ti 334.903†	106.3	0.00313	mg/L	0.000222	0.00626	mg/L	0.000444	7.10%
Tl 190.801†	5084.7	1.936	mg/L	0.0231	3.871	mg/L	0.0461	1.19%
V 292.402†	93458.1	0.4917	mg/L	0.00637	0.9835	mg/L	0.01274	1.30%
Zn 206.200†	1398.5	0.4789	mg/L	0.00538	0.9578	mg/L	0.01077	1.12%

Sequence No.: 18
Sample ID: CV 2

Autosampler Location: 7
Date Collected: 5/9/2012 10:06:44 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2668111.1	103.0	%	0.51				0.50%
ScR 361.383	402195.1	103.8	%	0.70				0.67%
Ag 328.068†	277355.8	0.9879	mg/L	0.00514	0.9879	mg/L	0.00514	0.52%
Al 308.215†	3185.1	1.943	mg/L	0.0320	1.943	mg/L	0.0320	1.65%
As 188.979†	4720.5	1.930	mg/L	0.0119	1.930	mg/L	0.0119	0.62%
B 249.677†	6215.3	0.9643	mg/L	0.00201	0.9643	mg/L	0.00201	0.21%
Ba 233.527†	8635.6	0.9583	mg/L	0.00416	0.9583	mg/L	0.00416	0.43%
Be 313.042†	705996.5	0.9382	mg/L	0.00760	0.9382	mg/L	0.00760	0.81%
Ca 317.933†	21384.2	2.026	mg/L	0.0030	2.026	mg/L	0.0030	0.15%
Cd 228.802†	31804.6	0.9804	mg/L	0.00947	0.9804	mg/L	0.00947	0.97%
Co 228.616†	39347.1	0.9451	mg/L	0.00931	0.9451	mg/L	0.00931	0.98%
Cr 267.716†	8795.5	0.9787	mg/L	0.00382	0.9787	mg/L	0.00382	0.39%
Cu 324.752†	228233.6	0.9843	mg/L	0.00972	0.9843	mg/L	0.00972	0.99%
Fe 273.955†	2898.2	2.000	mg/L	0.0182	2.000	mg/L	0.0182	0.91%
K 766.490†	45497.9	19.74	mg/L	0.071	19.74	mg/L	0.071	0.36%
Mg 279.077†	2548.9	1.975	mg/L	0.0166	1.975	mg/L	0.0166	0.84%
Mn 257.610†	56149.4	0.9512	mg/L	0.00348	0.9512	mg/L	0.00348	0.37%
Mo 202.031†	21480.0	0.9678	mg/L	0.00410	0.9678	mg/L	0.00410	0.42%
Na 589.592†	630931.1	47.45	mg/L	0.182	47.45	mg/L	0.182	0.38%
Na 330.237†	1560.7	50.82	mg/L	0.635	50.82	mg/L	0.635	1.25%
Ni 231.604†	4720.2	0.9569	mg/L	0.00454	0.9569	mg/L	0.00454	0.47%
Pb 220.353†	24357.3	1.964	mg/L	0.0067	1.964	mg/L	0.0067	0.34%
Sb 206.836†	7530.1	1.978	mg/L	0.0091	1.978	mg/L	0.0091	0.46%
Se 196.026†	3610.6	1.927	mg/L	0.0090	1.927	mg/L	0.0090	0.47%
Si 288.158†	4460.4	2.005	mg/L	0.0188	2.005	mg/L	0.0188	0.94%
Sn 189.927†	7253.5	0.9722	mg/L	0.00303	0.9722	mg/L	0.00303	0.31%
Sr 421.552†	831741.0	0.9620	mg/L	0.00582	0.9620	mg/L	0.00582	0.60%
Ti 334.903†	28573.8	0.9606	mg/L	0.00686	0.9606	mg/L	0.00686	0.71%
Tl 190.801†	5026.6	1.914	mg/L	0.0088	1.914	mg/L	0.0088	0.46%
V 292.402†	185824.0	0.9781	mg/L	0.01130	0.9781	mg/L	0.01130	1.16%
Zn 206.200†	2920.7	0.9998	mg/L	0.00527	0.9998	mg/L	0.00527	0.53%

Sequence No.: 19
Sample ID: CB

Autosampler Location: 1
Date Collected: 5/9/2012 10:10:01 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2687395.7	103.7	%	1.11				1.07%
ScR 361.383	406417.7	104.9	%	0.85				0.81%
Ag 328.068†	13.4	0.00005	mg/L	0.000155	0.00005	mg/L	0.000155	324.20%
Al 308.215†	10.7	0.00661	mg/L	0.000322	0.00661	mg/L	0.000322	4.86%
As 188.979†	-2.2	-0.00090	mg/L	0.000326	-0.00090	mg/L	0.000326	36.07%
B 249.677†	10.6	0.00164	mg/L	0.002374	0.00164	mg/L	0.002374	144.77%
Ba 233.527†	2.0	0.00022	mg/L	0.000154	0.00022	mg/L	0.000154	69.03%
Be 313.042†	71.1	0.00009	mg/L	0.000030	0.00009	mg/L	0.000030	31.34%
Ca 317.933†	-10.7	-0.00101	mg/L	0.000221	-0.00101	mg/L	0.000221	21.84%
Cd 228.802†	3.0	0.00010	mg/L	0.000191	0.00010	mg/L	0.000191	197.10%
Co 228.616†	6.1	0.00015	mg/L	0.000188	0.00015	mg/L	0.000188	127.93%
Cr 267.716†	3.4	0.00038	mg/L	0.000241	0.00038	mg/L	0.000241	63.83%
Cu 324.752†	37.7	0.00016	mg/L	0.000163	0.00016	mg/L	0.000163	99.86%
Fe 273.955†	6.0	0.00414	mg/L	0.001043	0.00414	mg/L	0.001043	25.19%
K 766.490†	1.3	0.00057	mg/L	0.012002	0.00057	mg/L	0.012002	>999.9%
Mg 279.077†	3.6	0.00275	mg/L	0.000877	0.00275	mg/L	0.000877	31.93%
Mn 257.610†	4.7	0.00008	mg/L	0.000058	0.00008	mg/L	0.000058	72.20%
Mo 202.031†	6.1	0.00028	mg/L	0.000139	0.00028	mg/L	0.000139	50.60%
Na 589.592†	-1831.5	-0.1377	mg/L	0.00490	-0.1377	mg/L	0.00490	3.56%
Na 330.237†	12.1	0.3932	mg/L	0.38615	0.3932	mg/L	0.38615	98.20%
Ni 231.604†	0.6	0.00012	mg/L	0.000779	0.00012	mg/L	0.000779	631.38%
Pb 220.353†	-5.5	-0.00044	mg/L	0.000496	-0.00044	mg/L	0.000496	112.29%
Sb 206.836†	7.8	0.00206	mg/L	0.000221	0.00206	mg/L	0.000221	10.72%
Se 196.026†	3.9	0.00209	mg/L	0.001070	0.00209	mg/L	0.001070	51.28%
Si 288.158†	-2.9	-0.00128	mg/L	0.002360	-0.00128	mg/L	0.002360	183.82%
Sn 189.927†	7.5	0.00101	mg/L	0.000208	0.00101	mg/L	0.000208	20.60%
Sr 421.552†	95.7	0.00011	mg/L	0.000059	0.00011	mg/L	0.000059	53.12%
Ti 334.903†	21.1	0.00071	mg/L	0.000828	0.00071	mg/L	0.000828	116.52%
Tl 190.801†	1.8	0.00068	mg/L	0.001004	0.00068	mg/L	0.001004	147.73%
V 292.402†	-11.3	-0.00006	mg/L	0.000016	-0.00006	mg/L	0.000016	26.88%
Zn 206.200†	4.0	0.00138	mg/L	0.000751	0.00138	mg/L	0.000751	54.39%

Sequence No.: 20
Sample ID: US52 MB2 WMN

Autosampler Location: 314
Date Collected: 5/9/2012 10:14:15 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 MB2 WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 MB2 WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2747355.0	106.0	%	1.06				1.00%
ScR 361.383	413935.8	106.8	%	1.00				0.93%
Ag 328.068†	2.7	0.00001	mg/L	0.000221	0.00001	mg/L	0.000221	>999.9%
Al 308.215†	6.0	0.00369	mg/L	0.001989	0.00369	mg/L	0.001989	53.87%
As 188.979†	-1.3	-0.00053	mg/L	0.001212	-0.00053	mg/L	0.001212	227.52%
B 249.677†	-0.4	-0.00006	mg/L	0.001232	-0.00006	mg/L	0.001232	>999.9%
Ba 233.527†	1.7	0.00019	mg/L	0.000072	0.00019	mg/L	0.000072	37.43%
Be 313.042†	1.9	0.00000	mg/L	0.000023	0.00000	mg/L	0.000023	875.62%
Ca 317.933†	-39.4	-0.00373	mg/L	0.001224	-0.00373	mg/L	0.001224	32.79%
Cd 228.802†	2.8	0.00009	mg/L	0.000089	0.00009	mg/L	0.000089	101.21%
Co 228.616†	11.1	0.00027	mg/L	0.000071	0.00027	mg/L	0.000071	26.85%
Cr 267.716†	2.8	0.00031	mg/L	0.000400	0.00031	mg/L	0.000400	129.08%
Cu 324.752†	32.1	0.00014	mg/L	0.000049	0.00014	mg/L	0.000049	35.47%
Fe 273.955†	3.7	0.00254	mg/L	0.001034	0.00254	mg/L	0.001034	40.76%
K 766.490†	29.3	0.01270	mg/L	0.008372	0.01270	mg/L	0.008372	65.91%
Mg 279.077†	10.4	0.00801	mg/L	0.000705	0.00801	mg/L	0.000705	8.80%
Mn 257.610†	-1.6	-0.00003	mg/L	0.000035	-0.00003	mg/L	0.000035	131.20%
Mo 202.031†	-9.9	-0.00045	mg/L	0.000080	-0.00045	mg/L	0.000080	17.96%
Na 589.592†	-947.3	-0.07124	mg/L	0.012941	-0.07124	mg/L	0.012941	18.17%
Na 330.237†	6.4	0.2067	mg/L	0.39397	0.2067	mg/L	0.39397	190.59%
Ni 231.604†	3.3	0.00066	mg/L	0.000723	0.00066	mg/L	0.000723	109.83%
Pb 220.353†	1.4	0.00011	mg/L	0.000142	0.00011	mg/L	0.000142	125.56%
Sb 206.836†	-14.2	-0.00373	mg/L	0.000637	-0.00373	mg/L	0.000637	17.11%
Se 196.026†	11.5	0.00614	mg/L	0.003205	0.00614	mg/L	0.003205	52.19%
Si 288.158†	-17.9	-0.00802	mg/L	0.000318	-0.00802	mg/L	0.000318	3.97%
Sn 189.927†	6.3	0.00084	mg/L	0.000528	0.00084	mg/L	0.000528	62.75%
Sr 421.552†	40.0	0.00005	mg/L	0.000028	0.00005	mg/L	0.000028	59.65%
Ti 334.903†	16.5	0.00056	mg/L	0.000089	0.00056	mg/L	0.000089	16.01%
Tl 190.801†	4.3	0.00164	mg/L	0.001387	0.00164	mg/L	0.001387	84.38%
V 292.402†	-22.5	-0.00012	mg/L	0.000104	-0.00012	mg/L	0.000104	88.71%
Zn 206.200†	4.2	0.00145	mg/L	0.000425	0.00145	mg/L	0.000425	29.39%

Sequence No.: 21
Sample ID: US52 P-L WMN

Autosampler Location: 315
Date Collected: 5/9/2012 10:18:30 AM
Data Type: Original

Dilution: 5X

Nebulizer Parameters: US52 P-L WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 P-L WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2676543.9	103.3	%	0.60				0.58%
ScR 361.383	406330.5	104.9	%	1.70				1.62%
Ag 328.068†	21.8	-0.00003	mg/L	0.000103	-0.00013	mg/L	0.000515	404.71%
Al 308.215†	7.5	0.00464	mg/L	0.003406	0.02322	mg/L	0.017032	73.34%
As 188.979†	-2.9	-0.00121	mg/L	0.001632	-0.00603	mg/L	0.008161	135.42%
B 249.677†	41.2	0.00640	mg/L	0.000888	0.03200	mg/L	0.004439	13.87%
Ba 233.527†	11.6	0.00117	mg/L	0.000408	0.00586	mg/L	0.002040	34.81%
Be 313.042†	24.4	0.00003	mg/L	0.000044	0.00016	mg/L	0.000222	138.19%
Ca 317.933†	139186.0	13.19	mg/L	0.045	65.95	mg/L	0.225	0.34%
Cd 228.802†	10.9	0.00032	mg/L	0.000245	0.00160	mg/L	0.001226	76.78%
Co 228.616†	18.2	0.00044	mg/L	0.000068	0.00218	mg/L	0.000339	15.57%
Cr 267.716†	2.2	0.00000	mg/L	0.000556	-0.00002	mg/L	0.002779	>999.9%
Cu 324.752†	43.1	0.00035	mg/L	0.000135	0.00174	mg/L	0.000674	38.71%
Fe 273.955†	3407.3	2.357	mg/L	0.0292	11.78	mg/L	0.146	1.24%
K 766.490†	2382.3	1.034	mg/L	0.0095	5.168	mg/L	0.0477	0.92%
Mg 279.077†	1691.5	1.306	mg/L	0.0126	6.529	mg/L	0.0629	0.96%
Mn 257.610†	4017.2	0.06801	mg/L	0.000791	0.3400	mg/L	0.00395	1.16%
Mo 202.031†	39.2	0.00154	mg/L	0.000268	0.00771	mg/L	0.001340	17.40%
Na 589.592†	28767.3	2.163	mg/L	0.0217	10.82	mg/L	0.109	1.00%
Na 330.237†	86.2	2.719	mg/L	0.0693	13.59	mg/L	0.347	2.55%
Ni 231.604†	2.2	0.00046	mg/L	0.000347	0.00228	mg/L	0.001737	76.23%
Pb 220.353†	-18.5	-0.00165	mg/L	0.000407	-0.00823	mg/L	0.002033	24.71%
Sb 206.836†	7.4	0.00165	mg/L	0.000426	0.00824	mg/L	0.002131	25.85%
Se 196.026†	18.8	0.01026	mg/L	0.002072	0.05132	mg/L	0.010361	20.19%
Si 288.158†	7154.6	3.210	mg/L	0.0395	16.05	mg/L	0.197	1.23%
Sn 189.927†	-6.0	-0.00041	mg/L	0.000174	-0.00205	mg/L	0.000871	42.43%
Sr 421.552†	23936.7	0.02769	mg/L	0.000425	0.1384	mg/L	0.00213	1.54%
Ti 334.903†	29.6	0.00054	mg/L	0.000231	0.00268	mg/L	0.001157	43.18%
Tl 190.801†	8.1	0.00339	mg/L	0.000563	0.01695	mg/L	0.002813	16.60%
V 292.402†	99.3	0.00025	mg/L	0.000177	0.00124	mg/L	0.000885	71.32%
Zn 206.200†	5.2	0.00161	mg/L	0.000931	0.00807	mg/L	0.004655	57.67%

Sequence No.: 22
Sample ID: US52 P WMN

Autosampler Location: 316
Date Collected: 5/9/2012 10:22:43 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 P WMN

Analyte	Back Pressure	Flow
A11	211.0 kPa	0.75 L/min

Mean Data: US52 P WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2571974.0	99.24	%	0.358				0.36%
ScR 361.383	404797.2	104.5	%	1.97				1.89%
Ag 328.068†	78.7	-0.00024	mg/L	0.000159	-0.00024	mg/L	0.000159	65.23%
Al 308.215†	9.2	0.00557	mg/L	0.003227	0.00557	mg/L	0.003227	57.98%
As 188.979†	19.0	0.00763	mg/L	0.000915	0.00763	mg/L	0.000915	12.00%
B 249.677†	219.0	0.03405	mg/L	0.000434	0.03405	mg/L	0.000434	1.27%
Ba 233.527†	71.5	0.00732	mg/L	0.000592	0.00732	mg/L	0.000592	8.09%
Be 313.042†	17.9	0.00002	mg/L	0.000033	0.00002	mg/L	0.000033	153.43%
Ca 317.933†	708904.4	67.17	mg/L	0.621	67.17	mg/L	0.621	0.93%
Cd 228.802†	24.1	0.00061	mg/L	0.000129	0.00061	mg/L	0.000129	21.20%
Co 228.616†	60.6	0.00145	mg/L	0.000065	0.00145	mg/L	0.000065	4.49%
Cr 267.716†	5.2	-0.00068	mg/L	0.000648	-0.00068	mg/L	0.000648	95.52%
Cu 324.752†	-78.1	0.00050	mg/L	0.000061	0.00050	mg/L	0.000061	12.36%
Fe 273.955†	17444.0	12.07	mg/L	0.199	12.07	mg/L	0.199	1.65%
K 766.490†	12281.7	5.328	mg/L	0.1343	5.328	mg/L	0.1343	2.52%
Mg 279.077†	8691.5	6.710	mg/L	0.1373	6.710	mg/L	0.1373	2.05%
Mn 257.610†	20699.8	0.3504	mg/L	0.00697	0.3504	mg/L	0.00697	1.99%
Mo 202.031†	151.6	0.00569	mg/L	0.000083	0.00569	mg/L	0.000083	1.45%
Na 589.592†	158010.1	11.88	mg/L	0.314	11.88	mg/L	0.314	2.64%
Na 330.237†	408.3	12.85	mg/L	0.273	12.85	mg/L	0.273	2.13%
Ni 231.604†	4.6	0.00093	mg/L	0.000428	0.00093	mg/L	0.000428	46.20%
Pb 220.353†	-38.1	-0.00387	mg/L	0.000174	-0.00387	mg/L	0.000174	4.49%
Sb 206.836†	27.0	0.00560	mg/L	0.001515	0.00560	mg/L	0.001515	27.06%
Se 196.026†	53.5	0.02964	mg/L	0.002300	0.02964	mg/L	0.002300	7.76%
Si 288.158†	37295.8	16.74	mg/L	0.384	16.74	mg/L	0.384	2.30%
Sn 189.927†	-41.8	-0.00362	mg/L	0.000524	-0.00362	mg/L	0.000524	14.45%
Sr 421.552†	122981.3	0.1422	mg/L	0.00273	0.1422	mg/L	0.00273	1.92%
Ti 334.903†	98.2	0.00096	mg/L	0.000386	0.00096	mg/L	0.000386	40.32%
Tl 190.801†	12.5	0.00637	mg/L	0.001776	0.00637	mg/L	0.001776	27.89%
V 292.402†	591.4	0.00170	mg/L	0.000058	0.00170	mg/L	0.000058	3.40%
Zn 206.200†	-3.1	-0.00194	mg/L	0.001139	-0.00194	mg/L	0.001139	58.77%

Sequence No.: 23
Sample ID: US52 PDUP WMN

Autosampler Location: 317
Date Collected: 5/9/2012 10:26:56 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 PDUP WMN

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US52 PDUP WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2575588.4	99.38	%	0.544				0.55%
ScR 361.383	404583.9	104.4	%	1.24				1.19%
Ag 328.068†	43.6	-0.00037	mg/L	0.000153	-0.00037	mg/L	0.000153	41.55%
Al 308.215†	5.6	0.00334	mg/L	0.004866	0.00334	mg/L	0.004866	145.54%
As 188.979†	14.5	0.00575	mg/L	0.000317	0.00575	mg/L	0.000317	5.52%
B 249.677†	216.8	0.03371	mg/L	0.000304	0.03371	mg/L	0.000304	0.90%
Ba 233.527†	73.7	0.00757	mg/L	0.000242	0.00757	mg/L	0.000242	3.20%
Be 313.042†	27.1	0.00003	mg/L	0.000012	0.00003	mg/L	0.000012	34.44%
Ca 317.933†	707224.9	67.02	mg/L	0.507	67.02	mg/L	0.507	0.76%
Cd 228.802†	27.6	0.00072	mg/L	0.000108	0.00072	mg/L	0.000108	14.94%
Co 228.616†	65.2	0.00156	mg/L	0.000051	0.00156	mg/L	0.000051	3.24%
Cr 267.716†	5.8	-0.00061	mg/L	0.000119	-0.00061	mg/L	0.000119	19.51%
Cu 324.752†	-51.1	0.00060	mg/L	0.000063	0.00060	mg/L	0.000063	10.46%
Fe 273.955†	17233.6	11.92	mg/L	0.062	11.92	mg/L	0.062	0.52%
K 766.490†	12223.6	5.303	mg/L	0.0551	5.303	mg/L	0.0551	1.04%
Mg 279.077†	8583.9	6.627	mg/L	0.0229	6.627	mg/L	0.0229	0.35%
Mn 257.610†	20463.4	0.3464	mg/L	0.00353	0.3464	mg/L	0.00353	1.02%
Mo 202.031†	148.1	0.00554	mg/L	0.000180	0.00554	mg/L	0.000180	3.25%
Na 589.592†	157627.8	11.85	mg/L	0.220	11.85	mg/L	0.220	1.85%
Na 330.237†	398.6	12.53	mg/L	0.461	12.53	mg/L	0.461	3.68%
Ni 231.604†	6.8	0.00137	mg/L	0.001011	0.00137	mg/L	0.001011	73.66%
Pb 220.353†	-39.8	-0.00400	mg/L	0.000460	-0.00400	mg/L	0.000460	11.50%
Sb 206.836†	24.4	0.00493	mg/L	0.000428	0.00493	mg/L	0.000428	8.66%
Se 196.026†	53.1	0.02940	mg/L	0.003282	0.02940	mg/L	0.003282	11.16%
Si 288.158†	36985.5	16.60	mg/L	0.145	16.60	mg/L	0.145	0.87%
Sn 189.927†	-38.0	-0.00312	mg/L	0.000491	-0.00312	mg/L	0.000491	15.75%
Sr 421.552†	122610.8	0.1418	mg/L	0.00222	0.1418	mg/L	0.00222	1.57%
Ti 334.903†	79.8	0.00034	mg/L	0.000430	0.00034	mg/L	0.000430	125.50%
Tl 190.801†	14.8	0.00724	mg/L	0.002246	0.00724	mg/L	0.002246	31.02%
V 292.402†	570.5	0.00161	mg/L	0.000116	0.00161	mg/L	0.000116	7.23%
Zn 206.200†	-2.7	-0.00182	mg/L	0.000491	-0.00182	mg/L	0.000491	27.01%

Sequence No.: 24
Sample ID: US52 PSPK WMN

Autosampler Location: 318
Date Collected: 5/9/2012 10:31:09 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 PSPK WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 PSPK WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2557213.0	98.67	%	0.124				0.13%
ScR 361.383	399471.4	103.1	%	0.60				0.58%
Ag 328.068†	123770.9	0.4403	mg/L	0.00413	0.4403	mg/L	0.00413	0.94%
Al 308.215†	3391.5	2.090	mg/L	0.0182	2.090	mg/L	0.0182	0.87%
As 188.979†	5444.2	2.220	mg/L	0.0044	2.220	mg/L	0.0044	0.20%
B 249.677†	218.6	0.03246	mg/L	0.001871	0.03246	mg/L	0.001871	5.76%
Ba 233.527†	18293.8	2.030	mg/L	0.0139	2.030	mg/L	0.0139	0.68%
Be 313.042†	366720.8	0.4873	mg/L	0.00579	0.4873	mg/L	0.00579	1.19%
Ca 317.933†	810968.5	76.85	mg/L	0.576	76.85	mg/L	0.576	0.75%
Cd 228.802†	18422.7	0.5640	mg/L	0.00142	0.5640	mg/L	0.00142	0.25%
Co 228.616†	21714.8	0.5220	mg/L	0.00062	0.5220	mg/L	0.00062	0.12%
Cr 267.716†	4540.5	0.5035	mg/L	0.00333	0.5035	mg/L	0.00333	0.66%
Cu 324.752†	119059.1	0.5146	mg/L	0.00208	0.5146	mg/L	0.00208	0.40%
Fe 273.955†	20227.0	13.99	mg/L	0.128	13.99	mg/L	0.128	0.92%
K 766.490†	36334.8	15.76	mg/L	0.336	15.76	mg/L	0.336	2.13%
Mg 279.077†	22494.7	17.38	mg/L	0.102	17.38	mg/L	0.102	0.59%
Mn 257.610†	48037.1	0.8139	mg/L	0.01057	0.8139	mg/L	0.01057	1.30%
Mo 202.031†	167.3	0.00623	mg/L	0.000246	0.00623	mg/L	0.000246	3.95%
Na 589.592†	287008.7	21.58	mg/L	0.304	21.58	mg/L	0.304	1.41%
Na 330.237†	740.2	23.48	mg/L	0.165	23.48	mg/L	0.165	0.70%
Ni 231.604†	2444.4	0.4946	mg/L	0.00449	0.4946	mg/L	0.00449	0.91%
Pb 220.353†	26631.3	2.146	mg/L	0.0072	2.146	mg/L	0.0072	0.34%
Sb 206.836†	47.3	0.00593	mg/L	0.000966	0.00593	mg/L	0.000966	16.29%
Se 196.026†	4575.2	2.443	mg/L	0.0082	2.443	mg/L	0.0082	0.34%
Si 288.158†	36228.2	16.26	mg/L	0.199	16.26	mg/L	0.199	1.23%
Sn 189.927†	-45.6	-0.00378	mg/L	0.000688	-0.00378	mg/L	0.000688	18.21%
Sr 421.552†	554821.0	0.6417	mg/L	0.00925	0.6417	mg/L	0.00925	1.44%
Ti 334.903†	87.6	0.00015	mg/L	0.000335	0.00015	mg/L	0.000335	222.30%
Tl 190.801†	5516.8	2.102	mg/L	0.0028	2.102	mg/L	0.0028	0.13%
V 292.402†	97210.0	0.5101	mg/L	0.00463	0.5101	mg/L	0.00463	0.91%
Zn 206.200†	1452.2	0.4965	mg/L	0.00536	0.4965	mg/L	0.00536	1.08%

Sequence No.: 25
Sample ID: US52 Q WMN

Autosampler Location: 319
Date Collected: 5/9/2012 10:34:53 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 Q WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 Q WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2645836.4	102.1	%	1.05				1.03%
ScR 361.383	397292.4	102.5	%	1.18				1.15%
Ag 328.068†	1298.1	0.00428	mg/L	0.000129	0.00428	mg/L	0.000129	3.01%
Al 308.215†	8.8	0.00523	mg/L	0.002716	0.00523	mg/L	0.002716	51.88%
As 188.979†	15.0	0.00552	mg/L	0.002036	0.00552	mg/L	0.002036	36.90%
B 249.677†	761.5	0.1184	mg/L	0.00128	0.1184	mg/L	0.00128	1.08%
Ba 233.527†	116.9	0.01170	mg/L	0.000298	0.01170	mg/L	0.000298	2.55%
Be 313.042†	61.1	0.00008	mg/L	0.000031	0.00008	mg/L	0.000031	40.19%
Ca 317.933†	317655.4	30.10	mg/L	0.559	30.10	mg/L	0.559	1.86%
Cd 228.802†	18.4	0.00031	mg/L	0.000245	0.00031	mg/L	0.000245	78.40%
Co 228.616†	56.3	0.00135	mg/L	0.000168	0.00135	mg/L	0.000168	12.40%
Cr 267.716†	8.7	0.00044	mg/L	0.000104	0.00044	mg/L	0.000104	23.83%
Cu 324.752†	-305.5	0.00036	mg/L	0.000043	0.00036	mg/L	0.000043	11.89%
Fe 273.955†	36267.2	25.09	mg/L	0.432	25.09	mg/L	0.432	1.72%
K 766.490†	42447.5	18.42	mg/L	0.349	18.42	mg/L	0.349	1.89%
Mg 279.077†	33343.0	25.75	mg/L	0.351	25.75	mg/L	0.351	1.36%
Mn 257.610†	40424.0	0.6843	mg/L	0.01526	0.6843	mg/L	0.01526	2.23%
Mo 202.031†	166.2	0.00698	mg/L	0.000282	0.00698	mg/L	0.000282	4.05%
Na 589.592†	470839.5	35.41	mg/L	0.884	35.41	mg/L	0.884	2.50%
Na 330.237†	1162.3	37.63	mg/L	0.884	37.63	mg/L	0.884	2.35%
Ni 231.604†	4.7	0.00096	mg/L	0.001512	0.00096	mg/L	0.001512	157.04%
Pb 220.353†	-26.2	-0.00377	mg/L	0.000388	-0.00377	mg/L	0.000388	10.29%
Sb 206.836†	20.0	0.00222	mg/L	0.000416	0.00222	mg/L	0.000416	18.72%
Se 196.026†	39.9	0.02356	mg/L	0.002222	0.02356	mg/L	0.002222	9.43%
Si 288.158†	47256.9	21.21	mg/L	0.424	21.21	mg/L	0.424	2.00%
Sn 189.927†	-20.1	-0.00180	mg/L	0.000099	-0.00180	mg/L	0.000099	5.53%
Sr 421.552†	77681.4	0.08985	mg/L	0.001714	0.08985	mg/L	0.001714	1.91%
Ti 334.903†	51.9	0.00069	mg/L	0.000246	0.00069	mg/L	0.000246	35.84%
Tl 190.801†	3.1	0.00450	mg/L	0.001792	0.00450	mg/L	0.001792	39.82%
V 292.402†	1407.5	0.00446	mg/L	0.000054	0.00446	mg/L	0.000054	1.21%
Zn 206.200†	-8.3	-0.00325	mg/L	0.000076	-0.00325	mg/L	0.000076	2.33%

Sequence No.: 26
Sample ID: US52 R WMN

Autosampler Location: 320
Date Collected: 5/9/2012 10:39:07 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 R WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 R WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2594657.1	100.1	%	0.49				0.49%
ScR 361.383	389542.3	100.5	%	0.42				0.42%
Ag 328.068†	3.8	-0.00010	mg/L	0.000099	-0.00010	mg/L	0.000099	94.68%
Al 308.215†	529.5	0.3263	mg/L	0.00337	0.3263	mg/L	0.00337	1.03%
As 188.979†	4.5	0.00225	mg/L	0.002926	0.00225	mg/L	0.002926	130.10%
B 249.677†	2197.9	0.3417	mg/L	0.00621	0.3417	mg/L	0.00621	1.82%
Ba 233.527†	192.3	0.02089	mg/L	0.000424	0.02089	mg/L	0.000424	2.03%
Be 313.042†	191.2	0.00021	mg/L	0.000017	0.00021	mg/L	0.000017	8.37%
Ca 317.933†	105251.0	9.973	mg/L	0.1395	9.973	mg/L	0.1395	1.40%
Cd 228.802†	16.9	0.00044	mg/L	0.000112	0.00044	mg/L	0.000112	25.60%
Co 228.616†	51.6	0.00104	mg/L	0.000007	0.00104	mg/L	0.000007	0.71%
Cr 267.716†	107.0	0.01142	mg/L	0.000348	0.01142	mg/L	0.000348	3.05%
Cu 324.752†	562.2	0.00292	mg/L	0.000127	0.00292	mg/L	0.000127	4.36%
Fe 273.955†	12224.8	8.456	mg/L	0.0906	8.456	mg/L	0.0906	1.07%
K 766.490†	33557.1	14.56	mg/L	0.133	14.56	mg/L	0.133	0.91%
Mg 279.077†	21451.1	16.57	mg/L	0.155	16.57	mg/L	0.155	0.94%
Mn 257.610†	20051.8	0.3394	mg/L	0.00182	0.3394	mg/L	0.00182	0.54%
Mo 202.031†	88.5	0.00382	mg/L	0.000300	0.00382	mg/L	0.000300	7.85%
Na 589.592†	2692301.1	202.5	mg/L	2.35	202.5	mg/L	2.35	1.16%
Na 330.237†	6572.1	213.8	mg/L	1.22	213.8	mg/L	1.22	0.57%
Ni 231.604†	1.3	0.00027	mg/L	0.000595	0.00027	mg/L	0.000595	222.80%
Pb 220.353†	-19.3	-0.00205	mg/L	0.000424	-0.00205	mg/L	0.000424	20.67%
Sb 206.836†	12.6	0.00240	mg/L	0.001622	0.00240	mg/L	0.001622	67.67%
Se 196.026†	25.5	0.01429	mg/L	0.000695	0.01429	mg/L	0.000695	4.86%
Si 288.158†	59457.1	26.68	mg/L	0.158	26.68	mg/L	0.158	0.59%
Sn 189.927†	-11.6	-0.00119	mg/L	0.000700	-0.00119	mg/L	0.000700	58.64%
Sr 421.552†	88245.9	0.1021	mg/L	0.00085	0.1021	mg/L	0.00085	0.83%
Ti 334.903†	3488.1	0.1171	mg/L	0.00243	0.1171	mg/L	0.00243	2.07%
Tl 190.801†	4.3	0.00258	mg/L	0.000857	0.00258	mg/L	0.000857	33.25%
V 292.402†	12811.8	0.06616	mg/L	0.000323	0.06616	mg/L	0.000323	0.49%
Zn 206.200†	-12.0	-0.00422	mg/L	0.001033	-0.00422	mg/L	0.001033	24.50%

Sequence No.: 27
Sample ID: US52 H TWC

Autosampler Location: 321
Date Collected: 5/9/2012 10:43:22 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 H TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 H TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2531547.3	97.68	%	0.578				0.59%
ScR 361.383	394411.9	101.8	%	0.75				0.74%
Ag 328.068†	3514.9	0.01218	mg/L	0.001453	0.01218	mg/L	0.001453	11.94%
Al 308.215†	31.7	0.01942	mg/L	0.001209	0.01942	mg/L	0.001209	6.22%
As 188.979†	7.1	0.00233	mg/L	0.002683	0.00233	mg/L	0.002683	115.02%
B 249.677†	756.5	0.1176	mg/L	0.00360	0.1176	mg/L	0.00360	3.06%
Ba 233.527†	119.3	0.01197	mg/L	0.000405	0.01197	mg/L	0.000405	3.39%
Be 313.042†	46.6	0.00006	mg/L	0.000028	0.00006	mg/L	0.000028	49.82%
Ca 317.933†	320603.6	30.38	mg/L	0.301	30.38	mg/L	0.301	0.99%
Cd 228.802†	26.2	0.00056	mg/L	0.000138	0.00056	mg/L	0.000138	24.42%
Co 228.616†	47.1	0.00113	mg/L	0.000075	0.00113	mg/L	0.000075	6.61%
Cr 267.716†	17.3	0.00142	mg/L	0.000960	0.00142	mg/L	0.000960	67.70%
Cu 324.752†	-220.1	0.00073	mg/L	0.000227	0.00073	mg/L	0.000227	31.10%
Fe 273.955†	36179.2	25.03	mg/L	0.429	25.03	mg/L	0.429	1.72%
K 766.490†	41495.5	18.00	mg/L	0.110	18.00	mg/L	0.110	0.61%
Mg 279.077†	31987.5	24.71	mg/L	0.417	24.71	mg/L	0.417	1.69%
Mn 257.610†	39733.9	0.6726	mg/L	0.01204	0.6726	mg/L	0.01204	1.79%
Mo 202.031†	189.4	0.00802	mg/L	0.000062	0.00802	mg/L	0.000062	0.78%
Na 589.592†	462800.5	34.81	mg/L	0.344	34.81	mg/L	0.344	0.99%
Na 330.237†	1168.1	37.81	mg/L	0.962	37.81	mg/L	0.962	2.54%
Ni 231.604†	3.4	0.00069	mg/L	0.000772	0.00069	mg/L	0.000772	112.27%
Pb 220.353†	-35.4	-0.00450	mg/L	0.001073	-0.00450	mg/L	0.001073	23.82%
Sb 206.836†	37.2	0.00672	mg/L	0.001086	0.00672	mg/L	0.001086	16.16%
Se 196.026†	19.2	0.01249	mg/L	0.003700	0.01249	mg/L	0.003700	29.64%
Si 288.158†	42242.6	18.96	mg/L	0.509	18.96	mg/L	0.509	2.69%
Sn 189.927†	-29.2	-0.00301	mg/L	0.000525	-0.00301	mg/L	0.000525	17.43%
Sr 421.552†	76429.2	0.08840	mg/L	0.000500	0.08840	mg/L	0.000500	0.57%
Ti 334.903†	113.2	0.00274	mg/L	0.000606	0.00274	mg/L	0.000606	22.12%
Tl 190.801†	-0.0	0.00330	mg/L	0.000649	0.00330	mg/L	0.000649	19.68%
V 292.402†	1471.7	0.00481	mg/L	0.000049	0.00481	mg/L	0.000049	1.02%
Zn 206.200†	-5.4	-0.00225	mg/L	0.000391	-0.00225	mg/L	0.000391	17.33%

Sequence No.: 28
Sample ID: UT36 E SWN

Dilution: 2X

Autosampler Location: 322
Date Collected: 5/9/2012 10:47:35 AM
Data Type: Original

Nebulizer Parameters: UT36 E SWN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: UT36 E SWN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2528381.5	97.56	%	0.169				0.17%
ScR 361.383	393067.2	101.4	%	0.25				0.24%
Ag 328.068†	-248.5	-0.00153	mg/L	0.000139	-0.00306	mg/L	0.000277	9.07%
Al 308.215†	213451.0	132.1	mg/L	0.30	264.3	mg/L	0.60	0.23%
As 188.979†	-46.1	0.03035	mg/L	0.001850	0.06070	mg/L	0.003701	6.10%
B 249.677†	189.5	0.02917	mg/L	0.000312	0.05835	mg/L	0.000623	1.07%
Ba 233.527†	5973.7	0.6530	mg/L	0.00258	1.306	mg/L	0.0052	0.39%
Be 313.042†	1781.5	0.00195	mg/L	0.000037	0.00391	mg/L	0.000074	1.90%
Ca 317.933†	610845.0	57.88	mg/L	0.113	115.8	mg/L	0.23	0.20%
Cd 228.802†	115.1	0.00202	mg/L	0.000249	0.00404	mg/L	0.000498	12.32%
Co 228.616†	4182.9	0.08590	mg/L	0.000615	0.1718	mg/L	0.00123	0.72%
Cr 267.716†	2993.1	0.3378	mg/L	0.00102	0.6755	mg/L	0.00203	0.30%
Cu 324.752†	42952.7	0.1965	mg/L	0.00008	0.3931	mg/L	0.00017	0.04%
Fe 273.955†	282943.4	195.7	mg/L	0.48	391.4	mg/L	0.95	0.24%
K 766.490†	21915.7	9.508	mg/L	0.0235	19.02	mg/L	0.047	0.25%
Mg 279.077†	94336.3	72.79	mg/L	0.119	145.6	mg/L	0.24	0.16%
Mn 257.610†	201232.7	3.406	mg/L	0.0145	6.813	mg/L	0.0291	0.43%
Mo 202.031†	146.6	0.00562	mg/L	0.000409	0.01124	mg/L	0.000818	7.28%
Na 589.592†	54654.9	4.110	mg/L	0.0201	8.221	mg/L	0.0402	0.49%
Na 330.237†	67.6	4.076	mg/L	0.2439	8.152	mg/L	0.4878	5.98%
Ni 231.604†	1950.6	0.3947	mg/L	0.00113	0.7894	mg/L	0.00226	0.29%
Pb 220.353†	512.1	0.04715	mg/L	0.001125	0.09429	mg/L	0.002250	2.39%
Sb 206.836†	241.4	0.00887	mg/L	0.001195	0.01774	mg/L	0.002390	13.47%
Se 196.026†	-22.2	0.00750	mg/L	0.001413	0.01500	mg/L	0.002825	18.83%
Si 288.158†	3017.5	1.354	mg/L	0.0061	2.708	mg/L	0.0121	0.45%
Sn 189.927†	-80.6	-0.00477	mg/L	0.000664	-0.00953	mg/L	0.001327	13.93%
Sr 421.552†	265354.2	0.3069	mg/L	0.00060	0.6138	mg/L	0.00121	0.20%
Ti 334.903†	256401.8	8.632	mg/L	0.0184	17.26	mg/L	0.037	0.21%
Tl 190.801†	-36.8	0.00586	mg/L	0.000509	0.01171	mg/L	0.001018	8.69%
V 292.402†	89521.0	0.4421	mg/L	0.00310	0.8842	mg/L	0.00619	0.70%
Zn 206.200†	1232.8	0.4269	mg/L	0.00051	0.8538	mg/L	0.00103	0.12%

Sequence No.: 29
Sample ID: US52 MB2SPK WMN

Autosampler Location: 323
Date Collected: 5/9/2012 10:51:20 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 MB2SPK WMN

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US52 MB2SPK WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2651737.3	102.3	%	1.24				1.21%
ScR 361.383	394035.6	101.7	%	0.58				0.58%
Ag 328.068†	150285.0	0.5353	mg/L	0.00618	0.5353	mg/L	0.00618	1.15%
Al 308.215†	3378.1	2.082	mg/L	0.0278	2.082	mg/L	0.0278	1.34%
As 188.979†	5084.9	2.074	mg/L	0.0201	2.074	mg/L	0.0201	0.97%
B 249.677†	11.5	0.00033	mg/L	0.000886	0.00033	mg/L	0.000886	265.11%
Ba 233.527†	18172.9	2.017	mg/L	0.0146	2.017	mg/L	0.0146	0.72%
Be 313.042†	361719.7	0.4807	mg/L	0.00540	0.4807	mg/L	0.00540	1.12%
Ca 317.933†	106892.3	10.13	mg/L	0.142	10.13	mg/L	0.142	1.41%
Cd 228.802†	17339.0	0.5310	mg/L	0.00557	0.5310	mg/L	0.00557	1.05%
Co 228.616†	20669.9	0.4969	mg/L	0.00485	0.4969	mg/L	0.00485	0.98%
Cr 267.716†	4523.0	0.5028	mg/L	0.00356	0.5028	mg/L	0.00356	0.71%
Cu 324.752†	115990.3	0.5005	mg/L	0.00498	0.5005	mg/L	0.00498	1.00%
Fe 273.955†	2981.8	2.060	mg/L	0.0087	2.060	mg/L	0.0087	0.42%
K 766.490†	24104.7	10.46	mg/L	0.149	10.46	mg/L	0.149	1.42%
Mg 279.077†	13665.3	10.56	mg/L	0.091	10.56	mg/L	0.091	0.86%
Mn 257.610†	29075.4	0.4928	mg/L	0.00411	0.4928	mg/L	0.00411	0.83%
Mo 202.031†	30.6	0.00121	mg/L	0.000159	0.00121	mg/L	0.000159	13.13%
Na 589.592†	130884.4	9.843	mg/L	0.1979	9.843	mg/L	0.1979	2.01%
Na 330.237†	333.3	10.67	mg/L	0.013	10.67	mg/L	0.013	0.12%
Ni 231.604†	2442.5	0.4942	mg/L	0.00480	0.4942	mg/L	0.00480	0.97%
Pb 220.353†	25444.5	2.051	mg/L	0.0199	2.051	mg/L	0.0199	0.97%
Sb 206.836†	17.7	-0.00038	mg/L	0.001584	-0.00038	mg/L	0.001584	417.81%
Se 196.026†	4190.7	2.237	mg/L	0.0264	2.237	mg/L	0.0264	1.18%
Si 288.158†	-2.0	0.00112	mg/L	0.001964	0.00112	mg/L	0.001964	174.73%
Sn 189.927†	-5.8	-0.00040	mg/L	0.000416	-0.00040	mg/L	0.000416	103.44%
Sr 421.552†	431046.5	0.4986	mg/L	0.00759	0.4986	mg/L	0.00759	1.52%
Ti 334.903†	70.6	0.00191	mg/L	0.000162	0.00191	mg/L	0.000162	8.45%
Tl 190.801†	5370.9	2.044	mg/L	0.0188	2.044	mg/L	0.0188	0.92%
V 292.402†	96138.5	0.5058	mg/L	0.00366	0.5058	mg/L	0.00366	0.72%
Zn 206.200†	1468.2	0.5028	mg/L	0.00292	0.5028	mg/L	0.00292	0.58%

Sequence No.: 30
Sample ID: CV 3

Autosampler Location: 7
Date Collected: 5/9/2012 10:55:19 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2534085.7	97.78	%	0.509				0.52%
ScR 361.383	384395.4	99.19	%	0.335				0.34%
Ag 328.068†	273654.9	0.9747	mg/L	0.00589	0.9747	mg/L	0.00589	0.60%
Al 308.215†	3263.6	1.992	mg/L	0.0033	1.992	mg/L	0.0033	0.17%
As 188.979†	4764.8	1.949	mg/L	0.0115	1.949	mg/L	0.0115	0.59%
B 249.677†	6365.7	0.9877	mg/L	0.00211	0.9877	mg/L	0.00211	0.21%
Ba 233.527†	8728.8	0.9686	mg/L	0.00202	0.9686	mg/L	0.00202	0.21%
Be 313.042†	709210.6	0.9425	mg/L	0.00515	0.9425	mg/L	0.00515	0.55%
Ca 317.933†	21701.3	2.056	mg/L	0.0054	2.056	mg/L	0.0054	0.26%
Cd 228.802†	32496.3	1.002	mg/L	0.0034	1.002	mg/L	0.0034	0.34%
Co 228.616†	40105.5	0.9634	mg/L	0.00147	0.9634	mg/L	0.00147	0.15%
Cr 267.716†	8954.0	0.9964	mg/L	0.00177	0.9964	mg/L	0.00177	0.18%
Cu 324.752†	230042.7	0.9921	mg/L	0.00109	0.9921	mg/L	0.00109	0.11%
Fe 273.955†	2927.5	2.021	mg/L	0.0063	2.021	mg/L	0.0063	0.31%
K 766.490†	46197.8	20.04	mg/L	0.133	20.04	mg/L	0.133	0.66%
Mg 279.077†	2598.2	2.013	mg/L	0.0014	2.013	mg/L	0.0014	0.07%
Mn 257.610†	54621.7	0.9253	mg/L	0.00473	0.9253	mg/L	0.00473	0.51%
Mo 202.031†	21852.0	0.9846	mg/L	0.00647	0.9846	mg/L	0.00647	0.66%
Na 589.592†	644941.5	48.50	mg/L	0.262	48.50	mg/L	0.262	0.54%
Na 330.237†	1603.7	52.22	mg/L	0.378	52.22	mg/L	0.378	0.72%
Ni 231.604†	4763.5	0.9657	mg/L	0.00378	0.9657	mg/L	0.00378	0.39%
Pb 220.353†	24666.6	1.989	mg/L	0.0111	1.989	mg/L	0.0111	0.56%
Sb 206.836†	7655.3	2.011	mg/L	0.0120	2.011	mg/L	0.0120	0.60%
Se 196.026†	3631.4	1.938	mg/L	0.0105	1.938	mg/L	0.0105	0.54%
Si 288.158†	4601.6	2.069	mg/L	0.0099	2.069	mg/L	0.0099	0.48%
Sn 189.927†	7317.1	0.9808	mg/L	0.00644	0.9808	mg/L	0.00644	0.66%
Sr 421.552†	843647.4	0.9758	mg/L	0.00321	0.9758	mg/L	0.00321	0.33%
Ti 334.903†	28930.1	0.9726	mg/L	0.00420	0.9726	mg/L	0.00420	0.43%
Tl 190.801†	5089.5	1.938	mg/L	0.0114	1.938	mg/L	0.0114	0.59%
V 292.402†	185620.3	0.9771	mg/L	0.00332	0.9771	mg/L	0.00332	0.34%
Zn 206.200†	2938.5	1.006	mg/L	0.0027	1.006	mg/L	0.0027	0.26%

Sequence No.: 31
Sample ID: CB 3

Autosampler Location: 1
Date Collected: 5/9/2012 10:59:06 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2608579.6	100.7	%	1.23				1.22%
ScR 361.383	391853.7	101.1	%	0.52				0.51%
Ag 328.068†	39.3	0.00014	mg/L	0.000223	0.00014	mg/L	0.000223	159.74%
Al 308.215†	8.9	0.00551	mg/L	0.002110	0.00551	mg/L	0.002110	38.28%
As 188.979†	-3.3	-0.00133	mg/L	0.000550	-0.00133	mg/L	0.000550	41.33%
B 249.677†	7.2	0.00112	mg/L	0.000654	0.00112	mg/L	0.000654	58.19%
Ba 233.527†	0.3	0.00004	mg/L	0.000151	0.00004	mg/L	0.000151	391.20%
Be 313.042†	61.7	0.00008	mg/L	0.000015	0.00008	mg/L	0.000015	18.71%
Ca 317.933†	1.2	0.00011	mg/L	0.000601	0.00011	mg/L	0.000601	546.20%
Cd 228.802†	4.1	0.00013	mg/L	0.000080	0.00013	mg/L	0.000080	61.13%
Co 228.616†	3.6	0.00009	mg/L	0.000105	0.00009	mg/L	0.000105	121.55%
Cr 267.716†	-1.4	-0.00016	mg/L	0.000634	-0.00016	mg/L	0.000634	396.65%
Cu 324.752†	83.5	0.00036	mg/L	0.000138	0.00036	mg/L	0.000138	38.31%
Fe 273.955†	2.7	0.00189	mg/L	0.000889	0.00189	mg/L	0.000889	47.10%
K 766.490†	-25.9	-0.01123	mg/L	0.008320	-0.01123	mg/L	0.008320	74.08%
Mg 279.077†	9.7	0.00748	mg/L	0.002800	0.00748	mg/L	0.002800	37.43%
Mn 257.610†	-0.4	-0.00001	mg/L	0.000038	-0.00001	mg/L	0.000038	540.88%
Mo 202.031†	10.7	0.00048	mg/L	0.000109	0.00048	mg/L	0.000109	22.60%
Na 589.592†	-2116.9	-0.1592	mg/L	0.00144	-0.1592	mg/L	0.00144	0.90%
Na 330.237†	5.1	0.1664	mg/L	0.21719	0.1664	mg/L	0.21719	130.55%
Ni 231.604†	4.8	0.00098	mg/L	0.000299	0.00098	mg/L	0.000299	30.59%
Pb 220.353†	2.1	0.00017	mg/L	0.000444	0.00017	mg/L	0.000444	263.20%
Sb 206.836†	10.1	0.00265	mg/L	0.000714	0.00265	mg/L	0.000714	26.91%
Se 196.026†	4.5	0.00238	mg/L	0.003958	0.00238	mg/L	0.003958	166.35%
Si 288.158†	16.6	0.00743	mg/L	0.003178	0.00743	mg/L	0.003178	42.78%
Sn 189.927†	5.7	0.00077	mg/L	0.000277	0.00077	mg/L	0.000277	36.12%
Sr 421.552†	62.4	0.00007	mg/L	0.000024	0.00007	mg/L	0.000024	33.11%
Ti 334.903†	21.2	0.00071	mg/L	0.000529	0.00071	mg/L	0.000529	74.24%
Tl 190.801†	3.7	0.00139	mg/L	0.000867	0.00139	mg/L	0.000867	62.14%
V 292.402†	-4.2	-0.00002	mg/L	0.000129	-0.00002	mg/L	0.000129	559.02%
Zn 206.200†	-0.1	-0.00004	mg/L	0.000375	-0.00004	mg/L	0.000375	>999.9%

Sequence No.: 32
Sample ID: US52 MB1 TWC

Dilution: 1X

Autosampler Location: 324
Date Collected: 5/9/2012 11:03:20 AM
Data Type: Original

Nebulizer Parameters: US52 MB1 TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 MB1 TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2644370.1	102.0	%	0.52				0.51%
ScR 361.383	393889.3	101.6	%	0.47				0.46%
Ag 328.068†	-11.1	-0.00004	mg/L	0.000017	-0.00004	mg/L	0.000017	43.51%
Al 308.215†	17.0	0.01053	mg/L	0.003353	0.01053	mg/L	0.003353	31.85%
As 188.979†	-2.0	-0.00080	mg/L	0.000389	-0.00080	mg/L	0.000389	48.47%
B 249.677†	-1.3	-0.00021	mg/L	0.000769	-0.00021	mg/L	0.000769	366.68%
Ba 233.527†	2.0	0.00022	mg/L	0.000337	0.00022	mg/L	0.000337	153.27%
Be 313.042†	30.2	0.00004	mg/L	0.000007	0.00004	mg/L	0.000007	18.10%
Ca 317.933†	226.1	0.02143	mg/L	0.000861	0.02143	mg/L	0.000861	4.02%
Cd 228.802†	4.3	0.00014	mg/L	0.000088	0.00014	mg/L	0.000088	63.57%
Co 228.616†	2.0	0.00005	mg/L	0.000016	0.00005	mg/L	0.000016	33.32%
Cr 267.716†	3.7	0.00041	mg/L	0.000686	0.00041	mg/L	0.000686	168.49%
Cu 324.752†	139.8	0.00060	mg/L	0.000166	0.00060	mg/L	0.000166	27.50%
Fe 273.955†	8.5	0.00588	mg/L	0.001910	0.00588	mg/L	0.001910	32.51%
K 766.490†	-16.2	-0.00702	mg/L	0.008173	-0.00702	mg/L	0.008173	116.42%
Mg 279.077†	7.2	0.00558	mg/L	0.001566	0.00558	mg/L	0.001566	28.07%
Mn 257.610†	4.6	0.00008	mg/L	0.000046	0.00008	mg/L	0.000046	60.26%
Mo 202.031†	-5.0	-0.00023	mg/L	0.000184	-0.00023	mg/L	0.000184	81.06%
Na 589.592†	-1704.6	-0.1282	mg/L	0.00285	-0.1282	mg/L	0.00285	2.23%
Na 330.237†	12.3	0.3997	mg/L	0.14727	0.3997	mg/L	0.14727	36.84%
Ni 231.604†	2.3	0.00047	mg/L	0.000293	0.00047	mg/L	0.000293	62.43%
Pb 220.353†	-9.1	-0.00074	mg/L	0.000368	-0.00074	mg/L	0.000368	50.03%
Sb 206.836†	-0.3	-0.00008	mg/L	0.000825	-0.00008	mg/L	0.000825	>999.9%
Se 196.026†	-2.4	-0.00128	mg/L	0.003086	-0.00128	mg/L	0.003086	240.73%
Si 288.158†	17.0	0.00763	mg/L	0.005676	0.00763	mg/L	0.005676	74.40%
Sn 189.927†	5.3	0.00070	mg/L	0.000486	0.00070	mg/L	0.000486	68.92%
Sr 421.552†	22.0	0.00003	mg/L	0.000014	0.00003	mg/L	0.000014	55.94%
Ti 334.903†	15.7	0.00053	mg/L	0.000957	0.00053	mg/L	0.000957	181.23%
Tl 190.801†	0.6	0.00023	mg/L	0.000089	0.00023	mg/L	0.000089	38.65%
V 292.402†	-50.6	-0.00026	mg/L	0.000081	-0.00026	mg/L	0.000081	30.70%
Zn 206.200†	5.1	0.00175	mg/L	0.000227	0.00175	mg/L	0.000227	13.01%

Sequence No.: 33
Sample ID: ~~US52 G-L TWC~~ 222222
Dilution: 5X

Autosampler Location: 325
Date Collected: 5/9/2012 11:07:34 AM
Data Type: Original

5-9-12

Nebulizer Parameters: US52 G-L TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 G-L TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2543533.6	98.14	%	0.215				0.22%
ScR 361.383	393022.6	101.4	%	1.12				1.10%
Ag 328.068†	22.9	-0.00002	mg/L	0.000083	-0.00011	mg/L	0.000415	384.63%
Al 308.215†	10.7	0.00657	mg/L	0.004396	0.03287	mg/L	0.021981	66.87%
As 188.979†	-1.9	-0.00079	mg/L	0.001195	-0.00397	mg/L	0.005974	150.34%
B 249.677†	40.7	0.00633	mg/L	0.000126	0.03164	mg/L	0.000632	2.00%
Ba 233.527†	14.8	0.00153	mg/L	0.000551	0.00764	mg/L	0.002755	36.07%
Be 313.042†	17.1	0.00002	mg/L	0.000010	0.00011	mg/L	0.000049	44.24%
Ca 317.933†	139417.2	13.21	mg/L	0.126	66.05	mg/L	0.632	0.96%
Cd 228.802†	15.6	0.00046	mg/L	0.000140	0.00232	mg/L	0.000700	30.13%
Co 228.616†	11.6	0.00028	mg/L	0.000101	0.00139	mg/L	0.000505	36.42%
Cr 267.716†	0.9	-0.00015	mg/L	0.000054	-0.00073	mg/L	0.000272	37.12%
Cu 324.752†	121.3	0.00069	mg/L	0.000070	0.00343	mg/L	0.000351	10.25%
Fe 273.955†	3403.4	2.354	mg/L	0.0252	11.77	mg/L	0.126	1.07%
K 766.490†	2397.5	1.040	mg/L	0.0134	5.201	mg/L	0.0668	1.28%
Mg 279.077†	1755.4	1.355	mg/L	0.0141	6.776	mg/L	0.0704	1.04%
Mn 257.610†	4000.4	0.06772	mg/L	0.000501	0.3386	mg/L	0.00250	0.74%
Mo 202.031†	50.9	0.00207	mg/L	0.000257	0.01035	mg/L	0.001287	12.43%
Na 589.592†	28864.3	2.171	mg/L	0.0099	10.85	mg/L	0.050	0.46%
Na 330.237†	83.2	2.622	mg/L	0.3286	13.11	mg/L	1.643	12.53%
Ni 231.604†	2.4	0.00049	mg/L	0.000927	0.00243	mg/L	0.004633	190.84%
Pb 220.353†	-12.4	-0.00116	mg/L	0.000285	-0.00578	mg/L	0.001427	24.70%
Sb 206.836†	17.1	0.00420	mg/L	0.000544	0.02102	mg/L	0.002721	12.94%
Se 196.026†	12.8	0.00705	mg/L	0.000692	0.03525	mg/L	0.003458	9.81%
Si 288.158†	6707.4	3.010	mg/L	0.0427	15.05	mg/L	0.214	1.42%
Sn 189.927†	-5.6	-0.00036	mg/L	0.000913	-0.00178	mg/L	0.004567	256.25%
Sr 421.552†	24215.0	0.02801	mg/L	0.000200	0.1400	mg/L	0.00100	0.71%
Ti 334.903†	28.7	0.00050	mg/L	0.000213	0.00252	mg/L	0.001065	42.25%
Tl 190.801†	4.7	0.00209	mg/L	0.000329	0.01047	mg/L	0.001646	15.72%
V 292.402†	137.9	0.00045	mg/L	0.000121	0.00225	mg/L	0.000603	26.74%
Zn 206.200†	3.8	0.00111	mg/L	0.000441	0.00556	mg/L	0.002203	39.65%

Sequence No.: 34
Sample ID: US52 G TWC

Dilution: 1X

Autosampler Location: 326
Date Collected: 5/9/2012 11:11:46 AM
Data Type: Original

Nebulizer Parameters: US52 G TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US52 G TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2595216.7	100.1	%	0.36				0.36%
ScR 361.383	391437.0	101.0	%	0.95				0.94%
Ag 328.068†	80.8	-0.00023	mg/L	0.000168	-0.00023	mg/L	0.000168	72.00%
Al 308.215†	16.0	0.00978	mg/L	0.002246	0.00978	mg/L	0.002246	22.97%
As 188.979†	10.2	0.00402	mg/L	0.002243	0.00402	mg/L	0.002243	55.86%
B 249.677†	214.8	0.03340	mg/L	0.000801	0.03340	mg/L	0.000801	2.40%
Ba 233.527†	69.8	0.00713	mg/L	0.000181	0.00713	mg/L	0.000181	2.53%
Be 313.042†	24.6	0.00003	mg/L	0.000006	0.00003	mg/L	0.000006	19.40%
Ca 317.933†	706413.7	66.94	mg/L	0.219	66.94	mg/L	0.219	0.33%
Cd 228.802†	20.8	0.00052	mg/L	0.000088	0.00052	mg/L	0.000088	16.90%
Co 228.616†	45.0	0.00108	mg/L	0.000084	0.00108	mg/L	0.000084	7.78%
Cr 267.716†	4.1	-0.00079	mg/L	0.000680	-0.00079	mg/L	0.000680	85.72%
Cu 324.752†	-23.6	0.00073	mg/L	0.000127	0.00073	mg/L	0.000127	17.42%
Fe 273.955†	17362.2	12.01	mg/L	0.175	12.01	mg/L	0.175	1.45%
K 766.490†	12002.1	5.207	mg/L	0.0863	5.207	mg/L	0.0863	1.66%
Mg 279.077†	8430.5	6.508	mg/L	0.0545	6.508	mg/L	0.0545	0.84%
Mn 257.610†	20231.3	0.3425	mg/L	0.00554	0.3425	mg/L	0.00554	1.62%
Mo 202.031†	154.2	0.00581	mg/L	0.000337	0.00581	mg/L	0.000337	5.80%
Na 589.592†	155155.1	11.67	mg/L	0.094	11.67	mg/L	0.094	0.81%
Na 330.237†	401.8	12.64	mg/L	0.449	12.64	mg/L	0.449	3.55%
Ni 231.604†	21.6	0.00439	mg/L	0.000820	0.00439	mg/L	0.000820	18.69%
Pb 220.353†	-54.2	-0.00516	mg/L	0.000287	-0.00516	mg/L	0.000287	5.57%
Sb 206.836†	24.3	0.00492	mg/L	0.000250	0.00492	mg/L	0.000250	5.09%
Se 196.026†	42.4	0.02370	mg/L	0.003698	0.02370	mg/L	0.003698	15.60%
Si 288.158†	35220.9	15.80	mg/L	0.196	15.80	mg/L	0.196	1.24%
Sn 189.927†	-40.1	-0.00340	mg/L	0.000321	-0.00340	mg/L	0.000321	9.43%
Sr 421.552†	122103.1	0.1412	mg/L	0.00089	0.1412	mg/L	0.00089	0.63%
Ti 334.903†	110.1	0.00136	mg/L	0.000567	0.00136	mg/L	0.000567	41.56%
Tl 190.801†	7.6	0.00448	mg/L	0.002259	0.00448	mg/L	0.002259	50.38%
V 292.402†	523.0	0.00135	mg/L	0.000107	0.00135	mg/L	0.000107	7.92%
Zn 206.200†	-2.2	-0.00164	mg/L	0.001267	-0.00164	mg/L	0.001267	77.31%

Sequence No.: 35
Sample ID: US52 GDUP TWC

Dilution: 1X

Autosampler Location: 327
Date Collected: 5/9/2012 11:15:59 AM
Data Type: Original

Nebulizer Parameters: US52 GDUP TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US52 GDUP TWC

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2571126.8	99.21	%	1.499				1.51%
ScR 361.383	391133.2	100.9	%	0.43				0.43%
Ag 328.068†	66.8	-0.00028	mg/L	0.000124	-0.00028	mg/L	0.000124	44.64%
Al 308.215†	15.4	0.00942	mg/L	0.002052	0.00942	mg/L	0.002052	21.78%
As 188.979†	9.9	0.00389	mg/L	0.000659	0.00389	mg/L	0.000659	16.94%
B 249.677†	209.1	0.03251	mg/L	0.000477	0.03251	mg/L	0.000477	1.47%
Ba 233.527†	66.6	0.00678	mg/L	0.000108	0.00678	mg/L	0.000108	1.60%
Be 313.042†	23.6	0.00003	mg/L	0.000020	0.00003	mg/L	0.000020	68.15%
Ca 317.933†	696314.6	65.98	mg/L	0.542	65.98	mg/L	0.542	0.82%
Cd 228.802†	19.8	0.00049	mg/L	0.000165	0.00049	mg/L	0.000165	33.69%
Co 228.616†	46.8	0.00112	mg/L	0.000110	0.00112	mg/L	0.000110	9.79%
Cr 267.716†	-0.7	-0.00131	mg/L	0.000628	-0.00131	mg/L	0.000628	48.03%
Cu 324.752†	-23.3	0.00072	mg/L	0.000125	0.00072	mg/L	0.000125	17.32%
Fe 273.955†	17222.2	11.91	mg/L	0.036	11.91	mg/L	0.036	0.30%
K 766.490†	11917.4	5.170	mg/L	0.0220	5.170	mg/L	0.0220	0.43%
Mg 279.077†	8338.2	6.437	mg/L	0.0141	6.437	mg/L	0.0141	0.22%
Mn 257.610†	20039.1	0.3393	mg/L	0.00168	0.3393	mg/L	0.00168	0.49%
Mo 202.031†	153.5	0.00580	mg/L	0.000227	0.00580	mg/L	0.000227	3.92%
Na 589.592†	152467.5	11.47	mg/L	0.061	11.47	mg/L	0.061	0.53%
Na 330.237†	401.9	12.65	mg/L	0.254	12.65	mg/L	0.254	2.01%
Ni 231.604†	27.6	0.00560	mg/L	0.001431	0.00560	mg/L	0.001431	25.56%
Pb 220.353†	-51.4	-0.00493	mg/L	0.001123	-0.00493	mg/L	0.001123	22.78%
Sb 206.836†	26.9	0.00561	mg/L	0.001646	0.00561	mg/L	0.001646	29.34%
Se 196.026†	42.1	0.02352	mg/L	0.003299	0.02352	mg/L	0.003299	14.03%
Si 288.158†	34656.0	15.55	mg/L	0.014	15.55	mg/L	0.014	0.09%
Sn 189.927†	-35.8	-0.00286	mg/L	0.000583	-0.00286	mg/L	0.000583	20.41%
Sr 421.552†	120308.8	0.1392	mg/L	0.00039	0.1392	mg/L	0.00039	0.28%
Ti 334.903†	88.9	0.00069	mg/L	0.000209	0.00069	mg/L	0.000209	30.55%
Tl 190.801†	10.1	0.00543	mg/L	0.001425	0.00543	mg/L	0.001425	26.22%
V 292.402†	537.6	0.00144	mg/L	0.000119	0.00144	mg/L	0.000119	8.27%
Zn 206.200†	-3.3	-0.00200	mg/L	0.001151	-0.00200	mg/L	0.001151	57.43%

Sequence No.: 36
Sample ID: US52 GSPK TWC

Dilution: 1X

Autosampler Location: 328
Date Collected: 5/9/2012 11:20:12 AM
Data Type: Original

Nebulizer Parameters: US52 GSPK TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US52 GSPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2575689.1	99.38	%	0.854				0.86%
ScR 361.383	395566.4	102.1	%	0.38				0.37%
Ag 328.068†	136757.9	0.4866	mg/L	0.00441	0.4866	mg/L	0.00441	0.91%
Al 308.215†	3204.2	1.974	mg/L	0.0101	1.974	mg/L	0.0101	0.51%
As 188.979†	4765.9	1.943	mg/L	0.0152	1.943	mg/L	0.0152	0.78%
B 249.677†	212.1	0.03157	mg/L	0.001172	0.03157	mg/L	0.001172	3.71%
Ba 233.527†	17049.5	1.892	mg/L	0.0048	1.892	mg/L	0.0048	0.25%
Be 313.042†	348407.8	0.4630	mg/L	0.00073	0.4630	mg/L	0.00073	0.16%
Ca 317.933†	804879.8	76.27	mg/L	0.546	76.27	mg/L	0.546	0.72%
Cd 228.802†	16633.6	0.5094	mg/L	0.00387	0.5094	mg/L	0.00387	0.76%
Co 228.616†	20109.3	0.4834	mg/L	0.00339	0.4834	mg/L	0.00339	0.70%
Cr 267.716†	4346.1	0.4819	mg/L	0.00233	0.4819	mg/L	0.00233	0.48%
Cu 324.752†	115211.2	0.4979	mg/L	0.00250	0.4979	mg/L	0.00250	0.50%
Fe 273.955†	19959.7	13.80	mg/L	0.038	13.80	mg/L	0.038	0.28%
K 766.490†	34576.2	15.00	mg/L	0.037	15.00	mg/L	0.037	0.25%
Mg 279.077†	21429.2	16.55	mg/L	0.030	16.55	mg/L	0.030	0.18%
Mn 257.610†	45538.2	0.7715	mg/L	0.00108	0.7715	mg/L	0.00108	0.14%
Mo 202.031†	170.0	0.00636	mg/L	0.000337	0.00636	mg/L	0.000337	5.29%
Na 589.592†	278488.3	20.94	mg/L	0.078	20.94	mg/L	0.078	0.37%
Na 330.237†	714.2	22.64	mg/L	0.038	22.64	mg/L	0.038	0.17%
Ni 231.604†	2242.5	0.4537	mg/L	0.00173	0.4537	mg/L	0.00173	0.38%
Pb 220.353†	23856.1	1.922	mg/L	0.0124	1.922	mg/L	0.0124	0.65%
Sb 206.836†	46.9	0.00607	mg/L	0.002256	0.00607	mg/L	0.002256	37.16%
Se 196.026†	3627.6	1.937	mg/L	0.0209	1.937	mg/L	0.0209	1.08%
Si 288.158†	33686.5	15.12	mg/L	0.043	15.12	mg/L	0.043	0.29%
Sn 189.927†	-43.4	-0.00350	mg/L	0.000311	-0.00350	mg/L	0.000311	8.91%
Sr 421.552†	533112.7	0.6166	mg/L	0.00072	0.6166	mg/L	0.00072	0.12%
Ti 334.903†	91.7	0.00031	mg/L	0.000056	0.00031	mg/L	0.000056	17.95%
Tl 190.801†	4920.6	1.875	mg/L	0.0172	1.875	mg/L	0.0172	0.92%
V 292.402†	93364.5	0.4898	mg/L	0.00378	0.4898	mg/L	0.00378	0.77%
Zn 206.200†	1335.2	0.4564	mg/L	0.00122	0.4564	mg/L	0.00122	0.27%

Sequence No.: 37
Sample ID: ~~US52 GPOST TWC~~ 222222
Dilution: 1X

Autosampler Location: 329
Date Collected: 5/9/2012 11:24:11 AM
Data Type: Original

AA 5-9-12

Nebulizer Parameters: US52 GPOST TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 GPOST TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2565793.5	99.00	%	0.415				0.42%
ScR 361.383	388700.1	100.3	%	0.52				0.52%
Ag 328.068†	141341.5	0.5029	mg/L	0.00373	0.5029	mg/L	0.00373	0.74%
Al 308.215†	3315.6	2.043	mg/L	0.0079	2.043	mg/L	0.0079	0.38%
As 188.979†	4860.2	1.982	mg/L	0.0101	1.982	mg/L	0.0101	0.51%
B 249.677†	215.1	0.03202	mg/L	0.001317	0.03202	mg/L	0.001317	4.11%
Ba 233.527†	17711.7	1.965	mg/L	0.0096	1.965	mg/L	0.0096	0.49%
Be 313.042†	355619.1	0.4726	mg/L	0.00441	0.4726	mg/L	0.00441	0.93%
Ca 317.933†	810344.6	76.79	mg/L	0.322	76.79	mg/L	0.322	0.42%
Cd 228.802†	16849.6	0.5160	mg/L	0.00386	0.5160	mg/L	0.00386	0.75%
Co 228.616†	20344.6	0.4891	mg/L	0.00351	0.4891	mg/L	0.00351	0.72%
Cr 267.716†	4404.5	0.4884	mg/L	0.00329	0.4884	mg/L	0.00329	0.67%
Cu 324.752†	116773.6	0.5047	mg/L	0.00374	0.5047	mg/L	0.00374	0.74%
Fe 273.955†	20385.3	14.10	mg/L	0.094	14.10	mg/L	0.094	0.67%
K 766.490†	35078.0	15.22	mg/L	0.044	15.22	mg/L	0.044	0.29%
Mg 279.077†	21913.7	16.93	mg/L	0.108	16.93	mg/L	0.108	0.64%
Mn 257.610†	47023.8	0.7967	mg/L	0.00729	0.7967	mg/L	0.00729	0.91%
Mo 202.031†	168.2	0.00627	mg/L	0.000280	0.00627	mg/L	0.000280	4.46%
Na 589.592†	282946.1	21.28	mg/L	0.207	21.28	mg/L	0.207	0.97%
Na 330.237†	740.0	23.48	mg/L	0.173	23.48	mg/L	0.173	0.74%
Ni 231.604†	2350.7	0.4756	mg/L	0.00136	0.4756	mg/L	0.00136	0.29%
Pb 220.353†	24504.3	1.975	mg/L	0.0096	1.975	mg/L	0.0096	0.48%
Sb 206.836†	50.4	0.00686	mg/L	0.002358	0.00686	mg/L	0.002358	34.38%
Se 196.026†	3705.1	1.979	mg/L	0.0131	1.979	mg/L	0.0131	0.66%
Si 288.158†	34982.8	15.70	mg/L	0.148	15.70	mg/L	0.148	0.94%
Sn 189.927†	-39.1	-0.00291	mg/L	0.000052	-0.00291	mg/L	0.000052	1.77%
Sr 421.552†	544352.6	0.6296	mg/L	0.00490	0.6296	mg/L	0.00490	0.78%
Ti 334.903†	93.4	0.00035	mg/L	0.000007	0.00035	mg/L	0.000007	1.93%
Tl 190.801†	5040.6	1.920	mg/L	0.0077	1.920	mg/L	0.0077	0.40%
V 292.402†	94298.3	0.4947	mg/L	0.00150	0.4947	mg/L	0.00150	0.30%
Zn 206.200†	1366.2	0.4670	mg/L	0.00084	0.4670	mg/L	0.00084	0.18%

Sequence No.: 38
Sample ID: US52 I TWC

Dilution: 1X

Autosampler Location: 330
Date Collected: 5/9/2012 11:28:10 AM
Data Type: Original

Nebulizer Parameters: US52 I TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US52 I TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2569563.1	99.15	%	0.723				0.73%
ScR 361.383	385201.7	99.40	%	0.154				0.15%
Ag 328.068†	19.7	-0.00004	mg/L	0.000122	-0.00004	mg/L	0.000122	289.65%
Al 308.215†	1477.7	0.9132	mg/L	0.00843	0.9132	mg/L	0.00843	0.92%
As 188.979†	-1.7	0.00037	mg/L	0.001090	0.00037	mg/L	0.001090	290.75%
B 249.677†	2114.2	0.3287	mg/L	0.00397	0.3287	mg/L	0.00397	1.21%
Ba 233.527†	224.3	0.02441	mg/L	0.000056	0.02441	mg/L	0.000056	0.23%
Be 313.042†	198.5	0.00021	mg/L	0.000006	0.00021	mg/L	0.000006	3.01%
Ca 317.933†	106087.4	10.05	mg/L	0.036	10.05	mg/L	0.036	0.36%
Cd 228.802†	25.3	0.00070	mg/L	0.000221	0.00070	mg/L	0.000221	31.49%
Co 228.616†	54.1	0.00093	mg/L	0.000126	0.00093	mg/L	0.000126	13.59%
Cr 267.716†	152.8	0.01656	mg/L	0.000130	0.01656	mg/L	0.000130	0.79%
Cu 324.752†	1711.6	0.00789	mg/L	0.000150	0.00789	mg/L	0.000150	1.89%
Fe 273.955†	13076.5	9.045	mg/L	0.1122	9.045	mg/L	0.1122	1.24%
K 766.490†	32937.8	14.29	mg/L	0.141	14.29	mg/L	0.141	0.98%
Mg 279.077†	21069.1	16.28	mg/L	0.150	16.28	mg/L	0.150	0.92%
Mn 257.610†	19930.0	0.3373	mg/L	0.00359	0.3373	mg/L	0.00359	1.06%
Mo 202.031†	122.2	0.00534	mg/L	0.000410	0.00534	mg/L	0.000410	7.68%
Na 589.592†	2636319.8	198.3	mg/L	0.81	198.3	mg/L	0.81	0.41%
Na 330.237†	6470.8	210.6	mg/L	2.48	210.6	mg/L	2.48	1.18%
Ni 231.604†	7.2	0.00146	mg/L	0.000050	0.00146	mg/L	0.000050	3.42%
Pb 220.353†	-20.2	-0.00207	mg/L	0.000214	-0.00207	mg/L	0.000214	10.31%
Sb 206.836†	20.1	0.00423	mg/L	0.002092	0.00423	mg/L	0.002092	49.45%
Se 196.026†	14.5	0.00845	mg/L	0.003876	0.00845	mg/L	0.003876	45.89%
Si 288.158†	57383.2	25.75	mg/L	0.292	25.75	mg/L	0.292	1.13%
Sn 189.927†	-14.9	-0.00158	mg/L	0.000397	-0.00158	mg/L	0.000397	25.15%
Sr 421.552†	89608.8	0.1036	mg/L	0.00029	0.1036	mg/L	0.00029	0.28%
Ti 334.903†	6538.5	0.2198	mg/L	0.00221	0.2198	mg/L	0.00221	1.01%
Tl 190.801†	1.2	0.00142	mg/L	0.000351	0.00142	mg/L	0.000351	24.72%
V 292.402†	14227.2	0.07346	mg/L	0.000217	0.07346	mg/L	0.000217	0.30%
Zn 206.200†	-0.0	-0.00009	mg/L	0.001044	-0.00009	mg/L	0.001044	>999.9%

Sequence No.: 39
Sample ID: US61 H WMN

Dilution: 1X

Autosampler Location: 331
Date Collected: 5/9/2012 11:32:25 AM
Data Type: Original

Nebulizer Parameters: US61 H WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 H WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2646389.6	102.1	%	0.90				0.88%
ScR 361.383	401565.6	103.6	%	1.92				1.85%
Ag 328.068†	50.5	-0.00021	mg/L	0.000092	-0.00021	mg/L	0.000092	43.70%
Al 308.215†	9.5	0.00575	mg/L	0.003020	0.00575	mg/L	0.003020	52.52%
As 188.979†	-6.9	-0.00305	mg/L	0.001573	-0.00305	mg/L	0.001573	51.54%
B 249.677†	429.8	0.06682	mg/L	0.001841	0.06682	mg/L	0.001841	2.75%
Ba 233.527†	84.0	0.00884	mg/L	0.000520	0.00884	mg/L	0.000520	5.88%
Be 313.042†	8.0	0.00001	mg/L	0.000031	0.00001	mg/L	0.000031	363.13%
Ca 317.933†	502099.1	47.58	mg/L	0.883	47.58	mg/L	0.883	1.86%
Cd 228.802†	14.1	0.00036	mg/L	0.000200	0.00036	mg/L	0.000200	55.41%
Co 228.616†	29.7	0.00071	mg/L	0.000067	0.00071	mg/L	0.000067	9.50%
Cr 267.716†	3.0	-0.00075	mg/L	0.001022	-0.00075	mg/L	0.001022	136.30%
Cu 324.752†	16.4	0.00069	mg/L	0.000118	0.00069	mg/L	0.000118	17.13%
Fe 273.955†	13518.7	9.351	mg/L	0.1991	9.351	mg/L	0.1991	2.13%
K 766.490†	17695.7	7.677	mg/L	0.2302	7.677	mg/L	0.2302	3.00%
Mg 279.077†	14185.3	10.96	mg/L	0.336	10.96	mg/L	0.336	3.07%
Mn 257.610†	19889.2	0.3367	mg/L	0.00844	0.3367	mg/L	0.00844	2.51%
Mo 202.031†	112.7	0.00427	mg/L	0.000197	0.00427	mg/L	0.000197	4.61%
Na 589.592†	435686.4	32.77	mg/L	0.992	32.77	mg/L	0.992	3.03%
Na 330.237†	1081.6	34.89	mg/L	1.043	34.89	mg/L	1.043	2.99%
Ni 231.604†	6.0	0.00122	mg/L	0.000456	0.00122	mg/L	0.000456	37.30%
Pb 220.353†	-50.9	-0.00472	mg/L	0.000718	-0.00472	mg/L	0.000718	15.21%
Sb 206.836†	14.5	0.00268	mg/L	0.000445	0.00268	mg/L	0.000445	16.62%
Se 196.026†	52.5	0.02880	mg/L	0.001237	0.02880	mg/L	0.001237	4.29%
Si 288.158†	38050.7	17.07	mg/L	0.448	17.07	mg/L	0.448	2.63%
Sn 189.927†	-24.9	-0.00194	mg/L	0.000273	-0.00194	mg/L	0.000273	14.09%
Sr 421.552†	85442.6	0.09883	mg/L	0.002479	0.09883	mg/L	0.002479	2.51%
Ti 334.903†	76.4	0.00091	mg/L	0.000556	0.00091	mg/L	0.000556	61.18%
Tl 190.801†	12.1	0.00585	mg/L	0.000791	0.00585	mg/L	0.000791	13.53%
V 292.402†	594.0	0.00204	mg/L	0.000150	0.00204	mg/L	0.000150	7.35%
Zn 206.200†	-9.2	-0.00377	mg/L	0.001024	-0.00377	mg/L	0.001024	27.14%

Sequence No.: 40
Sample ID: US61 I WMN

Dilution: 1X

Autosampler Location: 332
Date Collected: 5/9/2012 11:36:38 AM
Data Type: Original

Nebulizer Parameters: US61 I WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 I WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2627848.3	101.4	%	1.19				1.17%
ScR 361.383	395631.6	102.1	%	0.27				0.26%
Ag 328.068†	74.2	-0.00021	mg/L	0.000111	-0.00021	mg/L	0.000111	53.58%
Al 308.215†	2.8	0.00159	mg/L	0.002165	0.00159	mg/L	0.002165	136.54%
As 188.979†	-17.2	-0.00718	mg/L	0.001084	-0.00718	mg/L	0.001084	15.10%
B 249.677†	159.7	0.02484	mg/L	0.000263	0.02484	mg/L	0.000263	1.06%
Ba 233.527†	47.5	0.00491	mg/L	0.000129	0.00491	mg/L	0.000129	2.62%
Be 313.042†	24.8	0.00003	mg/L	0.000002	0.00003	mg/L	0.000002	6.15%
Ca 317.933†	681819.0	64.61	mg/L	0.693	64.61	mg/L	0.693	1.07%
Cd 228.802†	13.0	0.00036	mg/L	0.000167	0.00036	mg/L	0.000167	46.37%
Co 228.616†	32.8	0.00079	mg/L	0.000128	0.00079	mg/L	0.000128	16.27%
Cr 267.716†	4.0	-0.00096	mg/L	0.000678	-0.00096	mg/L	0.000678	70.88%
Cu 324.752†	87.7	0.00086	mg/L	0.000029	0.00086	mg/L	0.000029	3.39%
Fe 273.955†	10435.7	7.219	mg/L	0.1807	7.219	mg/L	0.1807	2.50%
K 766.490†	12309.6	5.340	mg/L	0.0362	5.340	mg/L	0.0362	0.68%
Mg 279.077†	8039.5	6.209	mg/L	0.0567	6.209	mg/L	0.0567	0.91%
Mn 257.610†	10344.9	0.1751	mg/L	0.00192	0.1751	mg/L	0.00192	1.10%
Mo 202.031†	296.2	0.01225	mg/L	0.000622	0.01225	mg/L	0.000622	5.08%
Na 589.592†	83812.2	6.303	mg/L	0.0674	6.303	mg/L	0.0674	1.07%
Na 330.237†	218.1	6.675	mg/L	0.6003	6.675	mg/L	0.6003	8.99%
Ni 231.604†	7.9	0.00160	mg/L	0.000824	0.00160	mg/L	0.000824	51.37%
Pb 220.353†	-45.3	-0.00413	mg/L	0.000845	-0.00413	mg/L	0.000845	20.47%
Sb 206.836†	15.9	0.00329	mg/L	0.001341	0.00329	mg/L	0.001341	40.80%
Se 196.026†	54.6	0.02980	mg/L	0.003462	0.02980	mg/L	0.003462	11.62%
Si 288.158†	40534.6	18.19	mg/L	0.194	18.19	mg/L	0.194	1.07%
Sn 189.927†	-32.8	-0.00250	mg/L	0.000455	-0.00250	mg/L	0.000455	18.16%
Sr 421.552†	117358.7	0.1357	mg/L	0.00111	0.1357	mg/L	0.00111	0.82%
Ti 334.903†	66.3	-0.00004	mg/L	0.000168	-0.00004	mg/L	0.000168	462.07%
Tl 190.801†	12.4	0.00573	mg/L	0.001632	0.00573	mg/L	0.001632	28.47%
V 292.402†	315.5	0.00082	mg/L	0.000125	0.00082	mg/L	0.000125	15.30%
Zn 206.200†	-5.6	-0.00277	mg/L	0.000563	-0.00277	mg/L	0.000563	20.29%

Sequence No.: 41
Sample ID: US52 MB1SPK TWC

Dilution: 1X

Autosampler Location: 333
Date Collected: 5/9/2012 11:40:51 AM
Data Type: Original

Nebulizer Parameters: US52 MB1SPK TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 MB1SPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2620404.7	101.1	%	0.50				0.49%
ScR 361.383	392703.8	101.3	%	0.62				0.62%
Ag 328.068†	140091.9	0.4990	mg/L	0.00279	0.4990	mg/L	0.00279	0.56%
Al 308.215†	3222.0	1.985	mg/L	0.0093	1.985	mg/L	0.0093	0.47%
As 188.979†	4739.1	1.933	mg/L	0.0194	1.933	mg/L	0.0194	1.01%
B 249.677†	8.1	-0.00014	mg/L	0.000356	-0.00014	mg/L	0.000356	262.77%
Ba 233.527†	17326.2	1.923	mg/L	0.0067	1.923	mg/L	0.0067	0.35%
Be 313.042†	350660.0	0.4660	mg/L	0.00187	0.4660	mg/L	0.00187	0.40%
Ca 317.933†	103685.1	9.825	mg/L	0.0579	9.825	mg/L	0.0579	0.59%
Cd 228.802†	16245.1	0.4975	mg/L	0.00088	0.4975	mg/L	0.00088	0.18%
Co 228.616†	20005.3	0.4809	mg/L	0.00182	0.4809	mg/L	0.00182	0.38%
Cr 267.716†	4421.9	0.4916	mg/L	0.00162	0.4916	mg/L	0.00162	0.33%
Cu 324.752†	114662.6	0.4948	mg/L	0.00361	0.4948	mg/L	0.00361	0.73%
Fe 273.955†	2886.5	1.994	mg/L	0.0083	1.994	mg/L	0.0083	0.42%
K 766.490†	22714.0	9.854	mg/L	0.0897	9.854	mg/L	0.0897	0.91%
Mg 279.077†	13118.9	10.14	mg/L	0.041	10.14	mg/L	0.041	0.41%
Mn 257.610†	27636.8	0.4684	mg/L	0.00257	0.4684	mg/L	0.00257	0.55%
Mo 202.031†	33.8	0.00136	mg/L	0.000095	0.00136	mg/L	0.000095	7.02%
Na 589.592†	124873.1	9.391	mg/L	0.0191	9.391	mg/L	0.0191	0.20%
Na 330.237†	326.4	10.45	mg/L	0.050	10.45	mg/L	0.050	0.48%
Ni 231.604†	2293.8	0.4641	mg/L	0.00217	0.4641	mg/L	0.00217	0.47%
Pb 220.353†	23771.8	1.916	mg/L	0.0159	1.916	mg/L	0.0159	0.83%
Sb 206.836†	24.4	0.00150	mg/L	0.001126	0.00150	mg/L	0.001126	74.91%
Se 196.026†	3590.8	1.917	mg/L	0.0227	1.917	mg/L	0.0227	1.18%
Si 288.158†	44.1	0.02169	mg/L	0.002700	0.02169	mg/L	0.002700	12.45%
Sn 189.927†	-10.6	-0.00107	mg/L	0.000132	-0.00107	mg/L	0.000132	12.38%
Sr 421.552†	414456.3	0.4794	mg/L	0.00273	0.4794	mg/L	0.00273	0.57%
Ti 334.903†	21.1	0.00026	mg/L	0.000171	0.00026	mg/L	0.000171	66.24%
Tl 190.801†	5043.8	1.920	mg/L	0.0180	1.920	mg/L	0.0180	0.94%
V 292.402†	93588.7	0.4924	mg/L	0.00759	0.4924	mg/L	0.00759	1.54%
Zn 206.200†	1389.8	0.4759	mg/L	0.00099	0.4759	mg/L	0.00099	0.21%

Sequence No.: 42
Sample ID: CV

Autosampler Location: 7
Date Collected: 5/9/2012 11:44:50 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2528322.5	97.56	%	0.319				0.33%
ScR 361.383	390493.8	100.8	%	0.43				0.43%
Ag 328.068†	273318.5	0.9735	mg/L	0.00203	0.9735	mg/L	0.00203	0.21%
Al 308.215†	3244.4	1.980	mg/L	0.0139	1.980	mg/L	0.0139	0.70%
As 188.979†	4797.8	1.962	mg/L	0.0143	1.962	mg/L	0.0143	0.73%
B 249.677†	6279.5	0.9742	mg/L	0.00485	0.9742	mg/L	0.00485	0.50%
Ba 233.527†	8602.9	0.9547	mg/L	0.00747	0.9547	mg/L	0.00747	0.78%
Be 313.042†	691676.6	0.9191	mg/L	0.00880	0.9191	mg/L	0.00880	0.96%
Ca 317.933†	21476.5	2.035	mg/L	0.0127	2.035	mg/L	0.0127	0.62%
Cd 228.802†	32518.9	1.002	mg/L	0.0020	1.002	mg/L	0.0020	0.20%
Co 228.616†	40184.7	0.9653	mg/L	0.00213	0.9653	mg/L	0.00213	0.22%
Cr 267.716†	8825.7	0.9821	mg/L	0.00603	0.9821	mg/L	0.00603	0.61%
Cu 324.752†	228450.6	0.9852	mg/L	0.00397	0.9852	mg/L	0.00397	0.40%
Fe 273.955†	2896.8	1.999	mg/L	0.0143	1.999	mg/L	0.0143	0.71%
K 766.490†	45111.4	19.57	mg/L	0.160	19.57	mg/L	0.160	0.82%
Mg 279.077†	2567.9	1.989	mg/L	0.0086	1.989	mg/L	0.0086	0.43%
Mn 257.610†	53113.6	0.8998	mg/L	0.00782	0.8998	mg/L	0.00782	0.87%
Mo 202.031†	21895.1	0.9865	mg/L	0.00624	0.9865	mg/L	0.00624	0.63%
Na 589.592†	630976.1	47.45	mg/L	0.438	47.45	mg/L	0.438	0.92%
Na 330.237†	1587.4	51.68	mg/L	0.476	51.68	mg/L	0.476	0.92%
Ni 231.604†	4692.8	0.9514	mg/L	0.00570	0.9514	mg/L	0.00570	0.60%
Pb 220.353†	24839.3	2.003	mg/L	0.0138	2.003	mg/L	0.0138	0.69%
Sb 206.836†	7722.7	2.029	mg/L	0.0079	2.029	mg/L	0.0079	0.39%
Se 196.026†	3646.1	1.946	mg/L	0.0151	1.946	mg/L	0.0151	0.78%
Si 288.158†	4560.7	2.050	mg/L	0.0040	2.050	mg/L	0.0040	0.20%
Sn 189.927†	7374.0	0.9884	mg/L	0.00890	0.9884	mg/L	0.00890	0.90%
Sr 421.552†	824112.9	0.9532	mg/L	0.00723	0.9532	mg/L	0.00723	0.76%
Ti 334.903†	28222.0	0.9488	mg/L	0.00755	0.9488	mg/L	0.00755	0.80%
Tl 190.801†	5104.7	1.944	mg/L	0.0154	1.944	mg/L	0.0154	0.79%
V 292.402†	184682.6	0.9722	mg/L	0.01043	0.9722	mg/L	0.01043	1.07%
Zn 206.200†	2909.1	0.9958	mg/L	0.00677	0.9958	mg/L	0.00677	0.68%

Sequence No.: 43
Sample ID: CB

Autosampler Location: 1
Date Collected: 5/9/2012 11:48:38 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2570963.5	99.20	%	0.202				0.20%
ScR 361.383	397254.0	102.5	%	0.88				0.86%
Ag 328.068†	17.1	0.00006	mg/L	0.000127	0.00006	mg/L	0.000127	208.82%
Al 308.215†	12.6	0.00778	mg/L	0.002193	0.00778	mg/L	0.002193	28.19%
As 188.979†	0.9	0.00036	mg/L	0.000735	0.00036	mg/L	0.000735	206.30%
B 249.677†	6.7	0.00104	mg/L	0.000794	0.00104	mg/L	0.000794	76.11%
Ba 233.527†	-1.5	-0.00017	mg/L	0.000272	-0.00017	mg/L	0.000272	161.13%
Be 313.042†	31.7	0.00004	mg/L	0.000014	0.00004	mg/L	0.000014	32.45%
Ca 317.933†	6.1	0.00058	mg/L	0.000403	0.00058	mg/L	0.000403	69.79%
Cd 228.802†	13.2	0.00041	mg/L	0.000007	0.00041	mg/L	0.000007	1.82%
Co 228.616†	3.9	0.00009	mg/L	0.000201	0.00009	mg/L	0.000201	213.23%
Cr 267.716†	9.0	0.00100	mg/L	0.000200	0.00100	mg/L	0.000200	19.95%
Cu 324.752†	143.7	0.00062	mg/L	0.000166	0.00062	mg/L	0.000166	26.87%
Fe 273.955†	-0.3	-0.00022	mg/L	0.001292	-0.00022	mg/L	0.001292	585.52%
K 766.490†	-29.7	-0.01288	mg/L	0.006663	-0.01288	mg/L	0.006663	51.73%
Mg 279.077†	2.9	0.00226	mg/L	0.004747	0.00226	mg/L	0.004747	210.32%
Mn 257.610†	-0.6	-0.00001	mg/L	0.000011	-0.00001	mg/L	0.000011	99.69%
Mo 202.031†	9.4	0.00042	mg/L	0.000131	0.00042	mg/L	0.000131	30.93%
Na 589.592†	-2363.7	-0.1778	mg/L	0.00165	-0.1778	mg/L	0.00165	0.93%
Na 330.237†	13.8	0.4502	mg/L	0.07942	0.4502	mg/L	0.07942	17.64%
Ni 231.604†	1.3	0.00028	mg/L	0.000306	0.00028	mg/L	0.000306	110.98%
Pb 220.353†	-7.6	-0.00061	mg/L	0.000543	-0.00061	mg/L	0.000543	88.58%
Sb 206.836†	16.4	0.00430	mg/L	0.001131	0.00430	mg/L	0.001131	26.30%
Se 196.026†	5.8	0.00307	mg/L	0.002306	0.00307	mg/L	0.002306	75.13%
Si 288.158†	21.4	0.00959	mg/L	0.002774	0.00959	mg/L	0.002774	28.91%
Sn 189.927†	4.7	0.00063	mg/L	0.000536	0.00063	mg/L	0.000536	85.48%
Sr 421.552†	12.4	0.00001	mg/L	0.000009	0.00001	mg/L	0.000009	60.20%
Ti 334.903†	13.6	0.00046	mg/L	0.000133	0.00046	mg/L	0.000133	29.27%
Tl 190.801†	6.7	0.00254	mg/L	0.000407	0.00254	mg/L	0.000407	16.00%
V 292.402†	16.5	0.00009	mg/L	0.000047	0.00009	mg/L	0.000047	51.31%
Zn 206.200†	1.1	0.00039	mg/L	0.000294	0.00039	mg/L	0.000294	74.75%

Analysis Begun

Start Time: 5/9/2012 11:54:16 AM
Logged In Analyst: metals
Spectrometer Model: Optima 7300 DV, S/N 077C8121202
Plasma On Time: 5/9/2012 7:34:27 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\metals\Sample Information\0509.sif
Batch ID:
Results Data Set: I2120509
Results Library: C:\pe\metals\Results\Results.mdb

Sequence No.: 1
Sample ID: STD2
Date Collected: 5/9/2012 11:54:18 AM
Data Type: Original

Nebulizer Parameters: STD2

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: STD2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
ScA 357.253	2640433.4	16204.88	0.61%	101.9	%
ScR 361.383	396049.3	1608.44	0.41%	102.2	%
Ba 233.527†	84398.4	564.91	0.67%	[10]	mg/L
Cd 228.802†	310179.6	894.21	0.29%	[10]	mg/L
Co 228.616†	399586.7	620.68	0.16%	[10]	mg/L
Cr 267.716†	85857.7	368.70	0.43%	[10]	mg/L
Cu 324.752†	2242682.1	2571.38	0.11%	[10]	mg/L
Mn 257.610†	547943.3	4303.64	0.79%	[10]	mg/L
V 292.402†	1828557.9	4499.79	0.25%	[10]	mg/L

Analysis Begun

Start Time: 5/9/2012 11:56:43 AM
Logged In Analyst: metals
Spectrometer Model: Optima 7300 DV, S/N 077C8121202
Plasma On Time: 5/9/2012 7:34:27 AM
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\metals\Sample Information\0509.sif
Batch ID:
Results Data Set: I2120509
Results Library: C:\pe\metals\Results\Results.mdb

Sequence No.: 1
Sample ID: CV 5
Autosampler Location: 7
Date Collected: 5/9/2012 11:56:44 AM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2622809.3	101.2	%	0.26				0.26%
ScR 361.383	393659.7	101.6	%	0.34				0.33%
Ag 328.068†	271971.5	0.9687	mg/L	0.00420	0.9687	mg/L	0.00420	0.43%
Al 308.215†	3177.2	1.938	mg/L	0.0087	1.938	mg/L	0.0087	0.45%
As 188.979†	4619.8	1.889	mg/L	0.0056	1.889	mg/L	0.0056	0.30%
B 249.677†	6174.4	0.9578	mg/L	0.00807	0.9578	mg/L	0.00807	0.84%
Ba 233.527†	8453.4	1.001	mg/L	0.0055	1.001	mg/L	0.0055	0.55%
Be 313.042†	685390.3	0.9108	mg/L	0.01130	0.9108	mg/L	0.01130	1.24%
Ca 317.933†	21192.7	2.008	mg/L	0.0131	2.008	mg/L	0.0131	0.65%
Cd 228.802†	31744.3	1.017	mg/L	0.0103	1.017	mg/L	0.0103	1.01%
Co 228.616†	39166.0	0.9784	mg/L	0.00927	0.9784	mg/L	0.00927	0.95%
Cr 267.716†	8713.3	1.014	mg/L	0.0062	1.014	mg/L	0.0062	0.61%
Cu 324.752†	227898.7	1.016	mg/L	0.0067	1.016	mg/L	0.0067	0.66%
Fe 273.955†	2835.0	1.957	mg/L	0.0113	1.957	mg/L	0.0113	0.58%
K 766.490†	45039.2	19.54	mg/L	0.181	19.54	mg/L	0.181	0.93%
Mg 279.077†	2532.3	1.962	mg/L	0.0142	1.962	mg/L	0.0142	0.72%
Mn 257.610†	52755.4	0.9635	mg/L	0.01013	0.9635	mg/L	0.01013	1.05%
Mo 202.031†	21114.2	0.9514	mg/L	0.00297	0.9514	mg/L	0.00297	0.31%
Na 589.592†	628468.3	47.26	mg/L	0.341	47.26	mg/L	0.341	0.72%
Na 330.237†	1561.7	50.85	mg/L	0.385	50.85	mg/L	0.385	0.76%
Ni 231.604†	4607.3	0.9340	mg/L	0.00378	0.9340	mg/L	0.00378	0.40%
Pb 220.353†	23932.4	1.930	mg/L	0.0063	1.930	mg/L	0.0063	0.33%
Sb 206.836†	7424.6	1.950	mg/L	0.0056	1.950	mg/L	0.0056	0.28%
Se 196.026†	3511.2	1.874	mg/L	0.0049	1.874	mg/L	0.0049	0.26%
Si 288.158†	4446.6	1.999	mg/L	0.0167	1.999	mg/L	0.0167	0.84%
Sn 189.927†	7099.9	0.9517	mg/L	0.00194	0.9517	mg/L	0.00194	0.20%
Sr 421.552†	817736.7	0.9458	mg/L	0.00899	0.9458	mg/L	0.00899	0.95%
Ti 334.903†	27995.4	0.9412	mg/L	0.00877	0.9412	mg/L	0.00877	0.93%
Tl 190.801†	4907.8	1.869	mg/L	0.0041	1.869	mg/L	0.0041	0.22%
V 292.402†	184534.2	1.014	mg/L	0.0083	1.014	mg/L	0.0083	0.82%
Zn 206.200†	2861.5	0.9795	mg/L	0.00407	0.9795	mg/L	0.00407	0.42%

Sequence No.: 2
Sample ID: CB 5

Autosampler Location: 1
Date Collected: 5/9/2012 12:00:46 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2684368.2	103.6	%	1.18				1.14%
ScR 361.383	402932.8	104.0	%	0.77				0.74%
Ag 328.068†	9.2	0.00003	mg/L	0.000094	0.00003	mg/L	0.000094	285.47%
Al 308.215†	15.4	0.00956	mg/L	0.002418	0.00956	mg/L	0.002418	25.28%
As 188.979†	-2.9	-0.00119	mg/L	0.000390	-0.00119	mg/L	0.000390	32.83%
B 249.677†	13.6	0.00211	mg/L	0.001111	0.00211	mg/L	0.001111	52.61%
Ba 233.527†	-0.3	-0.00003	mg/L	0.000193	-0.00003	mg/L	0.000193	597.36%
Be 313.042†	37.5	0.00005	mg/L	0.000036	0.00005	mg/L	0.000036	72.77%
Ca 317.933†	-14.1	-0.00134	mg/L	0.000490	-0.00134	mg/L	0.000490	36.70%
Cd 228.802†	10.2	0.00033	mg/L	0.000055	0.00033	mg/L	0.000055	16.56%
Co 228.616†	1.6	0.00004	mg/L	0.000085	0.00004	mg/L	0.000085	224.74%
Cr 267.716†	2.4	0.00029	mg/L	0.000548	0.00029	mg/L	0.000548	192.38%
Cu 324.752†	139.3	0.00062	mg/L	0.000030	0.00062	mg/L	0.000030	4.86%
Fe 273.955†	0.1	0.00008	mg/L	0.001847	0.00008	mg/L	0.001847	>999.9%
K 766.490†	-36.7	-0.01593	mg/L	0.002923	-0.01593	mg/L	0.002923	18.34%
Mg 279.077†	5.6	0.00430	mg/L	0.004922	0.00430	mg/L	0.004922	114.52%
Mn 257.610†	6.2	0.00011	mg/L	0.000111	0.00011	mg/L	0.000111	98.39%
Mo 202.031†	4.8	0.00021	mg/L	0.000182	0.00021	mg/L	0.000182	84.89%
Na 589.592†	-2401.9	-0.1806	mg/L	0.00298	-0.1806	mg/L	0.00298	1.65%
Na 330.237†	2.3	0.07385	mg/L	0.091373	0.07385	mg/L	0.091373	123.73%
Ni 231.604†	1.3	0.00027	mg/L	0.000423	0.00027	mg/L	0.000423	157.72%
Pb 220.353†	-14.2	-0.00115	mg/L	0.000568	-0.00115	mg/L	0.000568	49.52%
Sb 206.836†	7.2	0.00189	mg/L	0.000480	0.00189	mg/L	0.000480	25.34%
Se 196.026†	9.3	0.00497	mg/L	0.002108	0.00497	mg/L	0.002108	42.42%
Si 288.158†	5.7	0.00256	mg/L	0.001035	0.00256	mg/L	0.001035	40.35%
Sn 189.927†	6.8	0.00092	mg/L	0.000508	0.00092	mg/L	0.000508	55.40%
Sr 421.552†	44.1	0.00005	mg/L	0.000030	0.00005	mg/L	0.000030	59.13%
Ti 334.903†	31.4	0.00106	mg/L	0.000532	0.00106	mg/L	0.000532	50.33%
Tl 190.801†	2.0	0.00075	mg/L	0.000795	0.00075	mg/L	0.000795	105.70%
V 292.402†	-16.7	-0.00009	mg/L	0.000057	-0.00009	mg/L	0.000057	63.02%
Zn 206.200†	0.8	0.00027	mg/L	0.000104	0.00027	mg/L	0.000104	38.04%

Sequence No.: 3
Sample ID: US61 MB2 WMN

Autosampler Location: 334
Date Collected: 5/9/2012 12:05:00 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US61 MB2 WMN

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US61 MB2 WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2696970.6	104.1	%	1.35				1.30%
ScR 361.383	405163.0	104.6	%	1.45				1.39%
Ag 328.068†	-8.7	-0.00003	mg/L	0.000160	-0.00003	mg/L	0.000160	514.95%
Al 308.215†	5.6	0.00350	mg/L	0.003689	0.00350	mg/L	0.003689	105.34%
As 188.979†	2.7	0.00112	mg/L	0.000550	0.00112	mg/L	0.000550	49.29%
B 249.677†	1.2	0.00019	mg/L	0.001033	0.00019	mg/L	0.001033	545.77%
Ba 233.527†	-1.0	-0.00012	mg/L	0.000252	-0.00012	mg/L	0.000252	218.58%
Be 313.042†	14.8	0.00002	mg/L	0.000030	0.00002	mg/L	0.000030	150.18%
Ca 317.933†	0.6	0.00006	mg/L	0.001028	0.00006	mg/L	0.001028	>999.9%
Cd 228.802†	7.9	0.00025	mg/L	0.000143	0.00025	mg/L	0.000143	57.02%
Co 228.616†	10.9	0.00027	mg/L	0.000095	0.00027	mg/L	0.000095	34.80%
Cr 267.716†	0.8	0.00010	mg/L	0.000872	0.00010	mg/L	0.000872	905.19%
Cu 324.752†	112.8	0.00050	mg/L	0.000112	0.00050	mg/L	0.000112	22.19%
Fe 273.955†	0.1	0.00007	mg/L	0.001307	0.00007	mg/L	0.001307	>999.9%
K 766.490†	-29.8	-0.01292	mg/L	0.010227	-0.01292	mg/L	0.010227	79.17%
Mg 279.077†	1.0	0.00076	mg/L	0.007721	0.00076	mg/L	0.007721	>999.9%
Mn 257.610†	0.4	0.00001	mg/L	0.000046	0.00001	mg/L	0.000046	600.85%
Mo 202.031†	-7.1	-0.00032	mg/L	0.000221	-0.00032	mg/L	0.000221	69.32%
Na 589.592†	-1111.4	-0.08359	mg/L	0.018278	-0.08359	mg/L	0.018278	21.87%
Na 330.237†	-7.0	-0.2272	mg/L	0.52664	-0.2272	mg/L	0.52664	231.75%
Ni 231.604†	-1.2	-0.00025	mg/L	0.000375	-0.00025	mg/L	0.000375	152.75%
Pb 220.353†	-4.0	-0.00033	mg/L	0.000538	-0.00033	mg/L	0.000538	164.81%
Sb 206.836†	-9.4	-0.00246	mg/L	0.001283	-0.00246	mg/L	0.001283	52.08%
Se 196.026†	15.2	0.00814	mg/L	0.000836	0.00814	mg/L	0.000836	10.28%
Si 288.158†	-16.2	-0.00727	mg/L	0.001416	-0.00727	mg/L	0.001416	19.49%
Sn 189.927†	4.5	0.00061	mg/L	0.000555	0.00061	mg/L	0.000555	91.67%
Sr 421.552†	49.1	0.00006	mg/L	0.000004	0.00006	mg/L	0.000004	7.72%
Ti 334.903†	-7.6	-0.00026	mg/L	0.000691	-0.00026	mg/L	0.000691	270.17%
Tl 190.801†	-1.0	-0.00039	mg/L	0.000774	-0.00039	mg/L	0.000774	196.85%
V 292.402†	-29.8	-0.00016	mg/L	0.000101	-0.00016	mg/L	0.000101	61.93%
Zn 206.200†	5.7	0.00195	mg/L	0.000544	0.00195	mg/L	0.000544	27.91%

Sequence No.: 4
Sample ID: US62 G-L WMN
61
Dilution: 5X
M 5-9-12

Autosampler Location: 335
Date Collected: 5/9/2012 12:09:15 PM
Data Type: Original

Nebulizer Parameters: US62 G-L WMN

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US62 G-L WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2622325.4	101.2	%	1.12				1.11%
ScR 361.383	396075.4	102.2	%	0.23				0.22%
Ag 328.068†	-0.0	-0.00007	mg/L	0.000152	-0.00036	mg/L	0.000760	210.96%
Al 308.215†	12.9	0.00797	mg/L	0.002817	0.03987	mg/L	0.014087	35.33%
As 188.979†	-3.2	-0.00135	mg/L	0.001709	-0.00677	mg/L	0.008547	126.28%
B 249.677†	106.9	0.01662	mg/L	0.000758	0.08311	mg/L	0.003788	4.56%
Ba 233.527†	5.8	0.00062	mg/L	0.000710	0.00310	mg/L	0.003551	114.61%
Be 313.042†	16.9	0.00002	mg/L	0.000039	0.00011	mg/L	0.000195	176.01%
Ca 317.933†	89705.3	8.500	mg/L	0.0565	42.50	mg/L	0.283	0.66%
Cd 228.802†	12.8	0.00041	mg/L	0.000157	0.00203	mg/L	0.000783	38.63%
Co 228.616†	6.4	0.00016	mg/L	0.000031	0.00079	mg/L	0.000155	19.54%
Cr 267.716†	-2.2	-0.00046	mg/L	0.000274	-0.00228	mg/L	0.001369	60.08%
Cu 324.752†	86.1	0.00047	mg/L	0.000104	0.00236	mg/L	0.000520	22.07%
Fe 273.955†	1933.9	1.338	mg/L	0.0100	6.689	mg/L	0.0501	0.75%
K 766.490†	2809.7	1.219	mg/L	0.0144	6.095	mg/L	0.0720	1.18%
Mg 279.077†	2321.3	1.793	mg/L	0.0221	8.966	mg/L	0.1104	1.23%
Mn 257.610†	3822.4	0.06975	mg/L	0.000992	0.3488	mg/L	0.00496	1.42%
Mo 202.031†	48.6	0.00205	mg/L	0.000207	0.01023	mg/L	0.001033	10.09%
Na 589.592†	24116.1	1.814	mg/L	0.0326	9.068	mg/L	0.1630	1.80%
Na 330.237†	72.4	2.302	mg/L	0.2586	11.51	mg/L	1.293	11.23%
Ni 231.604†	3.0	0.00062	mg/L	0.000275	0.00308	mg/L	0.001376	44.60%
Pb 220.353†	-21.5	-0.00182	mg/L	0.000271	-0.00910	mg/L	0.001354	14.88%
Sb 206.836†	3.8	0.00085	mg/L	0.000556	0.00424	mg/L	0.002779	65.57%
Se 196.026†	9.7	0.00527	mg/L	0.001482	0.02637	mg/L	0.007410	28.10%
Si 288.158†	8716.3	3.911	mg/L	0.0469	19.56	mg/L	0.235	1.20%
Sn 189.927†	-5.1	-0.00044	mg/L	0.001018	-0.00219	mg/L	0.005090	232.65%
Sr 421.552†	12443.1	0.01439	mg/L	0.000182	0.07196	mg/L	0.000912	1.27%
Ti 334.903†	16.1	0.00024	mg/L	0.000799	0.00121	mg/L	0.003994	328.86%
Tl 190.801†	4.3	0.00183	mg/L	0.001138	0.00916	mg/L	0.005692	62.14%
V 292.402†	72.2	0.00024	mg/L	0.000061	0.00122	mg/L	0.000306	25.09%
Zn 206.200†	4.2	0.00132	mg/L	0.001715	0.00660	mg/L	0.008577	129.86%

Sequence No.: 5
Sample ID: US62 G WMN
61
Dilution: 1X
AS-9-12

Autosampler Location: 336
Date Collected: 5/9/2012 12:13:28 PM
Data Type: Original

Nebulizer Parameters: US62 G WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US62 G WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2550407.4	98.41	%	0.596				0.61%
ScR 361.383	390418.3	100.7	%	1.73				1.72%
Ag 328.068†	75.5	-0.00010	mg/L	0.000072	-0.00010	mg/L	0.000072	68.44%
Al 308.215†	9.2	0.00557	mg/L	0.005654	0.00557	mg/L	0.005654	101.54%
As 188.979†	13.1	0.00511	mg/L	0.001214	0.00511	mg/L	0.001214	23.79%
B 249.677†	524.8	0.08160	mg/L	0.000709	0.08160	mg/L	0.000709	0.87%
Ba 233.527†	32.7	0.00352	mg/L	0.000409	0.00352	mg/L	0.000409	11.60%
Be 313.042†	27.8	0.00004	mg/L	0.000030	0.00004	mg/L	0.000030	85.70%
Ca 317.933†	465085.1	44.07	mg/L	0.447	44.07	mg/L	0.447	1.01%
Cd 228.802†	21.8	0.00062	mg/L	0.000016	0.00062	mg/L	0.000016	2.55%
Co 228.616†	33.6	0.00084	mg/L	0.000085	0.00084	mg/L	0.000085	10.16%
Cr 267.716†	12.8	0.00043	mg/L	0.000700	0.00043	mg/L	0.000700	163.65%
Cu 324.752†	63.3	0.00072	mg/L	0.000013	0.00072	mg/L	0.000013	1.83%
Fe 273.955†	9826.4	6.797	mg/L	0.1652	6.797	mg/L	0.1652	2.43%
K 766.490†	14824.7	6.432	mg/L	0.1725	6.432	mg/L	0.1725	2.68%
Mg 279.077†	12373.0	9.558	mg/L	0.2275	9.558	mg/L	0.2275	2.38%
Mn 257.610†	20068.9	0.3662	mg/L	0.00738	0.3662	mg/L	0.00738	2.02%
Mo 202.031†	217.6	0.00905	mg/L	0.000196	0.00905	mg/L	0.000196	2.17%
Na 589.592†	138393.8	10.41	mg/L	0.228	10.41	mg/L	0.228	2.19%
Na 330.237†	373.0	11.85	mg/L	0.536	11.85	mg/L	0.536	4.52%
Ni 231.604†	4.1	0.00083	mg/L	0.001535	0.00083	mg/L	0.001535	185.94%
Pb 220.353†	-41.1	-0.00376	mg/L	0.000482	-0.00376	mg/L	0.000482	12.83%
Sb 206.836†	23.4	0.00529	mg/L	0.001235	0.00529	mg/L	0.001235	23.32%
Se 196.026†	46.0	0.02500	mg/L	0.003834	0.02500	mg/L	0.003834	15.33%
Si 288.158†	46567.2	20.90	mg/L	0.531	20.90	mg/L	0.531	2.54%
Sn 189.927†	-27.5	-0.00239	mg/L	0.000641	-0.00239	mg/L	0.000641	26.86%
Sr 421.552†	64496.8	0.07460	mg/L	0.001273	0.07460	mg/L	0.001273	1.71%
Ti 334.903†	70.0	0.00081	mg/L	0.000360	0.00081	mg/L	0.000360	44.46%
Tl 190.801†	10.8	0.00504	mg/L	0.001339	0.00504	mg/L	0.001339	26.57%
V 292.402†	442.4	0.00167	mg/L	0.000075	0.00167	mg/L	0.000075	4.47%
Zn 206.200†	-11.1	-0.00436	mg/L	0.000512	-0.00436	mg/L	0.000512	11.73%

Sequence No.: 6
Sample ID: US62 GDUP WMN
Dilution: 1X

Autosampler Location: 337
Date Collected: 5/9/2012 12:17:40 PM
Data Type: Original

Nebulizer Parameters: US62 GDUP WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US62 GDUP WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2590456.7	99.95	%	0.509				0.51%
ScR 361.383	393141.5	101.5	%	1.08				1.07%
Ag 328.068†	54.7	-0.00018	mg/L	0.000135	-0.00018	mg/L	0.000135	75.84%
Al 308.215†	2.4	0.00133	mg/L	0.001819	0.00133	mg/L	0.001819	136.34%
As 188.979†	10.0	0.00385	mg/L	0.002922	0.00385	mg/L	0.002922	75.84%
B 249.677†	523.5	0.08139	mg/L	0.001738	0.08139	mg/L	0.001738	2.14%
Ba 233.527†	31.3	0.00337	mg/L	0.000309	0.00337	mg/L	0.000309	9.18%
Be 313.042†	40.6	0.00005	mg/L	0.000019	0.00005	mg/L	0.000019	36.22%
Ca 317.933†	465150.6	44.08	mg/L	0.455	44.08	mg/L	0.455	1.03%
Cd 228.802†	15.4	0.00042	mg/L	0.000034	0.00042	mg/L	0.000034	8.23%
Co 228.616†	27.3	0.00068	mg/L	0.000152	0.00068	mg/L	0.000152	22.32%
Cr 267.716†	3.4	-0.00068	mg/L	0.000108	-0.00068	mg/L	0.000108	15.88%
Cu 324.752†	46.1	0.00064	mg/L	0.000150	0.00064	mg/L	0.000150	23.36%
Fe 273.955†	9693.5	6.705	mg/L	0.0573	6.705	mg/L	0.0573	0.85%
K 766.490†	14662.0	6.361	mg/L	0.0845	6.361	mg/L	0.0845	1.33%
Mg 279.077†	12230.4	9.448	mg/L	0.1354	9.448	mg/L	0.1354	1.43%
Mn 257.610†	19915.4	0.3634	mg/L	0.00630	0.3634	mg/L	0.00630	1.73%
Mo 202.031†	214.0	0.00889	mg/L	0.000155	0.00889	mg/L	0.000155	1.75%
Na 589.592†	137793.2	10.36	mg/L	0.245	10.36	mg/L	0.245	2.36%
Na 330.237†	350.2	11.11	mg/L	0.145	11.11	mg/L	0.145	1.30%
Ni 231.604†	5.4	0.00109	mg/L	0.000497	0.00109	mg/L	0.000497	45.52%
Pb 220.353†	-43.3	-0.00393	mg/L	0.000685	-0.00393	mg/L	0.000685	17.41%
Sb 206.836†	13.3	0.00267	mg/L	0.000596	0.00267	mg/L	0.000596	22.28%
Se 196.026†	50.9	0.02759	mg/L	0.002193	0.02759	mg/L	0.002193	7.95%
Si 288.158†	46002.0	20.64	mg/L	0.270	20.64	mg/L	0.270	1.31%
Sn 189.927†	-26.8	-0.00229	mg/L	0.000227	-0.00229	mg/L	0.000227	9.91%
Sr 421.552†	64140.0	0.07419	mg/L	0.001358	0.07419	mg/L	0.001358	1.83%
Ti 334.903†	60.5	0.00049	mg/L	0.000355	0.00049	mg/L	0.000355	72.41%
Tl 190.801†	12.9	0.00584	mg/L	0.001091	0.00584	mg/L	0.001091	18.68%
V 292.402†	428.1	0.00160	mg/L	0.000088	0.00160	mg/L	0.000088	5.50%
Zn 206.200†	-8.5	-0.00350	mg/L	0.000257	-0.00350	mg/L	0.000257	7.35%

Sequence No.: 7
Sample ID: US~~62~~ 61 GSPK WMN
Dilution: 1X

Autosampler Location: 338
Date Collected: 5/9/2012 12:21:52 PM
Data Type: Original

5-9-12

Nebulizer Parameters: US62 GSPK WMN

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US62 GSPK WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2598927.2	100.3	%	0.46				0.46%
ScR 361.383	385955.7	99.60	%	0.495				0.50%
Ag 328.068†	105322.7	0.3748	mg/L	0.00422	0.3748	mg/L	0.00422	1.13%
Al 308.215†	3372.4	2.078	mg/L	0.0162	2.078	mg/L	0.0162	0.78%
As 188.979†	5015.6	2.045	mg/L	0.0161	2.045	mg/L	0.0161	0.78%
B 249.677†	521.8	0.07963	mg/L	0.000795	0.07963	mg/L	0.000795	1.00%
Ba 233.527†	17836.8	2.113	mg/L	0.0099	2.113	mg/L	0.0099	0.47%
Be 313.042†	355701.8	0.4727	mg/L	0.00702	0.4727	mg/L	0.00702	1.48%
Ca 317.933†	570107.9	54.02	mg/L	0.962	54.02	mg/L	0.962	1.78%
Cd 228.802†	17580.8	0.5600	mg/L	0.00310	0.5600	mg/L	0.00310	0.55%
Co 228.616†	20551.4	0.5138	mg/L	0.00289	0.5138	mg/L	0.00289	0.56%
Cr 267.716†	4432.0	0.5145	mg/L	0.00304	0.5145	mg/L	0.00304	0.59%
Cu 324.752†	115347.7	0.5150	mg/L	0.00731	0.5150	mg/L	0.00731	1.42%
Fe 273.955†	12650.2	8.748	mg/L	0.0302	8.748	mg/L	0.0302	0.35%
K 766.490†	38327.1	16.63	mg/L	0.250	16.63	mg/L	0.250	1.50%
Mg 279.077†	25936.7	20.04	mg/L	0.133	20.04	mg/L	0.133	0.66%
Mn 257.610†	46811.7	0.8549	mg/L	0.01364	0.8549	mg/L	0.01364	1.60%
Mo 202.031†	227.7	0.00934	mg/L	0.000494	0.00934	mg/L	0.000494	5.28%
Na 589.592†	270241.9	20.32	mg/L	0.393	20.32	mg/L	0.393	1.93%
Na 330.237†	685.5	21.85	mg/L	0.173	21.85	mg/L	0.173	0.79%
Ni 231.604†	2365.7	0.4787	mg/L	0.00228	0.4787	mg/L	0.00228	0.48%
Pb 220.353†	24932.2	2.010	mg/L	0.0141	2.010	mg/L	0.0141	0.70%
Sb 206.836†	34.3	0.00305	mg/L	0.000632	0.00305	mg/L	0.000632	20.72%
Se 196.026†	4254.9	2.272	mg/L	0.0179	2.272	mg/L	0.0179	0.79%
Si 288.158†	45005.9	20.20	mg/L	0.271	20.20	mg/L	0.271	1.34%
Sn 189.927†	-36.6	-0.00324	mg/L	0.000155	-0.00324	mg/L	0.000155	4.78%
Sr 421.552†	490164.4	0.5669	mg/L	0.00970	0.5669	mg/L	0.00970	1.71%
Ti 334.903†	60.8	0.00004	mg/L	0.000444	0.00004	mg/L	0.000444	>999.9%
Tl 190.801†	5170.6	1.969	mg/L	0.0104	1.969	mg/L	0.0104	0.53%
V 292.402†	93431.8	0.5122	mg/L	0.00830	0.5122	mg/L	0.00830	1.62%
Zn 206.200†	1416.7	0.4846	mg/L	0.00260	0.4846	mg/L	0.00260	0.54%

Sequence No.: 8
Sample ID: US62 J WMN
Dilution: 1X

Autosampler Location: 339
Date Collected: 5/9/2012 12:25:51 PM
Data Type: Original

Nebulizer Parameters: US62 J WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US62 J WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2521152.6	97.28	%	0.387				0.40%
ScR 361.383	385127.6	99.38	%	0.325				0.33%
Ag 328.068†	8874.4	0.03114	mg/L	0.002771	0.03114	mg/L	0.002771	8.90%
Al 308.215†	12.7	0.00769	mg/L	0.007197	0.00769	mg/L	0.007197	93.54%
As 188.979†	-15.0	-0.00627	mg/L	0.001317	-0.00627	mg/L	0.001317	21.01%
B 249.677†	165.0	0.02566	mg/L	0.000021	0.02566	mg/L	0.000021	0.08%
Ba 233.527†	47.4	0.00524	mg/L	0.000139	0.00524	mg/L	0.000139	2.64%
Be 313.042†	89.2	0.00012	mg/L	0.000030	0.00012	mg/L	0.000030	25.58%
Ca 317.933†	680874.5	64.52	mg/L	1.279	64.52	mg/L	1.279	1.98%
Cd 228.802†	22.2	0.00067	mg/L	0.000142	0.00067	mg/L	0.000142	21.35%
Co 228.616†	38.0	0.00095	mg/L	0.000198	0.00095	mg/L	0.000198	20.88%
Cr 267.716†	9.3	-0.00030	mg/L	0.000247	-0.00030	mg/L	0.000247	81.52%
Cu 324.752†	112.5	0.00100	mg/L	0.000053	0.00100	mg/L	0.000053	5.36%
Fe 273.955†	10618.5	7.345	mg/L	0.0395	7.345	mg/L	0.0395	0.54%
K 766.490†	12471.6	5.411	mg/L	0.0355	5.411	mg/L	0.0355	0.66%
Mg 279.077†	8112.5	6.265	mg/L	0.0441	6.265	mg/L	0.0441	0.70%
Mn 257.610†	10460.1	0.1909	mg/L	0.00135	0.1909	mg/L	0.00135	0.71%
Mo 202.031†	305.2	0.01266	mg/L	0.000045	0.01266	mg/L	0.000045	0.36%
Na 589.592†	83538.9	6.283	mg/L	0.0598	6.283	mg/L	0.0598	0.95%
Na 330.237†	223.1	6.839	mg/L	0.4024	6.839	mg/L	0.4024	5.88%
Ni 231.604†	8.1	0.00165	mg/L	0.000425	0.00165	mg/L	0.000425	25.73%
Pb 220.353†	-46.4	-0.00422	mg/L	0.000132	-0.00422	mg/L	0.000132	3.13%
Sb 206.836†	23.6	0.00528	mg/L	0.001808	0.00528	mg/L	0.001808	34.25%
Se 196.026†	41.2	0.02264	mg/L	0.002957	0.02264	mg/L	0.002957	13.06%
Si 288.158†	40850.1	18.33	mg/L	0.186	18.33	mg/L	0.186	1.02%
Sn 189.927†	-35.7	-0.00288	mg/L	0.001008	-0.00288	mg/L	0.001008	34.96%
Sr 421.552†	116844.9	0.1351	mg/L	0.00135	0.1351	mg/L	0.00135	1.00%
Ti 334.903†	79.5	0.00041	mg/L	0.000785	0.00041	mg/L	0.000785	191.64%
Tl 190.801†	16.7	0.00738	mg/L	0.000972	0.00738	mg/L	0.000972	13.16%
V 292.402†	352.1	0.00108	mg/L	0.000090	0.00108	mg/L	0.000090	8.33%
Zn 206.200†	-6.3	-0.00302	mg/L	0.000543	-0.00302	mg/L	0.000543	18.00%

Sequence No.: 9
Sample ID: US61 A TWC

Autosampler Location: 340
Date Collected: 5/9/2012 12:30:03 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US61 A TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 A TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2553020.0	98.51	%	1.289				1.31%
ScR 361.383	386432.9	99.72	%	1.328				1.33%
Ag 328.068†	412.9	0.00109	mg/L	0.000383	0.00109	mg/L	0.000383	35.22%
Al 308.215†	33.5	0.02058	mg/L	0.005020	0.02058	mg/L	0.005020	24.39%
As 188.979†	9.1	0.00347	mg/L	0.000724	0.00347	mg/L	0.000724	20.86%
B 249.677†	533.8	0.08299	mg/L	0.002043	0.08299	mg/L	0.002043	2.46%
Ba 233.527†	33.7	0.00363	mg/L	0.000148	0.00363	mg/L	0.000148	4.07%
Be 313.042†	57.4	0.00007	mg/L	0.000053	0.00007	mg/L	0.000053	71.69%
Ca 317.933†	475401.6	45.05	mg/L	0.218	45.05	mg/L	0.218	0.48%
Cd 228.802†	18.5	0.00052	mg/L	0.000129	0.00052	mg/L	0.000129	24.80%
Co 228.616†	24.3	0.00061	mg/L	0.000195	0.00061	mg/L	0.000195	32.15%
Cr 267.716†	10.0	0.00008	mg/L	0.000933	0.00008	mg/L	0.000933	>999.9%
Cu 324.752†	127.2	0.00103	mg/L	0.000134	0.00103	mg/L	0.000134	13.05%
Fe 273.955†	10174.9	7.038	mg/L	0.1181	7.038	mg/L	0.1181	1.68%
K 766.490†	14910.1	6.469	mg/L	0.1228	6.469	mg/L	0.1228	1.90%
Mg 279.077†	12498.6	9.655	mg/L	0.1379	9.655	mg/L	0.1379	1.43%
Mn 257.610†	20642.3	0.3767	mg/L	0.00707	0.3767	mg/L	0.00707	1.88%
Mo 202.031†	247.9	0.01040	mg/L	0.000342	0.01040	mg/L	0.000342	3.29%
Na 589.592†	141120.8	10.61	mg/L	0.062	10.61	mg/L	0.062	0.59%
Na 330.237†	368.8	11.71	mg/L	0.498	11.71	mg/L	0.498	4.25%
Ni 231.604†	7.1	0.00145	mg/L	0.000544	0.00145	mg/L	0.000544	37.57%
Pb 220.353†	-48.9	-0.00440	mg/L	0.000199	-0.00440	mg/L	0.000199	4.52%
Sb 206.836†	27.2	0.00626	mg/L	0.001773	0.00626	mg/L	0.001773	28.31%
Se 196.026†	33.4	0.01832	mg/L	0.003100	0.01832	mg/L	0.003100	16.92%
Si 288.158†	41742.4	18.73	mg/L	0.467	18.73	mg/L	0.467	2.49%
Sn 189.927†	-29.9	-0.00268	mg/L	0.000082	-0.00268	mg/L	0.000082	3.08%
Sr 421.552†	65595.3	0.07587	mg/L	0.000477	0.07587	mg/L	0.000477	0.63%
Ti 334.903†	66.3	0.00065	mg/L	0.000317	0.00065	mg/L	0.000317	48.77%
Tl 190.801†	11.8	0.00544	mg/L	0.001063	0.00544	mg/L	0.001063	19.53%
V 292.402†	464.5	0.00176	mg/L	0.000147	0.00176	mg/L	0.000147	8.37%
Zn 206.200†	-7.0	-0.00299	mg/L	0.001134	-0.00299	mg/L	0.001134	37.98%

Sequence No.: 10
Sample ID: US61 B TWC

Autosampler Location: 341
Date Collected: 5/9/2012 12:34:15 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US61 B TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 B TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2515589.9	97.06	%	0.647				0.67%
ScR 361.383	386151.8	99.65	%	1.093				1.10%
Ag 328.068†	40.2	-0.00026	mg/L	0.000022	-0.00026	mg/L	0.000022	8.70%
Al 308.215†	19.4	0.01187	mg/L	0.000755	0.01187	mg/L	0.000755	6.36%
As 188.979†	-6.3	-0.00284	mg/L	0.000698	-0.00284	mg/L	0.000698	24.56%
B 249.677†	426.5	0.06631	mg/L	0.001170	0.06631	mg/L	0.001170	1.76%
Ba 233.527†	84.0	0.00946	mg/L	0.000473	0.00946	mg/L	0.000473	5.01%
Be 313.042†	69.6	0.00009	mg/L	0.000007	0.00009	mg/L	0.000007	7.51%
Ca 317.933†	506406.1	47.99	mg/L	0.215	47.99	mg/L	0.215	0.45%
Cd 228.802†	22.8	0.00065	mg/L	0.000033	0.00065	mg/L	0.000033	5.00%
Co 228.616†	26.2	0.00065	mg/L	0.000217	0.00065	mg/L	0.000217	33.32%
Cr 267.716†	5.0	-0.00051	mg/L	0.000944	-0.00051	mg/L	0.000944	185.22%
Cu 324.752†	157.8	0.00135	mg/L	0.000084	0.00135	mg/L	0.000084	6.25%
Fe 273.955†	14025.9	9.702	mg/L	0.0138	9.702	mg/L	0.0138	0.14%
K 766.490†	17704.6	7.681	mg/L	0.0387	7.681	mg/L	0.0387	0.50%
Mg 279.077†	14449.9	11.16	mg/L	0.044	11.16	mg/L	0.044	0.40%
Mn 257.610†	20661.0	0.3771	mg/L	0.00227	0.3771	mg/L	0.00227	0.60%
Mo 202.031†	135.6	0.00530	mg/L	0.000248	0.00530	mg/L	0.000248	4.68%
Na 589.592†	431455.9	32.45	mg/L	0.318	32.45	mg/L	0.318	0.98%
Na 330.237†	1077.0	34.73	mg/L	0.383	34.73	mg/L	0.383	1.10%
Ni 231.604†	9.1	0.00185	mg/L	0.001276	0.00185	mg/L	0.001276	68.81%
Pb 220.353†	-50.2	-0.00468	mg/L	0.000384	-0.00468	mg/L	0.000384	8.20%
Sb 206.836†	32.7	0.00740	mg/L	0.000584	0.00740	mg/L	0.000584	7.89%
Se 196.026†	34.6	0.01924	mg/L	0.002860	0.01924	mg/L	0.002860	14.87%
Si 288.158†	35841.8	16.08	mg/L	0.164	16.08	mg/L	0.164	1.02%
Sn 189.927†	-36.7	-0.00350	mg/L	0.000122	-0.00350	mg/L	0.000122	3.49%
Sr 421.552†	85762.8	0.09920	mg/L	0.000350	0.09920	mg/L	0.000350	0.35%
Ti 334.903†	65.0	0.00051	mg/L	0.000492	0.00051	mg/L	0.000492	96.88%
Tl 190.801†	6.5	0.00376	mg/L	0.001630	0.00376	mg/L	0.001630	43.30%
V 292.402†	653.9	0.00247	mg/L	0.000050	0.00247	mg/L	0.000050	2.04%
Zn 206.200†	-5.8	-0.00263	mg/L	0.000515	-0.00263	mg/L	0.000515	19.59%

Sequence No.: 11
Sample ID: US61 C TWC

Autosampler Location: 342
Date Collected: 5/9/2012 12:38:28 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US61 C TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 C TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2540041.7	98.01	%	0.952				0.97%
ScR 361.383	387520.6	100.0	%	0.93				0.93%
Ag 328.068†	106.7	-0.00012	mg/L	0.000151	-0.00012	mg/L	0.000151	127.53%
Al 308.215†	20.3	0.01239	mg/L	0.006482	0.01239	mg/L	0.006482	52.31%
As 188.979†	-23.5	-0.00973	mg/L	0.001081	-0.00973	mg/L	0.001081	11.11%
B 249.677†	163.6	0.02545	mg/L	0.000159	0.02545	mg/L	0.000159	0.62%
Ba 233.527†	49.3	0.00546	mg/L	0.000340	0.00546	mg/L	0.000340	6.23%
Be 313.042†	56.8	0.00007	mg/L	0.000036	0.00007	mg/L	0.000036	48.34%
Ca 317.933†	717144.8	67.96	mg/L	0.181	67.96	mg/L	0.181	0.27%
Cd 228.802†	16.6	0.00050	mg/L	0.000271	0.00050	mg/L	0.000271	54.49%
Co 228.616†	28.9	0.00072	mg/L	0.000098	0.00072	mg/L	0.000098	13.67%
Cr 267.716†	8.2	-0.00051	mg/L	0.001162	-0.00051	mg/L	0.001162	228.74%
Cu 324.752†	255.7	0.00165	mg/L	0.000202	0.00165	mg/L	0.000202	12.29%
Fe 273.955†	10850.8	7.506	mg/L	0.1109	7.506	mg/L	0.1109	1.48%
K 766.490†	12629.7	5.479	mg/L	0.0971	5.479	mg/L	0.0971	1.77%
Mg 279.077†	8279.7	6.394	mg/L	0.0454	6.394	mg/L	0.0454	0.71%
Mn 257.610†	10487.7	0.1914	mg/L	0.00263	0.1914	mg/L	0.00263	1.37%
Mo 202.031†	332.8	0.01384	mg/L	0.000076	0.01384	mg/L	0.000076	0.55%
Na 589.592†	81466.2	6.127	mg/L	0.0338	6.127	mg/L	0.0338	0.55%
Na 330.237†	231.9	7.104	mg/L	0.3674	7.104	mg/L	0.3674	5.17%
Ni 231.604†	20.6	0.00419	mg/L	0.000876	0.00419	mg/L	0.000876	20.93%
Pb 220.353†	-48.7	-0.00441	mg/L	0.000742	-0.00441	mg/L	0.000742	16.81%
Sb 206.836†	36.1	0.00855	mg/L	0.001802	0.00855	mg/L	0.001802	21.09%
Se 196.026†	45.2	0.02483	mg/L	0.002355	0.02483	mg/L	0.002355	9.48%
Si 288.158†	39245.1	17.61	mg/L	0.290	17.61	mg/L	0.290	1.64%
Sn 189.927†	-43.5	-0.00383	mg/L	0.000383	-0.00383	mg/L	0.000383	9.99%
Sr 421.552†	121846.2	0.1409	mg/L	0.00064	0.1409	mg/L	0.00064	0.45%
Ti 334.903†	91.6	0.00070	mg/L	0.000401	0.00070	mg/L	0.000401	57.56%
Tl 190.801†	13.6	0.00623	mg/L	0.001796	0.00623	mg/L	0.001796	28.82%
V 292.402†	350.0	0.00105	mg/L	0.000073	0.00105	mg/L	0.000073	6.96%
Zn 206.200†	-5.9	-0.00291	mg/L	0.000896	-0.00291	mg/L	0.000896	30.81%

Sequence No.: 12
Sample ID: US61 MB2SPK WMN

Autosampler Location: 343
Date Collected: 5/9/2012 12:42:41 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US61 MB2SPK WMN

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US61 MB2SPK WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2547911.8	98.31	%	0.465				0.47%
ScR 361.383	391031.8	100.9	%	0.94				0.94%
Ag 328.068†	152181.2	0.5420	mg/L	0.00226	0.5420	mg/L	0.00226	0.42%
Al 308.215†	3402.7	2.096	mg/L	0.0152	2.096	mg/L	0.0152	0.72%
As 188.979†	5226.3	2.131	mg/L	0.0040	2.131	mg/L	0.0040	0.19%
B 249.677†	2.6	-0.00114	mg/L	0.000664	-0.00114	mg/L	0.000664	58.36%
Ba 233.527†	17519.2	2.075	mg/L	0.0363	2.075	mg/L	0.0363	1.75%
Be 313.042†	355840.3	0.4728	mg/L	0.00733	0.4728	mg/L	0.00733	1.55%
Ca 317.933†	107337.9	10.17	mg/L	0.108	10.17	mg/L	0.108	1.07%
Cd 228.802†	17805.7	0.5670	mg/L	0.00175	0.5670	mg/L	0.00175	0.31%
Co 228.616†	21184.6	0.5296	mg/L	0.00209	0.5296	mg/L	0.00209	0.40%
Cr 267.716†	4541.5	0.5283	mg/L	0.00377	0.5283	mg/L	0.00377	0.71%
Cu 324.752†	117865.8	0.5258	mg/L	0.00269	0.5258	mg/L	0.00269	0.51%
Fe 273.955†	2981.1	2.060	mg/L	0.0145	2.060	mg/L	0.0145	0.70%
K 766.490†	23643.7	10.26	mg/L	0.142	10.26	mg/L	0.142	1.38%
Mg 279.077†	13027.8	10.07	mg/L	0.135	10.07	mg/L	0.135	1.34%
Mn 257.610†	27598.0	0.5043	mg/L	0.00956	0.5043	mg/L	0.00956	1.90%
Mo 202.031†	31.6	0.00125	mg/L	0.000117	0.00125	mg/L	0.000117	9.36%
Na 589.592†	129611.6	9.748	mg/L	0.2405	9.748	mg/L	0.2405	2.47%
Na 330.237†	334.7	10.72	mg/L	0.253	10.72	mg/L	0.253	2.36%
Ni 231.604†	2432.7	0.4922	mg/L	0.00534	0.4922	mg/L	0.00534	1.08%
Pb 220.353†	26028.5	2.098	mg/L	0.0060	2.098	mg/L	0.0060	0.29%
Sb 206.836†	29.9	0.00264	mg/L	0.001326	0.00264	mg/L	0.001326	50.27%
Se 196.026†	4283.5	2.286	mg/L	0.0067	2.286	mg/L	0.0067	0.29%
Si 288.158†	42.0	0.02098	mg/L	0.009692	0.02098	mg/L	0.009692	46.19%
Sn 189.927†	-9.6	-0.00091	mg/L	0.000639	-0.00091	mg/L	0.000639	69.94%
Sr 421.552†	424378.6	0.4909	mg/L	0.00906	0.4909	mg/L	0.00906	1.85%
Ti 334.903†	4.6	-0.00032	mg/L	0.000289	-0.00032	mg/L	0.000289	90.79%
Tl 190.801†	5492.6	2.091	mg/L	0.0051	2.091	mg/L	0.0051	0.24%
V 292.402†	98487.7	0.5407	mg/L	0.00282	0.5407	mg/L	0.00282	0.52%
Zn 206.200†	1469.1	0.5031	mg/L	0.00286	0.5031	mg/L	0.00286	0.57%

Sequence No.: 13
Sample ID: CV

Autosampler Location: 7
Date Collected: 5/9/2012 12:46:40 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2601512.6	100.4	%	0.98				0.98%
ScR 361.383	383592.0	98.99	%	0.929				0.94%
Ag 328.068†	274459.6	0.9776	mg/L	0.00549	0.9776	mg/L	0.00549	0.56%
Al 308.215†	3258.6	1.988	mg/L	0.0194	1.988	mg/L	0.0194	0.98%
As 188.979†	4691.5	1.919	mg/L	0.0303	1.919	mg/L	0.0303	1.58%
B 249.677†	6326.5	0.9815	mg/L	0.00816	0.9815	mg/L	0.00816	0.83%
Ba 233.527†	8717.2	1.032	mg/L	0.0100	1.032	mg/L	0.0100	0.97%
Be 313.042†	707903.1	0.9407	mg/L	0.00693	0.9407	mg/L	0.00693	0.74%
Ca 317.933†	21783.5	2.064	mg/L	0.0192	2.064	mg/L	0.0192	0.93%
Cd 228.802†	32023.2	1.026	mg/L	0.0017	1.026	mg/L	0.0017	0.17%
Co 228.616†	39610.2	0.9895	mg/L	0.00125	0.9895	mg/L	0.00125	0.13%
Cr 267.716†	8948.0	1.042	mg/L	0.0088	1.042	mg/L	0.0088	0.85%
Cu 324.752†	229110.9	1.022	mg/L	0.0059	1.022	mg/L	0.0059	0.58%
Fe 273.955†	2918.6	2.014	mg/L	0.0240	2.014	mg/L	0.0240	1.19%
K 766.490†	46128.0	20.01	mg/L	0.151	20.01	mg/L	0.151	0.75%
Mg 279.077†	2595.2	2.011	mg/L	0.0158	2.011	mg/L	0.0158	0.79%
Mn 257.610†	54388.4	0.9933	mg/L	0.00656	0.9933	mg/L	0.00656	0.66%
Mo 202.031†	21356.4	0.9623	mg/L	0.01554	0.9623	mg/L	0.01554	1.62%
Na 589.592†	636714.6	47.88	mg/L	0.403	47.88	mg/L	0.403	0.84%
Na 330.237†	1593.9	51.90	mg/L	0.430	51.90	mg/L	0.430	0.83%
Ni 231.604†	4762.7	0.9655	mg/L	0.00994	0.9655	mg/L	0.00994	1.03%
Pb 220.353†	24252.0	1.956	mg/L	0.0321	1.956	mg/L	0.0321	1.64%
Sb 206.836†	7508.1	1.972	mg/L	0.0342	1.972	mg/L	0.0342	1.74%
Se 196.026†	3573.4	1.907	mg/L	0.0207	1.907	mg/L	0.0207	1.09%
Si 288.158†	4649.2	2.090	mg/L	0.0360	2.090	mg/L	0.0360	1.72%
Sn 189.927†	7216.6	0.9673	mg/L	0.01487	0.9673	mg/L	0.01487	1.54%
Sr 421.552†	839519.2	0.9710	mg/L	0.00678	0.9710	mg/L	0.00678	0.70%
Ti 334.903†	28795.3	0.9681	mg/L	0.00568	0.9681	mg/L	0.00568	0.59%
Tl 190.801†	4985.0	1.898	mg/L	0.0282	1.898	mg/L	0.0282	1.49%
V 292.402†	184965.8	1.016	mg/L	0.0063	1.016	mg/L	0.0063	0.62%
Zn 206.200†	2958.7	1.013	mg/L	0.0115	1.013	mg/L	0.0115	1.13%

Sequence No.: 14
Sample ID: CB

Autosampler Location: 1
Date Collected: 5/9/2012 12:50:42 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2544292.9	98.17	%	0.412				0.42%
ScR 361.383	391363.2	101.0	%	1.05				1.04%
Ag 328.068†	-12.2	-0.00004	mg/L	0.000065	-0.00004	mg/L	0.000065	148.30%
Al 308.215†	18.2	0.01129	mg/L	0.002992	0.01129	mg/L	0.002992	26.51%
As 188.979†	-2.4	-0.00099	mg/L	0.000287	-0.00099	mg/L	0.000287	29.08%
B 249.677†	9.4	0.00146	mg/L	0.000679	0.00146	mg/L	0.000679	46.58%
Ba 233.527†	1.5	0.00018	mg/L	0.000230	0.00018	mg/L	0.000230	125.86%
Be 313.042†	61.9	0.00008	mg/L	0.000046	0.00008	mg/L	0.000046	55.62%
Ca 317.933†	10.6	0.00100	mg/L	0.001638	0.00100	mg/L	0.001638	163.39%
Cd 228.802†	15.1	0.00049	mg/L	0.000179	0.00049	mg/L	0.000179	36.48%
Co 228.616†	-1.9	-0.00005	mg/L	0.000175	-0.00005	mg/L	0.000175	364.71%
Cr 267.716†	1.4	0.00017	mg/L	0.000436	0.00017	mg/L	0.000436	263.62%
Cu 324.752†	148.3	0.00066	mg/L	0.000082	0.00066	mg/L	0.000082	12.41%
Fe 273.955†	1.1	0.00079	mg/L	0.001976	0.00079	mg/L	0.001976	250.25%
K 766.490†	-34.3	-0.01488	mg/L	0.009326	-0.01488	mg/L	0.009326	62.68%
Mg 279.077†	1.0	0.00079	mg/L	0.001434	0.00079	mg/L	0.001434	181.20%
Mn 257.610†	-1.9	-0.00004	mg/L	0.000009	-0.00004	mg/L	0.000009	25.55%
Mo 202.031†	9.9	0.00045	mg/L	0.000115	0.00045	mg/L	0.000115	25.76%
Na 589.592†	-2395.8	-0.1802	mg/L	0.00223	-0.1802	mg/L	0.00223	1.24%
Na 330.237†	9.8	0.3177	mg/L	0.14268	0.3177	mg/L	0.14268	44.91%
Ni 231.604†	1.0	0.00020	mg/L	0.000605	0.00020	mg/L	0.000605	300.21%
Pb 220.353†	-2.5	-0.00020	mg/L	0.000548	-0.00020	mg/L	0.000548	272.45%
Sb 206.836†	19.3	0.00507	mg/L	0.001680	0.00507	mg/L	0.001680	33.13%
Se 196.026†	2.3	0.00125	mg/L	0.000884	0.00125	mg/L	0.000884	70.69%
Si 288.158†	42.1	0.01889	mg/L	0.009656	0.01889	mg/L	0.009656	51.13%
Sn 189.927†	3.9	0.00052	mg/L	0.000427	0.00052	mg/L	0.000427	81.69%
Sr 421.552†	45.0	0.00005	mg/L	0.000006	0.00005	mg/L	0.000006	10.62%
Ti 334.903†	23.9	0.00081	mg/L	0.000058	0.00081	mg/L	0.000058	7.15%
Tl 190.801†	-1.4	-0.00055	mg/L	0.001861	-0.00055	mg/L	0.001861	340.98%
V 292.402†	23.8	0.00013	mg/L	0.000070	0.00013	mg/L	0.000070	53.79%
Zn 206.200†	1.5	0.00051	mg/L	0.000446	0.00051	mg/L	0.000446	87.52%

Sequence No.: 15
Sample ID: US52 MB1 TWC

Autosampler Location: 344
Date Collected: 5/9/2012 12:54:55 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 MB1 TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 MB1 TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2608176.8	100.6	%	0.24				0.24%
ScR 361.383	400058.1	103.2	%	0.26				0.25%
Ag 328.068†	17.3	0.00006	mg/L	0.000173	0.00006	mg/L	0.000173	282.61%
Al 308.215†	32.4	0.02007	mg/L	0.003296	0.02007	mg/L	0.003296	16.42%
As 188.979†	-1.6	-0.00063	mg/L	0.000731	-0.00063	mg/L	0.000731	115.23%
B 249.677†	6.6	0.00102	mg/L	0.000619	0.00102	mg/L	0.000619	60.46%
Ba 233.527†	0.8	0.00010	mg/L	0.000361	0.00010	mg/L	0.000361	369.35%
Be 313.042†	22.1	0.00003	mg/L	0.000036	0.00003	mg/L	0.000036	120.52%
Ca 317.933†	317.1	0.03004	mg/L	0.000776	0.03004	mg/L	0.000776	2.58%
Cd 228.802†	7.2	0.00023	mg/L	0.000085	0.00023	mg/L	0.000085	36.33%
Co 228.616†	-0.1	0.00000	mg/L	0.000031	0.00000	mg/L	0.000031	>999.9%
Cr 267.716†	5.3	0.00061	mg/L	0.000330	0.00061	mg/L	0.000330	53.95%
Cu 324.752†	177.1	0.00079	mg/L	0.000116	0.00079	mg/L	0.000116	14.73%
Fe 273.955†	11.8	0.00818	mg/L	0.001491	0.00818	mg/L	0.001491	18.23%
K 766.490†	-17.2	-0.00748	mg/L	0.006663	-0.00748	mg/L	0.006663	89.08%
Mg 279.077†	10.4	0.00806	mg/L	0.001430	0.00806	mg/L	0.001430	17.75%
Mn 257.610†	22.8	0.00042	mg/L	0.000111	0.00042	mg/L	0.000111	26.65%
Mo 202.031†	2.2	0.00010	mg/L	0.000212	0.00010	mg/L	0.000212	211.62%
Na 589.592†	-1851.3	-0.1392	mg/L	0.00130	-0.1392	mg/L	0.00130	0.94%
Na 330.237†	-4.0	-0.1334	mg/L	0.22692	-0.1334	mg/L	0.22692	170.16%
Ni 231.604†	3.3	0.00067	mg/L	0.000915	0.00067	mg/L	0.000915	136.92%
Pb 220.353†	-8.1	-0.00065	mg/L	0.000159	-0.00065	mg/L	0.000159	24.63%
Sb 206.836†	8.6	0.00225	mg/L	0.000892	0.00225	mg/L	0.000892	39.58%
Se 196.026†	-0.8	-0.00045	mg/L	0.002637	-0.00045	mg/L	0.002637	589.09%
Si 288.158†	36.5	0.01639	mg/L	0.006852	0.01639	mg/L	0.006852	41.81%
Sn 189.927†	4.3	0.00058	mg/L	0.000271	0.00058	mg/L	0.000271	46.41%
Sr 421.552†	60.3	0.00007	mg/L	0.000026	0.00007	mg/L	0.000026	36.85%
Ti 334.903†	8.9	0.00030	mg/L	0.000404	0.00030	mg/L	0.000404	135.98%
Tl 190.801†	0.0	0.00002	mg/L	0.000199	0.00002	mg/L	0.000199	>999.9%
V 292.402†	-41.8	-0.00023	mg/L	0.000136	-0.00023	mg/L	0.000136	59.89%
Zn 206.200†	23.7	0.00809	mg/L	0.000453	0.00809	mg/L	0.000453	5.60%

Sequence No.: 16
Sample ID: US52 G-L TWC

Autosampler Location: 345
Date Collected: 5/9/2012 12:59:09 PM
Data Type: Original

Dilution: 5X

Nebulizer Parameters: US52 G-L TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 G-L TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2541740.7	98.07	%	0.244				0.25%
ScR 361.383	396081.6	102.2	%	1.05				1.03%
Ag 328.068†	12.9	-0.00006	mg/L	0.000127	-0.00028	mg/L	0.000633	227.60%
Al 308.215†	10.3	0.00633	mg/L	0.004961	0.03166	mg/L	0.024807	78.35%
As 188.979†	-5.3	-0.00219	mg/L	0.000376	-0.01095	mg/L	0.001878	17.15%
B 249.677†	47.4	0.00737	mg/L	0.000694	0.03687	mg/L	0.003471	9.41%
Ba 233.527†	14.7	0.00162	mg/L	0.000501	0.00812	mg/L	0.002504	30.83%
Be 313.042†	35.5	0.00005	mg/L	0.000011	0.00023	mg/L	0.000057	24.21%
Ca 317.933†	136343.8	12.92	mg/L	0.096	64.60	mg/L	0.480	0.74%
Cd 228.802†	18.3	0.00058	mg/L	0.000043	0.00289	mg/L	0.000214	7.39%
Co 228.616†	16.2	0.00040	mg/L	0.000104	0.00202	mg/L	0.000521	25.76%
Cr 267.716†	1.7	-0.00005	mg/L	0.000415	-0.00025	mg/L	0.002075	817.21%
Cu 324.752†	116.0	0.00067	mg/L	0.000088	0.00337	mg/L	0.000440	13.04%
Fe 273.955†	3310.4	2.290	mg/L	0.0107	11.45	mg/L	0.054	0.47%
K 766.490†	2276.7	0.9877	mg/L	0.00687	4.939	mg/L	0.0343	0.70%
Mg 279.077†	1695.8	1.309	mg/L	0.0065	6.546	mg/L	0.0324	0.49%
Mn 257.610†	3856.5	0.07039	mg/L	0.000728	0.3519	mg/L	0.00364	1.03%
Mo 202.031†	53.0	0.00217	mg/L	0.000222	0.01083	mg/L	0.001112	10.26%
Na 589.592†	27218.2	2.047	mg/L	0.0094	10.23	mg/L	0.047	0.46%
Na 330.237†	84.6	2.670	mg/L	0.2260	13.35	mg/L	1.130	8.46%
Ni 231.604†	6.9	0.00139	mg/L	0.000736	0.00696	mg/L	0.003681	52.90%
Pb 220.353†	-18.2	-0.00162	mg/L	0.000247	-0.00811	mg/L	0.001233	15.21%
Sb 206.836†	19.3	0.00478	mg/L	0.000509	0.02391	mg/L	0.002547	10.65%
Se 196.026†	14.6	0.00799	mg/L	0.001156	0.03997	mg/L	0.005778	14.46%
Si 288.158†	6391.4	2.868	mg/L	0.0286	14.34	mg/L	0.143	1.00%
Sn 189.927†	-9.9	-0.00094	mg/L	0.000625	-0.00469	mg/L	0.003125	66.69%
Sr 421.552†	23337.9	0.02699	mg/L	0.000242	0.1350	mg/L	0.00121	0.90%
Ti 334.903†	31.5	0.00061	mg/L	0.000369	0.00303	mg/L	0.001845	60.80%
Tl 190.801†	5.3	0.00233	mg/L	0.002579	0.01165	mg/L	0.012893	110.71%
V 292.402†	113.7	0.00036	mg/L	0.000121	0.00179	mg/L	0.000606	33.81%
Zn 206.200†	5.2	0.00162	mg/L	0.000540	0.00812	mg/L	0.002699	33.26%

Sequence No.: 17
Sample ID: US52 G TWC

Autosampler Location: 346
Date Collected: 5/9/2012 1:03:21 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 G TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 G TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2512829.3	96.96	%	0.280				0.29%
ScR 361.383	390603.3	100.8	%	0.29				0.29%
Ag 328.068†	44.6	-0.00037	mg/L	0.000103	-0.00037	mg/L	0.000103	27.82%
Al 308.215†	18.1	0.01107	mg/L	0.005209	0.01107	mg/L	0.005209	47.08%
As 188.979†	8.3	0.00326	mg/L	0.000368	0.00326	mg/L	0.000368	11.29%
B 249.677†	211.5	0.03288	mg/L	0.001277	0.03288	mg/L	0.001277	3.88%
Ba 233.527†	69.3	0.00760	mg/L	0.000926	0.00760	mg/L	0.000926	12.19%
Be 313.042†	40.9	0.00005	mg/L	0.000022	0.00005	mg/L	0.000022	42.48%
Ca 317.933†	708522.0	67.14	mg/L	0.478	67.14	mg/L	0.478	0.71%
Cd 228.802†	24.9	0.00068	mg/L	0.000040	0.00068	mg/L	0.000040	5.92%
Co 228.616†	53.6	0.00134	mg/L	0.000210	0.00134	mg/L	0.000210	15.73%
Cr 267.716†	0.2	-0.00123	mg/L	0.000112	-0.00123	mg/L	0.000112	9.06%
Cu 324.752†	-30.4	0.00069	mg/L	0.000062	0.00069	mg/L	0.000062	8.99%
Fe 273.955†	17265.1	11.94	mg/L	0.170	11.94	mg/L	0.170	1.42%
K 766.490†	12001.9	5.207	mg/L	0.0463	5.207	mg/L	0.0463	0.89%
Mg 279.077†	8415.6	6.497	mg/L	0.0835	6.497	mg/L	0.0835	1.28%
Mn 257.610†	20121.0	0.3672	mg/L	0.00511	0.3672	mg/L	0.00511	1.39%
Mo 202.031†	159.7	0.00605	mg/L	0.000250	0.00605	mg/L	0.000250	4.13%
Na 589.592†	152667.7	11.48	mg/L	0.125	11.48	mg/L	0.125	1.09%
Na 330.237†	403.4	12.69	mg/L	0.402	12.69	mg/L	0.402	3.16%
Ni 231.604†	23.1	0.00469	mg/L	0.001392	0.00469	mg/L	0.001392	29.69%
Pb 220.353†	-47.8	-0.00464	mg/L	0.000460	-0.00464	mg/L	0.000460	9.90%
Sb 206.836†	39.2	0.00883	mg/L	0.000845	0.00883	mg/L	0.000845	9.57%
Se 196.026†	36.3	0.02040	mg/L	0.001478	0.02040	mg/L	0.001478	7.24%
Si 288.158†	34965.5	15.69	mg/L	0.216	15.69	mg/L	0.216	1.38%
Sn 189.927†	-37.3	-0.00302	mg/L	0.000584	-0.00302	mg/L	0.000584	19.33%
Sr 421.552†	121495.0	0.1405	mg/L	0.00124	0.1405	mg/L	0.00124	0.89%
Ti 334.903†	76.3	0.00022	mg/L	0.000251	0.00022	mg/L	0.000251	114.51%
Tl 190.801†	15.6	0.00755	mg/L	0.000389	0.00755	mg/L	0.000389	5.15%
V 292.402†	563.8	0.00170	mg/L	0.000051	0.00170	mg/L	0.000051	3.01%
Zn 206.200†	-2.9	-0.00189	mg/L	0.001363	-0.00189	mg/L	0.001363	72.00%

Sequence No.: 18
Sample ID: US52 GDUP TWC

Autosampler Location: 347
Date Collected: 5/9/2012 1:07:33 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 GDUP TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US52 GDUP TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2513834.6	97.00	%	0.182				0.19%
ScR 361.383	384069.6	99.11	%	0.300				0.30%
Ag 328.068†	100.2	-0.00016	mg/L	0.000014	-0.00016	mg/L	0.000014	8.78%
Al 308.215†	19.2	0.01179	mg/L	0.003327	0.01179	mg/L	0.003327	28.21%
As 188.979†	6.1	0.00236	mg/L	0.002296	0.00236	mg/L	0.002296	97.46%
B 249.677†	213.4	0.03317	mg/L	0.000773	0.03317	mg/L	0.000773	2.33%
Ba 233.527†	73.3	0.00807	mg/L	0.000205	0.00807	mg/L	0.000205	2.53%
Be 313.042†	71.9	0.00009	mg/L	0.000037	0.00009	mg/L	0.000037	39.40%
Ca 317.933†	695637.6	65.92	mg/L	0.476	65.92	mg/L	0.476	0.72%
Cd 228.802†	26.5	0.00074	mg/L	0.000184	0.00074	mg/L	0.000184	24.99%
Co 228.616†	47.5	0.00118	mg/L	0.000106	0.00118	mg/L	0.000106	8.95%
Cr 267.716†	5.6	-0.00057	mg/L	0.000597	-0.00057	mg/L	0.000597	103.85%
Cu 324.752†	5.2	0.00084	mg/L	0.000296	0.00084	mg/L	0.000296	35.06%
Fe 273.955†	17157.1	11.87	mg/L	0.046	11.87	mg/L	0.046	0.39%
K 766.490†	11899.7	5.163	mg/L	0.0038	5.163	mg/L	0.0038	0.07%
Mg 279.077†	8330.2	6.431	mg/L	0.0037	6.431	mg/L	0.0037	0.06%
Mn 257.610†	19992.8	0.3649	mg/L	0.00261	0.3649	mg/L	0.00261	0.71%
Mo 202.031†	159.4	0.00606	mg/L	0.000083	0.00606	mg/L	0.000083	1.38%
Na 589.592†	150803.6	11.34	mg/L	0.087	11.34	mg/L	0.087	0.76%
Na 330.237†	402.9	12.68	mg/L	0.196	12.68	mg/L	0.196	1.55%
Ni 231.604†	23.2	0.00471	mg/L	0.001082	0.00471	mg/L	0.001082	22.98%
Pb 220.353†	-40.2	-0.00402	mg/L	0.001193	-0.00402	mg/L	0.001193	29.67%
Sb 206.836†	36.6	0.00815	mg/L	0.001950	0.00815	mg/L	0.001950	23.92%
Se 196.026†	42.7	0.02381	mg/L	0.003048	0.02381	mg/L	0.003048	12.80%
Si 288.158†	34462.8	15.46	mg/L	0.068	15.46	mg/L	0.068	0.44%
Sn 189.927†	-42.8	-0.00379	mg/L	0.000803	-0.00379	mg/L	0.000803	21.21%
Sr 421.552†	120002.1	0.1388	mg/L	0.00081	0.1388	mg/L	0.00081	0.59%
Ti 334.903†	85.5	0.00057	mg/L	0.000623	0.00057	mg/L	0.000623	108.75%
Tl 190.801†	9.1	0.00505	mg/L	0.001322	0.00505	mg/L	0.001322	26.18%
V 292.402†	535.5	0.00156	mg/L	0.000091	0.00156	mg/L	0.000091	5.83%
Zn 206.200†	-4.5	-0.00242	mg/L	0.001139	-0.00242	mg/L	0.001139	47.06%

Sequence No.: 19
Sample ID: US52 GSPK TWC

Autosampler Location: 348
Date Collected: 5/9/2012 1:11:45 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 GSPK TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 GSPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2534409.8	97.79	%	0.506				0.52%
ScR 361.383	387457.2	99.98	%	0.936				0.94%
Ag 328.068†	136097.5	0.4842	mg/L	0.00162	0.4842	mg/L	0.00162	0.34%
Al 308.215†	3183.9	1.962	mg/L	0.0255	1.962	mg/L	0.0255	1.30%
As 188.979†	4733.7	1.930	mg/L	0.0091	1.930	mg/L	0.0091	0.47%
B 249.677†	203.7	0.03022	mg/L	0.000559	0.03022	mg/L	0.000559	1.85%
Ba 233.527†	16970.6	2.010	mg/L	0.0205	2.010	mg/L	0.0205	1.02%
Be 313.042†	346453.9	0.4604	mg/L	0.00170	0.4604	mg/L	0.00170	0.37%
Ca 317.933†	800935.0	75.90	mg/L	0.392	75.90	mg/L	0.392	0.52%
Cd 228.802†	16425.2	0.5230	mg/L	0.00303	0.5230	mg/L	0.00303	0.58%
Co 228.616†	19865.6	0.4966	mg/L	0.00316	0.4966	mg/L	0.00316	0.64%
Cr 267.716†	4318.2	0.5011	mg/L	0.00583	0.5011	mg/L	0.00583	1.16%
Cu 324.752†	112895.3	0.5044	mg/L	0.00123	0.5044	mg/L	0.00123	0.24%
Fe 273.955†	19814.0	13.70	mg/L	0.185	13.70	mg/L	0.185	1.35%
K 766.490†	34487.7	14.96	mg/L	0.063	14.96	mg/L	0.063	0.42%
Mg 279.077†	21315.9	16.47	mg/L	0.213	16.47	mg/L	0.213	1.29%
Mn 257.610†	45270.9	0.8268	mg/L	0.00211	0.8268	mg/L	0.00211	0.26%
Mo 202.031†	166.5	0.00621	mg/L	0.000528	0.00621	mg/L	0.000528	8.50%
Na 589.592†	273456.3	20.57	mg/L	0.044	20.57	mg/L	0.044	0.22%
Na 330.237†	716.6	22.73	mg/L	0.528	22.73	mg/L	0.528	2.32%
Ni 231.604†	2229.5	0.4511	mg/L	0.00452	0.4511	mg/L	0.00452	1.00%
Pb 220.353†	23678.1	1.908	mg/L	0.0079	1.908	mg/L	0.0079	0.41%
Sb 206.836†	49.1	0.00648	mg/L	0.002448	0.00648	mg/L	0.002448	37.79%
Se 196.026†	3597.0	1.921	mg/L	0.0103	1.921	mg/L	0.0103	0.54%
Si 288.158†	33306.0	14.95	mg/L	0.058	14.95	mg/L	0.058	0.39%
Sn 189.927†	-41.3	-0.00323	mg/L	0.000382	-0.00323	mg/L	0.000382	11.81%
Sr 421.552†	529904.6	0.6129	mg/L	0.00240	0.6129	mg/L	0.00240	0.39%
Ti 334.903†	91.1	0.00030	mg/L	0.000188	0.00030	mg/L	0.000188	62.30%
Tl 190.801†	4872.2	1.856	mg/L	0.0061	1.856	mg/L	0.0061	0.33%
V 292.402†	92192.8	0.5048	mg/L	0.00203	0.5048	mg/L	0.00203	0.40%
Zn 206.200†	1328.7	0.4542	mg/L	0.00543	0.4542	mg/L	0.00543	1.20%

Sequence No.: 20
Sample ID: US52 I TWC

Autosampler Location: 349
Date Collected: 5/9/2012 1:15:44 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 I TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US52 I TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2496184.0	96.32	%	0.269				0.28%
ScR 361.383	372157.3	96.04	%	0.669				0.70%
Ag 328.068†	-24.1	-0.00020	mg/L	0.000036	-0.00020	mg/L	0.000036	17.66%
Al 308.215†	1413.6	0.8734	mg/L	0.00820	0.8734	mg/L	0.00820	0.94%
As 188.979†	-3.6	-0.00040	mg/L	0.003184	-0.00040	mg/L	0.003184	795.70%
B 249.677†	2141.4	0.3329	mg/L	0.00107	0.3329	mg/L	0.00107	0.32%
Ba 233.527†	231.5	0.02693	mg/L	0.000564	0.02693	mg/L	0.000564	2.09%
Be 313.042†	238.1	0.00026	mg/L	0.000009	0.00026	mg/L	0.000009	3.54%
Ca 317.933†	106151.9	10.06	mg/L	0.040	10.06	mg/L	0.040	0.40%
Cd 228.802†	28.3	0.00083	mg/L	0.000054	0.00083	mg/L	0.000054	6.47%
Co 228.616†	53.2	0.00095	mg/L	0.000119	0.00095	mg/L	0.000119	12.52%
Cr 267.716†	157.4	0.01787	mg/L	0.001018	0.01787	mg/L	0.001018	5.69%
Cu 324.752†	1774.8	0.00843	mg/L	0.000155	0.00843	mg/L	0.000155	1.84%
Fe 273.955†	13120.7	9.076	mg/L	0.0460	9.076	mg/L	0.0460	0.51%
K 766.490†	33457.5	14.52	mg/L	0.142	14.52	mg/L	0.142	0.98%
Mg 279.077†	21235.8	16.41	mg/L	0.065	16.41	mg/L	0.065	0.39%
Mn 257.610†	20242.7	0.3694	mg/L	0.00368	0.3694	mg/L	0.00368	1.00%
Mo 202.031†	126.4	0.00552	mg/L	0.000262	0.00552	mg/L	0.000262	4.75%
Na 589.592†	2671347.7	200.9	mg/L	1.62	200.9	mg/L	1.62	0.81%
Na 330.237†	6478.8	210.8	mg/L	1.04	210.8	mg/L	1.04	0.49%
Ni 231.604†	5.0	0.00103	mg/L	0.000414	0.00103	mg/L	0.000414	40.21%
Pb 220.353†	-12.4	-0.00145	mg/L	0.000121	-0.00145	mg/L	0.000121	8.31%
Sb 206.836†	30.9	0.00706	mg/L	0.000106	0.00706	mg/L	0.000106	1.51%
Se 196.026†	7.7	0.00484	mg/L	0.006224	0.00484	mg/L	0.006224	128.72%
Si 288.158†	57666.6	25.88	mg/L	0.174	25.88	mg/L	0.174	0.67%
Sn 189.927†	-17.9	-0.00198	mg/L	0.000589	-0.00198	mg/L	0.000589	29.72%
Sr 421.552†	91102.3	0.1054	mg/L	0.00049	0.1054	mg/L	0.00049	0.46%
Ti 334.903†	6615.3	0.2224	mg/L	0.00154	0.2224	mg/L	0.00154	0.69%
Tl 190.801†	2.3	0.00184	mg/L	0.001825	0.00184	mg/L	0.001825	99.41%
V 292.402†	14445.9	0.07791	mg/L	0.000413	0.07791	mg/L	0.000413	0.53%
Zn 206.200†	1.4	0.00041	mg/L	0.000754	0.00041	mg/L	0.000754	184.70%

Sequence No.: 21
Sample ID: US61 H WMN

Autosampler Location: 350
Date Collected: 5/9/2012 1:19:58 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US61 H WMN

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 H WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2579112.0	99.52	%	1.184				1.19%
ScR 361.383	384384.8	99.19	%	1.581				1.59%
Ag 328.068†	37.2	-0.00026	mg/L	0.000005	-0.00026	mg/L	0.000005	2.01%
Al 308.215†	13.7	0.00836	mg/L	0.004245	0.00836	mg/L	0.004245	50.77%
As 188.979†	-2.7	-0.00134	mg/L	0.002503	-0.00134	mg/L	0.002503	186.16%
B 249.677†	433.5	0.06739	mg/L	0.001096	0.06739	mg/L	0.001096	1.63%
Ba 233.527†	85.3	0.00963	mg/L	0.000091	0.00963	mg/L	0.000091	0.95%
Be 313.042†	56.6	0.00007	mg/L	0.000052	0.00007	mg/L	0.000052	70.67%
Ca 317.933†	494981.5	46.90	mg/L	0.439	46.90	mg/L	0.439	0.94%
Cd 228.802†	12.3	0.00031	mg/L	0.000093	0.00031	mg/L	0.000093	29.56%
Co 228.616†	29.7	0.00074	mg/L	0.000073	0.00074	mg/L	0.000073	9.86%
Cr 267.716†	4.2	-0.00058	mg/L	0.000337	-0.00058	mg/L	0.000337	57.76%
Cu 324.752†	5.2	0.00064	mg/L	0.000091	0.00064	mg/L	0.000091	14.25%
Fe 273.955†	13449.1	9.303	mg/L	0.2141	9.303	mg/L	0.2141	2.30%
K 766.490†	17920.3	7.774	mg/L	0.2047	7.774	mg/L	0.2047	2.63%
Mg 279.077†	14154.4	10.93	mg/L	0.242	10.93	mg/L	0.242	2.21%
Mn 257.610†	20043.1	0.3658	mg/L	0.00856	0.3658	mg/L	0.00856	2.34%
Mo 202.031†	122.3	0.00471	mg/L	0.000255	0.00471	mg/L	0.000255	5.41%
Na 589.592†	437318.2	32.89	mg/L	0.868	32.89	mg/L	0.868	2.64%
Na 330.237†	1087.0	35.06	mg/L	1.407	35.06	mg/L	1.407	4.01%
Ni 231.604†	3.6	0.00074	mg/L	0.000204	0.00074	mg/L	0.000204	27.70%
Pb 220.353†	-41.3	-0.00394	mg/L	0.000473	-0.00394	mg/L	0.000473	12.02%
Sb 206.836†	19.4	0.00396	mg/L	0.000769	0.00396	mg/L	0.000769	19.45%
Se 196.026†	46.4	0.02552	mg/L	0.000369	0.02552	mg/L	0.000369	1.45%
Si 288.158†	38093.3	17.09	mg/L	0.414	17.09	mg/L	0.414	2.42%
Sn 189.927†	-26.3	-0.00214	mg/L	0.000240	-0.00214	mg/L	0.000240	11.24%
Sr 421.552†	85750.5	0.09918	mg/L	0.002282	0.09918	mg/L	0.002282	2.30%
Ti 334.903†	64.5	0.00053	mg/L	0.001160	0.00053	mg/L	0.001160	219.34%
Tl 190.801†	16.2	0.00743	mg/L	0.001015	0.00743	mg/L	0.001015	13.66%
V 292.402†	620.1	0.00233	mg/L	0.000037	0.00233	mg/L	0.000037	1.60%
Zn 206.200†	-5.9	-0.00264	mg/L	0.000468	-0.00264	mg/L	0.000468	17.71%

Sequence No.: 22
Sample ID: US61 I WMN

Autosampler Location: 351
Date Collected: 5/9/2012 1:24:11 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US61 I WMN

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: US61 I WMN

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2574347.0	99.33	%	0.763				0.77%
ScR 361.383	385166.4	99.39	%	0.983				0.99%
Ag 328.068†	81.4	-0.00018	mg/L	0.000151	-0.00018	mg/L	0.000151	85.41%
Al 308.215†	9.2	0.00552	mg/L	0.006139	0.00552	mg/L	0.006139	111.14%
As 188.979†	-15.7	-0.00657	mg/L	0.001127	-0.00657	mg/L	0.001127	17.16%
B 249.677†	158.6	0.02466	mg/L	0.000622	0.02466	mg/L	0.000622	2.52%
Ba 233.527†	42.0	0.00462	mg/L	0.000305	0.00462	mg/L	0.000305	6.61%
Be 313.042†	58.4	0.00008	mg/L	0.000011	0.00008	mg/L	0.000011	14.10%
Ca 317.933†	670661.9	63.55	mg/L	1.237	63.55	mg/L	1.237	1.95%
Cd 228.802†	14.9	0.00044	mg/L	0.000201	0.00044	mg/L	0.000201	46.01%
Co 228.616†	38.1	0.00095	mg/L	0.000082	0.00095	mg/L	0.000082	8.59%
Cr 267.716†	6.7	-0.00060	mg/L	0.000217	-0.00060	mg/L	0.000217	36.39%
Cu 324.752†	79.0	0.00083	mg/L	0.000091	0.00083	mg/L	0.000091	10.95%
Fe 273.955†	10218.8	7.069	mg/L	0.0731	7.069	mg/L	0.0731	1.03%
K 766.490†	12204.3	5.295	mg/L	0.0609	5.295	mg/L	0.0609	1.15%
Mg 279.077†	7868.1	6.077	mg/L	0.0608	6.077	mg/L	0.0608	1.00%
Mn 257.610†	10119.7	0.1847	mg/L	0.00288	0.1847	mg/L	0.00288	1.56%
Mo 202.031†	304.9	0.01266	mg/L	0.000537	0.01266	mg/L	0.000537	4.24%
Na 589.592†	81390.8	6.121	mg/L	0.1279	6.121	mg/L	0.1279	2.09%
Na 330.237†	219.2	6.718	mg/L	0.1280	6.718	mg/L	0.1280	1.91%
Ni 231.604†	6.9	0.00141	mg/L	0.001068	0.00141	mg/L	0.001068	75.81%
Pb 220.353†	-46.7	-0.00423	mg/L	0.000219	-0.00423	mg/L	0.000219	5.18%
Sb 206.836†	25.1	0.00572	mg/L	0.000938	0.00572	mg/L	0.000938	16.40%
Se 196.026†	48.6	0.02661	mg/L	0.004628	0.02661	mg/L	0.004628	17.39%
Si 288.158†	39853.6	17.88	mg/L	0.239	17.88	mg/L	0.239	1.34%
Sn 189.927†	-32.7	-0.00251	mg/L	0.000864	-0.00251	mg/L	0.000864	34.44%
Sr 421.552†	115420.5	0.1335	mg/L	0.00241	0.1335	mg/L	0.00241	1.81%
Ti 334.903†	76.0	0.00033	mg/L	0.000404	0.00033	mg/L	0.000404	123.98%
Tl 190.801†	17.4	0.00761	mg/L	0.000969	0.00761	mg/L	0.000969	12.73%
V 292.402†	317.4	0.00092	mg/L	0.000004	0.00092	mg/L	0.000004	0.47%
Zn 206.200†	-8.1	-0.00360	mg/L	0.001524	-0.00360	mg/L	0.001524	42.35%

Sequence No.: 23
Sample ID: US52 MB1SPK TWC

Autosampler Location: 352
Date Collected: 5/9/2012 1:28:24 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US52 MB1SPK TWC

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: US52 MB1SPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2508449.8	96.79	%	0.539				0.56%
ScR 361.383	385369.5	99.45	%	0.739				0.74%
Ag 328.068†	142409.3	0.5072	mg/L	0.00319	0.5072	mg/L	0.00319	0.63%
Al 308.215†	3227.0	1.988	mg/L	0.0153	1.988	mg/L	0.0153	0.77%
As 188.979†	4778.4	1.949	mg/L	0.0235	1.949	mg/L	0.0235	1.20%
B 249.677†	13.3	0.00061	mg/L	0.000510	0.00061	mg/L	0.000510	84.10%
Ba 233.527†	16731.3	1.982	mg/L	0.0214	1.982	mg/L	0.0214	1.08%
Be 313.042†	352890.4	0.4689	mg/L	0.00622	0.4689	mg/L	0.00622	1.33%
Ca 317.933†	103448.3	9.803	mg/L	0.0160	9.803	mg/L	0.0160	0.16%
Cd 228.802†	16325.8	0.5199	mg/L	0.00217	0.5199	mg/L	0.00217	0.42%
Co 228.616†	20108.9	0.5027	mg/L	0.00205	0.5027	mg/L	0.00205	0.41%
Cr 267.716†	4404.2	0.5123	mg/L	0.00567	0.5123	mg/L	0.00567	1.11%
Cu 324.752†	115372.8	0.5147	mg/L	0.00123	0.5147	mg/L	0.00123	0.24%
Fe 273.955†	2872.6	1.985	mg/L	0.0103	1.985	mg/L	0.0103	0.52%
K 766.490†	22419.3	9.726	mg/L	0.0931	9.726	mg/L	0.0931	0.96%
Mg 279.077†	12407.6	9.589	mg/L	0.0229	9.589	mg/L	0.0229	0.24%
Mn 257.610†	26400.2	0.4824	mg/L	0.00665	0.4824	mg/L	0.00665	1.38%
Mo 202.031†	38.1	0.00155	mg/L	0.000149	0.00155	mg/L	0.000149	9.62%
Na 589.592†	122996.6	9.250	mg/L	0.1257	9.250	mg/L	0.1257	1.36%
Na 330.237†	322.8	10.34	mg/L	0.018	10.34	mg/L	0.018	0.18%
Ni 231.604†	2274.4	0.4602	mg/L	0.00315	0.4602	mg/L	0.00315	0.68%
Pb 220.353†	23995.8	1.935	mg/L	0.0020	1.935	mg/L	0.0020	0.10%
Sb 206.836†	33.5	0.00374	mg/L	0.001250	0.00374	mg/L	0.001250	33.42%
Se 196.026†	3619.1	1.932	mg/L	0.0215	1.932	mg/L	0.0215	1.11%
Si 288.158†	42.9	0.02124	mg/L	0.001112	0.02124	mg/L	0.001112	5.23%
Sn 189.927†	-9.2	-0.00087	mg/L	0.000958	-0.00087	mg/L	0.000958	110.24%
Sr 421.552†	411410.4	0.4759	mg/L	0.00508	0.4759	mg/L	0.00508	1.07%
Ti 334.903†	15.4	0.00006	mg/L	0.000332	0.00006	mg/L	0.000332	539.03%
Tl 190.801†	5096.1	1.940	mg/L	0.0202	1.940	mg/L	0.0202	1.04%
V 292.402†	94125.0	0.5168	mg/L	0.00291	0.5168	mg/L	0.00291	0.56%
Zn 206.200†	1367.6	0.4684	mg/L	0.00621	0.4684	mg/L	0.00621	1.32%

Sequence No.: 24
Sample ID: CV

Autosampler Location: 7
Date Collected: 5/9/2012 1:32:22 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2565357.8	98.99	%	0.820				0.83%
ScR 361.383	379484.7	97.93	%	0.432				0.44%
Ag 328.068†	271531.6	0.9672	mg/L	0.01721	0.9672	mg/L	0.01721	1.78%
Al 308.215†	3198.8	1.952	mg/L	0.0087	1.952	mg/L	0.0087	0.45%
As 188.979†	4589.7	1.877	mg/L	0.0182	1.877	mg/L	0.0182	0.97%
B 249.677†	6230.1	0.9665	mg/L	0.00318	0.9665	mg/L	0.00318	0.33%
Ba 233.527†	8549.4	1.013	mg/L	0.0015	1.013	mg/L	0.0015	0.15%
Be 313.042†	690269.2	0.9173	mg/L	0.00185	0.9173	mg/L	0.00185	0.20%
Ca 317.933†	21342.7	2.022	mg/L	0.0106	2.022	mg/L	0.0106	0.52%
Cd 228.802†	31587.3	1.012	mg/L	0.0187	1.012	mg/L	0.0187	1.85%
Co 228.616†	38885.9	0.9714	mg/L	0.01796	0.9714	mg/L	0.01796	1.85%
Cr 267.716†	8773.7	1.021	mg/L	0.0047	1.021	mg/L	0.0047	0.46%
Cu 324.752†	224930.7	1.003	mg/L	0.0164	1.003	mg/L	0.0164	1.63%
Fe 273.955†	2856.4	1.971	mg/L	0.0048	1.971	mg/L	0.0048	0.24%
K 766.490†	45251.0	19.63	mg/L	0.093	19.63	mg/L	0.093	0.47%
Mg 279.077†	2544.6	1.971	mg/L	0.0091	1.971	mg/L	0.0091	0.46%
Mn 257.610†	53110.7	0.9699	mg/L	0.00449	0.9699	mg/L	0.00449	0.46%
Mo 202.031†	20977.5	0.9452	mg/L	0.00822	0.9452	mg/L	0.00822	0.87%
Na 589.592†	623224.8	46.87	mg/L	0.380	46.87	mg/L	0.380	0.81%
Na 330.237†	1571.9	51.18	mg/L	0.283	51.18	mg/L	0.283	0.55%
Ni 231.604†	4663.3	0.9453	mg/L	0.00297	0.9453	mg/L	0.00297	0.31%
Pb 220.353†	23747.8	1.915	mg/L	0.0168	1.915	mg/L	0.0168	0.88%
Sb 206.836†	7353.7	1.931	mg/L	0.0175	1.931	mg/L	0.0175	0.91%
Se 196.026†	3491.8	1.863	mg/L	0.0138	1.863	mg/L	0.0138	0.74%
Si 288.158†	4526.0	2.035	mg/L	0.0083	2.035	mg/L	0.0083	0.41%
Sn 189.927†	7056.6	0.9459	mg/L	0.00798	0.9459	mg/L	0.00798	0.84%
Sr 421.552†	822079.9	0.9509	mg/L	0.00221	0.9509	mg/L	0.00221	0.23%
Ti 334.903†	28112.6	0.9451	mg/L	0.00238	0.9451	mg/L	0.00238	0.25%
Tl 190.801†	4902.5	1.867	mg/L	0.0128	1.867	mg/L	0.0128	0.68%
V 292.402†	181196.6	0.9953	mg/L	0.01320	0.9953	mg/L	0.01320	1.33%
Zn 206.200†	2871.5	0.9829	mg/L	0.00598	0.9829	mg/L	0.00598	0.61%

Sequence No.: 25
Sample ID: CB -1

Autosampler Location: 1
Date Collected: 5/9/2012 1:36:24 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2555841.1	98.62	%	1.391				1.41%
ScR 361.383	385133.1	99.39	%	0.700				0.70%
Ag 328.068†	8.0	0.00003	mg/L	0.000059	0.00003	mg/L	0.000059	207.80%
Al 308.215†	10.4	0.00643	mg/L	0.005691	0.00643	mg/L	0.005691	88.49%
As 188.979†	-1.9	-0.00076	mg/L	0.001710	-0.00076	mg/L	0.001710	225.34%
B 249.677†	9.4	0.00146	mg/L	0.001039	0.00146	mg/L	0.001039	71.16%
Ba 233.527†	-1.3	-0.00016	mg/L	0.000352	-0.00016	mg/L	0.000352	225.00%
Be 313.042†	57.5	0.00008	mg/L	0.000011	0.00008	mg/L	0.000011	13.89%
Ca 317.933†	7.2	0.00068	mg/L	0.001320	0.00068	mg/L	0.001320	193.77%
Cd 228.802†	11.7	0.00038	mg/L	0.000060	0.00038	mg/L	0.000060	15.84%
Co 228.616†	-1.5	-0.00004	mg/L	0.000308	-0.00004	mg/L	0.000308	809.60%
Cr 267.716†	-0.9	-0.00011	mg/L	0.000266	-0.00011	mg/L	0.000266	247.03%
Cu 324.752†	58.9	0.00026	mg/L	0.000149	0.00026	mg/L	0.000149	56.79%
Fe 273.955†	-1.5	-0.00102	mg/L	0.001345	-0.00102	mg/L	0.001345	132.27%
K 766.490†	-51.1	-0.02218	mg/L	0.001645	-0.02218	mg/L	0.001645	7.42%
Mg 279.077†	-7.4	-0.00576	mg/L	0.000501	-0.00576	mg/L	0.000501	8.71%
Mn 257.610†	-3.9	-0.00007	mg/L	0.000031	-0.00007	mg/L	0.000031	44.17%
Mo 202.031†	8.1	0.00036	mg/L	0.000214	0.00036	mg/L	0.000214	58.81%
Na 589.592†	-2446.7	-0.1840	mg/L	0.00395	-0.1840	mg/L	0.00395	2.15%
Na 330.237†	0.3	0.01045	mg/L	0.142886	0.01045	mg/L	0.142886	>999.9%
Ni 231.604†	-0.8	-0.00015	mg/L	0.000785	-0.00015	mg/L	0.000785	506.33%
Pb 220.353†	0.1	0.00001	mg/L	0.000234	0.00001	mg/L	0.000234	>999.9%
Sb 206.836†	15.5	0.00409	mg/L	0.001626	0.00409	mg/L	0.001626	39.76%
Se 196.026†	1.0	0.00051	mg/L	0.001367	0.00051	mg/L	0.001367	268.38%
Si 288.158†	15.4	0.00689	mg/L	0.001050	0.00689	mg/L	0.001050	15.24%
Sn 189.927†	5.3	0.00071	mg/L	0.000323	0.00071	mg/L	0.000323	45.36%
Sr 421.552†	18.2	0.00002	mg/L	0.000011	0.00002	mg/L	0.000011	52.50%
Ti 334.903†	3.5	0.00012	mg/L	0.000435	0.00012	mg/L	0.000435	374.75%
Tl 190.801†	0.0	0.00000	mg/L	0.000805	0.00000	mg/L	0.000805	>999.9%
V 292.402†	21.6	0.00012	mg/L	0.000106	0.00012	mg/L	0.000106	89.68%
Zn 206.200†	-1.3	-0.00044	mg/L	0.000521	-0.00044	mg/L	0.000521	117.27%

Sequence No.: 26
Sample ID: US61 MB1 TWC

Autosampler Location: 304
Date Collected: 5/9/2012 1:40:38 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US61 MB1 TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 MB1 TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2510638.0	96.87	%	0.356				0.37%
ScR 361.383	376433.3	97.14	%	1.072				1.10%
Ag 328.068†	-29.2	-0.00010	mg/L	0.000081	-0.00010	mg/L	0.000081	77.68%
Al 308.215†	15.1	0.00935	mg/L	0.002657	0.00935	mg/L	0.002657	28.41%
As 188.979†	-4.5	-0.00185	mg/L	0.001449	-0.00185	mg/L	0.001449	78.42%
B 249.677†	5.3	0.00083	mg/L	0.000652	0.00083	mg/L	0.000652	78.64%
Ba 233.527†	1.6	0.00019	mg/L	0.000459	0.00019	mg/L	0.000459	241.26%
Be 313.042†	76.1	0.00010	mg/L	0.000063	0.00010	mg/L	0.000063	62.09%
Ca 317.933†	114.5	0.01085	mg/L	0.002167	0.01085	mg/L	0.002167	19.97%
Cd 228.802†	13.2	0.00043	mg/L	0.000053	0.00043	mg/L	0.000053	12.20%
Co 228.616†	-1.6	-0.00004	mg/L	0.000109	-0.00004	mg/L	0.000109	268.40%
Cr 267.716†	-8.3	-0.00096	mg/L	0.000415	-0.00096	mg/L	0.000415	43.14%
Cu 324.752†	131.4	0.00059	mg/L	0.000127	0.00059	mg/L	0.000127	21.64%
Fe 273.955†	4.4	0.00303	mg/L	0.001930	0.00303	mg/L	0.001930	63.77%
K 766.490†	-20.0	-0.00869	mg/L	0.009785	-0.00869	mg/L	0.009785	112.66%
Mg 279.077†	1.3	0.00100	mg/L	0.005400	0.00100	mg/L	0.005400	540.88%
Mn 257.610†	2.3	0.00004	mg/L	0.000098	0.00004	mg/L	0.000098	232.58%
Mo 202.031†	5.7	0.00026	mg/L	0.000126	0.00026	mg/L	0.000126	49.04%
Na 589.592†	-2487.8	-0.1871	mg/L	0.00077	-0.1871	mg/L	0.00077	0.41%
Na 330.237†	5.0	0.1618	mg/L	0.31225	0.1618	mg/L	0.31225	193.02%
Ni 231.604†	3.6	0.00073	mg/L	0.000687	0.00073	mg/L	0.000687	94.30%
Pb 220.353†	-10.3	-0.00083	mg/L	0.000140	-0.00083	mg/L	0.000140	16.76%
Sb 206.836†	7.8	0.00207	mg/L	0.000849	0.00207	mg/L	0.000849	40.97%
Se 196.026†	-4.7	-0.00251	mg/L	0.004021	-0.00251	mg/L	0.004021	160.25%
Si 288.158†	25.6	0.01148	mg/L	0.003538	0.01148	mg/L	0.003538	30.81%
Sn 189.927†	4.8	0.00064	mg/L	0.000293	0.00064	mg/L	0.000293	45.44%
Sr 421.552†	-16.0	-0.00002	mg/L	0.000012	-0.00002	mg/L	0.000012	62.66%
Ti 334.903†	22.9	0.00077	mg/L	0.000507	0.00077	mg/L	0.000507	65.81%
Tl 190.801†	2.3	0.00089	mg/L	0.001194	0.00089	mg/L	0.001194	134.24%
V 292.402†	0.2	0.00000	mg/L	0.000039	0.00000	mg/L	0.000039	>999.9%
Zn 206.200†	-1.9	-0.00064	mg/L	0.000599	-0.00064	mg/L	0.000599	93.66%

Sequence No.: 27
Sample ID: ~~US61 D-L TWC~~ 222222

Dilution: 5X

Autosampler Location: 305
Date Collected: 5/9/2012 1:44:52 PM
Data Type: Original

Nebulizer Parameters: US61 D-L TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 D-L TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2496826.5	96.34	%	1.028				1.07%
ScR 361.383	378237.2	97.61	%	1.089				1.12%
Ag 328.068†	25.6	0.00000	mg/L	0.000158	0.00000	mg/L	0.000790	>999.9%
Al 308.215†	20.4	0.01256	mg/L	0.002130	0.06282	mg/L	0.010651	16.95%
As 188.979†	-11.0	-0.00451	mg/L	0.001225	-0.02254	mg/L	0.006125	27.18%
B 249.677†	29.2	0.00454	mg/L	0.000920	0.02272	mg/L	0.004600	20.25%
Ba 233.527†	9.7	0.00108	mg/L	0.000329	0.00540	mg/L	0.001644	30.47%
Be 313.042†	50.3	0.00007	mg/L	0.000025	0.00033	mg/L	0.000127	38.19%
Ca 317.933†	131259.4	12.44	mg/L	0.043	62.19	mg/L	0.217	0.35%
Cd 228.802†	11.6	0.00039	mg/L	0.000127	0.00196	mg/L	0.000637	32.50%
Co 228.616†	14.1	0.00035	mg/L	0.000131	0.00174	mg/L	0.000656	37.68%
Cr 267.716†	-2.1	-0.00051	mg/L	0.000214	-0.00255	mg/L	0.001072	42.03%
Cu 324.752†	3030.6	0.01361	mg/L	0.000312	0.06804	mg/L	0.001559	2.29%
Fe 273.955†	2040.2	1.411	mg/L	0.0120	7.056	mg/L	0.0598	0.85%
K 766.490†	2383.9	1.034	mg/L	0.0080	5.171	mg/L	0.0401	0.78%
Mg 279.077†	1608.2	1.242	mg/L	0.0158	6.210	mg/L	0.0791	1.27%
Mn 257.610†	2061.8	0.03763	mg/L	0.000569	0.1881	mg/L	0.00285	1.51%
Mo 202.031†	82.5	0.00351	mg/L	0.000221	0.01753	mg/L	0.001104	6.29%
Na 589.592†	13131.1	0.9875	mg/L	0.01702	4.938	mg/L	0.0851	1.72%
Na 330.237†	50.8	1.573	mg/L	0.3721	7.865	mg/L	1.8603	23.65%
Ni 231.604†	117.6	0.02380	mg/L	0.000416	0.1190	mg/L	0.00208	1.75%
Pb 220.353†	-21.0	-0.00180	mg/L	0.000424	-0.00901	mg/L	0.002119	23.52%
Sb 206.836†	20.1	0.00510	mg/L	0.001645	0.02548	mg/L	0.008224	32.27%
Se 196.026†	10.2	0.00560	mg/L	0.001979	0.02799	mg/L	0.009894	35.35%
Si 288.158†	6974.5	3.130	mg/L	0.0493	15.65	mg/L	0.246	1.57%
Sn 189.927†	-7.1	-0.00058	mg/L	0.000370	-0.00292	mg/L	0.001852	63.45%
Sr 421.552†	22568.9	0.02610	mg/L	0.000295	0.1305	mg/L	0.00148	1.13%
Ti 334.903†	28.2	0.00051	mg/L	0.000150	0.00255	mg/L	0.000751	29.41%
Tl 190.801†	2.4	0.00111	mg/L	0.000638	0.00554	mg/L	0.003188	57.55%
V 292.402†	74.6	0.00024	mg/L	0.000121	0.00122	mg/L	0.000603	49.30%
Zn 206.200†	1.7	0.00042	mg/L	0.000375	0.00211	mg/L	0.001875	88.79%

Sequence No.: 28
Sample ID: US61 D TWC

Dilution: 1X

Autosampler Location: 306
Date Collected: 5/9/2012 1:49:04 PM
Data Type: Original

Nebulizer Parameters: US61 D TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 D TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2473624.2	95.45	%	0.645				0.68%
ScR 361.383	374421.4	96.62	%	1.035				1.07%
Ag 328.068†	101.7	-0.00011	mg/L	0.000083	-0.00011	mg/L	0.000083	74.36%
Al 308.215†	18.0	0.01096	mg/L	0.003839	0.01096	mg/L	0.003839	35.03%
As 188.979†	-18.4	-0.00767	mg/L	0.001146	-0.00767	mg/L	0.001146	14.94%
B 249.677†	160.8	0.02501	mg/L	0.001026	0.02501	mg/L	0.001026	4.10%
Ba 233.527†	47.2	0.00522	mg/L	0.000247	0.00522	mg/L	0.000247	4.74%
Be 313.042†	89.8	0.00012	mg/L	0.000044	0.00012	mg/L	0.000044	37.56%
Ca 317.933†	681230.9	64.55	mg/L	0.632	64.55	mg/L	0.632	0.98%
Cd 228.802†	18.4	0.00063	mg/L	0.000125	0.00063	mg/L	0.000125	19.96%
Co 228.616†	46.5	0.00114	mg/L	0.000253	0.00114	mg/L	0.000253	22.13%
Cr 267.716†	0.0	-0.00139	mg/L	0.001028	-0.00139	mg/L	0.001028	74.09%
Cu 324.752†	15164.4	0.06811	mg/L	0.000014	0.06811	mg/L	0.000014	0.02%
Fe 273.955†	10542.6	7.293	mg/L	0.1409	7.293	mg/L	0.1409	1.93%
K 766.490†	12343.4	5.355	mg/L	0.1022	5.355	mg/L	0.1022	1.91%
Mg 279.077†	7916.7	6.114	mg/L	0.1139	6.114	mg/L	0.1139	1.86%
Mn 257.610†	10302.1	0.1880	mg/L	0.00287	0.1880	mg/L	0.00287	1.53%
Mo 202.031†	324.8	0.01354	mg/L	0.000189	0.01354	mg/L	0.000189	1.40%
Na 589.592†	79542.7	5.982	mg/L	0.0517	5.982	mg/L	0.0517	0.86%
Na 330.237†	226.8	6.959	mg/L	0.2590	6.959	mg/L	0.2590	3.72%
Ni 231.604†	601.1	0.1216	mg/L	0.00083	0.1216	mg/L	0.00083	0.68%
Pb 220.353†	-46.6	-0.00432	mg/L	0.000926	-0.00432	mg/L	0.000926	21.44%
Sb 206.836†	35.4	0.00839	mg/L	0.001083	0.00839	mg/L	0.001083	12.90%
Se 196.026†	35.5	0.01961	mg/L	0.002380	0.01961	mg/L	0.002380	12.13%
Si 288.158†	37582.5	16.86	mg/L	0.247	16.86	mg/L	0.247	1.47%
Sn 189.927†	-37.2	-0.00309	mg/L	0.000738	-0.00309	mg/L	0.000738	23.93%
Sr 421.552†	117330.6	0.1357	mg/L	0.00100	0.1357	mg/L	0.00100	0.74%
Ti 334.903†	79.4	0.00041	mg/L	0.000499	0.00041	mg/L	0.000499	123.16%
Tl 190.801†	14.1	0.00638	mg/L	0.002232	0.00638	mg/L	0.002232	35.00%
V 292.402†	338.9	0.00101	mg/L	0.000067	0.00101	mg/L	0.000067	6.64%
Zn 206.200†	-0.4	-0.00100	mg/L	0.000048	-0.00100	mg/L	0.000048	4.81%

Sequence No.: 29
Sample ID: US61 DDUP TWC

Dilution: 1X

Autosampler Location: 307
Date Collected: 5/9/2012 1:53:16 PM
Data Type: Original

Nebulizer Parameters: US61 DDUP TWC

Analyte	Back Pressure	Flow
All	210.0 kPa	0.75 L/min

Mean Data: US61 DDUP TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2479272.9	95.66	%	0.583				0.61%
ScR 361.383	374462.8	96.63	%	0.990				1.02%
Ag 328.068†	72.9	-0.00022	mg/L	0.000067	-0.00022	mg/L	0.000067	30.80%
Al 308.215†	10.8	0.00652	mg/L	0.002127	0.00652	mg/L	0.002127	32.62%
As 188.979†	-22.1	-0.00917	mg/L	0.001063	-0.00917	mg/L	0.001063	11.58%
B 249.677†	165.6	0.02576	mg/L	0.000416	0.02576	mg/L	0.000416	1.62%
Ba 233.527†	46.2	0.00510	mg/L	0.000253	0.00510	mg/L	0.000253	4.96%
Be 313.042†	64.8	0.00008	mg/L	0.000032	0.00008	mg/L	0.000032	37.37%
Ca 317.933†	682869.0	64.71	mg/L	0.271	64.71	mg/L	0.271	0.42%
Cd 228.802†	16.4	0.00050	mg/L	0.000135	0.00050	mg/L	0.000135	27.11%
Co 228.616†	23.4	0.00058	mg/L	0.000068	0.00058	mg/L	0.000068	11.71%
Cr 267.716†	-0.0	-0.00140	mg/L	0.000747	-0.00140	mg/L	0.000747	53.50%
Cu 324.752†	1531.9	0.00733	mg/L	0.000156	0.00733	mg/L	0.000156	2.12%
Fe 273.955†	10656.0	7.371	mg/L	0.0610	7.371	mg/L	0.0610	0.83%
K 766.490†	12439.9	5.397	mg/L	0.0854	5.397	mg/L	0.0854	1.58%
Mg 279.077†	8007.9	6.185	mg/L	0.0701	6.185	mg/L	0.0701	1.13%
Mn 257.610†	10377.8	0.1894	mg/L	0.00184	0.1894	mg/L	0.00184	0.97%
Mo 202.031†	328.9	0.01372	mg/L	0.000180	0.01372	mg/L	0.000180	1.31%
Na 589.592†	79539.8	5.982	mg/L	0.0256	5.982	mg/L	0.0256	0.43%
Na 330.237†	222.9	6.831	mg/L	0.1437	6.831	mg/L	0.1437	2.10%
Ni 231.604†	63.7	0.01289	mg/L	0.001482	0.01289	mg/L	0.001482	11.50%
Pb 220.353†	-44.8	-0.00411	mg/L	0.000954	-0.00411	mg/L	0.000954	23.23%
Sb 206.836†	32.6	0.00765	mg/L	0.002862	0.00765	mg/L	0.002862	37.39%
Se 196.026†	41.0	0.02254	mg/L	0.004663	0.02254	mg/L	0.004663	20.68%
Si 288.158†	38726.2	17.38	mg/L	0.184	17.38	mg/L	0.184	1.06%
Sn 189.927†	-39.6	-0.00340	mg/L	0.000395	-0.00340	mg/L	0.000395	11.61%
Sr 421.552†	117273.5	0.1356	mg/L	0.00082	0.1356	mg/L	0.00082	0.60%
Ti 334.903†	67.8	0.00001	mg/L	0.000567	0.00001	mg/L	0.000567	>999.9%
Tl 190.801†	12.9	0.00594	mg/L	0.001091	0.00594	mg/L	0.001091	18.37%
V 292.402†	332.6	0.00097	mg/L	0.000091	0.00097	mg/L	0.000091	9.40%
Zn 206.200†	15.9	0.00460	mg/L	0.000332	0.00460	mg/L	0.000332	7.23%

Sequence No.: 30
Sample ID: US61 DSPK TWC

Dilution: 1X

Autosampler Location: 308
Date Collected: 5/9/2012 1:57:28 PM
Data Type: Original

Nebulizer Parameters: US61 DSPK TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 DSPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2455132.4	94.73	%	0.148				0.16%
ScR 361.383	374370.1	96.61	%	0.963				1.00%
Ag 328.068†	138235.8	0.4919	mg/L	0.00104	0.4919	mg/L	0.00104	0.21%
Al 308.215†	3251.4	2.003	mg/L	0.0182	2.003	mg/L	0.0182	0.91%
As 188.979†	4768.9	1.945	mg/L	0.0082	1.945	mg/L	0.0082	0.42%
B 249.677†	166.3	0.02439	mg/L	0.000742	0.02439	mg/L	0.000742	3.04%
Ba 233.527†	17311.9	2.051	mg/L	0.0121	2.051	mg/L	0.0121	0.59%
Be 313.042†	354763.3	0.4714	mg/L	0.00408	0.4714	mg/L	0.00408	0.87%
Ca 317.933†	787946.0	74.66	mg/L	0.447	74.66	mg/L	0.447	0.60%
Cd 228.802†	16772.2	0.5342	mg/L	0.00297	0.5342	mg/L	0.00297	0.56%
Co 228.616†	20262.9	0.5066	mg/L	0.00233	0.5066	mg/L	0.00233	0.46%
Cr 267.716†	4392.4	0.5095	mg/L	0.00263	0.5095	mg/L	0.00263	0.52%
Cu 324.752†	113788.1	0.5081	mg/L	0.00175	0.5081	mg/L	0.00175	0.34%
Fe 273.955†	13503.6	9.339	mg/L	0.0607	9.339	mg/L	0.0607	0.65%
K 766.490†	35636.5	15.46	mg/L	0.124	15.46	mg/L	0.124	0.80%
Mg 279.077†	21245.3	16.42	mg/L	0.104	16.42	mg/L	0.104	0.63%
Mn 257.610†	38213.0	0.6980	mg/L	0.00451	0.6980	mg/L	0.00451	0.65%
Mo 202.031†	344.2	0.01424	mg/L	0.000172	0.01424	mg/L	0.000172	1.21%
Na 589.592†	206279.0	15.51	mg/L	0.103	15.51	mg/L	0.103	0.66%
Na 330.237†	551.4	17.36	mg/L	0.149	17.36	mg/L	0.149	0.86%
Ni 231.604†	2319.3	0.4693	mg/L	0.00257	0.4693	mg/L	0.00257	0.55%
Pb 220.353†	24212.6	1.952	mg/L	0.0103	1.952	mg/L	0.0103	0.53%
Sb 206.836†	50.5	0.00728	mg/L	0.000979	0.00728	mg/L	0.000979	13.46%
Se 196.026†	3653.4	1.951	mg/L	0.0144	1.951	mg/L	0.0144	0.74%
Si 288.158†	35058.8	15.73	mg/L	0.113	15.73	mg/L	0.113	0.72%
Sn 189.927†	-44.8	-0.00374	mg/L	0.000455	-0.00374	mg/L	0.000455	12.18%
Sr 421.552†	536353.0	0.6204	mg/L	0.00509	0.6204	mg/L	0.00509	0.82%
Ti 334.903†	88.0	0.00023	mg/L	0.000075	0.00023	mg/L	0.000075	32.85%
Tl 190.801†	5009.4	1.908	mg/L	0.0136	1.908	mg/L	0.0136	0.71%
V 292.402†	91888.4	0.5037	mg/L	0.00367	0.5037	mg/L	0.00367	0.73%
Zn 206.200†	1349.9	0.4615	mg/L	0.00319	0.4615	mg/L	0.00319	0.69%

Sequence No.: 31
Sample ID: ~~US61 DPOST TWC~~ 222222

Autosampler Location: 309
Date Collected: 5/9/2012 2:01:12 PM
Data Type: Original

Dilution: 1X

5-9-12

Nebulizer Parameters: US61 DPOST TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 DPOST TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2470781.2	95.34	%	0.123				0.13%
ScR 361.383	374785.9	96.71	%	1.056				1.09%
Ag 328.068†	133785.2	0.4760	mg/L	0.00180	0.4760	mg/L	0.00180	0.38%
Al 308.215†	3306.3	2.037	mg/L	0.0236	2.037	mg/L	0.0236	1.16%
As 188.979†	4834.9	1.972	mg/L	0.0053	1.972	mg/L	0.0053	0.27%
B 249.677†	163.2	0.02390	mg/L	0.000870	0.02390	mg/L	0.000870	3.64%
Ba 233.527†	17644.5	2.090	mg/L	0.0270	2.090	mg/L	0.0270	1.29%
Be 313.042†	354361.2	0.4709	mg/L	0.00277	0.4709	mg/L	0.00277	0.59%
Ca 317.933†	770040.0	72.97	mg/L	0.432	72.97	mg/L	0.432	0.59%
Cd 228.802†	16847.9	0.5367	mg/L	0.00251	0.5367	mg/L	0.00251	0.47%
Co 228.616†	20339.3	0.5085	mg/L	0.00196	0.5085	mg/L	0.00196	0.39%
Cr 267.716†	4375.8	0.5076	mg/L	0.00467	0.5076	mg/L	0.00467	0.92%
Cu 324.752†	127667.4	0.5700	mg/L	0.00064	0.5700	mg/L	0.00064	0.11%
Fe 273.955†	13273.5	9.180	mg/L	0.1312	9.180	mg/L	0.1312	1.43%
K 766.490†	35580.7	15.44	mg/L	0.045	15.44	mg/L	0.045	0.29%
Mg 279.077†	21138.3	16.33	mg/L	0.179	16.33	mg/L	0.179	1.09%
Mn 257.610†	38487.8	0.7030	mg/L	0.00940	0.7030	mg/L	0.00940	1.34%
Mo 202.031†	336.2	0.01391	mg/L	0.000278	0.01391	mg/L	0.000278	2.00%
Na 589.592†	205485.3	15.45	mg/L	0.053	15.45	mg/L	0.053	0.34%
Na 330.237†	547.7	17.25	mg/L	0.047	17.25	mg/L	0.047	0.27%
Ni 231.604†	2898.2	0.5864	mg/L	0.00796	0.5864	mg/L	0.00796	1.36%
Pb 220.353†	24657.1	1.987	mg/L	0.0088	1.987	mg/L	0.0088	0.44%
Sb 206.836†	54.5	0.00836	mg/L	0.000472	0.00836	mg/L	0.000472	5.65%
Se 196.026†	3720.6	1.987	mg/L	0.0172	1.987	mg/L	0.0172	0.86%
Si 288.158†	36518.3	16.39	mg/L	0.061	16.39	mg/L	0.061	0.37%
Sn 189.927†	-47.0	-0.00407	mg/L	0.000355	-0.00407	mg/L	0.000355	8.72%
Sr 421.552†	536793.1	0.6209	mg/L	0.00190	0.6209	mg/L	0.00190	0.31%
Ti 334.903†	87.4	0.00027	mg/L	0.000250	0.00027	mg/L	0.000250	94.11%
Tl 190.801†	5078.4	1.934	mg/L	0.0140	1.934	mg/L	0.0140	0.72%
V 292.402†	92200.5	0.5054	mg/L	0.00182	0.5054	mg/L	0.00182	0.36%
Zn 206.200†	1346.5	0.4603	mg/L	0.00777	0.4603	mg/L	0.00777	1.69%

Sequence No.: 32
Sample ID: US61 MB1SPK TWC

Autosampler Location: 310
Date Collected: 5/9/2012 2:04:56 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: US61 MB1SPK TWC

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: US61 MB1SPK TWC

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
ScA 357.253	2496628.2	96.33	%	0.888				0.92%
ScR 361.383	377411.4	97.39	%	1.203				1.24%
Ag 328.068†	142938.6	0.5091	mg/L	0.00631	0.5091	mg/L	0.00631	1.24%
Al 308.215†	3277.7	2.019	mg/L	0.0306	2.019	mg/L	0.0306	1.51%
As 188.979†	4795.2	1.955	mg/L	0.0219	1.955	mg/L	0.0219	1.12%
B 249.677†	7.5	-0.00030	mg/L	0.000704	-0.00030	mg/L	0.000704	232.64%
Ba 233.527†	16843.7	1.995	mg/L	0.0110	1.995	mg/L	0.0110	0.55%
Be 313.042†	354438.3	0.4710	mg/L	0.00307	0.4710	mg/L	0.00307	0.65%
Ca 317.933†	104495.2	9.902	mg/L	0.0524	9.902	mg/L	0.0524	0.53%
Cd 228.802†	16394.7	0.5221	mg/L	0.00485	0.5221	mg/L	0.00485	0.93%
Co 228.616†	20164.5	0.5041	mg/L	0.00602	0.5041	mg/L	0.00602	1.19%
Cr 267.716†	4471.8	0.5202	mg/L	0.00966	0.5202	mg/L	0.00966	1.86%
Cu 324.752†	115524.4	0.5153	mg/L	0.00690	0.5153	mg/L	0.00690	1.34%
Fe 273.955†	2904.1	2.007	mg/L	0.0302	2.007	mg/L	0.0302	1.51%
K 766.490†	22764.7	9.876	mg/L	0.0737	9.876	mg/L	0.0737	0.75%
Mg 279.077†	12538.8	9.691	mg/L	0.0114	9.691	mg/L	0.0114	0.12%
Mn 257.610†	26580.0	0.4857	mg/L	0.00315	0.4857	mg/L	0.00315	0.65%
Mo 202.031†	36.6	0.00148	mg/L	0.000141	0.00148	mg/L	0.000141	9.56%
Na 589.592†	123896.0	9.318	mg/L	0.1023	9.318	mg/L	0.1023	1.10%
Na 330.237†	329.5	10.55	mg/L	0.252	10.55	mg/L	0.252	2.39%
Ni 231.604†	2302.1	0.4658	mg/L	0.01057	0.4658	mg/L	0.01057	2.27%
Pb 220.353†	24152.1	1.947	mg/L	0.0286	1.947	mg/L	0.0286	1.47%
Sb 206.836†	36.2	0.00436	mg/L	0.000423	0.00436	mg/L	0.000423	9.72%
Se 196.026†	3622.3	1.933	mg/L	0.0183	1.933	mg/L	0.0183	0.95%
Si 288.158†	95.0	0.04462	mg/L	0.015330	0.04462	mg/L	0.015330	34.36%
Sn 189.927†	-7.1	-0.00058	mg/L	0.000124	-0.00058	mg/L	0.000124	21.26%
Sr 421.552†	414664.4	0.4796	mg/L	0.00298	0.4796	mg/L	0.00298	0.62%
Ti 334.903†	13.0	-0.00002	mg/L	0.000102	-0.00002	mg/L	0.000102	422.93%
Tl 190.801†	5139.4	1.956	mg/L	0.0179	1.956	mg/L	0.0179	0.92%
V 292.402†	94635.4	0.5196	mg/L	0.00763	0.5196	mg/L	0.00763	1.47%
Zn 206.200†	1387.9	0.4753	mg/L	0.00907	0.4753	mg/L	0.00907	1.91%

Sequence No.: 33
Sample ID: CRI

Autosampler Location: 301
Date Collected: 5/9/2012 2:09:17 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CRI

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CRI

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2499409.2	96.44	%	0.485				0.50%
ScR 361.383	377569.5	97.43	%	0.464				0.48%
Ag 328.068†	833.9	0.00297	mg/L	0.000072	0.00297	mg/L	0.000072	2.44%
Al 308.215†	93.1	0.05751	mg/L	0.003910	0.05751	mg/L	0.003910	6.80%
As 188.979†	113.3	0.04622	mg/L	0.001474	0.04622	mg/L	0.001474	3.19%
B 249.677†	124.6	0.01936	mg/L	0.001160	0.01936	mg/L	0.001160	5.99%
Ba 233.527†	26.0	0.00308	mg/L	0.000184	0.00308	mg/L	0.000184	5.99%
Be 313.042†	766.6	0.00102	mg/L	0.000050	0.00102	mg/L	0.000050	4.91%
Ca 317.933†	520.8	0.04935	mg/L	0.001675	0.04935	mg/L	0.001675	3.39%
Cd 228.802†	83.7	0.00255	mg/L	0.000067	0.00255	mg/L	0.000067	2.62%
Co 228.616†	120.9	0.00302	mg/L	0.000106	0.00302	mg/L	0.000106	3.51%
Cr 267.716†	44.1	0.00514	mg/L	0.001108	0.00514	mg/L	0.001108	21.58%
Cu 324.752†	536.7	0.00239	mg/L	0.000056	0.00239	mg/L	0.000056	2.34%
Fe 273.955†	68.9	0.04763	mg/L	0.000293	0.04763	mg/L	0.000293	0.61%
K 766.490†	1036.7	0.4498	mg/L	0.02635	0.4498	mg/L	0.02635	5.86%
Mg 279.077†	64.5	0.04983	mg/L	0.003883	0.04983	mg/L	0.003883	7.79%
Mn 257.610†	53.8	0.00099	mg/L	0.000090	0.00099	mg/L	0.000090	9.15%
Mo 202.031†	105.1	0.00473	mg/L	0.000152	0.00473	mg/L	0.000152	3.22%
Na 589.592†	3473.5	0.2612	mg/L	0.00711	0.2612	mg/L	0.00711	2.72%
Na 330.237†	25.3	0.8232	mg/L	0.30516	0.8232	mg/L	0.30516	37.07%
Ni 231.604†	47.9	0.00973	mg/L	0.001062	0.00973	mg/L	0.001062	10.91%
Pb 220.353†	239.6	0.01932	mg/L	0.000818	0.01932	mg/L	0.000818	4.23%
Sb 206.836†	192.3	0.05054	mg/L	0.001500	0.05054	mg/L	0.001500	2.97%
Se 196.026†	82.9	0.04428	mg/L	0.003593	0.04428	mg/L	0.003593	8.11%
Si 288.158†	173.7	0.07797	mg/L	0.010820	0.07797	mg/L	0.010820	13.88%
Sn 189.927†	69.5	0.00934	mg/L	0.000617	0.00934	mg/L	0.000617	6.61%
Sr 421.552†	823.5	0.00095	mg/L	0.000040	0.00095	mg/L	0.000040	4.19%
Ti 334.903†	137.7	0.00463	mg/L	0.000398	0.00463	mg/L	0.000398	8.60%
Tl 190.801†	127.2	0.04849	mg/L	0.000480	0.04849	mg/L	0.000480	0.99%
V 292.402†	559.5	0.00308	mg/L	0.000125	0.00308	mg/L	0.000125	4.05%
Zn 206.200†	27.6	0.00945	mg/L	0.000210	0.00945	mg/L	0.000210	2.22%

Sequence No.: 34
Sample ID: ICSA

Autosampler Location: 302
Date Collected: 5/9/2012 2:13:35 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2434265.8	93.93	%	0.716				0.76%
ScR 361.383	369981.6	95.48	%	0.746				0.78%
Ag 328.068†	-241.8	-0.00150	mg/L	0.000015	-0.00150	mg/L	0.000015	1.03%
Al 308.215†	314305.4	194.6	mg/L	0.57	194.6	mg/L	0.57	0.29%
As 188.979†	3.1	-0.01418	mg/L	0.001607	-0.01418	mg/L	0.001607	11.33%
B 249.677†	28.7	0.00446	mg/L	0.002653	0.00446	mg/L	0.002653	59.52%
Ba 233.527†	106.8	0.00293	mg/L	0.000173	0.00293	mg/L	0.000173	5.91%
Be 313.042†	125.1	0.00015	mg/L	0.000020	0.00015	mg/L	0.000020	13.92%
Ca 317.933†	1021637.4	96.81	mg/L	0.514	96.81	mg/L	0.514	0.53%
Cd 228.802†	80.4	0.00078	mg/L	0.000055	0.00078	mg/L	0.000055	7.00%
Co 228.616†	96.5	0.00241	mg/L	0.000178	0.00241	mg/L	0.000178	7.37%
Cr 267.716†	-26.9	-0.00052	mg/L	0.001915	-0.00052	mg/L	0.001915	371.22%
Cu 324.752†	-3569.3	-0.00269	mg/L	0.000117	-0.00269	mg/L	0.000117	4.36%
Fe 273.955†	275526.1	190.6	mg/L	0.59	190.6	mg/L	0.59	0.31%
K 766.490†	6.3	0.00272	mg/L	0.015929	0.00272	mg/L	0.015929	585.54%
Mg 279.077†	127474.2	98.40	mg/L	0.385	98.40	mg/L	0.385	0.39%
Mn 257.610†	50.6	0.00005	mg/L	0.000084	0.00005	mg/L	0.000084	155.69%
Mo 202.031†	140.6	0.00469	mg/L	0.000326	0.00469	mg/L	0.000326	6.94%
Na 589.592†	-2208.5	-0.1661	mg/L	0.00090	-0.1661	mg/L	0.00090	0.54%
Na 330.237†	24.1	0.1573	mg/L	0.10688	0.1573	mg/L	0.10688	67.97%
Ni 231.604†	-3.7	-0.00064	mg/L	0.000886	-0.00064	mg/L	0.000886	137.86%
Pb 220.353†	-253.8	-0.00596	mg/L	0.001490	-0.00596	mg/L	0.001490	25.00%
Sb 206.836†	384.7	0.01552	mg/L	0.003434	0.01552	mg/L	0.003434	22.13%
Se 196.026†	-18.1	0.01222	mg/L	0.002332	0.01222	mg/L	0.002332	19.09%
Si 288.158†	7.1	0.00321	mg/L	0.009503	0.00321	mg/L	0.009503	295.68%
Sn 189.927†	-109.3	-0.01172	mg/L	0.000387	-0.01172	mg/L	0.000387	3.30%
Sr 421.552†	8252.7	0.00955	mg/L	0.000028	0.00955	mg/L	0.000028	0.29%
Ti 334.903†	98.2	-0.00007	mg/L	0.000104	-0.00007	mg/L	0.000104	140.64%
Tl 190.801†	-35.4	0.01158	mg/L	0.000509	0.01158	mg/L	0.000509	4.40%
V 292.402†	5671.1	0.00799	mg/L	0.000183	0.00799	mg/L	0.000183	2.29%
Zn 206.200†	-38.5	-0.00600	mg/L	0.001535	-0.00600	mg/L	0.001535	25.57%

Sequence No.: 35
Sample ID: ICSAB

Autosampler Location: 303
Date Collected: 5/9/2012 2:17:33 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2417169.7	93.27	%	0.647				0.69%
ScR 361.383	369270.1	95.29	%	1.110				1.17%
Ag 328.068†	280481.6	0.9985	mg/L	0.00326	0.9985	mg/L	0.00326	0.33%
Al 308.215†	317015.1	196.3	mg/L	2.10	196.3	mg/L	2.10	1.07%
As 188.979†	2349.8	0.9428	mg/L	0.00942	0.9428	mg/L	0.00942	1.00%
B 249.677†	45.1	0.00424	mg/L	0.001249	0.00424	mg/L	0.001249	29.45%
Ba 233.527†	8639.5	1.013	mg/L	0.0146	1.013	mg/L	0.0146	1.44%
Be 313.042†	705552.2	0.9376	mg/L	0.01093	0.9376	mg/L	0.01093	1.17%
Ca 317.933†	1037314.9	98.29	mg/L	0.511	98.29	mg/L	0.511	0.52%
Cd 228.802†	32247.1	1.035	mg/L	0.0035	1.035	mg/L	0.0035	0.34%
Co 228.616†	37990.7	0.9504	mg/L	0.00060	0.9504	mg/L	0.00060	0.06%
Cr 267.716†	8711.3	1.017	mg/L	0.0138	1.017	mg/L	0.0138	1.35%
Cu 324.752†	228103.5	1.031	mg/L	0.0061	1.031	mg/L	0.0061	0.59%
Fe 273.955†	278884.6	192.9	mg/L	1.97	192.9	mg/L	1.97	1.02%
K 766.490†	-40.2	-0.01745	mg/L	0.006964	-0.01745	mg/L	0.006964	39.91%
Mg 279.077†	123978.8	95.70	mg/L	0.755	95.70	mg/L	0.755	0.79%
Mn 257.610†	52761.4	0.9624	mg/L	0.01022	0.9624	mg/L	0.01022	1.06%
Mo 202.031†	137.7	0.00454	mg/L	0.000427	0.00454	mg/L	0.000427	9.42%
Na 589.592†	-2307.3	-0.1735	mg/L	0.00155	-0.1735	mg/L	0.00155	0.89%
Na 330.237†	33.2	0.2444	mg/L	0.21380	0.2444	mg/L	0.21380	87.48%
Ni 231.604†	4504.5	0.9123	mg/L	0.01283	0.9123	mg/L	0.01283	1.41%
Pb 220.353†	11490.3	0.9414	mg/L	0.00673	0.9414	mg/L	0.00673	0.72%
Sb 206.836†	3843.3	0.9152	mg/L	0.01094	0.9152	mg/L	0.01094	1.19%
Se 196.026†	1769.8	0.9661	mg/L	0.00821	0.9661	mg/L	0.00821	0.85%
Si 288.158†	-23.6	-0.00670	mg/L	0.002313	-0.00670	mg/L	0.002313	34.51%
Sn 189.927†	-115.6	-0.01184	mg/L	0.001388	-0.01184	mg/L	0.001388	11.73%
Sr 421.552†	8278.6	0.00958	mg/L	0.000106	0.00958	mg/L	0.000106	1.11%
Ti 334.903†	103.3	-0.00018	mg/L	0.000316	-0.00018	mg/L	0.000316	174.87%
Tl 190.801†	2339.1	0.9123	mg/L	0.01092	0.9123	mg/L	0.01092	1.20%
V 292.402†	184048.2	0.9877	mg/L	0.00648	0.9877	mg/L	0.00648	0.66%
Zn 206.200†	2609.2	0.9004	mg/L	0.01379	0.9004	mg/L	0.01379	1.53%

Sequence No.: 36
Sample ID: CV2

Autosampler Location: 7
Date Collected: 5/9/2012 2:22:21 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CV

Analyte	Back Pressure	Flow
All	211.0 kPa	0.75 L/min

Mean Data: CV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
ScA 357.253	2486194.6	95.93	%	0.333				0.35%
ScR 361.383	369763.3	95.42	%	1.648				1.73%
Ag 328.068†	276418.5	0.9846	mg/L	0.00468	0.9846	mg/L	0.00468	0.48%
Al 308.215†	3212.6	1.960	mg/L	0.0332	1.960	mg/L	0.0332	1.69%
As 188.979†	4628.8	1.893	mg/L	0.0125	1.893	mg/L	0.0125	0.66%
B 249.677†	6189.7	0.9602	mg/L	0.01763	0.9602	mg/L	0.01763	1.84%
Ba 233.527†	8505.9	1.007	mg/L	0.0166	1.007	mg/L	0.0166	1.65%
Be 313.042†	686663.9	0.9124	mg/L	0.00658	0.9124	mg/L	0.00658	0.72%
Ca 317.933†	21100.2	1.999	mg/L	0.0317	1.999	mg/L	0.0317	1.58%
Cd 228.802†	31976.8	1.025	mg/L	0.0094	1.025	mg/L	0.0094	0.92%
Co 228.616†	39268.9	0.9810	mg/L	0.00409	0.9810	mg/L	0.00409	0.42%
Cr 267.716†	8696.4	1.012	mg/L	0.0165	1.012	mg/L	0.0165	1.63%
Cu 324.752†	227728.4	1.015	mg/L	0.0032	1.015	mg/L	0.0032	0.32%
Fe 273.955†	2844.5	1.963	mg/L	0.0292	1.963	mg/L	0.0292	1.49%
K 766.490†	45650.7	19.80	mg/L	0.179	19.80	mg/L	0.179	0.91%
Mg 279.077†	2528.0	1.959	mg/L	0.0357	1.959	mg/L	0.0357	1.82%
Mn 257.610†	53050.2	0.9688	mg/L	0.00719	0.9688	mg/L	0.00719	0.74%
Mo 202.031†	20689.3	0.9322	mg/L	0.00397	0.9322	mg/L	0.00397	0.43%
Na 589.592†	626606.7	47.12	mg/L	0.486	47.12	mg/L	0.486	1.03%
Na 330.237†	1567.8	51.05	mg/L	0.723	51.05	mg/L	0.723	1.42%
Ni 231.604†	4639.6	0.9406	mg/L	0.01640	0.9406	mg/L	0.01640	1.74%
Pb 220.353†	23445.4	1.891	mg/L	0.0085	1.891	mg/L	0.0085	0.45%
Sb 206.836†	7469.1	1.962	mg/L	0.0143	1.962	mg/L	0.0143	0.73%
Se 196.026†	3519.3	1.878	mg/L	0.0176	1.878	mg/L	0.0176	0.94%
Si 288.158†	4522.0	2.033	mg/L	0.0587	2.033	mg/L	0.0587	2.89%
Sn 189.927†	7128.8	0.9555	mg/L	0.00555	0.9555	mg/L	0.00555	0.58%
Sr 421.552†	821154.6	0.9498	mg/L	0.00727	0.9498	mg/L	0.00727	0.77%
Ti 334.903†	28067.5	0.9436	mg/L	0.00662	0.9436	mg/L	0.00662	0.70%
Tl 190.801†	4960.0	1.889	mg/L	0.0113	1.889	mg/L	0.0113	0.60%
V 292.402†	184078.9	1.011	mg/L	0.0033	1.011	mg/L	0.0033	0.33%
Zn 206.200†	2846.9	0.9745	mg/L	0.01517	0.9745	mg/L	0.01517	1.56%

Sequence No.: 37
Sample ID: CB

Autosampler Location: 1
Date Collected: 5/9/2012 2:26:22 PM
Data Type: Original

Dilution: 1X

Nebulizer Parameters: CB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.75 L/min

Mean Data: CB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
ScA 357.253	2484015.3	95.85	%	0.563				0.59%
ScR 361.383	370323.6	95.56	%	0.736				0.77%
Ag 328.068†	-0.3	0.00000	mg/L	0.000084	0.00000	mg/L	0.000084	>999.9%
Al 308.215†	16.8	0.01041	mg/L	0.000299	0.01041	mg/L	0.000299	2.87%
As 188.979†	-5.0	-0.00205	mg/L	0.000926	-0.00205	mg/L	0.000926	45.08%
B 249.677†	13.2	0.00205	mg/L	0.000713	0.00205	mg/L	0.000713	34.74%
Ba 233.527†	1.7	0.00020	mg/L	0.000602	0.00020	mg/L	0.000602	300.58%
Be 313.042†	120.8	0.00016	mg/L	0.000033	0.00016	mg/L	0.000033	20.57%
Ca 317.933†	32.8	0.00311	mg/L	0.001610	0.00311	mg/L	0.001610	51.82%
Cd 228.802†	7.7	0.00026	mg/L	0.000082	0.00026	mg/L	0.000082	31.83%
Co 228.616†	-3.6	-0.00009	mg/L	0.000125	-0.00009	mg/L	0.000125	139.60%
Cr 267.716†	-5.3	-0.00062	mg/L	0.000600	-0.00062	mg/L	0.000600	97.17%
Cu 324.752†	102.5	0.00046	mg/L	0.000039	0.00046	mg/L	0.000039	8.62%
Fe 273.955†	1.2	0.00081	mg/L	0.001261	0.00081	mg/L	0.001261	156.45%
K 766.490†	-58.8	-0.02552	mg/L	0.007551	-0.02552	mg/L	0.007551	29.59%
Mg 279.077†	-2.2	-0.00171	mg/L	0.001658	-0.00171	mg/L	0.001658	97.24%
Mn 257.610†	0.9	0.00002	mg/L	0.000093	0.00002	mg/L	0.000093	558.74%
Mo 202.031†	11.4	0.00051	mg/L	0.000183	0.00051	mg/L	0.000183	35.76%
Na 589.592†	-2610.0	-0.1963	mg/L	0.00655	-0.1963	mg/L	0.00655	3.34%
Na 330.237†	-1.5	-0.04844	mg/L	0.457444	-0.04844	mg/L	0.457444	944.37%
Ni 231.604†	-3.0	-0.00060	mg/L	0.000574	-0.00060	mg/L	0.000574	96.10%
Pb 220.353†	-0.1	-0.00001	mg/L	0.001012	-0.00001	mg/L	0.001012	>999.9%
Sb 206.836†	24.4	0.00642	mg/L	0.000717	0.00642	mg/L	0.000717	11.16%
Se 196.026†	-1.2	-0.00062	mg/L	0.000352	-0.00062	mg/L	0.000352	56.53%
Si 288.158†	20.6	0.00926	mg/L	0.004048	0.00926	mg/L	0.004048	43.72%
Sn 189.927†	7.4	0.00100	mg/L	0.000271	0.00100	mg/L	0.000271	27.25%
Sr 421.552†	2.7	0.00000	mg/L	0.000017	0.00000	mg/L	0.000017	541.01%
Ti 334.903†	-3.2	-0.00011	mg/L	0.000290	-0.00011	mg/L	0.000290	266.71%
Tl 190.801†	-0.6	-0.00023	mg/L	0.000283	-0.00023	mg/L	0.000283	120.34%
V 292.402†	25.1	0.00014	mg/L	0.000208	0.00014	mg/L	0.000208	153.88%
Zn 206.200†	-1.7	-0.00059	mg/L	0.001029	-0.00059	mg/L	0.001029	174.04%

Analytical Resources, Incorporated
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ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 5/8/12 Analyst: JB Page: 1 of 4

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		STD0			2924-5
		0			↓
		1			2923-6
		2			2931-4
		3			6 -03
		4			2923-4
		5			2921-7
		RinseSample			r ≥ 0.9997
		SO			
		ICV			2930-2
		ICB			
		CCV1			
		CCB1			
		LowCheck		✓	
		ICSA			
		ICSAB			5% Cl 2% Ca Ni Eu%
		B1			
		B2			
		CCV2			
		CCB2			
		V527 E-L	REN	100 ✓	AS
		E		20	
		EDUP		✓	
		EGJK			1762 STL

US52 : 00652

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 5.8.12 **Analyst:** JB **Page:** 3 of 4

All corrections made by analyst unless otherwise noted. 5.8.12 JB

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		US27A	REN	40	Ag
		D		20	
		G		40	
		I		20	
		LR200			
		~~BB~~ BB			
		CCV3			
		CCB3			
		US27 H-L	REN	10	Be, Cr, Pb
		H		2	
		HDUP			
✓		Hspk			rerun
		J-L		10	Cr Cu, Zn, Ag
		J		2	
		JDUP			
		Jspk			CAF Ag low
		CCV4			Ni high, Cu high 5.10.12 JB
		CCB4			Cu high
		US27 J-L	REN	100	Ag
		J		20	
		JDUP			
		Jspk			Ag STL 96.3%
		LR300			Zn, Ag low
		D4			

Analytical Resources, Incorporated
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ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 5·8·12 **Analyst:** JMB **Page:** 3 of 4

All corrections made by analyst unless otherwise noted. 5-9-12 JMB

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		BS			
		U527 HSDK	REN	2 ✓	Cr Fe Pb
CCB5		CCB5 ~~CCV5~~			^{62}Ni high vs Cu high
CCV5		CCV5 ~~CCB5~~			^{62}Ni high
		U561 MB1	REN	2	rr Cu
		MB2			rr Cu
		~~MB2DUP~~			
		~~MB2SDK~~			
		A			
		B			
		C			
		H			
		I			
		J			
		CCV6			
		~~CCB6~~ CCV6			^{62}Ni high
		U561 D-L	REN	10	
		D		2	
		DDUP			
		~~DSDK~~		✓	
Z		~~DDUP~~			
		G-L		10	
		G		2	
		GDUP		2 ✓	

US52 : 00554

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 5.8.12 **Analyst:** JB **Page:** 4 of 4

All corrections made by analyst unless otherwise noted. 5.9.12 JB

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		VSTD1 ~~CCB2~~	REN	2	
Z		↓ ~~CRA2~~	↓	↓	
		CCV7			62 Ni high
		CCB7			
		Rinse/DI			

ANALYTICAL RESOURCES INCORPORATED

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA **Analysis Date:** 5.8.17

MS	Analyst BG 11.12	Peer MS 11	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	—	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	—	
Curve fit	✓	—	
Calibration Verification:			
ICV/CCV	✓	✓	A.N (CV, CB5 rerun)
ICB/CCB	✓	—	↓ see log
Samples:			
RSD's & SD's	✓	—	
Internal Standards	✓	✓	
Carry-over	✓	—	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	
Post Spikes/Serial Dilutions	✓	✓	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	
Matrix Duplicates	✓	✓	VG61 CAF
Method Blanks	✓	✓	
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAFs	✓	✓	A.N, CAF

US52 00655

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ariSTDaily+torch.swz

Optimization Status

Start Time: 5/8/2012 11:16:02 AM

Daily Performance Check

Optimization Settings:

Method: C:\NexIONData\Method\Daily Performancenew.mth.
Intensity Criterion: Be 9.0122 > 3000
Intensity Criterion: Mg 23.985 > 20000
Intensity Criterion: In 114.904 > 50000
Intensity Criterion: Pb 207.977 > 20000
Intensity Criterion: U 238.05 > 40000
Intensity Criterion: Bkgd 220 <= 5
Formula Criterion: CeO 155.9 / Ce 139.905 <= 0.025
Formula Criterion: Ce++ 69.9527 / Ce 139.905 <= 0.03

Optimization Results:

Initial Try

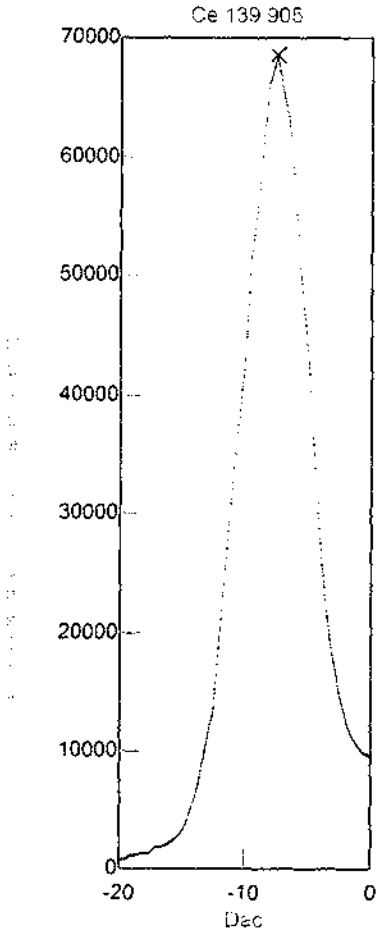
Obtained Intensity (Be 9.0122): 5763.86
Obtained Intensity (Mg 23.985): 42361.90
Obtained Intensity (In 114.904): 63414.18
Obtained Intensity (Pb 207.977): 23270.05
Obtained Intensity (U 238.05): 41428.06
Obtained Intensity (Bkgd 220): 0.00
Obtained Formula (CeO 155.9 / Ce 139.905): 0.020 (=1242.49 / 61916.47)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.013 (=825.37 / 61916.47)

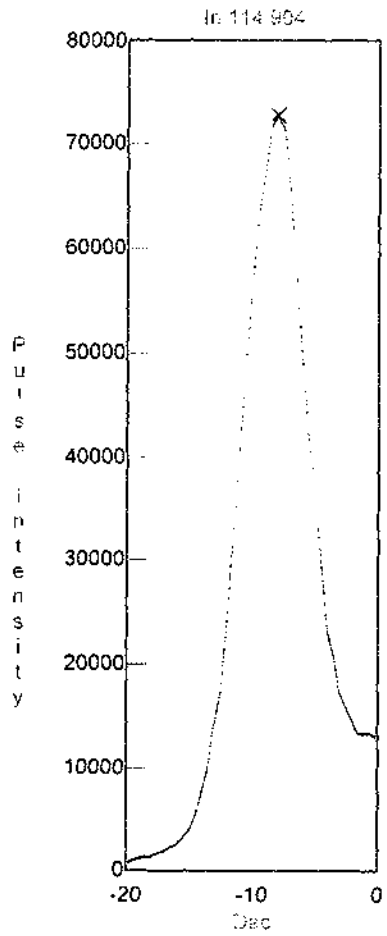
[Passed] Optimum value(s): N/A

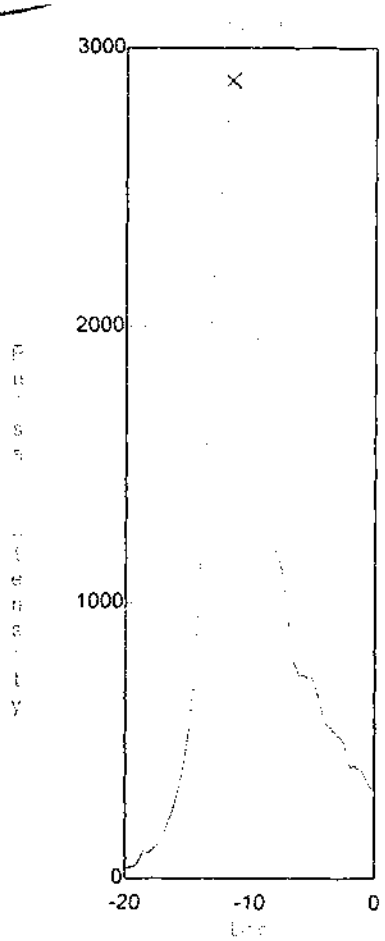
End Time: 5/8/2012 11:18:37 AM

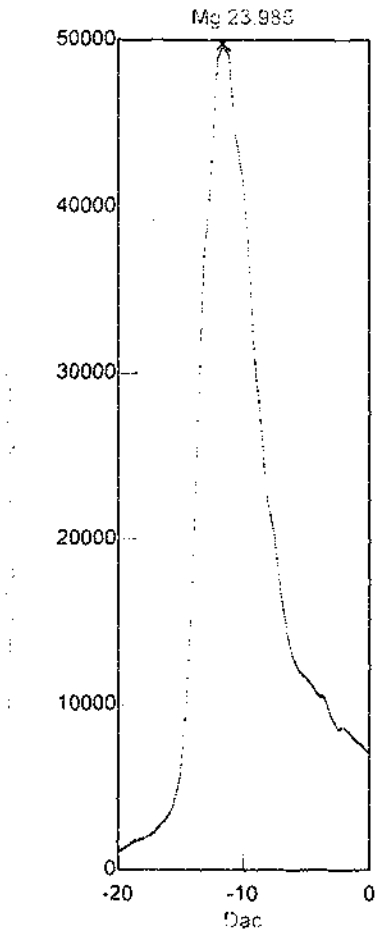
US52 : 00657

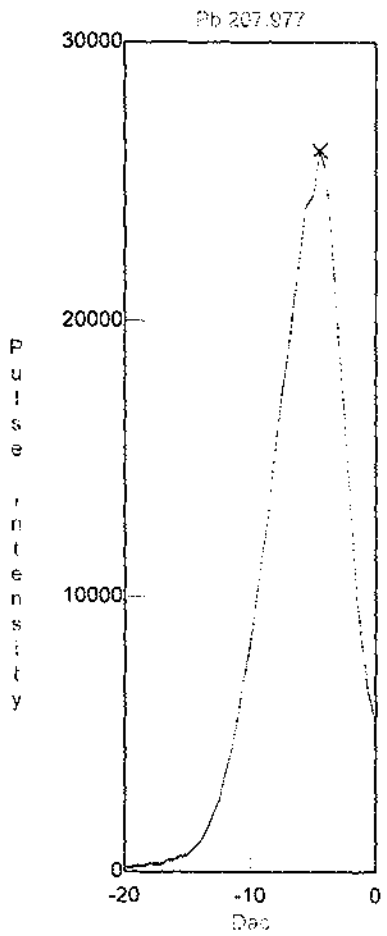
5.8.12

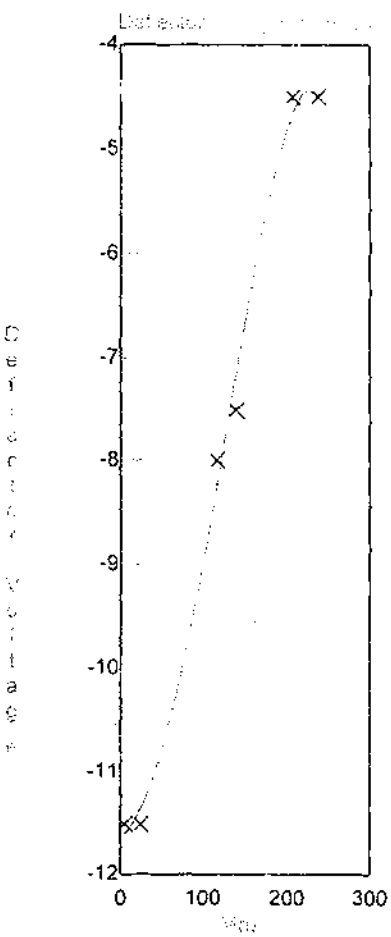












US52:00658

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ariSTDaily+torch.swz

Start Time: 5/8/2012 11:05:11 AM
End Time: 5/8/2012 11:09:23 AM

AutoLens STD/DRC - [Passed] Optimum value(s): Correlation Coefficient = 0.995; Intercept = -11.63

US52 : 00659

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ariSTDaily+torch.swz

Start Time: 5/8/2012 11:02:45 AM
End Time: 5/8/2012 11:04:57 AM

Mass Calibration and Resolution - [Passed] Optimum value(s): N/A
Target/Obtained mass (7.016/6.975), Target/Obtained resolution (0.7/0.702)
Target/Obtained mass (23.985/23.975), Target/Obtained resolution (0.7/0.693)
Target/Obtained mass (114.904/114.875), Target/Obtained resolution (0.7/0.701)
Target/Obtained mass (238.05/238.075), Target/Obtained resolution (0.7/0.686)

US52 : 00660

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ariSTDaily+torch.swz

Start Time: 5/8/2012 11:01:50 AM
End Time: 5/8/2012 11:02:37 AM

Torch Alignment - [Passed]

Vertical	Horizontal	Intensity
1.08 mm	-0.67 mm	74048.54

US52 : 00661

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ariSTDaily+torch.swz

Start Time: 5/8/2012 10:57:01 AM
End Time: 5/8/2012 10:59:37 AM

Daily Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9.0122): 5893.55
Obtained Intensity (Mg 23.985): 41696.80
Obtained Intensity (In 114.904): 61211.46
Obtained Intensity (Pb 207.977): 23929.44
Obtained Intensity (U 238.05): 43155.79
Obtained Intensity (Bkgd 220): 0.00
Obtained Formula (CeO 155.9 / Ce 139.905): 0.016 (=1027.00 / 63376.08)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.013 (=848.84 / 63376.08)

US52 : 00662

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Rinse sample
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 11:49:14
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120507.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			0	1525866	0
	Be	9		ug/L			0	7	32
	C	13		ug/L			0	83373	1
	Cl	37		ug/L			0	4051181	1
>	Sc	45		ug/L			0	1154765	1
	V	51		ug/L			0	5926	3
	V-1	51		ug/L			0	85	11
	Cr	52		ug/L			0	17493	3
	Cr	53		ug/L			0	109	2
	Mn	55		ug/L			0	476	7
	Co	59		ug/L			0	42	11
>	Ge	72		ug/L			0	465529	1
	Ni	60		ug/L			0	20	10
	Ni	62		ug/L			0	1100	2
	Cu	63		ug/L			0	879	4
	Cu	65		ug/L			0	45	12
	Zn	66		ug/L			0	198	5
	Zn	67		ug/L			0	28	25
	Zn	68		ug/L			0	186	2
	As	75		ug/L			0	1362	3
	As-1	75		ug/L			0	7360	0
	Se	82		ug/L			0	-3	173
	Se	78		ug/L			0	7445	0
	Mo	98		ug/L			0	12	26
	Y	89		ug/L			0	349617	1
	Kr	83		ug/L			0	1868	1
>	In	115		ug/L			0	791401	0
	Ag	107		ug/L			0	13	22
	Cd	111		ug/L			0	43	31
	Cd	114		ug/L			0	22	11
	Sb	121		ug/L			0	39	14
	Sb	123		ug/L			0	22	34
	Ba	135		ug/L			0	18	15
	Ba	137		ug/L			0	36	13
>	Tb	159		ug/L			0	884912	0
	Tl	205		ug/L			0	21	29
	Pb	208		ug/L			0	137	4
	Bi	209		ug/L			0	1744082	1
	Th	232		ug/L			0	35	24
	U	238		ug/L			0	5	39

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 12:07:10
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120507.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L				1491153	2
	Be	9		ug/L				5	20
	C	13		ug/L				81102	0
	Cl	37		ug/L				4019798	2
>	Sc	45		ug/L				1140960	1
	V	51		ug/L				6017	1
	V-1	51		ug/L				85	5
	Cr	52		ug/L				17749	1
	Cr	53		ug/L				108	3
	Mn	55		ug/L				497	1
	Co	59		ug/L				39	13
>	Ge	72		ug/L				458765	0
	Ni	60		ug/L				19	2
	Ni	62		ug/L				953	1
	Cu	63		ug/L				745	1
	Cu	65		ug/L				38	5
	Zn	66		ug/L				183	13
	Zn	67		ug/L				29	21
	Zn	68		ug/L				170	3
	As	75		ug/L				1381	4
	As-1	75		ug/L				7215	0
	Se	82		ug/L				7	219
	Se	78		ug/L				7289	0
	Mo	98		ug/L				12	32
	Y	89		ug/L				339420	1
	Kr	83		ug/L				1843	1
>	In	115		ug/L				778052	0
	Ag	107		ug/L				12	29
	Cd	111		ug/L				44	7
	Cd	114		ug/L				22	17
	Sb	121		ug/L				37	10
	Sb	123		ug/L				29	39
	Ba	135		ug/L				21	10
	Ba	137		ug/L				32	21
>	Tb	159		ug/L				874820	1
	Tl	205		ug/L				14	21
	Pb	208		ug/L				122	7
	Bi	209		ug/L				1711035	0
	Th	232		ug/L				25	28
	U	238		ug/L				3	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 1
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 12:11:19
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120507.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1491153	1517732	1
	Be	9	0.200	ug/L	0.016	8	5	936	6
	C	13		ug/L			81102	85036	2
	Cl	37		ug/L			4019798	4120109	2
>	Sc	45		ug/L			1140960	1143450	1
	V	51	0.200	ug/L	0.012	6	6017	9776	2
	V-1	51	0.200	ug/L	0.003	1	85	4220	1
	Cr	52	0.500	ug/L	0.027	5	17749	25696	1
	Cr	53	0.500	ug/L	0.022	4	108	1126	3
	Mn	55	0.500	ug/L	0.010	1	497	12035	0
	Co	59	0.200	ug/L	0.009	4	39	3215	2
>	Ge	72		ug/L			458765	456301	0
	Ni	60	0.500	ug/L	0.003	0	19	1699	1
	Ni	62	0.500	ug/L	0.152	30	953	1130	4
	Cu	63	0.500	ug/L	0.005	0	745	4481	1
	Cu	65	0.500	ug/L	0.008	1	38	1686	2
	Zn	66	4.000	ug/L	0.095	2	183	9678	1
	Zn	67	4.000	ug/L	0.240	6	29	1462	5
	Zn	68	4.000	ug/L	0.068	1	170	6610	2
	As	75	0.200	ug/L	0.020	9	1381	1703	2
	As-1	75	0.200	ug/L	0.031	15	7215	7595	0
	Se	82	0.500	ug/L	0.069	13	7	80	13
	Se	78	0.500	ug/L	0.097	19	7289	7552	0
	Mo	98	0.200	ug/L	0.005	2	12	818	2
	Y	89		ug/L			339420	342606	1
	Kr	83		ug/L			1843	1866	3
>	In	115		ug/L			778052	781200	1
	Ag	107	0.200	ug/L	0.002	0	12	1536	1
	Cd	111	0.100	ug/L	0.005	4	44	439	3
	Cd	114	0.100	ug/L	0.003	2	22	1035	3
	Sb	121	0.200	ug/L	0.004	1	37	2339	2
	Sb	123	0.200	ug/L	0.007	3	29	1747	3
	Ba	135	0.500	ug/L	0.007	1	21	2094	1
	Ba	137	0.500	ug/L	0.017	3	32	3532	3
>	Tb	159		ug/L			874820	878125	0
	Tl	205	0.200	ug/L	0.001	0	14	5154	0
	Pb	208	0.100	ug/L	0.002	1	122	4258	1
	Bi	209		ug/L			1711035	1705897	2
	Th	232	0.200	ug/L	0.005	2	25	5305	2
	U	238	0.200	ug/L	0.003	1	3	6669	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 2
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 12:15:29
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120507.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1491153	1513066	1
[	Be	9	10.000	ug/L	0.249	2	5	46592	1
	C	13		ug/L			81102	90000	1
	Cl	37		ug/L			4019798	4183612	5
[>	Sc	45		ug/L			1140960	1156576	1
[	V	51	10.000	ug/L	0.342	3	6017	216707	2
[	V-1	51	10.000	ug/L	0.305	3	85	210674	1
[	Cr	52	10.002	ug/L	0.431	4	17749	190044	2
[	Cr	53	9.999	ug/L	0.291	2	108	19545	1
[	Mn	55	10.000	ug/L	0.313	3	497	235464	2
[	Co	59	10.000	ug/L	0.161	1	39	159439	0
[>	Ge	72		ug/L			458765	477012	0
[	Ni	60	9.999	ug/L	0.064	0	19	33571	0
[	Ni	62	10.004	ug/L	0.083	0	953	5607	0
[	Cu	63	9.998	ug/L	0.297	2	745	74160	3
[	Cu	65	9.998	ug/L	0.043	0	38	32412	0
[	Zn	66	9.647	ug/L	0.113	1	183	19803	1
[	Zn	67	9.772	ug/L	0.091	0	29	3235	1
[	Zn	68	9.699	ug/L	0.280	2	170	13921	2
[	As	75	10.000	ug/L	0.098	0	1381	17842	0
[	As-1	75	9.998	ug/L	0.041	0	7215	23135	0
[	Se	82	10.006	ug/L	0.255	2	7	2043	2
[	Se	78	9.989	ug/L	0.182	1	7289	11932	0
[	Mo	98	10.000	ug/L	0.141	1	12	41794	1
	Y	89		ug/L			339420	353956	0
	Kr	83		ug/L			1843	1854	1
[>	In	115		ug/L			778052	796426	1
[	Ag	107	10.000	ug/L	0.382	3	12	74073	2
[	Cd	111	10.000	ug/L	0.166	1	44	39470	0
[	Cd	114	10.000	ug/L	0.204	2	22	99827	2
[	Sb	121	10.000	ug/L	0.146	1	37	119214	2
[	Sb	123	10.000	ug/L	0.081	0	29	89521	0
[	Ba	135	9.995	ug/L	0.258	2	21	35372	2
[	Ba	137	9.995	ug/L	0.110	1	32	60053	0
[>	Tb	159		ug/L			874820	901542	0
[	Tl	205	10.000	ug/L	0.101	1	14	260521	0
[	Pb	208	10.000	ug/L	0.021	0	122	346159	0
[	Bi	209		ug/L			1711035	1730831	0
[	Th	232	10.000	ug/L	0.264	2	25	304125	2
[	U	238	10.000	ug/L	0.146	1	3	329822	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 3
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 12:19:51
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120507.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1491153	1520983	0
[	Be	9	19.976	ug/L	0.239	1	5	93146	1
	C	13		ug/L			81102	86489	1
	Cl	37		ug/L			4019798	4442621	0
[>	Sc	45		ug/L			1140960	1167714	1
|	V	51	19.979	ug/L	0.233	1	6017	429278	1
|	V-1	51	20.004	ug/L	0.254	1	85	425781	1
|	Cr	52	19.925	ug/L	0.135	0	17749	359168	1
|	Cr	53	20.011	ug/L	0.499	2	108	39467	0
|	Mn	55	19.968	ug/L	0.418	2	497	471244	1
[	Co	59	19.924	ug/L	0.382	1	39	315902	1
[>	Ge	72		ug/L			458765	466067	1
|	Ni	60	20.081	ug/L	0.218	1	19	66937	2
|	Ni	62	20.056	ug/L	0.422	2	953	10110	0
|	Cu	63	20.057	ug/L	0.510	2	745	146215	1
|	Cu	65	19.936	ug/L	0.268	1	38	62307	0
|	Zn	66	19.930	ug/L	0.363	1	183	39302	2
|	Zn	67	20.040	ug/L	0.244	1	29	6495	0
|	Zn	68	19.907	ug/L	0.399	2	170	27302	2
|	As	75	20.067	ug/L	0.286	1	1381	34006	0
|	As-1	75	20.097	ug/L	0.338	1	7215	38634	0
|	Se	82	20.072	ug/L	0.377	1	7	4056	1
|	Se	78	20.212	ug/L	0.441	2	7289	16389	0
[	Mo	98	20.062	ug/L	0.421	2	12	82934	1
	Y	89		ug/L			339420	346697	1
	Kr	83		ug/L			1843	1864	1
[>	In	115		ug/L			778052	796371	2
|	Ag	107	19.969	ug/L	0.493	2	12	147001	0
|	Cd	111	20.001	ug/L	0.448	2	44	78905	0
|	Cd	114	19.968	ug/L	0.716	3	22	197934	1
|	Sb	121	20.047	ug/L	0.436	2	37	241108	0
|	Sb	123	19.980	ug/L	0.562	2	29	178042	0
|	Ba	135	19.984	ug/L	0.468	2	21	70460	0
[	Ba	137	20.029	ug/L	0.524	2	32	120952	0
[>	Tb	159		ug/L			874820	893692	0
|	Tl	205	19.979	ug/L	0.289	1	14	513753	0
|	Pb	208	20.017	ug/L	0.275	1	122	689010	0
|	Bi	209		ug/L			1711035	1728616	0
|	Th	232	20.154	ug/L	0.131	0	25	626946	0
[	U	238	20.074	ug/L	0.246	1	3	666134	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 4
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 12:24:23
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120507.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1491153	1482893	1
	Be	9	49.858	ug/L	1.614	3	5	223379	1
	C	13		ug/L			81102	90278	1
	Cl	37		ug/L			4019798	4604033	2
>	Sc	45		ug/L			1140960	1130877	1
	V	51	50.000	ug/L	1.111	2	6017	1031159	0
	V-1	51	49.940	ug/L	1.366	2	85	1022940	0
	Cr	52	49.924	ug/L	0.386	0	17749	838869	2
	Cr	53	49.713	ug/L	0.949	1	108	92163	1
	Mn	55	49.754	ug/L	1.674	3	497	1108874	1
	Co	59	49.877	ug/L	1.401	2	39	756434	2
>	Ge	72		ug/L			458765	456346	0
	Ni	60	49.722	ug/L	0.485	0	19	157853	0
	Ni	62	50.181	ug/L	0.086	0	953	23761	0
	Cu	63	49.701	ug/L	0.197	0	745	343476	0
	Cu	65	49.912	ug/L	0.782	1	38	151367	1
	Zn	66	49.513	ug/L	1.117	2	183	91045	2
	Zn	67	49.516	ug/L	1.839	3	29	14973	3
	Zn	68	49.502	ug/L	0.610	1	170	63172	1
	As	75	49.882	ug/L	0.960	1	1381	79808	1
	As-1	75	49.989	ug/L	0.911	1	7215	83338	1
	Se	82	49.595	ug/L	0.850	1	7	9422	1
	Se	78	49.973	ug/L	0.720	1	7289	28944	0
	Mo	98	49.752	ug/L	1.342	2	12	196499	2
	Y	89		ug/L			339420	341007	1
	Kr	83		ug/L			1843	1891	5
>	In	115		ug/L			778052	780377	0
	Ag	107	50.073	ug/L	0.183	0	12	363942	0
	Cd	111	49.748	ug/L	0.591	1	44	187587	1
	Cd	114	49.696	ug/L	0.369	0	22	468659	1
	Sb	121	49.583	ug/L	0.471	0	37	561069	0
	Sb	123	49.776	ug/L	0.380	0	29	425249	1
	Ba	135	49.864	ug/L	0.850	1	21	170005	2
	Ba	137	49.825	ug/L	0.289	0	32	289826	1
>	Tb	159		ug/L			874820	879413	1
	Tl	205	49.914	ug/L	0.503	1	14	1252190	0
	Pb	208	49.788	ug/L	0.513	1	122	1651072	0
	Bi	209		ug/L			1711035	1680875	1
	Th	232	50.055	ug/L	0.485	0	25	1540527	1
	U	238	49.977	ug/L	0.753	1	3	1628053	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 5
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 12:29:56
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120507.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1491153	1474942	0
[	Be	9	99.742	ug/L	0.598	0	5	440847	0
	C	13		ug/L			81102	89312	0
	Cl	37		ug/L			4019798	4624714	1
[>	Sc	45		ug/L			1140960	1118496	1
[	V	51	100.745	ug/L	2.068	2	6017	2101372	1
[	V-1	51	100.745	ug/L	2.277	2	85	2093340	1
[	Cr	52	100.382	ug/L	1.768	1	17749	1671816	2
[	Cr	53	100.382	ug/L	1.360	1	108	186346	0
[	Mn	55	100.909	ug/L	2.846	2	497	2293818	1
[	Co	59	100.256	ug/L	1.018	1	39	1517008	0
[>	Ge	72		ug/L			458765	441211	0
[	Ni	60	100.499	ug/L	1.265	1	19	313669	1
[	Ni	62	100.504	ug/L	1.597	1	953	45845	1
[	Cu	63	99.606	ug/L	1.103	1	745	656217	1
[	Cu	65	99.949	ug/L	1.140	1	38	292517	0
[	Zn	66	99.656	ug/L	2.760	2	183	175012	3
[	Zn	67	100.144	ug/L	1.851	1	29	29391	2
[	Zn	68	99.750	ug/L	1.271	1	170	121897	1
[	As	75	100.710	ug/L	0.665	0	1381	158149	0
[	As-1	75	100.760	ug/L	0.603	0	7215	159226	0
[	Se	82	100.365	ug/L	1.469	1	7	18655	1
[	Se	78	100.521	ug/L	1.179	1	7289	49944	0
[	Mo	98	101.402	ug/L	0.425	0	12	406206	0
	Y	89		ug/L			339420	335318	1
	Kr	83		ug/L			1843	1883	1
[>	In	115		ug/L			778052	752367	0
[	Ag	107	99.666	ug/L	1.115	1	12	690717	1
[	Cd	111	100.231	ug/L	0.579	0	44	367156	0
[	Cd	114	100.139	ug/L	0.426	0	22	914656	0
[	Sb	121	101.257	ug/L	0.319	0	37	1152992	0
[	Sb	123	101.286	ug/L	0.473	0	29	871582	0
[	Ba	135	100.952	ug/L	1.582	1	21	342655	1
[	Ba	137	100.928	ug/L	0.970	0	32	584022	0
[>	Tb	159		ug/L			874820	873859	0
[	Tl	205	100.693	ug/L	0.829	0	14	2569732	0
[	Pb	208	99.882	ug/L	0.043	0	122	3278709	0
[	Bi	209		ug/L			1711035	1614114	1
[	Th	232	101.187	ug/L	1.183	1	25	3222192	1
[	U	238	100.953	ug/L	0.592	0	3	3375715	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Rinse sample
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 12:36:08
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120507.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1491153	1415819	3
	Be	9	0.003	ug/L	0.002	59	5	19	45
	C	13		ug/L			81102	79093	3
	Cl	37		ug/L			4019798	4337815	4
>	Sc	45		ug/L			1140960	1114240	1
	V	51	-0.003	ug/L	0.001	37	6017	5809	1
	V-1	51	0.004	ug/L	0.004	84	85	173	43
	Cr	52	-0.008	ug/L	0.024	314	17749	17204	1
	Cr	53	0.019	ug/L	0.033	167	108	141	41
	Mn	55	0.016	ug/L	0.026	163	497	843	68
	Co	59	0.023	ug/L	0.035	152	39	382	136
>	Ge	72		ug/L			458765	455879	0
	Ni	60	0.021	ug/L	0.032	151	19	88	118
	Ni	62	0.593	ug/L	0.146	24	953	1221	4
	Cu	63	0.056	ug/L	0.012	21	745	1118	7
	Cu	65	0.022	ug/L	0.024	106	38	105	68
	Zn	66	0.033	ug/L	0.038	112	183	243	28
	Zn	67	0.012	ug/L	0.025	210	29	32	22
	Zn	68	0.029	ug/L	0.012	42	170	206	7
	As	75	0.005	ug/L	0.019	382	1381	1380	1
	As-1	75	0.017	ug/L	0.011	63	7215	7195	0
	Se	82	0.068	ug/L	0.180	263	7	20	172
	Se	78	0.049	ug/L	0.045	92	7289	7265	0
	Mo	98	0.034	ug/L	0.019	55	12	153	50
	Y	89		ug/L			339420	337557	1
	Kr	83		ug/L			1843	1794	4
>	In	115		ug/L			778052	762109	2
	Ag	107	0.015	ug/L	0.015	100	12	116	90
	Cd	111	0.016	ug/L	0.013	78	44	104	47
	Cd	114	0.008	ug/L	0.009	111	22	101	88
	Sb	121	0.108	ug/L	0.015	13	37	1281	11
	Sb	123	0.104	ug/L	0.016	15	29	930	12
	Ba	135	0.004	ug/L	0.003	75	21	36	32
	Ba	137	0.006	ug/L	0.004	66	32	67	36
>	Tb	159		ug/L			874820	858383	2
	Tl	205	0.011	ug/L	0.005	43	14	287	43
	Pb	208	0.004	ug/L	0.004	84	122	261	47
	Bi	209		ug/L			1711035	1679516	1
	Th	232	0.135	ug/L	0.017	12	25	4268	14
	U	238	0.005	ug/L	0.002	38	3	176	39

Sample Information

Sample Date/Time: Tuesday, May 08, 2012 12:29:56
Method File: C:\NexION Data\Method\200.8nomin.mth
Mass Calibration File: C:\NexION Data\MassCal\default.tun
Conditions File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

Calibration

Analyte	Mass	r Corr Coef	Slope	Std 1 Conc	Std 2 Conc	Std 3 Conc	Std 4 Conc	Std 5 Conc
Li	6							
Be	9	**1.0000**	0.003	0.20	10	20	50	100
C	13							
Cl	37							
Sc	45							
V	51	**0.9999**	0.019	0.20	10	20	50	100
V-1	51	**0.9999**	0.019	0.20	10	20	50	100
Cr	52	**1.0000**	0.015	0.50	10	20	50	100
Cr	53	**1.0000**	0.002	0.50	10	20	50	100
Mn	55	**0.9998**	0.020	0.50	10	20	50	100
Co	59	**1.0000**	0.014	0.20	10	20	50	100
Ge	72							
Ni	60	**0.9999**	0.007	0.50	10	20	50	100
Ni	62	**0.9999**	0.001	0.50	10	20	50	100
Cu	63	**1.0000**	0.015	0.50	10	20	50	100
Cu	65	**1.0000**	0.007	0.50	10	20	50	100
Zn	66	**0.9999**	0.004	4.00	10	20	50	100
Zn	67	**0.9999**	0.001	4.00	10	20	50	100
Zn	68	**0.9999**	0.003	4.00	10	20	50	100
As	75	**0.9999**	0.004	0.20	10	20	50	100
As-1	75	**0.9999**	0.003	0.20	10	20	50	100
Se	82	**0.9997**	0.000	0.50	10	20	50	100
Se	78	**0.9999**	0.001	0.50	10	20	50	100
Mo	98	**0.9997**	0.009	0.20	10	20	50	100
Y	89							
Kr	83							
In	115							
Ag	107	**1.0000**	0.009	0.20	10	20	50	100
Cd	111	**1.0000**	0.005	0.10	10	20	50	100
Cd	114	**1.0000**	0.012	0.10	10	20	50	100
Sb	121	**0.9997**	0.015	0.20	10	20	50	100
Sb	123	**0.9997**	0.011	0.20	10	20	50	100
Ba	135	**0.9998**	0.005	0.50	10	20	50	100
Ba	137	**0.9998**	0.008	0.50	10	20	50	100
Tb	159							
Tl	205	**0.9999**	0.029	0.20	10	20	50	100
Pb	208	**1.0000**	0.038	0.10	10	20	50	100
Bi	209							
Th	232	**0.9998**	0.036	0.20	10	20	50	100
U	238	**0.9998**	0.038	0.20	10	20	50	100

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 12:44:58
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L				1411952	1
	Be	9		ug/L				7	60
	C	13		ug/L				82728	3
	Cl	37		ug/L				4074015	3
>	Sc	45		ug/L				1091639	3
	V	51		ug/L				5656	2
	V-1	51		ug/L				83	7
	Cr	52		ug/L				16764	2
	Cr	53		ug/L				112	6
	Mn	55		ug/L				485	4
	Co	59		ug/L				57	15
>	Ge	72		ug/L				444301	1
	Ni	60		ug/L				16	9
	Ni	62		ug/L				966	2
	Cu	63		ug/L				754	3
	Cu	65		ug/L				39	6
	Zn	66		ug/L				197	4
	Zn	67		ug/L				32	23
	Zn	68		ug/L				191	3
	As	75		ug/L				1284	0
	As-1	75		ug/L				7106	0
	Se	82		ug/L				-5	398
	Se	78		ug/L				7187	0
	Mo	98		ug/L				29	27
	Y	89		ug/L				323430	0
	Kr	83		ug/L				1769	4
>	In	115		ug/L				748057	0
	Ag	107		ug/L				15	18
	Cd	111		ug/L				43	2
	Cd	114		ug/L				22	28
	Sb	121		ug/L				335	20
	Sb	123		ug/L				270	30
	Ba	135		ug/L				19	10
	Ba	137		ug/L				36	21
>	Tb	159		ug/L				853957	0
	Tl	205		ug/L				75	17
	Pb	208		ug/L				139	15
	Bi	209		ug/L				1664508	1
	Th	232		ug/L				1034	4
	U	238		ug/L				25	14

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICV
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 12:49:07
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1465429	1
	Be	9	50.270	ug/L	1.333	2	7	220719	1
	C	13		ug/L			82728	85558	1
	Cl	37		ug/L			4074015	4560046	3
>	Sc	45		ug/L			1091639	1119898	1
	V	51	48.796	ug/L	1.353	2	5656	1022040	2
	V-1	51	49.053	ug/L	1.645	3	83	1020705	3
	Cr	52	49.509	ug/L	1.633	3	16764	833828	1
	Cr	53	50.431	ug/L	1.262	2	112	93795	2
	Mn	55	48.603	ug/L	2.090	4	485	1106142	2
	Co	59	49.825	ug/L	1.397	2	57	754718	1
>	Ge	72		ug/L			444301	450062	1
	Ni	60	48.525	ug/L	1.954	4	16	154438	2
	Ni	62	49.308	ug/L	0.643	1	966	23462	1
	Cu	63	50.354	ug/L	2.484	4	754	338663	3
	Cu	65	48.810	ug/L	1.629	3	39	145700	2
	Zn	66	48.733	ug/L	1.752	3	197	87376	2
	Zn	67	49.028	ug/L	1.294	2	32	14692	1
	Zn	68	48.369	ug/L	2.809	5	191	60375	4
	As	75	48.824	ug/L	1.197	2	1284	78835	1
	As-1	75	48.119	ug/L	1.276	2	7106	81364	0
	Se	82	80.013	ug/L	2.580	3	-5	14337	2
	Se	78	76.048	ug/L	2.793	3	7187	40379	1
	Mo	98	47.787	ug/L	0.974	2	29	195264	1
	Y	89		ug/L			323430	336995	1
	Kr	83		ug/L			1769	1829	2
>	In	115		ug/L			748057	763904	1
	Ag	107	50.048	ug/L	0.332	0	15	352157	1
	Cd	111	49.440	ug/L	1.233	2	43	183867	1
	Cd	114	49.199	ug/L	1.468	2	22	456155	1
	Sb	121	48.395	ug/L	1.285	2	335	559687	1
	Sb	123	47.520	ug/L	0.870	1	270	415378	1
	Ba	135	49.590	ug/L	1.592	3	19	170865	1
	Ba	137	49.609	ug/L	1.065	2	36	291434	0
>	Tb	159		ug/L			853957	879274	0
	Tl	205	48.412	ug/L	0.792	1	75	1243171	1
	Pb	208	49.522	ug/L	0.775	1	139	1635740	1
	Bi	209		ug/L			1664508	1640161	1
	Th	232	48.873	ug/L	0.468	0	1034	1566981	0
	U	238	48.175	ug/L	0.630	1	25	1620795	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICB
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 12:54:39
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1439348	1
[	Be	9	0.002	ug/L	0.000	10	7	14	3
	C	13		ug/L			82728	79844	0
	Cl	37		ug/L			4074015	4325934	2
[>	Sc	45		ug/L			1091639	1100968	1
[	V	51	0.010	ug/L	0.009	89	5656	5900	1
[	V-1	51	0.001	ug/L	0.000	8	83	102	2
[	Cr	52	0.033	ug/L	0.027	81	16764	17441	1
[	Cr	53	0.002	ug/L	0.008	463	112	116	13
[	Mn	55	-0.001	ug/L	0.001	141	485	469	6
[	Co	59	-0.000	ug/L	0.001	177	57	52	17
[>	Ge	72		ug/L			444301	441118	2
[	Ni	60	0.002	ug/L	0.000	23	16	21	7
[	Ni	62	0.066	ug/L	0.095	142	966	988	2
[	Cu	63	0.009	ug/L	0.007	82	754	808	6
[	Cu	65	0.002	ug/L	0.001	66	39	45	10
[	Zn	66	-0.004	ug/L	0.007	181	197	189	6
[	Zn	67	-0.008	ug/L	0.010	121	32	29	8
[	Zn	68	0.013	ug/L	0.016	124	191	204	7
[	As	75	0.037	ug/L	0.059	158	1284	1332	4
[	As-1	75	0.064	ug/L	0.150	233	7106	7148	0
[	Se	82	0.056	ug/L	0.123	220	-5	4	479
[	Se	78	0.191	ug/L	0.526	276	7187	7213	0
[	Mo	98	0.007	ug/L	0.002	29	29	58	13
	Y	89		ug/L			323430	325295	0
	Kr	83		ug/L			1769	1777	2
[>	In	115		ug/L			748057	756218	0
[	Ag	107	0.001	ug/L	0.000	10	15	25	4
[	Cd	111	0.004	ug/L	0.002	50	43	57	12
[	Cd	114	0.000	ug/L	0.000	56	22	26	8
[	Sb	121	0.016	ug/L	0.007	44	335	516	15
[	Sb	123	0.015	ug/L	0.010	66	270	402	21
[	Ba	135	0.000	ug/L	0.002	489	19	20	27
[	Ba	137	0.001	ug/L	0.001	157	36	41	15
[>	Tb	159		ug/L			853957	847431	1
[	Tl	205	0.001	ug/L	0.000	36	75	103	10
[	Pb	208	0.001	ug/L	0.000	56	139	156	6
[	Bi	209		ug/L			1664508	1646043	0
[	Th	232	0.057	ug/L	0.013	23	1034	2804	16
[	U	238	0.002	ug/L	0.000	25	25	82	18

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 12:58:48
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1442408	2
	Be	9	50.450	ug/L	0.662	1	7	218049	2
	C	13		ug/L			82728	85562	2
	Cl	37		ug/L			4074015	4569539	3
>	Sc	45		ug/L			1091639	1117183	1
	V	51	48.442	ug/L	0.524	1	5656	1012230	1
	V-1	51	48.362	ug/L	0.602	1	83	1003775	0
	Cr	52	49.219	ug/L	0.930	1	16764	827309	2
	Cr	53	48.935	ug/L	1.235	2	112	90782	1
	Mn	55	48.575	ug/L	0.270	0	485	1103387	1
	Co	59	48.957	ug/L	1.840	3	57	739688	2
>	Ge	72		ug/L			444301	448061	1
	Ni	60	49.662	ug/L	0.330	0	16	157425	2
	Ni	62	49.360	ug/L	0.706	1	966	23379	0
	Cu	63	50.276	ug/L	0.868	1	754	336692	0
	Cu	65	49.140	ug/L	0.462	0	39	146087	2
	Zn	66	49.868	ug/L	0.280	0	197	89033	0
	Zn	67	47.994	ug/L	1.383	2	32	14320	2
	Zn	68	50.311	ug/L	0.754	1	191	62536	0
	As	75	48.646	ug/L	0.811	1	1284	78211	1
	As-1	75	48.410	ug/L	0.981	2	7106	81459	1
	Se	82	52.159	ug/L	0.253	0	-5	9304	1
	Se	78	48.580	ug/L	0.792	1	7187	28303	1
	Mo	98	47.622	ug/L	1.009	2	29	193713	0
	Y	89		ug/L			323430	337491	1
	Kr	83		ug/L			1769	1814	0
>	In	115		ug/L			748057	766612	0
	Ag	107	49.382	ug/L	0.951	1	15	348716	2
	Cd	111	49.338	ug/L	0.172	0	43	184173	0
	Cd	114	49.361	ug/L	0.728	1	22	459384	1
	Sb	121	48.301	ug/L	0.813	1	335	560703	1
	Sb	123	47.845	ug/L	0.665	1	270	419752	1
	Ba	135	48.643	ug/L	0.480	0	19	168249	1
	Ba	137	48.580	ug/L	0.880	1	36	286451	1
>	Tb	159		ug/L			853957	872126	0
	Tl	205	47.812	ug/L	0.540	1	75	1217821	0
	Pb	208	49.486	ug/L	0.563	1	139	1621257	0
	Bi	209		ug/L			1664508	1644240	1
	Th	232	48.028	ug/L	0.359	0	1034	1527412	0
	U	238	47.901	ug/L	0.427	0	25	1598552	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB1
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 13:04:20
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1388144	0
[	Be	9	0.001	ug/L	0.001	55	7	11	18
	C	13		ug/L			82728	79413	2
	Cl	37		ug/L			4074015	4204765	3
[>	Sc	45		ug/L			1091639	1094805	0
[	V	51	0.006	ug/L	0.010	182	5656	5788	3
[	V-1	51	0.001	ug/L	0.000	22	83	98	3
[	Cr	52	0.021	ug/L	0.034	157	16764	17155	2
[	Cr	53	0.003	ug/L	0.006	160	112	119	9
[	Mn	55	0.000	ug/L	0.001	998	485	489	4
[	Co	59	-0.000	ug/L	0.001	134	57	51	16
[>	Ge	72		ug/L			444301	437521	1
[	Ni	60	0.001	ug/L	0.001	93	16	19	15
[	Ni	62	0.048	ug/L	0.055	114	966	972	3
[	Cu	63	0.009	ug/L	0.009	100	754	801	7
[	Cu	65	0.003	ug/L	0.000	7	39	48	1
[	Zn	66	0.003	ug/L	0.006	186	197	199	5
[	Zn	67	0.007	ug/L	0.025	345	32	34	22
[	Zn	68	0.003	ug/L	0.013	405	191	192	7
[	As	75	0.018	ug/L	0.006	31	1284	1292	1
[	As-1	75	0.059	ug/L	0.059	100	7106	7085	1
[	Se	82	-0.066	ug/L	0.172	259	-5	-16	182
[	Se	78	0.195	ug/L	0.186	95	7187	7160	1
[	Mo	98	0.010	ug/L	0.004	36	29	68	21
	Y	89		ug/L			323430	333089	2
	Kr	83		ug/L			1769	1806	3
[>	In	115		ug/L			748057	757756	0
[	Ag	107	0.002	ug/L	0.000	23	15	28	9
[	Cd	111	0.004	ug/L	0.001	22	43	58	4
[	Cd	114	0.000	ug/L	0.001	813	22	23	29
[	Sb	121	0.074	ug/L	0.007	9	335	1191	6
[	Sb	123	0.068	ug/L	0.008	12	270	862	7
[	Ba	135	0.001	ug/L	0.002	223	19	22	33
[	Ba	137	0.001	ug/L	0.002	207	36	42	26
[>	Tb	159		ug/L			853957	846531	0
[	Tl	205	0.003	ug/L	0.000	13	75	137	5
[	Pb	208	-0.000	ug/L	0.000	343	139	134	8
[	Bi	209		ug/L			1664508	1648155	0
[	Th	232	0.099	ug/L	0.026	26	1034	4083	19
[	U	238	0.002	ug/L	0.000	14	25	79	9

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LOW CHECK
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 13:08:28
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1409134	1
	Be	9	0.200	ug/L	0.002	1	7	853	1
	C	13		ug/L			82728	83767	2
	Cl	37		ug/L			4074015	4415042	1
>	Sc	45		ug/L			1091639	1109143	2
	V	51	0.201	ug/L	0.013	6	5656	9896	1
	V-1	51	0.196	ug/L	0.002	0	83	4130	1
	Cr	52	0.497	ug/L	0.051	10	16764	25134	0
	Cr	53	0.480	ug/L	0.021	4	112	996	2
	Mn	55	0.493	ug/L	0.009	1	485	11600	0
	Co	59	0.200	ug/L	0.009	4	57	3051	1
>	Ge	72		ug/L			444301	442079	0
	Ni	60	0.502	ug/L	0.014	2	16	1586	2
	Ni	62	0.332	ug/L	0.022	6	966	1110	0
	Cu	63	0.511	ug/L	0.016	3	754	4122	2
	Cu	65	0.515	ug/L	0.028	5	39	1549	4
	Zn	66	3.984	ug/L	0.092	2	197	7199	2
	Zn	67	3.475	ug/L	0.120	3	32	1053	3
	Zn	68	3.853	ug/L	0.077	1	191	4901	2
	As	75	0.225	ug/L	0.016	7	1284	1628	1
	As-1	75	0.195	ug/L	0.051	26	7106	7365	0
	Se	82	0.534	ug/L	0.075	14	-5	88	14
	Se	78	0.522	ug/L	0.217	41	7187	7375	1
	Mo	98	0.193	ug/L	0.011	5	29	804	5
	Y	89		ug/L			323430	331074	2
	Kr	83		ug/L			1769	1810	0
>	In	115		ug/L			748057	753686	1
	Ag	107	0.198	ug/L	0.015	7	15	1389	5
	Cd	111	0.108	ug/L	0.002	1	43	439	3
	Cd	114	0.106	ug/L	0.004	3	22	989	2
	Sb	121	0.195	ug/L	0.002	0	335	2558	2
	Sb	123	0.200	ug/L	0.007	3	270	1999	4
	Ba	135	0.490	ug/L	0.008	1	19	1684	0
	Ba	137	0.501	ug/L	0.010	1	36	2939	0
>	Tb	159		ug/L			853957	860625	0
	Tl	205	0.198	ug/L	0.005	2	75	5041	1
	Pb	208	0.105	ug/L	0.001	1	139	3543	0
	Bi	209		ug/L			1664508	1665246	0
	Th	232	0.186	ug/L	0.007	3	1034	6866	2
	U	238	0.193	ug/L	0.002	1	25	6385	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICSA
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 13:13:12
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1519814	4
	Be	9	0.000	ug/L	0.000	98	7	10	17
	C	13		ug/L			82728	183992	1
	Cl	37		ug/L			4074015	12228383	4
>	Sc	45		ug/L			1091639	1149712	2
	V	51	0.111	ug/L	0.027	23	5656	8335	8
	V-1	51	1.321	ug/L	0.019	1	83	28305	2
	Cr	52	0.844	ug/L	0.034	4	16764	31955	2
	Cr	53	5.181	ug/L	0.134	2	112	9996	1
	Mn	55	0.131	ug/L	0.006	4	485	3563	4
	Co	59	0.017	ug/L	0.002	10	57	324	6
>	Ge	72		ug/L			444301	433245	0
	Ni	60	0.395	ug/L	0.024	6	16	1225	5
	Ni	62	12.217	ug/L	1.639	13	966	6306	11
	Cu	63	1.306	ug/L	0.143	10	754	9174	10
	Cu	65	0.388	ug/L	0.022	5	39	1152	5
	Zn	66	0.758	ug/L	0.016	2	197	1498	2
	Zn	67	2.888	ug/L	0.217	7	32	863	7
	Zn	68	0.185	ug/L	0.017	9	191	407	4
	As	75	0.103	ug/L	0.063	61	1284	1411	7
	As-1	75	0.710	ug/L	0.020	2	7106	7983	0
	Se	82	-0.310	ug/L	0.014	4	-5	-58	3
	Se	78	2.523	ug/L	0.180	7	7187	8066	0
	Mo	98	391.315	ug/L	3.899	0	29	1539246	1
	Y	89		ug/L			323430	338930	2
	Kr	83		ug/L			1769	2104	1
>	In	115		ug/L			748057	769539	0
	Ag	107	0.020	ug/L	0.003	12	15	160	11
	Cd	111	0.205	ug/L	0.009	4	43	811	3
	Cd	114	0.248	ug/L	0.003	1	22	2341	1
	Sb	121	0.035	ug/L	0.003	8	335	747	4
	Sb	123	0.033	ug/L	0.006	18	270	571	9
	Ba	135	0.038	ug/L	0.002	5	19	150	4
	Ba	137	0.034	ug/L	0.001	3	36	237	3
>	Tb	159		ug/L			853957	898591	1
	Tl	205	0.003	ug/L	0.003	83	75	159	40
	Pb	208	0.038	ug/L	0.001	3	139	1415	4
	Bi	209		ug/L			1664508	1589214	1
	Th	232	0.200	ug/L	0.089	44	1034	7620	36
	U	238	0.001	ug/L	0.000	18	25	58	9

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICSAB
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 13:18:24
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1530636	2
	Be	9	0.002	ug/L	0.001	48	7	18	24
	C	13		ug/L			82728	179741	1
	Cl	37		ug/L			4074015	12533797	0
>	Sc	45		ug/L			1091639	1154833	2
	V	51	0.240	ug/L	0.081	33	5656	11139	16
	V-1	51	1.405	ug/L	0.051	3	83	30228	1
	Cr	52	20.503	ug/L	0.402	1	16764	366505	0
	Cr	53	24.752	ug/L	0.677	2	112	47519	0
	Mn	55	18.951	ug/L	0.469	2	485	445136	0
	Co	59	18.975	ug/L	0.606	3	57	296430	2
>	Ge	72		ug/L			444301	436758	0
	Ni	60	19.003	ug/L	0.177	0	16	58724	0
	Ni	62	30.147	ug/L	0.734	2	966	14290	2
	Cu	63	20.763	ug/L	0.367	1	754	135993	1
	Cu	65	20.097	ug/L	0.032	0	39	58256	0
	Zn	66	18.936	ug/L	0.095	0	197	33076	0
	Zn	67	19.233	ug/L	0.320	1	32	5613	1
	Zn	68	17.767	ug/L	0.223	1	191	21651	1
	As	75	18.232	ug/L	0.058	0	1284	29365	0
	As-1	75	19.326	ug/L	0.068	0	7106	35899	0
	Se	82	-0.297	ug/L	0.077	26	-5	-56	23
	Se	78	2.256	ug/L	0.237	10	787	8019	1
	Mo	98	399.861	ug/L	3.846	0	29	1585569	0
	Y	89		ug/L			323430	336056	0
	Kr	83		ug/L			1769	2088	1
>	In	115		ug/L			748057	779263	0
	Ag	107	18.938	ug/L	0.034	0	15	135945	0
	Cd	111	18.996	ug/L	0.042	0	43	72108	0
	Cd	114	19.104	ug/L	0.316	1	22	180743	1
	Sb	121	0.046	ug/L	0.002	4	335	890	2
	Sb	123	0.039	ug/L	0.003	6	270	630	4
	Ba	135	0.042	ug/L	0.002	4	19	166	3
	Ba	137	0.039	ug/L	0.001	3	36	273	2
>	Tb	159		ug/L			853957	890577	0
	Tl	205	0.000	ug/L	0.000	106	75	87	10
	Pb	208	0.039	ug/L	0.000	0	139	1444	1
	Bi	209		ug/L			1664508	1579838	0
	Th	232	0.062	ug/L	0.017	27	1034	3075	17
	U	238	0.001	ug/L	0.000	10	25	66	7

ICP-MS Quantitative Analysis - Summary Report

Sample ID: B1
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 13:23:55
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1446828	1
	Be	9	-0.000	ug/L	0.000	419	7	7	28
	C	13		ug/L			82728	85496	1
	Cl	37		ug/L			4074015	4370362	3
>	Sc	45		ug/L			1091639	1120667	2
	V	51	0.000	ug/L	0.001	1038	5656	5807	2
	V-1	51	0.056	ug/L	0.010	18	83	1256	19
	Cr	52	-0.018	ug/L	0.009	48	16764	16913	1
	Cr	53	0.183	ug/L	0.038	20	112	455	17
	Mn	55	0.028	ug/L	0.003	11	485	1126	8
	Co	59	-0.000	ug/L	0.000	335	57	56	8
>	Ge	72		ug/L			444301	442477	1
	Ni	60	0.026	ug/L	0.007	25	16	99	20
	Ni	62	1.568	ug/L	0.333	21	966	1663	7
	Cu	63	0.163	ug/L	0.028	17	754	1828	8
	Cu	65	0.099	ug/L	0.003	2	39	330	2
	Zn	66	1.405	ug/L	0.034	2	197	2668	2
	Zn	67	1.319	ug/L	0.099	7	32	420	6
	Zn	68	1.313	ug/L	0.028	2	191	1797	2
	As	75	0.091	ug/L	0.006	6	1284	1421	0
	As-1	75	0.054	ug/L	0.059	108	7106	7158	0
	Se	82	0.055	ug/L	0.106	192	-5	4	392
	Se	78	0.165	ug/L	0.210	127	7187	7228	0
	Mo	98	0.080	ug/L	0.014	17	29	348	15
	Y	89		ug/L			323430	334367	0
	Kr	83		ug/L			1769	1895	2
>	In	115		ug/L			748057	785072	2
	Ag	107	0.001	ug/L	0.001	149	15	21	32
	Cd	111	0.003	ug/L	0.001	22	43	58	3
	Cd	114	0.001	ug/L	0.001	92	22	32	26
	Sb	121	-0.020	ug/L	0.002	10	335	118	17
	Sb	123	-0.020	ug/L	0.001	7	270	100	11
	Ba	135	0.017	ug/L	0.005	31	19	81	22
	Ba	137	0.016	ug/L	0.003	15	36	136	9
>	Tb	159		ug/L			853957	870679	1
	Tl	205	0.000	ug/L	0.000	21	75	84	2
	Pb	208	0.016	ug/L	0.001	7	139	679	6
	Bi	209		ug/L			1664508	1706509	1
	Th	232	-0.026	ug/L	0.001	1	1034	235	8
	U	238	-0.000	ug/L	0.000	135	25	18	53

ICP-MS Quantitative Analysis - Summary Report

Sample ID: B2
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 13:29:36
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1469637	1
	Be	9	0.000	ug/L	0.001	549	7	8	43
	C	13		ug/L			82728	88611	0
	Cl	37		ug/L			4074015	4266160	1
>	Sc	45		ug/L			1091639	1123162	1
	V	51	0.016	ug/L	0.013	79	5656	6156	4
	V-1	51	0.028	ug/L	0.003	9	83	680	8
	Cr	52	0.050	ug/L	0.032	64	16764	18081	3
	Cr	53	0.095	ug/L	0.005	5	112	292	3
	Mn	55	0.033	ug/L	0.001	1	485	1246	1
	Co	59	-0.000	ug/L	0.001	501	57	56	15
>	Ge	72		ug/L			444301	442617	1
	Ni	60	0.026	ug/L	0.002	7	16	97	5
	Ni	62	0.270	ug/L	0.174	64	966	1082	6
	Cu	63	0.140	ug/L	0.012	8	754	1677	3
	Cu	65	0.122	ug/L	0.002	1	39	399	0
	Zn	66	1.352	ug/L	0.037	2	197	2576	1
	Zn	67	1.158	ug/L	0.082	7	32	372	6
	Zn	68	1.264	ug/L	0.029	2	191	1737	1
	As	75	0.072	ug/L	0.022	30	1284	1393	2
	As-1	75	0.042	ug/L	0.039	93	7106	7143	0
	Se	82	-0.092	ug/L	0.127	138	-5	-21	104
	Se	78	0.075	ug/L	0.188	251	7187	7192	1
	Mo	98	0.027	ug/L	0.020	74	29	136	59
	Y	89		ug/L			323430	331970	1
	Kr	83		ug/L			1769	1916	2
>	In	115		ug/L			748057	774215	2
	Ag	107	-0.001	ug/L	0.000	48	15	12	14
	Cd	111	0.001	ug/L	0.001	76	43	48	5
	Cd	114	0.000	ug/L	0.000	146	22	25	10
	Sb	121	-0.020	ug/L	0.002	10	335	108	22
	Sb	123	-0.023	ug/L	0.001	5	270	78	14
	Ba	135	0.018	ug/L	0.001	4	19	83	1
	Ba	137	0.017	ug/L	0.001	8	36	138	6
>	Tb	159		ug/L			853957	861961	1
	Tl	205	-0.001	ug/L	0.000	18	75	49	10
	Pb	208	0.024	ug/L	0.002	6	139	926	4
	Bi	209		ug/L			1664508	1706380	1
	Th	232	-0.030	ug/L	0.000	1	1034	104	8
	U	238	-0.001	ug/L	0.000	25	25	9	48

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 13:34:49
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1501497	1
	Be	9	49.714	ug/L	0.922	1	7	223662	1
	C	13		ug/L			82728	91260	3
	Cl	37		ug/L			4074015	4603296	2
>	Sc	45		ug/L			1091639	1151814	1
	V	51	46.635	ug/L	0.628	1	5656	1004866	1
	V-1	51	46.435	ug/L	0.645	1	83	993696	1
	Cr	52	48.148	ug/L	0.564	1	16764	834714	0
	Cr	53	47.436	ug/L	0.548	1	112	90750	1
	Mn	55	46.825	ug/L	0.353	0	485	1096556	1
	Co	59	46.859	ug/L	1.253	2	57	730024	1
>	Ge	72		ug/L			444301	455438	2
	Ni	60	48.465	ug/L	0.553	1	16	156154	3
	Ni	62	47.032	ug/L	3.197	6	966	22665	3
	Cu	63	49.376	ug/L	0.653	1	754	336202	3
	Cu	65	48.217	ug/L	1.796	3	39	145587	0
	Zn	66	49.334	ug/L	1.730	3	197	89487	1
	Zn	67	47.280	ug/L	0.936	1	32	14338	1
	Zn	68	48.316	ug/L	1.536	3	191	61027	1
	As	75	47.692	ug/L	0.806	1	1284	77957	2
	As-1	75	47.404	ug/L	1.126	2	7106	81214	1
	Se	82	50.904	ug/L	0.807	1	-5	9228	1
	Se	78	47.355	ug/L	1.976	4	7187	28217	1
	Mo	98	46.231	ug/L	1.702	3	29	191057	0
	Y	89		ug/L			323430	339838	0
	Kr	83		ug/L			1769	1939	1
>	In	115		ug/L			748057	791711	0
	Ag	107	47.968	ug/L	0.511	1	15	349820	1
	Cd	111	48.818	ug/L	0.378	0	43	188197	0
	Cd	114	48.710	ug/L	0.784	1	22	468222	2
	Sb	121	47.652	ug/L	0.514	1	335	571284	0
	Sb	123	47.147	ug/L	0.576	1	270	427208	1
	Ba	135	47.696	ug/L	0.227	0	19	170376	1
	Ba	137	47.915	ug/L	0.624	1	36	291787	1
>	Tb	159		ug/L			853957	894371	0
	Tl	205	47.132	ug/L	0.733	1	75	1231057	1
	Pb	208	48.954	ug/L	0.815	1	139	1644631	1
	Bi	209		ug/L			1664508	1695238	0
	Th	232	47.172	ug/L	0.205	0	1034	1538474	0
	U	238	47.468	ug/L	0.362	0	25	1624483	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB2
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 13:40:22
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1410953	0
	Be	9	0.002	ug/L	0.002	64	7	17	36
	C	13		ug/L			82728	82821	2
	Cl	37		ug/L			4074015	4333938	1
>	Sc	45		ug/L			1091639	1113809	2
	V	51	-0.012	ug/L	0.007	59	5656	5521	2
	V-1	51	0.012	ug/L	0.002	13	83	330	11
	Cr	52	-0.042	ug/L	0.022	51	16764	16416	1
	Cr	53	0.044	ug/L	0.005	11	112	195	4
	Mn	55	-0.001	ug/L	0.001	96	485	475	2
	Co	59	-0.000	ug/L	0.001	883	57	57	18
>	Ge	72		ug/L			444301	437562	1
	Ni	60	0.004	ug/L	0.003	69	16	27	29
	Ni	62	-0.060	ug/L	0.149	246	966	924	6
	Cu	63	-0.012	ug/L	0.006	45	754	664	6
	Cu	65	0.001	ug/L	0.003	203	39	43	20
	Zn	66	0.004	ug/L	0.026	713	197	201	23
	Zn	67	0.014	ug/L	0.038	266	32	36	30
	Zn	68	0.016	ug/L	0.024	155	191	207	15
	As	75	0.065	ug/L	0.048	73	1284	1365	4
	As-1	75	0.027	ug/L	0.060	219	7106	7038	0
	Se	82	-0.101	ug/L	0.033	32	-5	-22	26
	Se	78	0.077	ug/L	0.198	256	7187	7111	0
	Mo	98	0.014	ug/L	0.002	12	29	84	6
	Y	89		ug/L			323430	318967	0
	Kr	83		ug/L			1769	1914	1
>	In	115		ug/L			748057	766641	2
	Ag	107	0.001	ug/L	0.001	91	15	26	36
	Cd	111	0.004	ug/L	0.001	21	43	58	2
	Cd	114	0.000	ug/L	0.000	88	22	26	12
	Sb	121	0.059	ug/L	0.005	9	335	1026	4
	Sb	123	0.054	ug/L	0.008	15	270	749	6
	Ba	135	-0.000	ug/L	0.001	4676	19	19	20
	Ba	137	0.000	ug/L	0.001	1786	36	38	20
>	Tb	159		ug/L			853957	852519	1
	Tl	205	0.002	ug/L	0.002	114	75	129	48
	Pb	208	0.000	ug/L	0.002	1736	139	143	41
	Bi	209		ug/L			1664508	1675386	1
	Th	232	0.065	ug/L	0.019	30	1034	3052	20
	U	238	0.002	ug/L	0.002	76	25	100	57

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 E-L REN
Sample Dil Factor: 100
Comments:
Sample Date/Time: Tuesday, May 08, 2012 13:55:26
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1470869	1
	Be	9	0.003	ug/L	0.001	35	7	19	21
	C	13		ug/L			82728	89828	0
	Cl	37		ug/L			4074015	4172335	4
>	Sc	45		ug/L			1091639	1124912	0
	V	51	1.401	ug/L	0.022	1	5656	35128	0
	V-1	51	1.423	ug/L	0.020	1	83	29827	1
	Cr	52	0.232	ug/L	0.019	8	16764	21126	1
	Cr	53	0.309	ug/L	0.011	3	112	692	2
	Mn	55	5.998	ug/L	0.059	0	485	137608	0
	Co	59	0.006	ug/L	0.001	15	57	156	9
>	Ge	72		ug/L			444301	445197	1
	Ni	60	0.046	ug/L	0.002	3	16	160	2
	Ni	62	-0.488	ug/L	0.084	17	966	747	3
	Cu	63	0.171	ug/L	0.016	9	754	1890	4
	Cu	65	0.148	ug/L	0.010	6	39	477	6
	Zn	66	1.200	ug/L	0.017	1	197	2321	0
	Zn	67	1.068	ug/L	0.064	6	32	348	5
	Zn	68	1.190	ug/L	0.077	6	191	1656	4
	As	75	7.075	ug/L	0.097	1	1284	12402	0
	As-1	75	7.116	ug/L	0.186	2	7106	17970	0
	Se	82	-0.039	ug/L	0.106	269	-5	-12	155
	Se	78	-0.470	ug/L	0.287	61	7187	6998	0
	Mo	98	0.011	ug/L	0.003	26	29	74	14
	Y	89		ug/L			323130	329642	1
	Kr	83		ug/L			1769	1871	3
>	In	115		ug/L			748057	786204	1
	Ag	107	-0.001	ug/L	0.000	55	15	11	21
	Cd	111	0.002	ug/L	0.002	107	43	52	11
	Cd	114	-0.000	ug/L	0.000	203	22	21	22
	Sb	121	-0.006	ug/L	0.004	64	335	276	18
	Sb	123	-0.008	ug/L	0.003	36	270	211	13
	Ba	135	0.189	ug/L	0.012	6	19	691	4
	Ba	137	0.187	ug/L	0.006	2	36	1167	2
>	Tb	159		ug/L			853957	892008	0
	Tl	205	0.001	ug/L	0.001	72	75	116	23
	Pb	208	0.019	ug/L	0.001	6	139	788	4
	Bi	209		ug/L			1664508	1702612	0
	Th	232	-0.007	ug/L	0.001	11	1034	848	3
	U	238	0.003	ug/L	0.000	2	25	134	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 E REN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Tuesday, May 08, 2012 13:59:33
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1468776	1
	Be	9	0.015	ug/L	0.001	8	7	73	7
	C	13		ug/L			82728	88869	0
	Cl	37		ug/L			4074015	4316411	2
>	Sc	45		ug/L			1091639	1137460	0
	V	51	7.069	ug/L	0.087	1	5656	155435	1
	V-1	51	7.123	ug/L	0.084	1	83	150614	1
	Cr	52	1.280	ug/L	0.025	1	16764	38920	1
	Cr	53	1.452	ug/L	0.012	0	112	2856	1
	Mn	55	29.739	ug/L	0.280	0	485	687985	1
	Co	59	0.039	ug/L	0.001	1	57	657	1
>	Ge	72		ug/L			444301	445808	0
	Ni	60	0.157	ug/L	0.004	2	16	510	2
	Ni	62	2.431	ug/L	1.413	58	966	2065	30
	Cu	63	0.837	ug/L	0.108	12	754	6317	10
	Cu	65	0.370	ug/L	0.017	4	39	1132	4
	Zn	66	1.318	ug/L	0.065	4	197	2533	4
	Zn	67	1.506	ug/L	0.079	5	32	478	4
	Zn	68	1.435	ug/L	0.029	2	191	1961	1
	As	75	36.107	ug/L	0.693	1	1284	58099	1
	As-1	75	37.078	ug/L	0.714	1	7106	63753	1
	Se	82	0.069	ug/L	0.096	140	-5	7	242
	Se	78	-0.250	ug/L	0.106	42	7187	7104	0
	Mo	98	0.059	ug/L	0.002	3	29	268	3
	Y	89		ug/L			323430	334116	2
	Kr	83		ug/L			1769	1836	1
>	In	115		ug/L			748057	779285	1
	Ag	107	0.002	ug/L	0.000	14	15	29	6
	Cd	111	0.005	ug/L	0.001	22	43	63	5
	Cd	114	0.004	ug/L	0.001	22	22	60	15
	Sb	121	-0.013	ug/L	0.003	21	335	200	17
	Sb	123	-0.013	ug/L	0.003	22	270	162	15
	Ba	135	0.912	ug/L	0.002	0	19	3225	1
	Ba	137	0.905	ug/L	0.005	0	36	5463	1
>	Tb	159		ug/L			853957	883247	0
	Tl	205	0.001	ug/L	0.000	47	75	97	9
	Pb	208	0.036	ug/L	0.001	3	139	1326	3
	Bi	209		ug/L			1664508	1647702	0
	Th	232	0.021	ug/L	0.004	18	1034	1731	6
	U	238	0.018	ug/L	0.001	4	25	630	3

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 EDUP REN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Tuesday, May 08, 2012 14:03:41
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1447924	1
[	Be	9	0.016	ug/L	0.001	6	7	79	4
	C	13		ug/L			82728	90338	1
	Cl	37		ug/L			4074015	4362491	3
[>	Sc	45		ug/L			1091639	1144303	1
|	V	51	7.042	ug/L	0.093	1	5656	155777	0
|	V-1	51	7.112	ug/L	0.100	1	83	151264	0
|	Cr	52	1.295	ug/L	0.048	3	16764	39403	3
|	Cr	53	1.523	ug/L	0.018	1	112	3009	0
|	Mn	55	31.110	ug/L	0.460	1	485	723937	1
[	Co	59	0.042	ug/L	0.001	3	57	707	1
[>	Ge	72		ug/L			444301	447164	0
|	Ni	60	0.163	ug/L	0.006	3	16	531	2
|	Ni	62	3.477	ug/L	1.349	38	966	2546	23
|	Cu	63	0.942	ug/L	0.096	10	754	7039	8
|	Cu	65	0.398	ug/L	0.011	2	39	1219	2
|	Zn	66	1.695	ug/L	0.015	0	197	3212	1
|	Zn	67	1.806	ug/L	0.033	1	32	569	2
|	Zn	68	1.720	ug/L	0.093	5	191	2319	5
|	As	75	36.845	ug/L	0.010	0	1284	59440	0
|	As-1	75	37.816	ug/L	0.032	0	7106	65078	0
|	Se	82	-0.001	ug/L	0.200	16260	-5	-5	654
|	Se	78	-0.314	ug/L	0.053	16	7187	7098	0
[	Mo	98	0.057	ug/L	0.007	12	29	260	11
	Y	89		ug/L			323430	334563	0
	Kr	83		ug/L			1769	1887	3
[>	In	115		ug/L			748057	766593	0
|	Ag	107	0.005	ug/L	0.001	23	15	54	16
|	Cd	111	0.003	ug/L	0.003	127	43	54	22
|	Cd	114	0.004	ug/L	0.000	10	22	62	6
|	Sb	121	-0.015	ug/L	0.001	4	335	171	4
|	Sb	123	-0.015	ug/L	0.001	6	270	143	6
|	Ba	135	0.939	ug/L	0.017	1	19	3265	1
[	Ba	137	0.937	ug/L	0.007	0	36	5562	1
[>	Tb	159		ug/L			853957	873091	1
|	Tl	205	0.002	ug/L	0.001	39	75	120	12
|	Pb	208	0.040	ug/L	0.001	2	139	1463	3
|	Bi	209		ug/L			1664508	1660179	1
|	Th	232	0.015	ug/L	0.001	9	1034	1529	3
[	U	238	0.020	ug/L	0.001	5	25	707	4

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 ESPK REN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Tuesday, May 08, 2012 14:07:48
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1458596	1
	Be	9	2.608	ug/L	0.018	0	7	11404	0
	C	13		ug/L			82728	88355	1
	Cl	37		ug/L			4074015	4290984	1
>	Sc	45		ug/L			1091639	1123480	2
	V	51	9.660	ug/L	0.176	1	5656	207616	0
	V-1	51	9.707	ug/L	0.205	2	83	202636	0
	Cr	52	3.794	ug/L	0.050	1	16764	80053	2
	Cr	53	3.939	ug/L	0.114	2	112	7453	1
	Mn	55	33.369	ug/L	0.970	2	485	762094	0
	Co	59	2.510	ug/L	0.070	2	57	38190	1
>	Ge	72		ug/L			444301	440541	2
	Ni	60	2.807	ug/L	0.076	2	16	8758	0
	Ni	62	7.434	ug/L	1.602	21	966	4266	14
	Cu	63	3.559	ug/L	0.211	5	754	24116	3
	Cu	65	2.939	ug/L	0.029	1	39	8626	1
	Zn	66	9.436	ug/L	0.380	4	197	16714	2
	Zn	67	8.887	ug/L	0.213	2	32	2632	0
	Zn	68	9.277	ug/L	0.205	2	191	11490	1
	As	75	39.310	ug/L	0.649	1	1084	62378	0
	As-1	75	40.116	ug/L	0.727	1	7106	67570	0
	Se	82	8.680	ug/L	0.073	0	-5	1518	2
	Se	78	7.956	ug/L	0.346	4	7187	10515	0
	Mo	98	0.064	ug/L	0.003	3	29	286	1
	Y	89		ug/L			323430	337949	2
	Kr	83		ug/L			1769	1878	2
>	In	115		ug/L			748057	765416	0
	Ag	107	1.818	ug/L	0.063	3	15	12828	2
	Cd	111	2.565	ug/L	0.046	1	43	9602	0
	Cd	114	2.539	ug/L	0.006	0	22	23611	1
	Sb	121	-0.015	ug/L	0.001	6	335	172	5
	Sb	123	-0.018	ug/L	0.002	9	270	117	12
	Ba	135	3.430	ug/L	0.023	0	19	11862	1
	Ba	137	3.465	ug/L	0.009	0	36	20433	1
>	Tb	159		ug/L			853957	876424	1
	Tl	205	2.462	ug/L	0.049	2	75	63072	0
	Pb	208	2.585	ug/L	0.044	1	139	85241	0
	Bi	209		ug/L			1664508	1641720	1
	Th	232	2.358	ug/L	0.031	1	1034	76381	2
	U	238	2.508	ug/L	0.075	2	25	84118	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 A REN
Sample Dil Factor: 40
Comments:
Sample Date/Time: Tuesday, May 08, 2012 14:11:56
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1420757	0
	Be	9	0.002	ug/L	0.001	84	7	15	41
	C	13		ug/L			82728	86252	2
	Cl	37		ug/L			4074015	4132167	2
>	Sc	45		ug/L			1091639	1119271	1
	V	51	0.920	ug/L	0.034	3	5656	24940	1
	V-1	51	0.937	ug/L	0.025	2	83	19558	1
	Cr	52	0.301	ug/L	0.031	10	16764	22142	0
	Cr	53	0.359	ug/L	0.020	5	112	781	4
	Mn	55	4.794	ug/L	0.095	1	485	109531	0
	Co	59	0.077	ug/L	0.004	5	57	1228	5
>	Ge	72		ug/L			444301	441237	2
	Ni	60	0.327	ug/L	0.013	4	16	1037	2
	Ni	62	0.414	ug/L	0.484	116	966	1141	16
	Cu	63	3.419	ug/L	0.094	2	754	23244	1
	Cu	65	3.397	ug/L	0.183	5	39	9974	3
	Zn	66	3.104	ug/L	0.046	1	197	5641	2
	Zn	67	2.852	ug/L	0.055	1	32	868	2
	Zn	68	3.074	ug/L	0.106	3	191	3940	3
	As	75	56.653	ug/L	1.562	2	1284	89465	1
	As-1	75	58.227	ug/L	1.682	2	7106	95029	0
	Se	82	0.126	ug/L	0.062	49	-5	17	64
	Se	78	-0.161	ug/L	0.564	349	7187	7066	2
	Mo	98	0.462	ug/L	0.001	0	29	1878	2
	Y	89		ug/L			323430	329048	1
	Kr	83		ug/L			1769	1868	0
>	In	115		ug/L			748057	772442	0
	Ag	107	0.012	ug/L	0.001	8	15	104	7
	Cd	111	0.004	ug/L	0.003	68	43	60	17
	Cd	114	0.002	ug/L	0.000	19	22	44	8
	Sb	121	0.055	ug/L	0.002	2	335	988	2
	Sb	123	0.055	ug/L	0.002	4	270	761	1
	Ba	135	1.633	ug/L	0.009	0	19	5710	0
	Ba	137	1.633	ug/L	0.030	1	36	9741	1
>	Tb	159		ug/L			853957	867626	0
	Tl	205	-0.001	ug/L	0.000	41	75	54	17
	Pb	208	0.041	ug/L	0.000	0	139	1472	0
	Bi	209		ug/L			1664508	1686014	0
	Th	232	-0.000	ug/L	0.008	3826	1034	1044	23
	U	238	0.066	ug/L	0.002	2	25	2207	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 D REN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Tuesday, May 08, 2012 14:16:03
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1414153	0
[	Be	9	0.001	ug/L	0.000	46	7	12	16
	C	13		ug/L			82728	88110	1
	Cl	37		ug/L			4074015	4456050	1
[>	Sc	45		ug/L			1091639	1106574	0
[	V	51	0.552	ug/L	0.018	3	5656	17097	1
[	V-1	51	0.600	ug/L	0.022	3	83	12419	2
[	Cr	52	0.101	ug/L	0.002	2	16764	18637	0
[	Cr	53	0.270	ug/L	0.018	6	112	610	4
[	Mn	55	48.036	ug/L	0.877	1	485	1080718	1
[	Co	59	0.027	ug/L	0.001	4	57	458	4
[>	Ge	72		ug/L			444301	436979	2
[	Ni	60	0.115	ug/L	0.005	4	16	370	3
[	Ni	62	0.341	ug/L	0.134	39	966	1101	7
[	Cu	63	0.459	ug/L	0.018	3	754	3735	4
[	Cu	65	0.322	ug/L	0.013	3	39	973	1
[	Zn	66	6.860	ug/L	0.915	13	197	12093	11
[	Zn	67	5.961	ug/L	0.819	13	32	1760	12
[	Zn	68	6.627	ug/L	0.918	13	191	8187	12
[	As	75	78.026	ug/L	1.532	1	1284	121568	1
[	As-1	75	80.370	ug/L	1.644	2	7106	127264	1
[	Se	82	0.008	ug/L	0.069	898	-5	-3	336
[	Se	78	0.118	ug/L	0.508	429	7187	7116	1
[	Mo	98	0.016	ug/L	0.003	17	29	91	14
	Y	89		ug/L			323430	331218	4
	Kr	83		ug/L			1769	1831	1
[>	In	115		ug/L			748057	773924	1
[	Ag	107	0.000	ug/L	0.001	395	15	17	33
[	Cd	111	0.030	ug/L	0.002	7	43	159	4
[	Cd	114	0.024	ug/L	0.001	2	22	244	1
[	Sb	121	-0.008	ug/L	0.001	14	335	250	4
[	Sb	123	-0.010	ug/L	0.001	12	270	189	6
[	Ba	135	0.404	ug/L	0.023	5	19	1430	4
[	Ba	137	0.409	ug/L	0.003	0	36	2470	1
[>	Tb	159		ug/L			853957	866606	0
[	Tl	205	-0.001	ug/L	0.000	36	75	55	14
[	Pb	208	0.032	ug/L	0.001	4	139	1173	3
[	Bi	209		ug/L			1664508	1655927	1
[	Th	232	-0.007	ug/L	0.002	32	1034	818	9
[	U	238	0.001	ug/L	0.000	34	25	51	16

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 G REN
Sample Dil Factor: 40
Comments:
Sample Date/Time: Tuesday, May 08, 2012 14:20:11
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1412869	1
	Be	9	0.001	ug/L	0.000	43	7	12	14
	C	13		ug/L			82728	87726	2
	Cl	37		ug/L			4074015	4367901	1
>	Sc	45		ug/L			1091639	1090479	1
	V	51	0.852	ug/L	0.020	2	5656	22927	1
	V-1	51	0.861	ug/L	0.017	1	83	17523	1
	Cr	52	0.277	ug/L	0.007	2	16764	21195	1
	Cr	53	0.306	ug/L	0.017	5	112	666	5
	Mn	55	4.676	ug/L	0.086	1	485	104103	0
	Co	59	0.074	ug/L	0.001	1	57	1151	3
>	Ge	72		ug/L			444301	431315	0
	Ni	60	0.300	ug/L	0.011	3	16	930	4
	Ni	62	-0.102	ug/L	0.137	133	966	893	6
	Cu	63	0.674	ug/L	0.029	4	754	5070	3
	Cu	65	0.662	ug/L	0.003	0	39	1930	0
	Zn	66	3.009	ug/L	0.066	2	197	5352	2
	Zn	67	2.818	ug/L	0.192	6	32	839	7
	Zn	68	3.009	ug/L	0.088	2	191	3774	2
	As	75	57.344	ug/L	0.727	1	1284	88537	1
	As-1	75	59.041	ug/L	0.782	1	7106	94129	1
	Se	82	0.016	ug/L	0.173	1078	-5	-2	1417
	Se	78	0.197	ug/L	0.045	22	7187	7060	0
	Mo	98	0.456	ug/L	0.003	0	29	1812	0
	Y	89		ug/L			323430	324914	3
	Kr	83		ug/L			1769	1886	3
>	In	115		ug/L			748057	764344	0
	Ag	107	0.001	ug/L	0.000	33	15	23	10
	Cd	111	0.004	ug/L	0.003	70	43	59	17
	Cd	114	0.001	ug/L	0.001	81	22	32	24
	Sb	121	0.042	ug/L	0.003	6	335	828	4
	Sb	123	0.039	ug/L	0.003	8	270	615	3
	Ba	135	1.601	ug/L	0.011	0	19	5539	1
	Ba	137	1.586	ug/L	0.016	0	36	9362	1
>	Tb	159		ug/L			853957	856668	1
	Tl	205	-0.001	ug/L	0.000	32	75	46	20
	Pb	208	0.021	ug/L	0.000	1	139	803	1
	Bi	209		ug/L			1664508	1679581	1
	Th	232	-0.024	ug/L	0.001	3	1034	296	10
	U	238	0.064	ug/L	0.001	1	25	2138	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 I REN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Tuesday, May 08, 2012 14:24:18
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1407696	2
	Be	9	0.001	ug/L	0.000	51	7	11	18
	C	13		ug/L			82728	86729	2
	Cl	37		ug/L			4074015	4486976	2
>	Sc	45		ug/L			1091639	1103165	0
	V	51	0.528	ug/L	0.015	2	5656	16546	1
	V-1	51	0.560	ug/L	0.007	1	83	11566	0
	Cr	52	0.106	ug/L	0.015	14	16764	18659	1
	Cr	53	0.220	ug/L	0.022	9	112	516	8
	Mn	55	47.896	ug/L	0.934	1	485	1074214	1
	Co	59	0.026	ug/L	0.003	9	57	452	9
>	Ge	72		ug/L			444301	437163	0
	Ni	60	0.115	ug/L	0.007	5	16	372	5
	Ni	62	0.289	ug/L	0.547	189	966	1077	21
	Cu	63	0.336	ug/L	0.030	8	754	2932	5
	Cu	65	0.195	ug/L	0.008	4	39	603	3
	Zn	66	1.370	ug/L	0.048	3	197	2574	2
	Zn	67	1.229	ug/L	0.022	1	32	389	2
	Zn	68	1.480	ug/L	0.034	2	191	1977	2
	As	75	77.054	ug/L	1.302	1	1284	120143	1
	As-1	75	79.335	ug/L	1.346	1	7106	125793	1
	Se	82	0.026	ug/L	0.059	228	-5	0	2223
	Se	78	-0.009	ug/L	0.071	754	7187	7068	0
	Mo	98	0.010	ug/L	0.001	9	29	69	5
	Y	89		ug/L			323430	324770	1
	Kr	83		ug/L			1769	1819	3
>	In	115		ug/L			748057	766478	1
	Ag	107	-0.000	ug/L	0.000	213	15	14	17
	Cd	111	0.007	ug/L	0.003	42	43	70	13
	Cd	114	0.000	ug/L	0.000	79	22	26	10
	Sb	121	-0.010	ug/L	0.001	9	335	228	6
	Sb	123	-0.014	ug/L	0.000	3	270	159	4
	Ba	135	0.334	ug/L	0.019	5	19	1174	4
	Ba	137	0.339	ug/L	0.011	3	36	2036	2
>	Tb	159		ug/L			853957	860878	0
	Tl	205	-0.001	ug/L	0.000	31	75	47	18
	Pb	208	0.020	ug/L	0.001	3	139	772	3
	Bi	209		ug/L			1664508	1636193	0
	Th	232	-0.017	ug/L	0.001	4	1034	503	4
	U	238	0.000	ug/L	0.000	58	25	37	18

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LR200
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 14:29:30
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1355532	1
	Be	9	199.066	ug/L	0.474	0	7	808611	1
	C	13		ug/L			82728	86333	1
	Cl	37		ug/L			4074015	4543964	1
>	Sc	45		ug/L			1091639	1092158	0
	V	51	191.811	ug/L	3.482	1	5656	3901410	1
	V-1	51	190.329	ug/L	2.749	1	83	3861791	0
	Cr	52	191.095	ug/L	4.201	2	16764	3091749	1
	Cr	53	185.783	ug/L	1.544	0	112	336697	0
	Mn	55	184.884	ug/L	3.255	1	485	4103801	1
	Co	59	189.771	ug/L	2.490	1	57	2803839	0
>	Ge	72		ug/L			444301	406624	1
	Ni	60	191.262	ug/L	3.871	2	16	550009	0
	Ni	62	195.372	ug/L	4.431	2	966	81353	0
	Cu	63	193.561	ug/L	2.882	1	754	1174480	1
	Cu	65	188.858	ug/L	5.536	2	39	509281	2
	Zn	66	187.001	ug/L	3.938	2	197	302459	1
	Zn	67	186.296	ug/L	4.434	2	32	50361	2
	Zn	68	185.783	ug/L	2.495	1	191	209098	0
	As	75	193.451	ug/L	5.572	2	1284	278704	1
	As-1	75	193.301	ug/L	5.286	2	7106	275669	1
	Se	82	199.914	ug/L	4.179	2	-5	32373	1
	Se	78	188.669	ug/L	2.652	1	7187	80783	1
	Mo	98	194.938	ug/L	4.551	2	29	719482	0
	Y	89		ug/L			323430	313881	1
	Kr	83		ug/L			1769	2006	3
>	In	115		ug/L			748057	725637	0
	Ag	107	185.038	ug/L	0.702	0	15	1236793	1
	Cd	111	187.349	ug/L	1.332	0	43	661853	1
	Cd	114	190.023	ug/L	2.145	1	22	1674093	2
	Sb	121	200.888	ug/L	2.679	1	335	2206366	1
	Sb	123	192.254	ug/L	1.962	1	270	1595691	0
	Ba	135	198.209	ug/L	1.956	0	19	648860	1
	Ba	137	196.938	ug/L	1.722	0	36	1099110	1
>	Tb	159		ug/L			853957	853283	1
	Tl	205	190.887	ug/L	0.576	0	75	4756945	1
	Pb	208	193.606	ug/L	1.003	0	139	6205517	1
	Bi	209		ug/L			1664508	1549115	0
	Th	232	200.403	ug/L	2.458	1	1034	6231968	0
	U	238	199.079	ug/L	0.219	0	25	6500105	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: B3
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 14:35:42
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1318040	1
	Be	9	0.014	ug/L	0.011	79	7	62	69
	C	13		ug/L			82728	82170	3
	Cl	37		ug/L			4074015	4224488	0
>	Sc	45		ug/L			1091639	1020481	2
	V	51	0.029	ug/L	0.012	42	5656	5843	4
	V-1	51	0.017	ug/L	0.011	63	83	400	50
	Cr	52	0.066	ug/L	0.016	25	16764	16657	2
	Cr	53	0.022	ug/L	0.011	49	112	141	13
	Mn	55	0.043	ug/L	0.008	17	485	1348	12
	Co	59	0.007	ug/L	0.008	105	57	154	68
>	Ge	72		ug/L			444301	410382	2
	Ni	60	0.034	ug/L	0.008	23	16	113	19
	Ni	62	0.787	ug/L	0.333	42	966	1217	9
	Cu	63	0.202	ug/L	0.028	14	754	1930	7
	Cu	65	0.155	ug/L	0.002	1	39	457	3
	Zn	66	2.110	ug/L	0.051	2	197	3624	0
	Zn	67	1.949	ug/L	0.128	6	32	561	4
	Zn	68	1.960	ug/L	0.133	6	191	2400	5
	As	75	0.132	ug/L	0.038	28	1284	1376	1
	As-1	75	0.179	ug/L	0.116	64	7106	6813	0
	Se	82	-0.010	ug/L	0.147	1405	-5	-6	353
	Se	78	0.516	ug/L	0.385	74	7187	6841	0
	Mo	98	0.030	ug/L	0.016	53	29	137	40
	Y	89		ug/L			323430	303621	1
	Kr	83		ug/L			1769	1821	3
>	In	115		ug/L			748057	731705	1
	Ag	107	0.041	ug/L	0.061	150	15	284	142
	Cd	111	0.048	ug/L	0.065	134	43	211	105
	Cd	114	0.049	ug/L	0.058	118	22	452	111
	Sb	121	0.278	ug/L	0.038	13	335	3408	12
	Sb	123	0.269	ug/L	0.033	12	270	2517	11
	Ba	135	0.053	ug/L	0.033	61	19	192	55
	Ba	137	0.049	ug/L	0.028	56	36	313	49
>	Tb	159		ug/L			853957	812607	0
	Tl	205	0.037	ug/L	0.023	63	75	957	58
	Pb	208	0.039	ug/L	0.017	43	139	1334	39
	Bi	209		ug/L			1664508	1586510	0
	Th	232	0.108	ug/L	0.028	25	1034	4183	20
	U	238	0.017	ug/L	0.013	76	25	562	73

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV3
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 14:40:55
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1374206	0
[	Be	9	50.528	ug/L	0.607	1	7	208072	0
	C	13		ug/L			82728	85336	0
	Cl	37		ug/L			4074015	4580462	3
[>	Sc	45		ug/L			1091639	1088038	1
[	V	51	47.213	ug/L	0.903	1	5656	960813	0
[	V-1	51	47.163	ug/L	1.167	2	83	953245	1
[	Cr	52	47.959	ug/L	0.576	1	16764	785643	2
[	Cr	53	47.785	ug/L	0.638	1	112	86357	1
[	Mn	55	46.893	ug/L	1.043	2	485	1037599	3
[	Co	59	47.896	ug/L	1.385	2	57	704921	2
[>	Ge	72		ug/L			444301	425975	2
[	Ni	60	48.014	ug/L	0.731	1	16	144655	0
[	Ni	62	47.717	ug/L	0.589	1	966	21517	1
[	Cu	63	48.603	ug/L	0.858	1	754	309448	1
[	Cu	65	47.991	ug/L	1.091	2	39	135583	0
[	Zn	66	48.549	ug/L	0.593	1	197	82403	1
[	Zn	67	48.883	ug/L	1.279	2	32	13863	1
[	Zn	68	49.226	ug/L	1.446	2	191	58159	1
[	As	75	48.282	ug/L	0.798	1	1284	73800	0
[	As-1	75	48.025	ug/L	0.865	1	7106	76872	1
[	Se	82	51.377	ug/L	0.421	0	-5	8712	1
[	Se	78	47.947	ug/L	0.867	1	7187	26646	2
[	Mo	98	47.208	ug/L	1.244	2	29	182530	0
	Y	89		ug/L			323430	315928	1
	Kr	83		ug/L			1769	1842	4
[>	In	115		ug/L			748057	746401	0
[	Ag	107	48.441	ug/L	1.161	2	15	333088	3
[	Cd	111	49.384	ug/L	0.620	1	43	179479	0
[	Cd	114	49.799	ug/L	0.780	1	22	451287	2
[	Sb	121	49.246	ug/L	0.465	0	335	556618	0
[	Sb	123	47.783	ug/L	0.442	0	270	408189	1
[	Ba	135	48.489	ug/L	0.678	1	19	163303	2
[	Ba	137	48.432	ug/L	0.331	0	36	278058	0
[>	Tb	159		ug/L			853957	852701	1
[	Tl	205	48.014	ug/L	0.874	1	75	1195501	0
[	Pb	208	49.401	ug/L	1.069	2	139	1582133	1
[	Bi	209		ug/L			1664508	1622890	0
[	Th	232	48.511	ug/L	1.169	2	1034	1508045	0
[	U	238	47.979	ug/L	1.354	2	25	1565235	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB3
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 14:47:08
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1335100	2
	Be	9	0.002	ug/L	0.001	74	7	13	35
	C	13		ug/L			82728	81651	2
	Cl	37		ug/L			4074015	4396277	2
>	Sc	45		ug/L			1091639	1054837	0
	V	51	0.003	ug/L	0.016	633	5656	5515	5
	V-1	51	0.003	ug/L	0.000	12	83	134	5
	Cr	52	0.006	ug/L	0.060	1057	16764	16284	5
	Cr	53	0.006	ug/L	0.001	22	112	119	1
	Mn	55	-0.002	ug/L	0.002	112	485	428	11
	Co	59	-0.001	ug/L	0.000	31	57	38	14
>	Ge	72		ug/L			444301	409468	2
	Ni	60	0.002	ug/L	0.000	19	16	20	2
	Ni	62	0.087	ug/L	0.222	254	966	924	7
	Cu	63	-0.005	ug/L	0.007	140	754	665	4
	Cu	65	0.001	ug/L	0.001	112	39	39	7
	Zn	66	0.009	ug/L	0.003	34	197	196	5
	Zn	67	0.019	ug/L	0.010	51	32	35	4
	Zn	68	0.016	ug/L	0.012	73	191	193	4
	As	75	0.159	ug/L	0.052	33	1284	1412	3
	As-1	75	0.173	ug/L	0.099	56	7106	6789	0
	Se	82	0.108	ug/L	0.205	189	-5	12	264
	Se	78	0.555	ug/L	0.360	64	7187	6841	0
	Mo	98	0.008	ug/L	0.001	13	29	56	8
	Y	89		ug/L			323430	306788	1
	Kr	83		ug/L			1769	1833	2
>	In	115		ug/L			748057	740586	0
	Ag	107	0.001	ug/L	0.000	10	15	21	2
	Cd	111	0.004	ug/L	0.002	33	43	59	9
	Cd	114	-0.000	ug/L	0.001	505	22	20	27
	Sb	121	0.079	ug/L	0.012	14	335	1214	10
	Sb	123	0.075	ug/L	0.015	20	270	902	13
	Ba	135	0.001	ug/L	0.000	50	19	21	4
	Ba	137	-0.000	ug/L	0.001	366	36	34	21
>	Tb	159		ug/L			853957	815072	0
	Tl	205	0.005	ug/L	0.000	8	75	184	4
	Pb	208	-0.001	ug/L	0.000	30	139	114	5
	Bi	209		ug/L			1664508	1611050	0
	Th	232	0.065	ug/L	0.011	17	1034	2926	11
	U	238	0.001	ug/L	0.000	32	25	54	17

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 H-L REN
Sample Dil Factor: 10
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:02:46
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

Be, Cr, Pb

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1357817	3
	Be	9	U 0.001	ug/L	0.001	98	7	12	43
	C	13		ug/L			82728	85590	2
	Cl	37		ug/L			4074015	4372293	1
>	Sc	45		ug/L			1091639	1051260	2
	V	51	0.331	ug/L	0.003	0	5656	11916	1
	V-1	51	0.376	ug/L	0.007	1	83	7415	3
	Cr	52	U 0.205	ug/L	0.011	5	16764	19314	1
	Cr	53	0.364	ug/L	0.029	8	112	743	7
	Mn	55	5.864	ug/L	0.124	2	485	125721	1
	Co	59	0.085	ug/L	0.002	2	57	1270	4
>	Ge	72		ug/L			444301	409115	2
	Ni	60	0.452	ug/L	0.014	3	16	1321	0
	Ni	62	3.998	ug/L	1.877	46	966	2543	30
	Cu	63	0.959	ug/L	0.126	13	754	6540	10
	Cu	65	0.227	ug/L	0.017	7	39	651	6
	Zn	66	2.855	ug/L	0.030	1	197	4826	2
	Zn	67	2.576	ug/L	0.159	6	32	729	3
	Zn	68	2.867	ug/L	0.079	2	191	3419	2
	As	75	2.007	ug/L	0.046	2	1284	4079	1
	As-1	75	2.133	ug/L	0.142	6	7106	9529	1
	Se	82	0.110	ug/L	0.047	42	-5	13	59
	Se	78	0.607	ug/L	0.427	70	7187	6856	1
	Mo	98	0.961	ug/L	0.045	4	29	3593	2
	Y	89		ug/L			323430	308771	0
	Kr	83		ug/L			1769	1758	0
>	In	115		ug/L			748057	730287	1
	Ag	107	0.000	ug/L	0.001	308	15	17	47
	Cd	111	0.004	ug/L	0.004	93	43	57	22
	Cd	114	0.003	ug/L	0.001	16	22	49	10
	Sb	121	0.043	ug/L	0.012	27	335	804	14
	Sb	123	0.038	ug/L	0.007	18	270	579	8
	Ba	135	2.453	ug/L	0.104	4	19	8097	2
	Ba	137	2.413	ug/L	0.040	1	36	13588	0
>	Tb	159		ug/L			853957	843837	1
	Tl	205	0.010	ug/L	0.008	78	75	328	59
	Pb	208	U 0.025	ug/L	0.001	3	139	937	2
	Bi	209		ug/L			1664508	1539641	0
	Th	232	0.034	ug/L	0.005	15	1034	2079	6
	U	238	0.027	ug/L	0.001	2	25	882	3

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 H REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:06:54
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

Be, Cr, Pb

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1371430	1
[	Be	9	0.000	ug/L	0.001	477	7	8	33
	C	13		ug/L			82728	85824	2
	Cl	37		ug/L			4074015	4294875	2
[>	Sc	45		ug/L			1091639	1099634	1
[	V	51	0.160	ug/L	0.007	4	5656	8975	2
[	V-1	51	0.196	ug/L	0.007	3	83	4078	3
[	Cr	52	0.105	ug/L	0.007	6	16764	18580	1
[	Cr	53	0.231	ug/L	0.013	5	112	533	3
[	Mn	55	2.813	ug/L	0.087	3	485	63345	1
[	Co	59	0.042	ug/L	0.001	2	57	675	1
[>	Ge	72		ug/L			444301	430804	1
[	Ni	60	0.232	ug/L	0.012	5	16	721	4
[	Ni	62	1.215	ug/L	0.135	11	966	1466	2
[	Cu	63	0.534	ug/L	0.020	3	754	4164	2
[	Cu	65	0.253	ug/L	0.005	1	39	761	3
[	Zn	66	2.201	ug/L	0.143	6	197	3958	4
[	Zn	67	1.957	ug/L	0.077	3	32	591	2
[	Zn	68	2.110	ug/L	0.094	4	191	2699	3
[	As	75	0.971	ug/L	0.031	3	1284	2721	0
[	As-1	75	0.914	ug/L	0.103	11	7106	8238	0
[	Se	82	0.036	ug/L	0.126	352	-5	1	1587
[	Se	78	-0.043	ug/L	0.274	636	7187	6950	0
[	Mo	98	0.454	ug/L	0.016	3	29	1803	4
	Y	89		ug/L			323430	323700	0
	Kr	83		ug/L			1769	1832	3
[>	In	115		ug/L			748057	755286	1
[	Ag	107	-0.000	ug/L	0.001	119	15	12	28
[	Cd	111	0.002	ug/L	0.003	137	43	50	17
[	Cd	114	0.002	ug/L	0.001	28	22	43	15
[	Sb	121	0.001	ug/L	0.004	489	335	347	13
[	Sb	123	-0.001	ug/L	0.005	672	270	267	16
[	Ba	135	1.122	ug/L	0.012	1	19	3840	0
[	Ba	137	1.141	ug/L	0.024	2	36	6666	3
[>	Tb	159		ug/L			853957	853578	0
[	Tl	205	0.001	ug/L	0.000	16	75	102	3
[	Pb	208	0.034	ug/L	0.001	1	139	1239	1
[	Bi	209		ug/L			1664508	1620625	1
[	Th	232	-0.005	ug/L	0.004	91	1034	890	14
[	U	238	0.012	ug/L	0.001	5	25	418	4

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 HDUP REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:11:01
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1405718	0
	Be	9	U 0.000	ug/L	0.001	219	7	9	33
	C	13		ug/L			82728	85511	2
	Cl	37		ug/L			4074015	4209865	2
>	Sc	45		ug/L			1091639	1078063	3
	V	51	0.178	ug/L	0.016	8	5656	9153	0
	V-1	51	0.211	ug/L	0.011	5	83	4303	1
	Cr	52	U 0.130	ug/L	0.027	20	16764	18607	1
	Cr	53	0.247	ug/L	0.010	3	112	551	1
	Mn	55	2.998	ug/L	0.044	1	485	66138	2
	Co	59	0.045	ug/L	0.003	6	57	704	3
>	Ge	72		ug/L			444301	422828	1
	Ni	60	0.259	ug/L	0.022	8	16	790	7
	Ni	62	1.056	ug/L	0.132	12	966	1371	3
	Cu	63	0.537	ug/L	0.027	5	754	4105	3
	Cu	65	0.254	ug/L	0.016	6	39	750	5
	Zn	66	2.065	ug/L	0.046	2	197	3659	0
	Zn	67	1.961	ug/L	0.082	4	32	581	3
	Zn	68	2.084	ug/L	0.093	4	191	2618	2
	As	75	1.043	ug/L	0.029	2	1284	2779	0
	As-1	75	1.050	ug/L	0.147	13	7106	8281	1
	Se	82	0.016	ug/L	0.131	803	-5	-2	987
	Se	78	0.196	ug/L	0.472	241	7187	6919	1
	Mo	98	0.480	ug/L	0.018	3	29	1871	2
	Y	89		ug/L			323430	319324	1
	Kr	83		ug/L			1769	1822	1
>	In	115		ug/L			748057	758010	1
	Ag	107	-0.001	ug/L	0.000	24	15	9	15
	Cd	111	0.001	ug/L	0.005	506	43	47	35
	Cd	114	0.001	ug/L	0.000	13	22	34	5
	Sb	121	-0.002	ug/L	0.004	193	335	315	16
	Sb	123	-0.003	ug/L	0.002	54	270	245	7
	Ba	135	1.146	ug/L	0.048	4	19	3937	3
	Ba	137	1.145	ug/L	0.037	3	36	6708	2
>	Tb	159		ug/L			853957	850519	0
	Tl	205	0.001	ug/L	0.000	47	75	89	7
	Pb	208	U 0.035	ug/L	0.001	3	139	1253	2
	Bi	209		ug/L			1664508	1611369	1
	Th	232	-0.013	ug/L	0.002	17	1034	625	11
	U	238	0.014	ug/L	0.001	9	25	468	9

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 HSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:15:09
Number of Replicates: 3
Method File: C:\NexIONData\Method\200.8nomin.mth
Tuning File: C:\NexIONData\MassCal\default.tun
Optimization File: C:\NexIONData\Conditions\default.dac
Calibration File: C:\NexIONData\System\120508.cal

2L rerun

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1398898	0
[	Be	9	2.513	ug/L	0.042	1	7	10542	1
	C	13		ug/L			82728	86574	1
	Cl	37		ug/L			4074015	4263492	0
[>	Sc	45		ug/L			1091639	1097070	0
[	V	51	2.504	ug/L	0.097	3	5656	56760	2
[	V-1	51	2.526	ug/L	0.086	3	83	51561	2
[	Cr	52	2.495	ug/L	0.105	4	16764	57172	3
[	Cr	53	2.574	ug/L	0.054	2	112	4797	1
[	Mn	55	5.138	ug/L	0.125	2	485	115028	1
[	Co	59	2.448	ug/L	0.095	3	57	36391	3
[>	Ge	72		ug/L			444301	425037	2
[	Ni	60	2.650	ug/L	0.024	0	16	7982	2
[	Ni	62	3.490	ug/L	0.119	3	966	2427	2
[	Cu	63	2.975	ug/L	0.069	2	754	19577	1
[	Cu	65	2.731	ug/L	0.049	1	39	7734	1
[	Zn	66	9.680	ug/L	0.186	1	197	16542	0
[	Zn	67	8.952	ug/L	0.456	5	32	2559	5
[	Zn	68	9.463	ug/L	0.271	2	191	11312	5
[	As	75	3.715	ug/L	0.062	1	1284	6800	1
[	As-1	75	3.504	ug/L	0.157	4	7106	11896	0
[	Se	82	8.318	ug/L	0.199	2	-5	1403	1
[	Se	78	7.883	ug/L	0.450	5	7187	10114	0
[	Mo	98	2.880	ug/L	0.019	0	29	11141	2
	Y	89		ug/L			323430	320966	1
	Kr	83		ug/L			1769	1862	3
[>	In	115		ug/L			748057	753061	0
[	Ag	107	2.359	ug/L	0.077	3	15	16381	3
[	Cd	111	2.424	ug/L	0.045	1	43	8931	2
[	Cd	114	2.450	ug/L	0.043	1	22	22421	1
[	Sb	121	2.496	ug/L	0.054	2	35	28783	2
[	Sb	123	2.400	ug/L	0.031	1	270	20943	1
[	Ba	135	3.519	ug/L	0.054	1	19	11972	1
[	Ba	137	3.518	ug/L	0.079	2	36	20413	2
[>	Tb	159		ug/L			853957	849996	0
[	Tl	205	2.414	ug/L	0.037	1	75	59988	1
[	Pb	208	2.500	ug/L	0.040	1	139	79953	1
[	Bi	209		ug/L			1664508	1609464	1
[	Th	232	2.278	ug/L	0.055	2	1034	71601	2
[	U	238	2.443	ug/L	0.052	2	25	79478	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 J-L REN
Sample Dil Factor: 10
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:19:16
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

Cr, Cu, Zn, Ag

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1415337	0
	Be	9	0.021	ug/L	0.001	6	7	95	5
	C	13		ug/L			82728	89520	2
	Cl	37		ug/L			4074015	4618700	3
>	Sc	45		ug/L			1091639	1122249	1
	V	51	10.408	ug/L	0.127	1	5656	223030	1
	V-1	51	10.547	ug/L	0.132	1	83	219981	1
	Cr	52	2.066	ug/L	0.029	1	16764	51400	1
	Cr	53	2.535	ug/L	0.080	3	112	4833	1
	Mn	55	58.594	ug/L	1.420	2	485	1336637	1
	Co	59	0.067	ug/L	0.002	2	57	1068	1
>	Ge	72		ug/L			444301	419090	1
	Ni	60	0.141	ug/L	0.009	6	16	433	4
	Ni	62	5.114	ug/L	2.285	44	966	3079	31
	Cu	63	1.156	ug/L	0.146	12	754	7931	11
	Cu	65	U 0.243	ug/L	0.007	3	39	713	2
	Zn	66	1.615	ug/L	0.086	5	197	2876	4
	Zn	67	L 1.850	ug/L	0.058	3	32	545	2
	Zn	68	1.826	ug/L	0.127	6	191	2295	5
	As	75	73.227	ug/L	0.772	1	1284	109512	0
	As-1	75	75.462	ug/L	0.833	1	7106	115028	0
	Se	82	0.114	ug/L	0.053	46	-5	14	62
	Se	78	0.508	ug/L	0.207	40	7187	6985	0
	Mo	98	0.099	ug/L	0.000	0	29	403	1
	Y	89		ug/L			323430	329985	1
	Kr	83		ug/L			1769	1835	2
>	In	115		ug/L			748057	737080	0
	Ag	107	U 0.002	ug/L	0.001	36	15	32	18
	Cd	111	0.009	ug/L	0.005	52	43	75	22
	Cd	114	0.001	ug/L	0.001	215	22	26	38
	Sb	121	-0.007	ug/L	0.002	27	335	257	8
	Sb	123	-0.011	ug/L	0.003	28	270	173	15
	Ba	135	1.614	ug/L	0.023	1	19	5386	1
	Ba	137	1.593	ug/L	0.041	2	36	9065	2
>	Tb	159		ug/L			853957	857578	1
	Tl	205	0.001	ug/L	0.001	106	75	89	15
	Pb	208	0.024	ug/L	0.002	7	139	921	5
	Bi	209		ug/L			1664508	1580906	0
	Th	232	0.075	ug/L	0.021	28	1034	3374	18
	U	238	0.022	ug/L	0.001	4	25	753	4

US52 : 00700

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 J REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:23:24
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

Cr, Cu, Zn, Ag

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1357362	1
	Be	9	0.093	ug/L	0.004	4	7	384	4
	C	13		ug/L			82728	111262	1
	Cl	37		ug/L			4074015	5677718	1
>	Sc	45		ug/L			1091639	1203412	1
	V	51	47.220	ug/L	1.366	2	5656	1062837	1
	V-1	51	47.447	ug/L	1.414	2	83	1060675	1
	Cr	52	9.385	ug/L	0.263	2	16764	184853	1
	Cr	53	10.058	ug/L	0.439	4	112	20197	3
	Mn	55	258.985	ug/L	1.975	0	485	6334190	0
	Co	59	0.289	ug/L	0.005	1	57	4768	2
>	Ge	72		ug/L			444301	388028	1
	Ni	60	0.575	ug/L	0.004	0	16	1593	1
	Ni	62	99.576	ug/L	32.886	33	966	40090	33
	Cu	63	11.945	ug/L	2.730	22	754	69910	23
	Cu	65	1.064	ug/L	0.044	4	39	2773	5
	Zn	66	U 1.357	ug/L	0.010	0	197	2265	1
	Zn	67	3.813	ug/L	0.058	1	32	1011	0
	Zn	68	2.633	ug/L	0.083	3	191	2992	1
	As	75	343.437	ug/L	5.074	1	1284	471391	0
	As-1	75	354.662	ug/L	5.128	1	7106	477574	0
	Se	82	0.288	ug/L	0.164	56	-5	39	63
	Se	78	4.024	ug/L	0.360	8	7187	7789	2
	Mo	98	0.517	ug/L	0.020	3	29	1847	2
	Y	89		ug/L			323430	356239	0
	Kr	83		ug/L			1769	1928	3
>	In	115		ug/L			748057	700103	0
	Ag	107	U 0.017	ug/L	0.002	14	15	125	12
	Cd	111	U 0.012	ug/L	0.010	81	43	80	39
	Cd	114	0.006	ug/L	0.002	27	22	68	19
	Sb	121	0.025	ug/L	0.001	5	335	573	3
	Sb	123	0.022	ug/L	0.001	3	270	426	2
	Ba	135	7.895	ug/L	0.170	2	19	24949	1
	Ba	137	7.781	ug/L	0.235	3	36	41922	2
>	Tb	159		ug/L			853957	839786	0
	Tl	205	0.000	ug/L	0.000	98	75	85	13
	Pb	208	0.046	ug/L	0.000	0	139	1573	1
	Bi	209		ug/L			1664508	1378872	1
	Th	232	0.215	ug/L	0.039	18	1034	7594	15
	U	238	0.104	ug/L	0.002	2	25	3367	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 JDUP REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:27:31
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1396066	2
	Be	9	0.088	ug/L	0.002	2	7	374	3
	C	13		ug/L			82728	107892	1
	Cl	37		ug/L			4074015	5712492	1
>	Sc	45		ug/L			1091639	1208129	0
	V	51	46.778	ug/L	0.837	1	5656	1057219	1
	V-1	51	46.938	ug/L	0.866	1	83	1053561	1
	Cr	52	9.148	ug/L	0.101	1	16764	181394	0
	Cr	53	9.583	ug/L	0.209	2	112	19327	1
	Mn	55	252.320	ug/L	7.076	2	485	6195094	2
	Co	59	0.280	ug/L	0.003	1	57	4643	1
>	Ge	72		ug/L			444301	393484	1
	Ni	60	0.545	ug/L	0.015	2	16	1531	2
	Ni	62	129.942	ug/L	12.940	9	966	52614	8
	Cu	63	13.977	ug/L	0.885	6	754	82650	5
	Cu	65	1.184	ug/L	0.017	1	39	3124	0
	Zn	66	1.177	ug/L	0.021	1	197	2015	1
	Zn	67	3.897	ug/L	0.092	2	32	1047	1
	Zn	68	2.499	ug/L	0.113	4	191	2888	3
	As	75	332.014	ug/L	4.636	1	1284	462167	1
	As-1	75	342.972	ug/L	4.796	1	7106	468541	1
	Se	82	0.414	ug/L	0.096	23	-5	60	23
	Se	78	4.264	ug/L	0.570	13	7187	7986	1
	Mo	98	0.491	ug/L	0.020	4	29	1780	2
	Y	89		ug/L			323430	355867	1
	Kr	83		ug/L			1769	1872	1
>	In	115		ug/L			748057	693844	0
	Ag	107	0.015	ug/L	0.001	5	15	107	4
	Cd	111	0.027	ug/L	0.003	11	43	130	7
	Cd	114	0.004	ug/L	0.001	36	22	52	22
	Sb	121	0.022	ug/L	0.002	7	335	540	2
	Sb	123	0.020	ug/L	0.001	4	270	412	2
	Ba	135	7.691	ug/L	0.054	0	19	24090	1
	Ba	137	7.660	ug/L	0.103	1	36	40908	1
>	Tb	159		ug/L			853957	828396	0
	Tl	205	-0.000	ug/L	0.000	377	75	70	14
	Pb	208	0.054	ug/L	0.001	1	139	1815	1
	Bi	209		ug/L			1664508	1389647	0
	Th	232	0.142	ug/L	0.010	6	1034	5280	5
	U	238	0.104	ug/L	0.005	4	25	3326	4

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 JSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:31:39
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

Cr, Cu, Zn, Ag

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1379698	2
	Be	9	22.124	ug/L	0.580	2	7	91471	3
	C	13		ug/L			82728	107185	2
	Cl	37		ug/L			4074015	5712197	2
>	Sc	45		ug/L			1091639	1201230	1 ✓
	V	51	66.254	ug/L	1.211	1	5656	1486326	2
	V-1	51	66.480	ug/L	1.098	1	83	1483759	2
	Cr	52	29.197 ✓	ug/L	0.725	2	16764	535084	1
	Cr	53	29.871	ug/L	0.181	0	112	59643	1
	Mn	55	266.306	ug/L	2.194	0	485	6502277	2
	Co	59	20.218	ug/L	0.133	0	57	328619	1
>	Ge	72		ug/L			444301	393417	1 ✓
	Ni	60	23.832	ug/L	0.622	2	16	66317	1
	Ni	62	177.573	ug/L	19.500	10	966	71716	12
	Cu	63	38.484	ug/L	1.321	3	754	226555	4
	Cu	65	24.238	ug/L	0.741	3	39	63264	1
	Zn	66	66.482	ug/L	1.344	2	197	104154	1
	Zn	67	64.606	ug/L	1.370	2	32	16917	2
	Zn	68	67.290	ug/L	2.036	3	191	73381	2
	As	75	351.992	ug/L	7.585	2	1284	489757	0
	As-1	75	361.723	ug/L	7.671	2	7106	493665	0
	Se	82	69.774	ug/L	1.400	2	-5	10928	0
	Se	78	70.355	ug/L	1.094	1	7187	33137	1
	Mo	98	0.493	ug/L	0.013	2	29	1787	1
	Y	89		ug/L			323430	349650	0
	Kr	83		ug/L			1769	1879	0
>	In	115		ug/L			748057	690399	1 ✓
	Ag	107	13.051	ug/L	0.260	1	15	82989	0
	Cd	111	22.094	ug/L	0.180	0	43	74297	1
	Cd	114	22.100	ug/L	0.231	1	22	185229	0
	Sb	121	0.024	ug/L	0.001	2	335	563	1
	Sb	123	0.023	ug/L	0.002	7	270	434	1
	Ba	135	32.301	ug/L	0.265	0	19	100631	2
	Ba	137	32.353	ug/L	0.799	2	36	171852	3
>	Tb	159		ug/L			853957	825084	2 ✓
	Tl	205	22.647	ug/L	0.383	1	75	545663	1
	Pb	208	23.171	ug/L	0.246	1	139	718156	1
	Bi	209		ug/L			1664508	1378720	1
	Th	232	24.202	ug/L	0.525	2	1034	728480	0
	U	238	24.554	ug/L	0.380	1	25	775072	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV4
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:39:43
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1387369	0
	Be	9	49.514	ug/L	0.443	0	7	205850	0
	C	13		ug/L			82728	85020	2
	Cl	37		ug/L			4074015	4364761	2
>	Sc	45		ug/L			1091639	1052024	1
	V	51	46.460	ug/L	0.581	1	5656	914427	1
	V-1	51	46.406	ug/L	0.478	1	83	907053	0
	Cr	52	48.139	ug/L	0.332	0	16764	762337	1
	Cr	53	47.952	ug/L	0.673	1	112	83786	0
	Mn	55	47.856	ug/L	0.847	1	485	1023567	1
	Co	59	47.146	ug/L	0.344	0	57	671075	1
>	Ge	72		ug/L			444301	411532	0
	Ni	60	48.644	ug/L	0.958	1	16	141609	1
	Ni	62	121.258	ug/L	0.104	0	966	51455	0
	Cu	63	53.057	ug/L	1.449	2	754	326393	3
	Cu	65	47.635	ug/L	1.345	2	39	130059	2
	Zn	66	48.874	ug/L	0.214	0	197	80154	0
	Zn	67	49.282	ug/L	1.619	3	32	13507	3
	Zn	68	49.430	ug/L	0.808	1	191	56445	1
	As	75	48.355	ug/L	0.450	0	1284	71419	0
	As-1	75	48.542	ug/L	0.604	1	7106	75010	0
	Se	82	51.767	ug/L	0.699	1	-5	8482	1
	Se	78	49.911	ug/L	0.943	1	7187	26527	1
	Mo	98	46.514	ug/L	0.680	1	29	173812	1
	Y	89		ug/L			323430	308744	1
	Kr	83		ug/L			1769	1778	1
>	In	115		ug/L			748057	740168	0
	Ag	107	46.820	ug/L	0.395	0	15	319199	0
	Cd	111	48.802	ug/L	0.487	0	43	175880	0
	Cd	114	49.338	ug/L	0.703	1	22	443350	1
	Sb	121	48.358	ug/L	0.439	0	335	541997	0
	Sb	123	48.146	ug/L	0.368	0	270	407847	1
	Ba	135	48.108	ug/L	0.204	0	19	160658	1
	Ba	137	48.444	ug/L	0.973	2	36	275779	1
>	Tb	159		ug/L			853957	850005	1
	Tl	205	47.913	ug/L	1.020	2	75	1189171	0
	Pb	208	49.294	ug/L	0.573	1	139	1573833	0
	Bi	209		ug/L			1664508	1621861	1
	Th	232	48.241	ug/L	0.390	0	1034	1495341	2
	U	238	48.520	ug/L	1.506	3	25	1577598	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB4
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:46:35
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1334512	1
	Be	9	0.000	ug/L	0.002	514	7	9	98
	C	13		ug/L			82728	81308	1
	Cl	37		ug/L			4074015	4094696	1
>	Sc	45		ug/L			1091639	979132	1
	V	51	0.013	ug/L	0.005	42	5656	5307	3
	V-1	51	0.007	ug/L	0.002	23	83	201	16
	Cr	52	0.034	ug/L	0.014	41	16764	15533	2
	Cr	53	0.013	ug/L	0.002	17	112	122	1
	Mn	55	0.008	ug/L	0.003	35	485	592	10
	Co	59	0.000	ug/L	0.001	209	57	57	23
>	Ge	72		ug/L			444301	395632	0
	Ni	60	0.001	ug/L	0.001	60	16	18	11
	Ni	62	40.306	ug/L	4.262	10	966	17007	9
	Cu	63	2.174	ug/L	0.233	10	754	13494	9
	Cu	65	0.045	ug/L	0.004	9	39	152	6
	Zn	66	0.393	ug/L	0.033	8	197	794	5
	Zn	67	0.328	ug/L	0.027	8	32	115	5
	Zn	68	0.352	ug/L	0.036	10	191	555	6
	As	75	0.088	ug/L	0.040	45	1284	1267	5
	As-1	75	0.328	ug/L	0.034	10	7106	6773	1
	Se	82	-0.047	ug/L	0.131	277	-5	-11	171
	Se	78	1.118	ug/L	0.120	10	7187	6828	1
	Mo	98	0.004	ug/L	0.001	31	29	38	9
	Y	89		ug/L			323430	288957	1
	Kr	83		ug/L			1769	1734	2
>	In	115		ug/L			745057	710605	1
	Ag	107	0.001	ug/L	0.001	74	15	19	18
	Cd	111	0.002	ug/L	0.003	132	43	49	21
	Cd	114	-0.001	ug/L	0.000	51	22	14	24
	Sb	121	0.041	ug/L	0.007	16	335	756	10
	Sb	123	0.037	ug/L	0.002	5	270	555	4
	Ba	135	0.003	ug/L	0.002	83	19	26	28
	Ba	137	0.002	ug/L	0.004	200	36	45	46
>	Tb	159		ug/L			853957	789349	0
	Tl	205	0.004	ug/L	0.005	121	75	156	67
	Pb	208	0.003	ug/L	0.003	119	139	208	45
	Bi	209		ug/L			1664508	1567831	1
	Th	232	0.065	ug/L	0.009	14	1034	2836	9
	U	238	0.002	ug/L	0.003	103	25	98	78

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 J-L REN
Sample Dil Factor: 100
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:50:44
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1381773	2
[	Be	9	0.002	ug/L	0.001	34	7	16	18
	C	13		ug/L			82728	85380	1
	Cl	37		ug/L			4074015	4019754	4
[>	Sc	45		ug/L			1091639	1031963	1
|	V	51	1.083	ug/L	0.003	0	5656	26136	1
|	V-1	51	1.098	ug/L	0.002	0	83	21132	1
|	Cr	52	0.218	ug/L	0.011	4	16764	19155	1
|	Cr	53	0.268	ug/L	0.017	6	112	564	3
|	Mn	55	6.180	ug/L	0.014	0	485	130067	1
[	Co	59	0.007	ug/L	0.000	6	57	149	2
[>	Ge	72		ug/L			444301	410854	1
|	Ni	60	0.030	ug/L	0.002	8	16	102	8
|	Ni	62	32.702	ug/L	0.348	1	966	14506	2
|	Cu	63	1.922	ug/L	0.031	1	754	12480	3
|	Cu	65	0.156	ug/L	0.005	3	39	462	2
|	Zn	66	1.187	ug/L	0.005	0	197	2121	1
|	Zn	67	1.065	ug/L	0.073	6	32	320	7
|	Zn	68	1.165	ug/L	0.052	4	191	1499	2
|	As	75	7.273	ug/L	0.142	1	1284	11731	0
|	As-1	75	7.517	ug/L	0.182	2	7106	17148	0
|	Se	82	0.156	ug/L	0.041	26	-5	20	34
|	Se	78	0.468	ug/L	0.296	63	7187	6831	1
[	Mo	98	0.010	ug/L	0.002	24	29	63	15
	Y	89		ug/L			323430	298287	2
	Kr	83		ug/L			1769	1745	1
[>	In	115		ug/L			748057	729204	3
|	Ag	107	0.000	ug/L	0.001	1029	15	15	44
|	Cd	111	0.004	ug/L	0.002	49	43	54	8
|	Cd	114	0.001	ug/L	0.001	122	22	26	20
|	Sb	121	-0.005	ug/L	0.003	58	335	275	13
|	Sb	123	-0.007	ug/L	0.004	57	270	206	19
|	Ba	135	0.170	ug/L	0.003	1	19	578	2
[	Ba	137	0.165	ug/L	0.007	4	36	962	4
[>	Tb	159		ug/L			853957	827652	1
|	Tl	205	0.005	ug/L	0.004	77	75	187	45
|	Pb	208	0.015	ug/L	0.000	2	139	600	3
|	Bi	209		ug/L			1664508	1629400	1
|	Th	232	0.017	ug/L	0.007	37	1034	1522	11
[	U	238	0.002	ug/L	0.000	18	25	92	14

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 J REN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:55:19
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1387802	1
[	Be	9	0.010	ug/L	0.002	16	7	49	15
	C	13		ug/L			82728	85030	1
	Cl	37		ug/L			4074015	4087134	1
[>	Sc	45		ug/L			1091639	1035992	2
[	V	51	5.379	ug/L	0.117	2	5656	108989	1
[	V-1	51	5.439	ug/L	0.116	2	83	104742	1
[	Cr	52	1.048	ug/L	0.033	3	16764	31915	3
[	Cr	53	1.247	ug/L	0.025	2	112	2248	0
[	Mn	55	30.495	ug/L	0.708	2	485	642308	0
[	Co	59	0.034	ug/L	0.002	4	57	535	5
[>	Ge	72		ug/L			444301	405208	0
[	Ni	60	0.071	ug/L	0.005	6	16	217	6
[	Ni	62	36.311	ug/L	3.152	8	966	15789	8
[	Cu	63	2.483	ug/L	0.155	6	754	15692	5
[	Cu	65	0.215	ug/L	0.011	5	39	613	5
[	Zn	66	0.858	ug/L	0.024	2	197	1562	2
[	Zn	67	0.939	ug/L	0.015	1	32	282	1
[	Zn	68	0.946	ug/L	0.020	2	191	1234	1
[	As	75	36.135	ug/L	0.549	1	1284	52848	1
[	As-1	75	37.295	ug/L	0.566	1	7106	58248	1
[	Se	82	0.186	ug/L	0.038	20	-5	25	24
[	Se	78	0.669	ug/L	0.011	1	7187	6817	0
[	Mo	98	0.047	ug/L	0.001	2	29	198	2
	Y	89		ug/L			323430	306339	2
	Kr	83		ug/L			1769	1733	1
[>	In	115		ug/L			748057	732138	0
[	Ag	107	0.001	ug/L	0.001	116	15	20	32
[	Cd	111	-0.001	ug/L	0.002	143	43	38	15
[	Cd	114	0.000	ug/L	0.001	432	22	22	18
[	Sb	121	-0.010	ug/L	0.002	18	335	214	10
[	Sb	123	-0.012	ug/L	0.004	35	270	165	21
[	Ba	135	0.769	ug/L	0.003	0	19	2557	1
[	Ba	137	0.774	ug/L	0.007	0	36	4393	0
[>	Tb	159		ug/L			853957	829789	0
[	Tl	205	0.001	ug/L	0.001	93	75	90	17
[	Pb	208	0.017	ug/L	0.001	3	139	680	2
[	Bi	209		ug/L			1664508	1584812	0
[	Th	232	0.027	ug/L	0.006	21	1034	1836	10
[	U	238	0.011	ug/L	0.000	2	25	366	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 JDUP REN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Tuesday, May 08, 2012 15:59:26
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

AG

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1413076	1
[	Be	9	0.009	ug/L	0.002	26	7	46	24
	C	13		ug/L			82728	88583	2
	Cl	37		ug/L			4074015	4135307	3
[>	Sc	45		ug/L			1091639	1071240	2
[	V	51	5.079	ug/L	0.111	2	5656	106709	0
[	V-1	51	5.156	ug/L	0.093	1	83	102667	0
[	Cr	52	0.937	ug/L	0.072	7	16764	31228	1
[	Cr	53	1.197	ug/L	0.044	3	112	2236	3
[	Mn	55	29.054	ug/L	1.042	3	485	632651	1
[	Co	59	0.032	ug/L	0.001	1	57	520	0
[>	Ge	72		ug/L			444301	412248	0
[	Ni	60	0.071	ug/L	0.004	5	16	221	5
[	Ni	62	30.855	ug/L	0.802	2	966	13783	1
[	Cu	63	2.206	ug/L	0.040	1	754	14264	1
[	Cu	65	0.207	ug/L	0.006	2	39	603	2
[	Zn	66	0.787	ug/L	0.014	1	197	1473	1
[	Zn	67	0.877	ug/L	0.045	5	32	270	4
[	Zn	68	0.851	ug/L	0.026	3	191	1147	2
[	As	75	35.512	ug/L	0.222	0	1284	52861	1
[	As-1	75	36.660	ug/L	0.124	0	7106	58363	0
[	Se	82	0.088	ug/L	0.121	137	-5	9	205
[	Se	78	0.655	ug/L	0.303	46	7187	6930	1
[	Mo	98	0.046	ug/L	0.004	9	29	198	8
	Y	89		ug/L			323430	315447	1
	Kr	83		ug/L			1769	1797	1
[>	In	115		ug/L			748057	737244	1
[	Ag	107	0.000	ug/L	0.000	160	15	16	12
[	Cd	111	-0.001	ug/L	0.003	369	43	39	28
[	Cd	114	-0.000	ug/L	0.000	1853	22	21	16
[	Sb	121	-0.015	ug/L	0.003	16	335	163	16
[	Sb	123	-0.016	ug/L	0.002	14	270	135	12
[	Ba	135	0.763	ug/L	0.025	3	19	2558	4
[	Ba	137	0.762	ug/L	0.007	0	36	4355	2
[>	Tb	159		ug/L			853957	830942	0
[	Tl	205	-0.000	ug/L	0.000	207	75	68	15
[	Pb	208	0.019	ug/L	0.001	2	139	731	1
[	Bi	209		ug/L			1664508	1632252	0
[	Th	232	0.008	ug/L	0.003	33	1034	1263	7
[	U	238	0.011	ug/L	0.001	5	25	373	4

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 JSPK REN
Sample Dil Factor: 20
Comments:
Sample Date/Time: Tuesday, May 08, 2012 16:03:34
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1409615	0
	Be	9	2.473	ug/L	0.031	1	7	10452	1
	C	13		ug/L			82728	85998	1
	Cl	37		ug/L			4074015	4095005	2
>	Sc	45		ug/L			1091639	1062473	1
	V	51	7.510	ug/L	0.136	1	5656	153874	0
	V-1	51	7.570	ug/L	0.128	1	83	149485	0
	Cr	52	3.365	ug/L	0.126	3	16764	68979	2
	Cr	53	3.565	ug/L	0.088	2	112	6391	1
	Mn	55	31.080	ug/L	0.783	2	485	671485	2
	Co	59	2.384	ug/L	0.041	1	57	34311	1
>	Ge	72		ug/L			444301	412253	0
	Ni	60	2.505	ug/L	0.017	0	16	7319	0
	Ni	62	27.493	ug/L	0.699	2	966	12379	1
	Cu	63	4.340	ug/L	0.088	2	754	27382	1
	Cu	65	2.694	ug/L	0.038	1	39	7402	1
	Zn	66	8.672	ug/L	0.237	2	197	14397	2
	Zn	67	8.117	ug/L	0.203	2	32	2253	2
	Zn	68	8.636	ug/L	0.228	2	191	10024	2
	As	75	37.339	ug/L	0.407	1	1284	55517	0
	As-1	75	38.155	ug/L	0.335	0	7106	60475	0
	Se	82	8.704	ug/L	0.361	4	-5	1424	3
	Se	78	8.111	ug/L	0.151	1	7187	9904	0
	Mo	98	0.044	ug/L	0.003	7	29	193	6
	Y	89		ug/L			323430	312093	1
	Kr	83		ug/L			1769	1700	1
>	In	115		ug/L			748057	732115	1
	Ag	107	1.686	ug/L	0.014	0	15	11383	0
	Cd	111	2.490	ug/L	0.029	1	43	8917	0
	Cd	114	2.469	ug/L	0.041	1	22	21964	0
	Sb	121	-0.017	ug/L	0.001	8	335	141	10
	Sb	123	-0.020	ug/L	0.001	6	270	99	9
	Ba	135	3.220	ug/L	0.092	2	19	10652	1
	Ba	137	3.178	ug/L	0.021	0	36	17930	1
>	Tb	159		ug/L			853957	823425	1
	Tl	205	2.460	ug/L	0.022	0	75	59228	0
	Pb	208	2.561	ug/L	0.050	1	139	79329	0
	Bi	209		ug/L			1664508	1577705	0
	Th	232	2.344	ug/L	0.060	2	1034	71326	2
	U	238	2.528	ug/L	0.065	2	25	79656	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LR300
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 16:09:45
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1314383	1
	Be	9	287.309	ug/L	2.613	0	7	1131540	1
	C	13		ug/L			82728	89289	1
	Cl	37		ug/L			4074015	4424372	0
>	Sc	45		ug/L			1091639	997973	2
	V	51	299.736	ug/L	4.144	1	5656	5567038	1
	V-1	51	298.187	ug/L	5.518	1	83	5527135	1
	Cr	52	295.392	ug/L	0.778	0	16764	4358977	2
	Cr	53	289.827	ug/L	4.267	1	112	479803	1
	Mn	55	287.630	ug/L	6.630	2	485	5832248	1
	Co	59	295.268	ug/L	7.706	2	57	3984692	0
>	Ge	72		ug/L			444301	387837	0
	Ni	60	281.951	ug/L	2.427	0	16	773545	1
	Ni	62	301.723	ug/L	5.518	1	966	119395	0
	Cu	63	284.689	ug/L	5.342	1	754	1647394	1
	Cu	65	281.541	ug/L	3.289	1	39	724233	1
	Zn	66	272.265	ug/L	0.721	0	197	420019	0
	Zn	67	272.009	ug/L	4.977	1	32	70125	1
	Zn	68	266.994	ug/L	1.517	0	191	286591	1
	As	75	282.566	ug/L	3.697	1	1284	387873	1
	As-1	75	282.591	ug/L	3.708	1	7106	381617	0
	Se	82	290.029	ug/L	2.362	0	-5	44804	0
	Se	78	274.354	ug/L	5.054	1	7187	109197	0
	Mo	98	299.237	ug/L	2.696	0	29	1053647	0
	Y	89		ug/L			323430	291615	2
	Kr	83		ug/L			1769	2073	4
>	In	115		ug/L			748057	683721	1
	Ag	107	268.153	ug/L	3.219	1	15	1688965	2
	Cd	111	283.012	ug/L	1.008	0	43	942066	1
	Cd	114	292.813	ug/L	1.798	0	22	2430336	0
	Sb	121	308.039	ug/L	2.345	0	335	3187672	1
	Sb	123	304.563	ug/L	4.221	1	270	2381708	1
	Ba	135	300.174	ug/L	2.829	0	19	925810	0
	Ba	137	302.867	ug/L	1.468	0	36	1592669	1
>	Tb	159		ug/L			853957	822017	1
	Tl	205	290.352	ug/L	1.162	0	75	6970160	1
	Pb	208	296.898	ug/L	3.340	1	139	9166630	0
	Bi	209		ug/L			1664508	1458543	1
	Th	232	308.528	ug/L	3.437	1	1034	9242016	0
	U	238	302.697	ug/L	4.482	1	25	9520036	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: B4
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 16:16:37
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1312376	1
[	Be	9	0.002	ug/L	0.001	42	7	16	22
	C	13		ug/L			82728	80789	0
	Cl	37		ug/L			4074015	4215187	3
[>	Sc	45		ug/L			1091639	986090	1
[	V	51	0.020	ug/L	0.008	40	5656	5479	1
[	V-1	51	0.011	ug/L	0.000	4	83	274	3
[	Cr	52	0.064	ug/L	0.028	43	16764	16063	1
[	Cr	53	0.030	ug/L	0.005	15	112	150	5
[	Mn	55	0.041	ug/L	0.002	5	485	1252	4
[	Co	59	0.001	ug/L	0.000	4	57	66	1
[>	Ge	72		ug/L			444301	398699	1
[	Ni	60	0.020	ug/L	0.003	14	16	70	10
[	Ni	62	10.651	ug/L	0.453	4	966	5168	2
[	Cu	63	0.714	ug/L	0.031	4	754	4924	3
[	Cu	65	0.183	ug/L	0.003	1	39	518	2
[	Zn	66	1.451	ug/L	0.013	0	197	2477	0
[	Zn	67	1.318	ug/L	0.146	11	32	378	10
[	Zn	68	1.411	ug/L	0.058	4	191	1727	2
[	As	75	0.127	ug/L	0.029	22	1284	1332	2
[	As-1	75	0.223	ug/L	0.063	28	7106	6680	0
[	Se	82	-0.020	ug/L	0.119	599	-5	-7	246
[	Se	78	0.695	ug/L	0.216	31	7187	6717	0
[	Mo	98	0.033	ug/L	0.004	10	29	144	7
	Y	89		ug/L			323430	291734	2
	Kr	83		ug/L			1769	1778	2
[>	In	115		ug/L			748057	697398	2
[	Ag	107	0.006	ug/L	0.001	18	15	50	11
[	Cd	111	0.006	ug/L	0.001	25	43	59	5
[	Cd	114	0.001	ug/L	0.001	114	22	28	33
[	Sb	121	0.169	ug/L	0.040	23	335	2092	18
[	Sb	123	0.172	ug/L	0.047	27	270	1618	21
[	Ba	135	0.018	ug/L	0.001	4	19	74	3
[	Ba	137	0.021	ug/L	0.003	13	36	145	10
[>	Tb	159		ug/L			853957	786274	1
[	Tl	205	0.013	ug/L	0.001	8	75	372	8
[	Pb	208	0.029	ug/L	0.000	1	139	993	0
[	Bi	209		ug/L			1664508	1571331	1
[	Th	232	0.084	ug/L	0.007	8	1034	3350	7
[	U	238	0.005	ug/L	0.000	5	25	159	6

ICP-MS Quantitative Analysis - Summary Report

Sample ID: B5
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 16:23:08
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1336965	0
	Be	9	0.003	ug/L	0.001	49	7	17	28
	C	13		ug/L			82728	80991	1
	Cl	37		ug/L			4074015	4057313	2
>	Sc	45		ug/L			1091639	974738	4
	V	51	0.009	ug/L	0.006	63	5656	5208	2
	V-1	51	0.009	ug/L	0.000	3	83	239	4
	Cr	52	0.029	ug/L	0.022	76	16764	15381	3
	Cr	53	0.030	ug/L	0.010	32	112	149	12
	Mn	55	0.039	ug/L	0.001	2	485	1210	2
	Co	59	0.001	ug/L	0.001	172	57	61	27
>	Ge	72		ug/L			444301	390058	2
	Ni	60	0.023	ug/L	0.002	8	16	77	9
	Ni	62	8.659	ug/L	0.142	1	966	4270	3
	Cu	63	0.648	ug/L	0.015	2	754	4436	4
	Cu	65	0.223	ug/L	0.009	4	39	611	2
	Zn	66	1.676	ug/L	0.061	3	197	2773	5
	Zn	67	1.529	ug/L	0.092	5	32	424	3
	Zn	68	1.630	ug/L	0.055	3	191	1926	5
	As	75	0.121	ug/L	0.034	28	1284	1294	3
	As-1	75	0.203	ug/L	0.055	26	7106	6508	1
	Se	82	-0.004	ug/L	0.124	2799	-5	-5	362
	Se	78	0.638	ug/L	0.219	34	7187	6549	1
	Mo	98	0.006	ug/L	0.002	41	29	46	18
	Y	89		ug/L			323430	283159	5
	Kr	83		ug/L			1769	1728	1
>	In	115		ug/L			748057	688340	1
	Ag	107	0.002	ug/L	0.001	26	15	29	15
	Cd	111	0.005	ug/L	0.002	42	43	58	14
	Cd	114	0.001	ug/L	0.001	64	22	27	17
	Sb	121	0.030	ug/L	0.013	42	335	621	20
	Sb	123	0.030	ug/L	0.014	44	270	487	21
	Ba	135	0.019	ug/L	0.003	16	19	76	11
	Ba	137	0.020	ug/L	0.001	2	36	141	3
>	Tb	159		ug/L			853957	785104	0
	Tl	205	0.008	ug/L	0.001	13	75	242	10
	Pb	208	0.035	ug/L	0.001	3	139	1164	3
	Bi	209		ug/L			1664508	1543092	0
	Th	232	0.015	ug/L	0.002	10	1034	1373	3
	U	238	0.001	ug/L	0.000	19	25	57	11

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US27 HSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 16:29:20
Number of Replicates: 3
Method File: C:\NexIONData\Method\200.8nomin.mth
Tuning File: C:\NexIONData\MassCal\default.tun
Optimization File: C:\NexIONData\Conditions\default.dac
Calibration File: C:\NexIONData\System\120508.cal

Cr Be Pb

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1373085	1
[	Be	9	22.300	ug/L	0.407	1	7	91751	1
	C	13		ug/L			82728	102881	1
	Cl	37		ug/L			4074015	4659517	3
[>	Sc	45		ug/L			1091639	1098542	0
[	V	51	23.895	ug/L	0.096	0	5656	493884	0
[	V-1	51	24.123	ug/L	0.037	0	83	492434	0
[	Cr	52	22.574	ug/L	0.403	1	16764	382253	1
[	Cr	53	23.386	ug/L	0.433	1	112	42730	1
[	Mn	55	45.852	ug/L	0.636	1	485	1024151	1
[	Co	59	21.501	ug/L	0.351	1	57	319606	1
[>	Ge	72		ug/L			444301	377082	1
[	Ni	60	25.295	ug/L	0.380	1	16	67473	0
[	Ni	62	63.963	ug/L	6.214	9	966	25234	7
[	Cu	63	29.301	ug/L	0.866	2	754	165391	1
[	Cu	65	23.561	ug/L	0.456	1	39	58952	1
[	Zn	66	67.206	ug/L	1.815	2	197	100907	1
[	Zn	67	62.585	ug/L	1.641	2	32	15707	2
[	Zn	68	67.613	ug/L	2.477	3	191	70658	2
[	As	75	33.818	ug/L	0.797	2	1284	46085	0
[	As-1	75	33.335	ug/L	0.926	2	7106	49078	0
[	Se	82	71.517	ug/L	0.780	1	-5	10737	0
[	Se	78	70.008	ug/L	1.303	1	7187	31633	0
[	Mo	98	30.242	ug/L	0.082	0	29	103560	1
	Y	89		ug/L			323430	304747	1
	Kr	83		ug/L			1769	1743	0
[>	In	115		ug/L			748057	683760	0
[	Ag	107	21.765	ug/L	0.466	2	15	137083	1
[	Cd	111	22.354	ug/L	0.251	1	43	74449	1
[	Cd	114	21.954	ug/L	0.350	1	22	182262	1
[	Sb	121	24.443	ug/L	0.389	1	335	253247	1
[	Sb	123	24.049	ug/L	0.436	1	270	188314	1
[	Ba	135	36.256	ug/L	0.310	0	19	111856	0
[	Ba	137	36.211	ug/L	0.276	0	36	190461	0
[>	Tb	159		ug/L			853957	821349	1
[	Tl	205	22.621	ug/L	0.180	0	75	542646	0
[	Pb	208	23.284	ug/L	0.315	1	139	718418	0
[	Bi	209		ug/L			1664508	1387621	0
[	Th	232	25.102	ug/L	0.738	2	1034	752174	2
[	U	238	24.569	ug/L	0.474	1	25	772074	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~CCV5~~ CCB5 5/9/12 JW
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 16:36:13
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1357406	1
[	Be	9	-0.001	ug/L	0.001	92	7	4	66
	C	13		ug/L			82728	81163	2
	Cl	37		ug/L			4074015	3933830	1
[>	Sc	45		ug/L			1091639	990535	0
[	V	51	0.024	ug/L	0.009	38	5656	5581	3
[	V-1	51	0.007	ug/L	0.001	7	83	210	4
[	Cr	52	0.083	ug/L	0.026	31	16764	16416	2
[	Cr	53	0.022	ug/L	0.010	45	112	137	12
[	Mn	55	0.004	ug/L	0.002	40	485	527	6
[	Co	59	-0.000	ug/L	0.000	64	57	45	9
[>	Ge	72		ug/L			444301	395690	3
[	Ni	60	0.002	ug/L	0.002	76	16	21	23
[	Ni	62	17.639	ug/L	1.564	8	966	7925	6
[	Cu	63	0.872	ug/L	0.077	8	754	5814	6
[	Cu	65	0.013	ug/L	0.002	14	39	69	8
[	Zn	66	0.372	ug/L	0.012	3	197	760	2
[	Zn	67	0.356	ug/L	0.023	6	32	122	2
[	Zn	68	0.352	ug/L	0.028	8	191	556	8
[	As	75	0.130	ug/L	0.020	15	1284	1325	3
[	As-1	75	0.259	ug/L	0.175	67	7106	6674	0
[	Se	82	0.175	ug/L	0.098	55	-5	23	70
[	Se	78	0.906	ug/L	0.615	67	7187	6743	0
[	Mo	98	0.001	ug/L	0.002	287	29	28	28
	Y	89		ug/L			323430	292520	1
	Kr	83		ug/L			1769	1710	1
[>	In	115		ug/L			748057	707741	0
[	Ag	107	0.001	ug/L	0.000	74	15	18	16
[	Cd	111	-0.000	ug/L	0.001	257	43	40	7
[	Cd	114	-0.000	ug/L	0.000	1097	22	20	6
[	Sb	121	0.002	ug/L	0.009	549	335	334	27
[	Sb	123	0.000	ug/L	0.009	2364	270	259	26
[	Ba	135	0.002	ug/L	0.001	91	19	23	19
[	Ba	137	-0.000	ug/L	0.003	3776	36	34	42
[>	Tb	159		ug/L			853957	791238	1
[	Tl	205	-0.001	ug/L	0.000	22	75	36	20
[	Pb	208	0.001	ug/L	0.000	24	139	146	3
[	Bi	209		ug/L			1664508	1549361	0
[	Th	232	0.011	ug/L	0.005	49	1034	1265	11
[	U	238	0.000	ug/L	0.000	24	25	35	9

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~CCB5~~ CCV5 5/9/12 JAB
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 16:43:06
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1398959	2
[	Be	9	48.460	ug/L	1.168	2	7	203124	2
	C	13		ug/L			82728	83996	2
	Cl	37		ug/L			4074015	4251817	4
[>	Sc	45		ug/L			1091639	1026194	2
[	V	51	48.078	ug/L	0.268	0	5656	922823	2
[	V-1	51	48.060	ug/L	0.410	0	83	916294	2
[	Cr	52	49.271	ug/L	0.953	1	16764	760547	1
[	Cr	53	49.211	ug/L	0.950	1	112	83853	0
[	Mn	55	48.531	ug/L	0.881	1	485	1012294	0
[	Co	59	48.633	ug/L	0.695	1	57	675128	1
[>	Ge	72		ug/L			444301	414002	1
[	Ni	60	47.757	ug/L	1.359	2	16	139834	1
[	Ni	62	45.896	ug/L	1.991	3	966	24339	2
[	Cu	63	49.782	ug/L	1.216	2	754	308058	1
[	Cu	65	47.782	ug/L	0.217	0	39	131248	1
[	Zn	66	49.035	ug/L	1.257	2	197	80882	1
[	Zn	67	48.726	ug/L	1.175	2	32	13432	1
[	Zn	68	49.896	ug/L	2.255	4	191	57291	3
[	As	75	47.790	ug/L	0.949	1	1284	71011	0
[	As-1	75	47.408	ug/L	0.867	1	7106	73844	0
[	Se	82	51.141	ug/L	1.542	3	-5	8427	1
[	Se	78	47.321	ug/L	1.259	2	7187	25644	0
[	Mo	98	46.189	ug/L	0.888	1	29	173608	0
	Y	89		ug/L			329430	303921	0
	Kr	83		ug/L			1769	1793	0
[>	In	115		ug/L			748057	729076	1
[	Ag	107	47.643	ug/L	0.920	1	15	320005	3
[	Cd	111	49.209	ug/L	0.796	1	43	174690	1
[	Cd	114	48.801	ug/L	0.311	0	22	431944	0
[	Sb	121	48.133	ug/L	0.797	1	335	531361	0
[	Sb	123	47.582	ug/L	0.935	1	270	396960	0
[	Ba	135	48.299	ug/L	0.598	1	19	158866	0
[	Ba	137	47.950	ug/L	0.220	0	36	268896	1
[>	Tb	159		ug/L			853957	831430	1
[	Tl	205	48.225	ug/L	0.232	0	75	1170995	0
[	Pb	208	49.602	ug/L	0.584	1	139	1549126	0
[	Bi	209		ug/L			1664508	1584435	1
[	Th	232	48.719	ug/L	1.646	3	1034	1476729	2
[	U	238	48.652	ug/L	0.304	0	25	1547817	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 MB1 REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 16:47:15
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

rr Cu

	Analyte	Mass	Conc. Mean		Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6			ug/L			1411952	1350224	2
[	Be	9	U	0.002	ug/L	0.001	70	7	15	35
	C	13			ug/L			82728	88728	3
	Cl	37			ug/L			4074015	4228557	1
[>	Sc	45			ug/L			1091639	992232	2
[	V	51		0.023	ug/L	0.002	10	5656	5563	2
[	V-1	51		0.013	ug/L	0.002	17	83	306	10
[	Cr	52	U	0.068	ug/L	0.001	1	16764	16225	2
[	Cr	53		0.031	ug/L	0.010	32	112	152	10
[	Mn	55		0.020	ug/L	0.003	12	485	845	5
[	Co	59		0.001	ug/L	0.001	54	57	68	10
[>	Ge	72			ug/L			444301	393326	2
[	Ni	60	U	0.010	ug/L	0.002	22	16	41	13
[	Ni	62		9.588	ug/L	0.557	5	966	4672	2
[	Cu	63		0.651	ug/L	0.038	5	754	4482	2
[	Cu	65	U	0.168	ug/L	0.005	3	39	474	5
[	Zn	66		0.647	ug/L	0.000	0	197	1186	2
[	Zn	67		0.552	ug/L	0.028	5	32	173	6
[	Zn	68		0.618	ug/L	0.050	8	191	841	5
[	As	75	U	0.116	ug/L	0.037	31	1284	1297	1
[	As-1	75		0.270	ug/L	0.120	44	7106	6652	1
[	Se	82	U	-0.003	ug/L	0.104	3355	-5	-5	315
[	Se	78		0.909	ug/L	0.430	47	7187	6706	1
[	Mo	98		0.034	ug/L	0.014	40	29	145	31
	Y	89			ug/L			323430	288048	3
	Kr	83			ug/L			1769	1748	1
[>	In	115			ug/L			748057	707632	1
[	Ag	107	U	0.004	ug/L	0.003	78	15	42	50
[	Cd	111	U	0.009	ug/L	0.003	36	43	71	14
[	Cd	114		0.003	ug/L	0.004	150	22	43	76
[	Sb	121	U	0.148	ug/L	0.014	9	335	1895	6
[	Sb	123		0.142	ug/L	0.013	9	270	1403	5
[	Ba	135		0.008	ug/L	0.001	14	19	44	8
[	Ba	137		0.008	ug/L	0.002	22	36	79	11
[>	Tb	159			ug/L			853957	790159	1
[	Tl	205	U	0.013	ug/L	0.009	69	75	369	54
[	Pb	208	U	0.010	ug/L	0.002	20	139	414	12
[	Bi	209			ug/L			1664508	1562400	0
[	Th	232		0.367	ug/L	0.192	52	1034	11467	46
[	U	238		0.005	ug/L	0.002	34	25	182	28

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 MB2 REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 16:51:22
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data...ions\default.nto
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean		Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6			ug/L			1411952	1384697	1
[	Be	9	U	0.004	ug/L	0.004	102	7	23	70
	C	13			ug/L			82728	89573	1
	Cl	37			ug/L			4074015	4137547	3
[>	Sc	45			ug/L			1091639	1015040	1
[	V	51		0.018	ug/L	0.016	86	5656	5595	3
[	V-1	51		0.014	ug/L	0.001	5	83	340	5
[	Cr	52	U	0.050	ug/L	0.055	110	16764	16322	3
[	Cr	53		0.035	ug/L	0.003	9	112	163	4
[	Mn	55		0.063	ug/L	0.001	1	485	1751	0
[	Co	59		0.001	ug/L	0.000	14	57	70	4
[>	Ge	72			ug/L			444301	407156	2
[	Ni	60	U	0.009	ug/L	0.003	29	16	40	15
[	Ni	62		8.319	ug/L	0.418	5	966	4314	1
[	Cu	63		0.702	ug/L	0.042	5	754	4951	2
[	Cu	65		0.275	ug/L	0.017	6	99	780	8
[	Zn	66	U	0.752	ug/L	0.050	6	197	1398	7
[	Zn	67		0.665	ug/L	0.037	5	32	299	6
[	Zn	68		0.701	ug/L	0.027	3	191	963	1
[	As	75	U	0.101	ug/L	0.006	5	1284	1322	2
[	As-1	75		0.202	ug/L	0.161	79	7106	6789	0
[	Se	82	U	0.011	ug/L	0.074	650	-5	-2	413
[	Se	78		0.657	ug/L	0.594	90	7187	6841	0
[	Mo	98		0.004	ug/L	0.001	13	29	40	4
	Y	89			ug/L			323430	297483	1
	Kr	83			ug/L			1769	1771	3
[>	In	115			ug/L			748057	712940	1
[	Ag	107	U	-0.000	ug/L	0.001	299	15	13	35
[	Cd	111	U	0.004	ug/L	0.001	38	43	53	7
[	Cd	114		0.001	ug/L	0.000	38	22	28	9
[	Sb	121	U	0.012	ug/L	0.005	45	335	445	13
[	Sb	123		0.008	ug/L	0.006	74	270	325	15
[	Ba	135		0.013	ug/L	0.005	36	19	60	26
[	Ba	137		0.011	ug/L	0.000	2	36	93	2
[>	Tb	159			ug/L			853957	806226	1
[	Tl	205	U	0.004	ug/L	0.002	63	75	160	35
[	Pb	208	U	0.010	ug/L	0.003	26	139	442	18
[	Bi	209			ug/L			1664508	1572675	2
[	Th	232		0.059	ug/L	0.017	29	1034	2710	17
[	U	238		0.002	ug/L	0.002	101	25	78	70

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 MB2SPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 16:55:30
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

Analyte	Mass	Conc. Mean	Units	Conc. S.D.	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
Li	6		ug/L			1411952	1354503	1
Be	9	24.842	ug/L	0.451	1	7	100823	1
C	13		ug/L			82728	91909	1
Cl	37		ug/L			4074015	4162960	3
Sc	45		ug/L			1091639	1025531	1
V	51	24.077	ug/L	0.814	3	5656	464326	1
V-1	51	23.998	ug/L	0.733	3	83	457149	1
Cr	52	24.849	ug/L	1.128	4	16764	391020	2
Cr	53	24.571	ug/L	0.828	3	112	41890	1
Mn	55	24.286	ug/L	1.104	4	485	506395	3
Co	59	25.098	ug/L	0.353	1	57	348270	2
Ge	72		ug/L			444301	399255	1
Ni	60	25.609	ug/L	0.707	2	16	72320	1
Ni	62	33.210	ug/L	0.560	1	966	14300	0
Cu	63	26.080	ug/L	0.427	1	754	155961	0
Cu	65	26.164	ug/L	0.621	2	39	69306	1
Zn	66	79.367	ug/L	2.596	3	197	126136	2
Zn	67	72.525	ug/L	0.820	1	32	19269	1
Zn	68	77.132	ug/L	0.959	1	191	85342	0
As	75	26.254	ug/L	0.528	2	1284	38142	0
As-1	75	24.817	ug/L	0.503	2	7106	40320	0
Se	82	78.630	ug/L	1.468	1	-5	12499	0
Se	78	74.700	ug/L	1.589	2	7187	35305	0
Mo	98	24.755	ug/L	0.445	1	29	89748	1
Y	89		ug/L			323430	301733	2
Kr	83		ug/L			1769	1756	0
In	115		ug/L			748057	709700	1
Ag	107	25.213	ug/L	0.447	1	15	164807	0
Cd	111	24.623	ug/L	0.360	1	43	85101	0
Cd	114	24.894	ug/L	0.275	1	22	214477	0
Sb	121	25.357	ug/L	0.412	1	335	272643	1
Sb	123	24.943	ug/L	0.353	1	270	202686	0
Ba	135	24.791	ug/L	0.373	1	19	79378	0
Ba	137	25.047	ug/L	0.221	0	36	136734	0
Tb	159		ug/L			853957	805529	1
Tl	205	25.370	ug/L	0.228	0	75	596866	0
Pb	208	26.209	ug/L	0.055	0	139	793172	1
Bi	209		ug/L			1664508	1580189	0
Th	232	24.987	ug/L	0.367	1	1034	734429	1
U	238	25.437	ug/L	0.191	0	25	784048	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 MB1SPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 16:59:37
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1355749	2
[	Be	9	24.538	ug/L	0.518	2	7	99669	1
	C	13		ug/L			82728	91722	1
	Cl	37		ug/L			4074015	4236693	2
[>	Sc	45		ug/L			1091639	1016862	0
|	V	51	24.215	ug/L	0.355	1	5656	463171	0
|	V-1	51	24.150	ug/L	0.446	1	83	456285	1
|	Cr	52	24.692	ug/L	0.218	0	16764	385568	1
|	Cr	53	24.462	ug/L	0.212	0	112	41367	0
|	Mn	55	24.445	ug/L	0.247	1	485	505614	1
[	Co	59	25.061	ug/L	0.425	1	57	344797	1
[>	Ge	72		ug/L			444301	400207	0
|	Ni	60	25.628	ug/L	0.260	1	16	72568	1
|	Ni	62	31.798	ug/L	0.516	1	966	13764	1
|	Cu	63	26.726	ug/L	0.166	0	754	160212	0
|	Cu	65	25.474	ug/L	0.749	2	39	67648	2
|	Zn	66	76.574	ug/L	1.786	2	197	122025	2
|	Zn	67	71.441	ug/L	0.386	0	32	19029	1
|	Zn	68	75.490	ug/L	0.883	1	191	83734	0
|	As	75	25.789	ug/L	0.501	1	1284	37580	1
|	As-1	75	23.807	ug/L	0.579	2	7106	39036	1
|	Se	82	77.659	ug/L	0.947	1	-5	12376	0
|	Se	78	71.834	ug/L	1.717	2	7187	34285	1
[	Mo	98	24.376	ug/L	0.406	1	29	88598	2
	Y	89		ug/L			323430	299821	1
	Kr	83		ug/L			1769	1770	4
[>	In	115		ug/L			748057	709107	2
|	Ag	107	24.533	ug/L	0.131	0	15	160258	2
|	Cd	111	24.678	ug/L	0.494	2	43	85205	0
|	Cd	114	24.837	ug/L	0.284	1	22	213789	1
|	Sb	121	25.353	ug/L	0.857	3	335	272265	1
|	Sb	123	24.886	ug/L	0.544	2	270	202021	1
|	Ba	135	24.667	ug/L	0.222	0	19	78927	2
[	Ba	137	25.119	ug/L	0.208	0	36	137008	1
[>	Tb	159		ug/L			853957	807741	1
|	Tl	205	24.948	ug/L	0.154	0	75	588576	1
|	Pb	208	25.867	ug/L	0.195	0	139	784954	1
|	Bi	209		ug/L			1664508	1570492	1
|	Th	232	25.003	ug/L	0.203	0	1034	736906	0
[	U	238	24.971	ug/L	0.101	0	25	771819	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 A REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:03:44
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Int...	Intens. RSD
[>	Li	6		ug/L			1411952	1389410	1
[	Be	9	U 0.014	ug/L	0.002	15		66	15
	C	13		ug/L			82726	95679	2
	Cl	37					4074015	4404414	
[>	Sc	45		ug/L			1091639	1111341	
[	V	51	1.073	ug/L	0....	4	5656	...	1
[	V-1	51	1.300	ug/L	0.003	0	...	26934	2
[	Cr	52	U 0.415	ug/L	0.078	18	16764	23842	2
[	Cr	53	1.227	ug/L	0.082	6	112	2378	8
[	Mn	55	334.248	ug/L	6.767	2	485	7547342	0
[	Co	59	0.179	ug/L	0.009	4	57	2741	2
[>	Ge	72		ug/L			444301	403819	3
[	Ni	60	0.842	ug/L	0.027	3	16	2418	3
[	Ni	62	6.420	ug/L	0.533	8	966	3499	2
[	Cu	63	0.780	ug/L	0.053	6	754	5374	3
[	Cu	65	0.309	ug/L	0.028	9	39	861	6
[	Zn	66	U 0.916	ug/L	0.050	5	197	1647	2
[	Zn	67	1.017	ug/L	0.033	3	32	302	1
[	Zn	68	1.924	ug/L	0.088	4	191	2320	1
[	As	75	9.486	ug/L	0.470	4	1284	14670	1
[	As-1	75	9.862	ug/L	0.595	6	7106	20080	0
[	Se	82	U 0.209	ug/L	0.035	16	-5	29	19
[	Se	78	0.817	ug/L	0.544	66	7187	6847	0
[	Mo	98	7.448	ug/L	0.258	3	29	27311	0
	Y	89		ug/L			323430	305492	0
	Kr	83		ug/L			1769	1747	1
[>	In	115		ug/L			748057	714195	1
[	Ag	107	U 0.004	ug/L	0.001	22	15	44	15
[	Cd	111	U 0.016	ug/L	0.003	15	43	98	10
[	Cd	114	U 0.010	ug/L	0.001	7	22	109	6
[	Sb	121	0.053	ug/L	0.007	13	335	895	8
[	Sb	123	0.050	ug/L	0.012	23	270	669	13
[	Ba	135	2.866	ug/L	0.053	1	19	9252	0
[	Ba	137	2.880	ug/L	0.033	1	36	15851	1
[>	Tb	159		ug/L			853957	825881	1
[	Tl	205	U 0.004	ug/L	0.001	26	75	157	14
[	Pb	208	U 0.027	ug/L	0.000	0	139	976	1
[	Bi	209		ug/L			1664508	1507004	1
[	Th	232	0.409	ug/L	0.227	55	1034	13285	50
[	U	238	0.011	ug/L	0.002	21	25	359	21

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 B REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:07:52
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1373702	1
|	Be	9	U 0.012	ug/L	0.002	12	7	55	9
	C	13		ug/L			82728	94799	3
	Cl	37		ug/L			4074015	6054831	1
[>	Sc	45		ug/L			1091639	1125769	2
|	V	51	1.534	ug/L	0.027	1	5656	37947	2
|	V-1	51	1.888	ug/L	0.088	4	83	39558	3
|	Cr	52	U 0.205	ug/L	0.057	28	16764	20677	3
|	Cr	53	1.469	ug/L	0.265	18	112	2851	15
|	Mn	55	321.294	ug/L	13.043	4	485	7347240	2
|	Co	59	0.150	ug/L	0.002	1	57	2337	2
[>	Ge	72		ug/L			444301	393525	0
|	Ni	60	0.751	ug/L	0.049	6	16	2104	5
|	Ni	62	9.610	ug/L	1.339	13	966	4685	11
|	Cu	63	1.592	ug/L	0.104	6	754	10010	5
|	Cu	65	0.461	ug/L	0.021	4	39	1237	3
|	Zn	66	U 0.794	ug/L	0.035	4	197	1417	4
|	Zn	67	1.219	ug/L	0.147	12	32	347	10
|	Zn	68	1.831	ug/L	0.085	4	191	2161	3
|	As	75	[illegible]	ug/L	[illegible]	1	1284	5844	1
|	As-1		3.654	ug/L	0.105	2	7106	11218	0
|	Se	82	U 0.138	ug/L	0.045	32	-5	17	40
|	Se	78	1.132	ug/L	0.339	29	187	6796	1
L	Mo	98	2.474	ug/L	0.039	1	2[illegible]	8865	0
	Y	89		ug/L			323430	[illegible]	1
	Kr	83		ug/L			1769	1766	2
[>	In	115		ug/L			74[illegible]57	702182	[illegible]
|	Ag	107	U 0.003	ug/L	0.001	28	15	35	17
|	Cd	111	U 0.011	ug/L	0.002	22	43	77	10
|	Cd	114	0.004	ug/L	0.001	29	22	54	18
|	Sb	121	0.265	ug/L	0.004	1	335	3129	1
|	Sb	123	0.258	ug/L	0.014	5	270	2325	5
|	Ba	135	8.575	ug/L	0.068	0	19	27181	1
L	Ba	137	8.669	ug/L	0.075	0	36	46851	1
[>	Tb	159		ug/L			853957	825064	1
|	Tl	205	U 0.002	ug/L	0.000	21	75	123	9
|	Pb	208	U 0.050	ug/L	0.001	2	139	1677	1
|	Bi	209		ug/L			1664508	1482082	1
|	Th	232	0.099	ug/L	0.025	25	1034	3964	19
L	U	238	0.099	ug/L	0.003	3	25	3138	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 C REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:11:59
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1338190	3
	Be	9	U 0.019	ug/L	0.001	4	7	82	2
	C	13		ug/L			82728	91344	2
	Cl	37		ug/L			4074015	4186030	1
>	Sc	45		ug/L			1091639	1086531	1
	V	51	0.454	ug/L	0.034	7	5656	14794	4
	V-1	51	0.490	ug/L	0.021	4	83	9965	3
	Cr	52	U 0.409	ug/L	0.052	12	16764	23233	3
	Cr	53	0.538	ug/L	0.009	1	112	1081	1
	Mn	55	181.911	ug/L	6.781	3	485	4015961	2
	Co	59	0.283	ug/L	0.005	1	57	4223	2
>	Ge	72		ug/L			444301	390554	2
	Ni	60	1.978	ug/L	0.086	4	16	5477	3
	Ni	62	7.639	ug/L	0.248	3	966	3872	3
	Cu	63	1.361	ug/L	0.022	1	754	8590	2
	Cu	65	0.979	ug/L	0.048	4	39	2570	3
	Zn	66	U 1.125	ug/L	0.071	6	197	1918	3
	Zn	67	1.175	ug/L	0.026	2	32	333	3
	Zn	68	2.084	ug/L	0.009	0	191	2419	2
	As	75	1.480	ug/L	0.088	5	1284	3167	1
	As-1	75	1.685	ug/L	0.206	12	7106	8496	0
	Se	82	U 0.156	ug/L	0.080	51	-5	19	63
	Se	78	1.041	ug/L	0.528	50	7187	6708	0
	Mo	98	12.026	ug/L	0.334	2	29	42652	1
	Y	89		ug/L			323430	302091	1
	Kr	83		ug/L			1769	1704	1
>	In	115		ug/L			748057	708224	1
	Ag	107	U 0.001	ug/L	0.001	72	15	21	22
	Cd	111	U 0.021	ug/L	0.005	24	43	113	16
	Cd	114	0.015	ug/L	0.001	7	22	151	6
	Sb	121	0.250	ug/L	0.007	2	335	2997	1
	Sb	123	0.240	ug/L	0.002	0	270	2196	1
	Ba	135	4.925	ug/L	0.021	0	19	15752	1
	Ba	137	4.933	ug/L	0.064	1	36	26898	0
>	Tb	159		ug/L			853957	824147	1
	Tl	205	U 0.003	ug/L	0.000	15	75	140	6
	Pb	208	U 0.019	ug/L	0.001	4	139	731	2
	Bi	209		ug/L			1664508	1495911	1
	Th	232	0.039	ug/L	0.007	18	1034	2184	10
	U	238	0.407	ug/L	0.014	3	25	12846	2

US52 : 80722

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 H REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:16:07
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean		Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6			ug/L			1411952	1360116	1
	Be	9	U	0.011	ug/L	0.002	15	7	51	12
	C	13			ug/L			82728	95542	0
	Cl	37			ug/L			4074015	6299026	1
>	Sc	45			ug/L			1091639	1132150	0
	V	51		1.505	ug/L	0.008	0	5656	37555	0
	V-1	51		1.676	ug/L	0.007	0	83	35342	0
	Cr	52	U	0.152	ug/L	0.031	20	16764	19918	2
	Cr	53		0.760	ug/L	0.030	3	112	1543	3
	Mn	55		316.479	ug/L	1.386	0	485	7282260	0
	Co	59		0.157	ug/L	0.006	3	57	2468	3
>	Ge	72			ug/L			444301	397694	1
	Ni	60		0.652	ug/L	0.030	4	16	1848	3
	Ni	62		8.524	ug/L	1.032	12	966	4300	10
	Cu	63		1.364	ug/L	0.075	5	754	8765	5
	Cu	65		0.350	ug/L	0.024	6	39	957	5
	Zn	66	U	0.785	ug/L	0.030	3	197	1417	2
	Zn	67		1.166	ug/L	0.061	5	32	337	6
	Zn	68		1.815	ug/L	0.073	3	191	2167	3
	As	75		3.511	ug/L	0.105	2	1284	6077	1
	As-1	75		3.794	ug/L	0.134	3	7106	11528	0
	Se	82	U	0.017	ug/L	0.014	81	-5	-1	113
	Se	78		1.060	ug/L	0.173	16	7187	6841	0
	Mo	98		2.625	ug/L	0.041	1	29	9501	0
	Y	89			ug/L			323430	308751	1
	Kr	83			ug/L			1769	1786	1
>	In	115			ug/L			748057	709718	1
	Ag	107	U	0.001	ug/L	0.001	100	15	19	25
	Cd	111	U	0.010	ug/L	0.004	36	43	76	14
	Cd	114		0.001	ug/L	0.000	32	22	32	10
	Sb	121		0.263	ug/L	0.006	2	335	3137	1
	Sb	123		0.262	ug/L	0.004	1	270	2380	2
	Ba	135		8.538	ug/L	0.123	1	19	27349	0
	Ba	137		8.577	ug/L	0.160	1	36	46839	0
>	Tb	159			ug/L			853957	826122	0
	Tl	205	U	0.002	ug/L	0.001	36	75	112	12
	Pb	208	U	0.016	ug/L	0.001	7	139	644	5
	Bi	209			ug/L			1664508	1478222	0
	Th	232		0.017	ug/L	0.004	22	1034	1519	7
	U	238		0.105	ug/L	0.003	3	25	3342	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 I REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:20:14
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1381596	2
[	Be	9	U 0.013	ug/L	0.002	15	7	60	14
	C	13		ug/L			82728	94261	1
	Cl	37		ug/L			4074015	4375286	3
[>	Sc	45		ug/L			1091639	1121876	1
[	V	51	0.365	ug/L	0.012	3	5656	13427	2
[	V-1	51	0.412	ug/L	0.006	1	83	8662	1
[	Cr	52	U 0.322	ug/L	0.031	9	16764	22554	3
[	Cr	53	U 0.489	ug/L	0.008	1	112	1024	2
[	Mn	55	161.179	ug/L	1.660	1	485	3675125	1
[	Co	59	0.321	ug/L	0.007	2	57	4938	3
[>	Ge	72		ug/L			444301	400752	1
[	Ni	60	1.017	ug/L	0.025	2	16	2897	1
[	Ni	62	7.051	ug/L	0.425	6	966	3733	4
[	Cu	63	0.899	ug/L	0.040	4	754	6051	2
[	Cu	65	0.516	ug/L	0.012	2	39	1407	0
[	Zn	66	U 0.705	ug/L	0.013	1	197	1300	0
[	Zn	67	0.821	ug/L	0.068	8	32	248	8
[	Zn	68	1.601	ug/L	0.036	2	191	1947	2
[	As	75	1.315	ug/L	0.053	3	1284	3017	1
[	As-1	75	1.463	ug/L	0.116	7	7106	8416	1
[	Se	82	U 0.128	ug/L	0.080	62	-5	15	81
[	Se	78	0.897	ug/L	0.251	28	7187	6830	0
[	Mo	98	10.791	ug/L	0.106	0	29	39283	0
	Y	89		ug/L			323430	312121	0
	Kr	83		ug/L			1769	1782	2
[>	In	115		ug/L			748057	726458	1
[	Ag	107	U -0.000	ug/L	0.000	236	15	14	14
[	Cd	111	U 0.012	ug/L	0.004	29	43	86	13
[	Cd	114	0.008	ug/L	0.000	4	22	91	2
[	Sb	121	0.221	ug/L	0.005	2	335	2750	2
[	Sb	123	0.210	ug/L	0.003	1	270	2003	0
[	Ba	135	4.240	ug/L	0.084	1	19	13912	2
[	Ba	137	4.280	ug/L	0.036	0	36	23949	1
[>	Tb	159		ug/L			853957	830592	1
[	Tl	205	U 0.003	ug/L	0.000	4	75	142	3
[	Pb	208	U 0.008	ug/L	0.001	7	139	375	5
[	Bi	209		ug/L			1664508	1517261	1
[	Th	232	0.001	ug/L	0.002	377	1034	1022	7
[	U	238	0.363	ug/L	0.005	1	25	11562	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 J REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:24:22
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1383369	1
	Be	9	U 0.016	ug/L	0.002	13	7	73	12
	C	13		ug/L			82728	95929	1
	Cl	37		ug/L			4074015	4321851	1
>	Sc	45		ug/L			1091639	1110618	0
	V	51	0.369	ug/L	0.010	2	5656	13384	1
	V-1	51	0.414	ug/L	0.006	1	83	8620	1
	Cr	52	U 0.310	ug/L	0.024	7	16764	22134	1
	Cr	53	0.469	ug/L	0.004	0	112	977	0
	Mn	55	168.097	ug/L	3.809	2	485	3794460	2
	Co	59	0.240	ug/L	0.005	2	57	3656	1
>	Ge	72		ug/L			444301	401989	1
	Ni	60	0.966	ug/L	0.028	2	16	2760	1
	Ni	62	5.718	ug/L	0.189	3	966	3202	1
	Cu	63	0.796	ug/L	0.026	3	754	5455	1
	Cu	65	0.483	ug/L	0.013	2	39	1322	1
	Zn	66	U 1.015	ug/L	0.004	0	197	1801	1
	Zn	67	1.099	ug/L	0.046	4	32	322	2
	Zn	68	1.749	ug/L	0.040	2	191	2116	0
	As	75	1.222	ug/L	0.058	4	1284	2896	1
	As-1	75	1.336	ug/L	0.097	7	7106	8267	0
	Se	82	U 0.131	ug/L	0.121	92	-5	16	118
	Se	78	0.702	ug/L	0.276	39	7187	6775	0
	Mo	98	10.304	ug/L	0.355	3	29	37623	2
	Y	89		ug/L			323430	307476	1
	Kr	83		ug/L			1769	1745	1
>	In	115		ug/L			748057	724563	1
	Ag	107	U -0.000	ug/L	0.001	336	15	13	29
	Cd	111	U 0.014	ug/L	0.003	21	43	90	10
	Cd	114	0.009	ug/L	0.001	11	22	97	7
	Sb	121	0.216	ug/L	0.012	5	335	2698	4
	Sb	123	0.208	ug/L	0.002	1	270	1983	1
	Ba	135	4.215	ug/L	0.040	0	19	13795	0
	Ba	137	4.229	ug/L	0.036	0	36	23602	1
>	Tb	159		ug/L			853957	828327	0
	Tl	205	U 0.004	ug/L	0.001	15	75	158	7
	Pb	208	U 0.011	ug/L	0.000	4	139	467	3
	Bi	209		ug/L			1664508	1509466	1
	Th	232	-0.005	ug/L	0.002	34	1034	850	5
	U	238	0.355	ug/L	0.005	1	25	11281	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV6
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:31:15
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1398224	0
	Be	9	48.912	ug/L	0.925	1	7	204933	1
	C	13		ug/L			82728	84311	2
	Cl	37		ug/L			4074015	4390130	1
>	Sc	45		ug/L			1091639	1041960	1
	V	51	47.415	ug/L	1.076	2	5656	924022	1
	V-1	51	46.953	ug/L	1.221	2	83	908811	1
	Cr	52	48.403	ug/L	0.375	0	16764	759052	0
	Cr	53	46.753	ug/L	0.847	1	112	80908	1
	Mn	55	46.645	ug/L	0.706	1	485	988072	0
	Co	59	46.076	ug/L	0.157	0	57	649554	1
>	Ge	72		ug/L			444301	399908	1
	Ni	60	48.748	ug/L	0.695	1	16	137905	1
	Ni	62	51.170	ug/L	1.024	2	966	21602	2
	Cu	63	50.731	ug/L	1.761	3	754	303181	2
	Cu	65	48.970	ug/L	1.533	3	39	129882	1
	Zn	66	51.082	ug/L	1.818	3	197	81369	2
	Zn	67	49.822	ug/L	0.247	0	32	13268	1
	Zn	68	50.271	ug/L	1.149	2	191	55768	1
	As	75	49.422	ug/L	0.891	1	1284	70897	0
	As-1	75	49.088	ug/L	0.657	1	7106	73632	0
	Se	82	52.380	ug/L	1.233	2	-5	8338	1
	Se	78	48.691	ug/L	0.391	0	7187	25304	1
	Mo	98	47.723	ug/L	0.927	1	29	173275	1
	Y	89		ug/L			323430	303129	0
	Kr	83		ug/L			1769	1772	1
>	In	115		ug/L			748057	717051	1
	Ag	107	47.770	ug/L	0.254	0	15	315532	1
	Cd	111	49.855	ug/L	0.694	1	43	174056	0
	Cd	114	48.999	ug/L	1.138	2	22	426507	1
	Sb	121	49.185	ug/L	0.877	1	335	534026	1
	Sb	123	48.564	ug/L	0.706	1	270	398489	0
	Ba	135	48.496	ug/L	0.647	1	19	156879	0
	Ba	137	48.291	ug/L	0.802	1	36	266330	1
>	Tb	159		ug/L			853957	837983	0
	Tl	205	47.437	ug/L	0.321	0	75	1160982	0
	Pb	208	48.979	ug/L	0.597	1	139	1541872	1
	Bi	209		ug/L			1664508	1575540	0
	Th	232	47.670	ug/L	0.849	1	1034	1456682	1
	U	238	47.884	ug/L	0.259	0	25	1535433	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB6
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:38:08
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1277110	1
[	Be	9	-0.000	ug/L	0.000	428	7	6	17
	C	13		ug/L			82728	80402	0
	Cl	37		ug/L			4074015	4056930	1
[>	Sc	45		ug/L			1091639	962390	2
[	V	51	-0.000	ug/L	0.009	2085	5656	4975	1
[	V-1	51	0.007	ug/L	0.000	2	83	191	1
[	Cr	52	-0.009	ug/L	0.038	409	16764	14639	2
[	Cr	53	0.016	ug/L	0.013	81	112	124	17
[	Mn	55	0.001	ug/L	0.002	286	485	442	10
[	Co	59	0.000	ug/L	0.001	668	57	51	14
[>	Ge	72		ug/L			444301	381821	1
[	Ni	60	0.003	ug/L	0.002	75	16	21	26
[	Ni	62	3.791	ug/L	0.091	2	966	2296	2
[	Cu	63	0.174	ug/L	0.007	3	754	1638	1
[	Cu	65	0.006	ug/L	0.004	71	39	49	21
[	Zn	66	0.387	ug/L	0.008	2	197	756	0
[	Zn	67	0.341	ug/L	0.066	19	32	114	15
[	Zn	68	0.388	ug/L	0.004	0	191	573	1
[	As	75	0.145	ug/L	0.004	2	1284	1299	1
[	As-1	75	0.331	ug/L	0.035	10	7106	6540	1
[	Se	82	0.133	ug/L	0.063	47	-5	15	61
[	Se	78	1.123	ug/L	0.130	11	7187	6591	1
[	Mo	98	0.007	ug/L	0.001	18	29	50	8
	Y	89		ug/L			323430	281316	1
	Kr	83		ug/L			1769	1679	0
[>	In	115		ug/L			748057	681863	0
[	Ag	107	0.002	ug/L	0.001	40	15	24	16
[	Cd	111	0.003	ug/L	0.003	87	43	51	19
[	Cd	114	-0.001	ug/L	0.001	94	22	14	40
[	Sb	121	0.044	ug/L	0.006	12	735	764	7
[	Sb	123	0.042	ug/L	0.012	27	270	575	16
[	Ba	135	0.001	ug/L	0.001	103	19	19	10
[	Ba	137	-0.000	ug/L	0.000	115	36	31	8
[>	Tb	159		ug/L			853957	765688	1
[	Tl	205	0.001	ug/L	0.001	101	75	81	15
[	Pb	208	0.001	ug/L	0.001	76	139	152	13
[	Bi	209		ug/L			1664508	1514874	1
[	Th	232	0.046	ug/L	0.007	14	1034	2215	9
[	U	238	0.001	ug/L	0.001	73	25	53	40

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 D-L REN
Sample Dil Factor: 10
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:42:17
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1315546	3
	Be	9	U 0.002	ug/L	0.000	6	7	16	7
	C	13		ug/L			82728	83062	3
	Cl	37		ug/L			4074015	4290217	3
>	Sc	45		ug/L			1091639	1036725	2
	V	51	0.064	ug/L	0.012	18	5656	6608	0
	V-1	51	0.094	ug/L	0.002	2	83	1886	1
	Cr	52	U 0.006	ug/L	0.032	562	16764	15999	0
	Cr	53	0.111	ug/L	0.005	4	112	297	5
	Mn	55	35.284	ug/L	1.742	4	485	743240	2
	Co	59	0.069	ug/L	0.001	2	57	1020	2
>	Ge	72		ug/L			444301	401594	0
	Ni	60	3.233 ✓	ug/L	0.047	1	16	9198	0
	Ni	62	5.655	ug/L	0.187	3	966	3173	1
	Cu	63	1.831	ug/L	0.061	3	754	11649	2
	Cu	65	1.689	ug/L	0.069	4	39	4534	4
	Zn	66	U 0.680	ug/L	0.042	6	197	1263	5
	Zn	67	0.603	ug/L	0.024	4	32	190	3
	Zn	68	0.844	ug/L	0.050	5	191	1110	5
	As	75	0.368 ✓	ug/L	0.007	1	1284	1682	0
	As-1	75	0.381	ug/L	0.046	11	7106	6947	1
	Se	82	U 0.081	ug/L	0.172	212	-5	8	324
	Se	78	0.381	ug/L	0.129	33	7187	6645	1
	Mo	98	2.184	ug/L	0.020	0	29	7990	1
	Y	89		ug/L			323430	301248	1
	Kr	83		ug/L			1769	1741	3
>	In	115		ug/L			748057	723389	1
	Ag	107	U -0.000	ug/L	0.001	171	15	12	29
	Cd	111	U 0.009	ug/L	0.001	6	43	73	2
	Cd	114	0.001	ug/L	0.001	55	22	33	21
	Sb	121	U 0.045	ug/L	0.005	10	335	817	7
	Sb	123	0.043	ug/L	0.006	14	270	616	9
	Ba	135	0.885	ug/L	0.027	3	19	2904	1
	Ba	137	0.886	ug/L	0.021	2	36	4961	2
>	Tb	159		ug/L			853957	801744	0
	Tl	205	U 0.004	ug/L	0.004	84	75	169	47
	Pb	208	U 0.015	ug/L	0.002	11	139	586	8
	Bi	209	U	ug/L			1664508	1570076	0
	Th	232	0.042	ug/L	0.013	30	1034	2194	16
	U	238	0.077	ug/L	0.002	2	25	2376	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 D REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:46:24
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1351320	1
	Be	9	U 0.016	ug/L	0.002	12	7	71	10
	C	13		ug/L			82728	92453	1
	Cl	37		ug/L			4074015	4269860	0
>	Sc	45		ug/L			1091639	1104113	1
	V	51	0.388	ug/L	0.030	7	5656	13689	4
	V-1	51	0.425	ug/L	0.008	1	83	8798	1
	Cr	52	U 0.333	ug/L	0.048	14	16764	22373	3
	Cr	53	0.464	ug/L	0.034	7	112	964	6
	Mn	55	169.501	ug/L	3.488	2	485	3803293	0
	Co	59	0.320	ug/L	0.012	3	57	4839	3
>	Ge	72		ug/L			444301	398248	1
	Ni	60	15.556	ug/L	0.423	2	16	43825	1
	Ni	62	17.453	ug/L	0.212	1	966	7908	1
	Cu	63	8.114	ug/L	0.276	3	754	48857	2
	Cu	65	7.787	ug/L	0.132	1	39	20606	2
	Zn	66	U 0.743	ug/L	0.021	2	197	1352	1
	Zn	67	0.832	ug/L	0.050	5	32	249	4
	Zn	68	1.597	ug/L	0.050	3	191	1929	2
	As	75	1.321	ug/L	0.058	4	1284	3007	1
	As-1	75	1.485	ug/L	0.079	5	7106	8394	0
	Se	82	U 0.117	ug/L	0.142	121	-5	13	161
	Se	78	0.883	ug/L	0.199	22	7187	6782	0
	Mo	98	10.924	ug/L	0.200	1	29	39519	0
	Y	89		ug/L			323430	307581	2
	Kr	83		ug/L			1769	1743	1
>	In	115		ug/L			748057	707637	0
	Ag	107	U 0.001	ug/L	0.001	66	15	21	21
	Cd	111	U 0.015	ug/L	0.004	28	43	91	15
	Cd	114	0.010	ug/L	0.000	4	22	107	4
	Sb	121	0.231	ug/L	0.000	0	335	2794	0
	Sb	123	0.229	ug/L	0.002	0	270	2110	1
	Ba	135	4.457	ug/L	0.037	0	19	14244	0
	Ba	137	4.469	ug/L	0.031	0	36	24355	0
>	Tb	159		ug/L			853957	813421	1
	Tl	205	U 0.002	ug/L	0.001	70	75	116	25
	Pb	208	U 0.015	ug/L	0.001	4	139	585	2
	Bi	209		ug/L			1664508	1497547	0
	Th	232	0.095	ug/L	0.042	43	1034	3798	31
	U	238	0.371	ug/L	0.004	1	25	11559	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 DDUP REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:50:31
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1370569	1
[	Be	9	U 0.018	ug/L	0.000	2	7	83	3
	C	13		ug/L			82728	93233	0
	Cl	37		ug/L			4074015	4246260	2
[>	Sc	45		ug/L			1091639	1113960	1
[	V	51	0.379	ug/L	0.016	4	5656	13627	2
[	V-1	51	0.423	ug/L	0.002	0	83	8836	1
[	Cr	52	U 0.321	ug/L	0.042	13	16764	22383	3
[	Cr	53	0.477	ug/L	0.052	10	112	997	10
[	Mn	55	167.591	ug/L	3.454	2	485	3794519	2
[	Co	59	0.310	ug/L	0.009	2	57	4725	1
[>	Ge	72		ug/L			444301	392307	1
[	Ni	60	12.707	ug/L	0.142	1	16	35272	0
[	Ni	62	14.703	ug/L	0.192	1	966	6697	1
[	Cu	63	6.534	ug/L	0.037	0	754	38900	0
[	Cu	65	6.319	ug/L	0.111	1	39	16475	0
[	Zn	66	U 0.853	ug/L	0.037	4	197	1504	2
[	Zn	67	0.983	ug/L	0.064	6	32	285	7
[	Zn	68	1.821	ug/L	0.009	0	191	2144	0
[	As	75	1.387	ug/L	0.047	3	1284	3054	1
[	As-1	75	1.593	ug/L	0.125	7	7106	8413	0
[	Se	82	U 0.183	ug/L	0.060	32	-5	24	38
[	Se	78	1.173	ug/L	0.339	28	7187	6790	0
[	Mo	98	11.317	ug/L	0.326	2	29	40328	2
	Y	89		ug/L			323430	305880	2
	Kr	83		ug/L			1769	1755	1
[>	In	115		ug/L			748057	710094	1
[	Ag	107	U 0.006	ug/L	0.001	10	15	54	6
[	Cd	111	U 0.023	ug/L	0.002	10	43	120	7
[	Cd	114	0.015	ug/L	0.001	4	22	146	2
[	Sb	121	0.227	ug/L	0.002	0	335	2758	1
[	Sb	123	0.228	ug/L	0.007	3	270	2110	1
[	Ba	135	4.480	ug/L	0.117	2	19	14366	1
[	Ba	137	4.455	ug/L	0.074	1	36	24362	1
[>	Tb	159		ug/L			853957	830002	1
[	Tl	205	U 0.006	ug/L	0.001	21	75	220	13
[	Pb	208	U 0.023	ug/L	0.001	2	139	837	2
[	Bi	209	U	ug/L			1664508	1495876	0
[	Th	232	0.030	ug/L	0.011	34	1034	1924	15
[	U	238	0.372	ug/L	0.011	2	25	11827	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 DSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:54:39
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1340512	1
	Be	9	24.352	ug/L	0.573	2	7	97804	1
	C	13		ug/L			82728	95996	1
	Cl	37		ug/L			4074015	4322661	0
>	Sc	45		ug/L			1091639	1101133	1
	V	51	23.172	ug/L	0.151	0	5656	480248	1
	V-1	51	23.121	ug/L	0.012	0	83	473085	1
	Cr	52	23.071	ug/L	0.496	2	16764	391204	2
	Cr	53	22.889	ug/L	0.556	2	112	41915	1
	Mn	55	188.491	ug/L	1.526	0	485	4218805	1
	Co	59	22.580	ug/L	0.127	0	57	336408	0
>	Ge	72		ug/L			444301	396247	3
	Ni	60	40.215	ug/L	1.741	4	16	112630	1
	Ni	62	41.094	ug/L	2.472	6	966	17339	2
	Cu	63	32.737	ug/L	1.438	4	754	193977	1
	Cu	65	32.058	ug/L	1.527	4	39	84208	1
	Zn	66	71.969	ug/L	2.778	3	197	113471	0
	Zn	67	65.529	ug/L	2.213	3	32	17272	1
	Zn	68	69.275	ug/L	3.626	5	191	76017	2
	As	75	26.823	ug/L	1.269	4	1284	38619	1
	As-1	75	25.607	ug/L	1.127	4	7106	41063	0
	Se	82	73.959	ug/L	2.659	3	-5	11661	0
	Se	78	70.616	ug/L	2.462	3	7187	33460	0
	Mo	98	36.077	ug/L	1.070	2	29	129734	0
	Y	89		ug/L			323430	306943	1
	Kr	83		ug/L			1769	1779	1
>	In	115		ug/L			748057	708194	1
	Ag	107	23.078	ug/L	0.404	1	15	150533	0
	Cd	111	23.627	ug/L	0.555	2	43	81482	1
	Cd	114	23.345	ug/L	0.486	2	22	200690	0
	Sb	121	24.681	ug/L	0.575	2	335	264787	0
	Sb	123	24.555	ug/L	0.119	0	270	199138	1
	Ba	135	29.219	ug/L	0.296	1	19	93360	0
	Ba	137	29.008	ug/L	0.509	1	36	158008	1
>	Tb	159		ug/L			853957	822611	1
	Tl	205	23.877	ug/L	0.301	1	75	573613	0
	Pb	208	24.497	ug/L	0.225	0	139	757021	0
	Bi	209		ug/L			1664508	1498803	1
	Th	232	24.786	ug/L	0.316	1	1034	743918	0
	U	238	25.265	ug/L	0.422	1	25	795175	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~US61DPOST REN~~ 222222 5/9/12 JWS
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 17:58:46
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1363923	0
	Be	9	24.626	ug/L	0.151	0	7	100657	0
	C	13		ug/L			82728	94175	0
	Cl	37		ug/L			4074015	4452291	1
>	Sc	45		ug/L			1091639	1109212	1
	V	51	22.898	ug/L	0.762	3	5656	477938	1
	V-1	51	22.921	ug/L	0.728	3	83	472291	1
	Cr	52	23.663	ug/L	0.934	3	16764	403586	2
	Cr	53	23.749	ug/L	0.672	2	112	43799	1
	Mn	55	188.663	ug/L	5.154	2	485	4252181	1
	Co	59	23.030	ug/L	0.799	3	57	345526	2
>	Ge	72		ug/L			444301	390057	0
	Ni	60	40.887	ug/L	0.326	0	16	112829	1
	Ni	62	41.348	ug/L	1.077	2	966	17188	2
	Cu	63	33.434	ug/L	0.596	1	754	195161	1
	Cu	65	31.943	ug/L	0.325	1	39	82671	0
	Zn	66	75.587	ug/L	2.057	2	197	117384	1
	Zn	67	68.707	ug/L	2.034	2	32	17836	2
	Zn	68	73.248	ug/L	1.367	1	191	79188	1
	As	75	28.370	ug/L	1.004	3	1284	40176	2
	As-1	75	26.801	ug/L	0.788	2	7106	42043	1
	Se	82	78.876	ug/L	1.833	2	-5	12251	1
	Se	78	74.315	ug/L	1.026	1	7187	34350	0
	Mo	98	35.706	ug/L	0.229	0	29	126470	0
	Y	89		ug/L			323430	302123	1
	Kr	83		ug/L			1769	1738	0
>	In	115		ug/L			748057	709773	1
	Ag	107	24.023	ug/L	0.707	2	15	157037	2
	Cd	111	24.269	ug/L	0.331	1	43	83887	0
	Cd	114	24.105	ug/L	0.540	2	22	207683	0
	Sb	121	24.808	ug/L	0.442	1	335	266761	0
	Sb	123	24.616	ug/L	0.731	2	270	200017	1
	Ba	135	29.770	ug/L	0.776	2	19	95316	1
	Ba	137	29.771	ug/L	0.416	1	36	162529	0
>	Tb	159		ug/L			853957	818537	0
	Tl	205	25.036	ug/L	0.294	1	75	598520	0
	Pb	208	25.402	ug/L	0.338	1	139	781093	0
	Bi	209		ug/L			1664508	1500844	0
	Th	232	25.900	ug/L	0.394	1	1034	773469	0
	U	238	26.311	ug/L	0.190	0	25	824071	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 G-L REN
Sample Dil Factor: 10
Comments:
Sample Date/Time: Tuesday, May 08, 2012 18:02:53
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean		Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6			ug/L			1411952	1347250	0
	Be	9	U	0.014	ug/L	0.012	89	7	62	78
	C	13			ug/L			82728	85188	1
	Cl	37			ug/L			4074015	4375197	1
>	Sc	45			ug/L			1091639	1054287	0
	V	51		0.197	ug/L	0.011	5	5656	9316	2
	V-1	51		0.242	ug/L	0.011	4	83	4813	5
	Cr	52	U	0.004	ug/L	0.033	748	16764	16257	2
	Cr	53		0.165	ug/L	0.019	11	112	397	7
	Mn	55		67.647	ug/L	0.733	1	485	1449937	1
	Co	59		0.040	ug/L	0.002	5	57	620	5
>	Ge	72			ug/L			444301	400956	2
	Ni	60	U	0.124	ug/L	0.007	5	16	365	7
	Ni	62		1.874	ug/L	0.240	12	966	1632	4
	Cu	63	U	0.210	ug/L	0.007	3	754	1938	2
	Cu	65		0.116	ug/L	0.008	6	39	345	4
	Zn	66	U	0.622	ug/L	0.011	1	197	1169	3
	Zn	67		0.600	ug/L	0.034	5	32	189	5
	Zn	68		0.804	ug/L	0.025	3	191	1063	2
	As	75		2.138	ug/L	0.076	3	1284	4183	1
	As-1	75		2.265	ug/L	0.111	4	7106	9521	0
	Se	82	U	0.100	ug/L	0.133	133	-5	11	187
	Se	78		0.620	ug/L	0.218	35	7187	6726	0
	Mo	98		1.453	ug/L	0.053	3	29	5313	1
	Y	89			ug/L			323430	302928	1
	Kr	83			ug/L			1769	1743	3
>	In	115			ug/L			748057	716467	1
	Ag	107	U	0.002	ug/L	0.000	20	15	27	9
	Cd	111	U	0.008	ug/L	0.003	43	43	68	16
	Cd	114		0.002	ug/L	0.000	24	22	36	9
	Sb	121	U	0.043	ug/L	0.003	6	335	786	3
	Sb	123		0.041	ug/L	0.007	18	270	597	9
	Ba	135		0.589	ug/L	0.004	0	19	1921	1
	Ba	137		0.576	ug/L	0.013	2	36	3206	1
>	Tb	159			ug/L			853957	821506	1
	Tl	205	U	0.002	ug/L	0.003	149	75	120	58
	Pb	208	U	0.015	ug/L	0.005	35	139	585	27
	Bi	209			ug/L			1664508	1577065	0
	Th	232		0.067	ug/L	0.018	27	1034	3002	18
	U	238		0.012	ug/L	0.009	75	25	414	72

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 G REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 18:07:01
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1381045	1
	Be	9	U 0.012	ug/L	0.001	6	7	55	6
	C	13		ug/L			82728	97461	1
	Cl	37		ug/L			4074015	4696177	2
>	Sc	45		ug/L			1091639	1124093	1
	V	51	0.994	ug/L	0.004	0	5656	26602	1
	V-1	51	1.050	ug/L	0.002	0	83	22024	1
	Cr	52	U 0.373	ug/L	0.026	6	16764	23431	0
	Cr	53	0.573	ug/L	0.019	3	112	1183	2
	Mn	55	319.588	ug/L	9.056	2	485	7302712	3
	Co	59	0.164	ug/L	0.007	4	57	2555	3
>	Ge	72		ug/L			444301	401122	1
	Ni	60	0.517 ✓	ug/L	0.013	2	16	1482	1
	Ni	62	1.904	ug/L	0.056	2	966	1646	2
	Cu	63	0.462	ug/L	0.010	2	754	3445	1
	Cu	65	U 0.241	ug/L	0.016	6	39	676	4
	Zn	66	U 0.669	ug/L	0.015	2	197	1245	3
	Zn	67	0.773	ug/L	0.102	13	32	235	12
	Zn	68	1.572	ug/L	0.056	3	191	1916	3
	As	75	9.567 ✓	ug/L	0.083	0	1284	14703	0
	As-1	75	9.852	ug/L	0.083	0	7106	19952	0
	Se	82	U 0.136	ug/L	0.124	91	-5	17	116
	Se	78	0.516	ug/L	0.177	34	7187	6689	0
	Mo	98	7.266	ug/L	0.275	3	29	26480	2
	Y	89		ug/L			323430	308897	1
	Kr	83		ug/L			1769	1789	1
>	In	115		ug/L			748057	710048	0
	Ag	107	U 0.000	ug/L	0.000	175	15	16	19
	Cd	111	U 0.015	ug/L	0.003	20	43	93	11
	Cd	114	U 0.005	ug/L	0.001	24	22	66	17
	Sb	121	U 0.031	ug/L	0.004	13	335	656	7
	Sb	123	0.032	ug/L	0.003	8	270	521	4
	Ba	135	2.874	ug/L	0.028	0	19	9222	0
	Ba	137	2.867	ug/L	0.006	0	36	15693	0
>	Tb	159		ug/L			853957	830270	1
	Tl	205	U 0.001	ug/L	0.000	3	75	89	1
	Pb	208	U 0.010	ug/L	0.001	5	139	439	5
	Bi	209	U	ug/L			1664508	1498147	1
	Th	232	0.088	ug/L	0.039	44	1034	3658	31
	U	238	0.007	ug/L	0.000	3	25	236	4

US52 : 60734

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 GDUP REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 18:11:08
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1402086	0
	Be	9	U 0.012	ug/L	0.002	14	7	58	12
	C	13		ug/L			82728	96967	2
	Cl	37		ug/L			4074015	4742315	1
>	Sc	45		ug/L			1091639	1163192	0
	V	51	0.950	ug/L	0.006	0	5656	26588	0
	V-1	51	1.028	ug/L	0.012	1	83	22295	1
	Cr	52	U 0.297	ug/L	0.010	3	16764	22951	0
	Cr	53	U 0.571	ug/L	0.032	5	112	1220	5
	Mn	55	309.704	ug/L	5.934	1	485	7321658	1
	Co	59	0.162	ug/L	0.004	2	57	2604	2
>	Ge	72		ug/L			444301	395921	2
	Ni	60	0.534	ug/L	0.029	5	16	1509	6
	Ni	62	1.789	ug/L	0.164	9	966	1577	1
	Cu	63	U 0.460	ug/L	0.029	6	754	3386	2
	Cu	65	U 0.233	ug/L	0.006	2	39	646	2
	Zn	66	U 0.714	ug/L	0.025	3	197	1298	0
	Zn	67	U 0.795	ug/L	0.041	5	32	237	2
	Zn	68	1.712	ug/L	0.059	3	191	2043	1
	As	75	9.598	ug/L	0.255	2	1284	14549	0
	As-1	75	10.035	ug/L	0.394	3	7106	19932	0
	Se	82	U 0.109	ug/L	0.073	66	-5	12	88
	Se	78	0.990	ug/L	0.535	54	7187	6780	0
	Mo	98	7.323	ug/L	0.226	3	29	26335	0
	Y	89		ug/L			323430	311224	2
	Kr	83		ug/L			1769	1750	2
>	In	115		ug/L			748057	727243	1
	Ag	107	U 0.000	ug/L	0.001	856	15	15	42
	Cd	111	U 0.013	ug/L	0.001	7	43	88	4
	Cd	114	0.006	ug/L	0.002	27	22	74	19
	Sb	121	U 0.021	ug/L	0.004	18	335	551	6
	Sb	123	0.018	ug/L	0.005	29	270	412	9
	Ba	135	2.745	ug/L	0.048	1	19	9023	0
	Ba	137	2.738	ug/L	0.075	2	36	15347	2
>	Tb	159		ug/L			853957	828946	0
	Tl	205	U 0.001	ug/L	0.000	12	75	93	2
	Pb	208	U 0.013	ug/L	0.001	6	139	548	5
	Bi	209	U	ug/L			1664508	1533900	1
	Th	232	0.022	ug/L	0.010	45	1034	1654	17
	U	238	0.007	ug/L	0.000	5	25	234	5

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 GSPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Tuesday, May 08, 2012 18:15:15
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1387768	0
[	Be	9	22.846	ug/L	0.255	1	7	95015	1
	C	13		ug/L			82728	96001	1
	Cl	37		ug/L			4074015	4673535	1
[>	Sc	45		ug/L			1091639	1137479	0
[	V	51	22.236	ug/L	0.315	1	5656	476270	1
[	V-1	51	22.335	ug/L	0.325	1	83	472078	1
[	Cr	52	21.737	ug/L	0.444	2	16764	381778	1
[	Cr	53	22.090	ug/L	0.232	1	112	41800	1
[	Mn	55	329.068	ug/L	5.460	1	485	7607213	1
[	Co	59	21.257	ug/L	0.351	1	57	327154	1
[>	Ge	72		ug/L			444301	395145	1
[	Ni	60	24.259	ug/L	0.596	2	16	67802	0
[	Ni	62	24.679	ug/L	0.049	0	966	10739	1
[	Cu	63	24.360	ug/L	0.613	2	754	144201	0
[	Cu	65	24.111	ug/L	0.979	4	39	63198	2
[	Zn	66	70.474	ug/L	1.391	1	197	110872	0
[	Zn	67	66.103	ug/L	1.926	2	32	17381	1
[	Zn	68	70.543	ug/L	0.843	1	191	77261	0
[	As	75	34.871	ug/L	0.990	2	1284	49756	1
[	As-1	75	33.640	ug/L	0.490	1	7106	51847	0
[	Se	82	73.968	ug/L	2.527	3	-5	11634	1
[	Se	78	69.645	ug/L	1.028	1	7187	33010	0
[	Mo	98	31.744	ug/L	0.680	2	29	113886	1
	Y	89		ug/L			323430	309815	1
	Kr	83		ug/L			1769	1743	3
[>	In	115		ug/L			748057	723644	1
[	Ag	107	22.679	ug/L	0.195	0	15	151188	1
[	Cd	111	22.801	ug/L	0.169	0	43	80362	0
[	Cd	114	22.941	ug/L	0.015	0	22	201559	1
[	Sb	121	23.403	ug/L	0.366	1	335	256606	0
[	Sb	123	22.785	ug/L	0.179	0	270	188826	0
[	Ba	135	26.404	ug/L	0.380	1	19	86207	0
[	Ba	137	27.022	ug/L	0.660	2	36	150397	1
[>	Tb	159		ug/L			853957	840883	0
[	Tl	205	22.934	ug/L	0.274	1	75	563232	0
[	Pb	208	23.409	ug/L	0.298	1	139	739471	0
[	Bi	209		ug/L			1664508	1511615	0
[	Th	232	23.668	ug/L	0.344	1	1034	726231	1
[	U	238	23.490	ug/L	0.178	0	25	755868	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ~~US61 GPOST REN~~ 222222
Sample Dil Factor: 2 5/9/12 dlw
Comments:
Sample Date/Time: Tuesday, May 08, 2012 18:19:23
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1411952	1386457	2
[	Be	9	25.088	ug/L	0.969	3	7	104169	1
	C	13		ug/L			82728	95103	3
	Cl	37		ug/L			4074015	4652515	0
[>	Sc	45		ug/L			1091639	1118912	1
[	V	51	24.483	ug/L	0.573	2	5656	515150	0
[	V-1	51	24.402	ug/L	0.478	1	83	507257	0
[	Cr	52	24.047	ug/L	0.658	2	16764	413549	1
[	Cr	53	23.757	ug/L	0.256	1	112	44206	0
[	Mn	55	338.461	ug/L	3.556	1	485	7696719	1
[	Co	59	22.763	ug/L	0.618	2	57	344587	2
[>	Ge	72		ug/L			444301	400370	2
[	Ni	60	25.679	ug/L	0.363	1	16	72725	0
[	Ni	62	26.171	ug/L	1.111	4	966	11480	2
[	Cu	63	25.632	ug/L	1.100	4	754	153652	2
[	Cu	65	25.073	ug/L	0.487	1	39	66615	2
[	Zn	66	75.729	ug/L	0.928	1	197	120708	0
[	Zn	67	69.021	ug/L	2.290	3	32	18383	1
[	Zn	68	75.639	ug/L	1.373	1	191	83917	0
[	As	75	36.133	ug/L	0.607	1	1284	52205	1
[	As-1	75	34.642	ug/L	0.668	1	7106	53902	0
[	Se	82	79.094	ug/L	1.414	1	-5	12609	2
[	Se	78	73.896	ug/L	1.520	2	7187	35090	0
[	Mo	98	31.810	ug/L	0.315	0	29	115645	1
	Y	89		ug/L			323430	310464	1
	Kr	83		ug/L			1769	1737	2
[>	In	115		ug/L			748057	718651	1
[	Ag	107	24.073	ug/L	0.576	2	15	159351	2
[	Cd	111	24.620	ug/L	0.192	0	43	86170	0
[	Cd	114	24.709	ug/L	0.367	1	22	215574	1
[	Sb	121	24.832	ug/L	0.417	1	335	270362	1
[	Sb	123	24.811	ug/L	0.227	0	270	204173	0
[	Ba	135	28.336	ug/L	0.381	1	19	91877	0
[	Ba	137	28.173	ug/L	0.116	0	36	155744	1
[>	Tb	159		ug/L			853957	825065	2
[	Tl	205	25.166	ug/L	0.270	1	75	606383	1
[	Pb	208	25.593	ug/L	0.408	1	139	793142	0
[	Bi	209		ug/L			1664508	1502957	2
[	Th	232	26.052	ug/L	0.508	1	1034	784084	0
[	U	238	25.613	ug/L	0.586	2	25	808399	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV7
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 18:26:36
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1371566	2
	Be	9	50.464	ug/L	0.544	1	7	207392	1
	C	13		ug/L			82728	84460	0
	Cl	37		ug/L			4074015	4491826	0
>	Sc	45		ug/L			1091639	1037998	1
	V	51	47.189	ug/L	1.523	3	5656	916008	1
	V-1	51	47.385	ug/L	1.680	3	83	913535	2
	Cr	52	46.443	ug/L	0.185	0	16764	726275	2
	Cr	53	47.142	ug/L	0.481	1	112	81278	1
	Mn	55	45.794	ug/L	1.068	2	485	966197	0
	Co	59	47.103	ug/L	1.028	2	57	661608	3
>	Ge	72		ug/L			444301	405541	0
	Ni	60	47.209	ug/L	0.088	0	16	135442	0
	Ni	62	47.385	ug/L	1.393	2	966	20351	2
	Cu	63	48.937	ug/L	0.334	0	754	296696	0
	Cu	65	47.824	ug/L	0.919	1	39	128669	1
	Zn	66	48.732	ug/L	0.821	1	197	78756	1
	Zn	67	48.531	ug/L	1.100	2	32	13107	2
	Zn	68	49.157	ug/L	0.327	0	191	55315	0
	As	75	48.142	ug/L	0.660	1	1284	70075	1
	As-1	75	48.008	ug/L	0.630	1	7106	73178	0
	Se	82	51.376	ug/L	1.204	2	-5	8295	2
	Se	78	48.418	ug/L	0.811	1	7187	25555	1
	Mo	98	46.860	ug/L	0.348	0	29	172559	0
	Y	89		ug/L			323430	308820	1
	Kr	83		ug/L			1769	1764	0
>	In	115		ug/L			748057	724493	0
	Ag	107	46.380	ug/L	0.883	1	15	309496	1
	Cd	111	48.679	ug/L	0.088	0	43	171729	0
	Cd	114	48.613	ug/L	0.839	1	22	427609	2
	Sb	121	47.916	ug/L	1.405	2	335	525735	3
	Sb	123	47.967	ug/L	0.925	1	270	397710	1
	Ba	135	47.852	ug/L	0.200	0	19	156420	1
	Ba	137	48.141	ug/L	0.950	1	36	268272	2
>	Tb	159		ug/L			853957	823181	1
	Tl	205	47.276	ug/L	0.391	0	75	1136478	1
	Pb	208	49.075	ug/L	0.451	0	139	1517415	1
	Bi	209		ug/L			1664508	1557833	0
	Th	232	48.075	ug/L	0.712	1	1034	1442958	1
	U	238	47.736	ug/L	0.362	0	25	1503521	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB7
Sample Dil Factor:
Comments:
Sample Date/Time: Tuesday, May 08, 2012 18:33:48
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1411952	1265054	2
	Be	9	0.001	ug/L	0.001	71	7	10	22
	C	13		ug/L			82728	80463	1
	Cl	37		ug/L			4074015	4210514	1
>	Sc	45		ug/L			1091639	958709	1
	V	51	0.010	ug/L	0.007	67	5656	5150	1
	V-1	51	0.005	ug/L	0.002	30	83	163	15
	Cr	52	0.024	ug/L	0.021	90	16764	15052	0
	Cr	53	0.005	ug/L	0.007	140	112	106	8
	Mn	55	0.000	ug/L	0.002	659	485	431	6
	Co	59	0.000	ug/L	0.000	1195	57	50	6
>	Ge	72		ug/L			444301	378311	0
	Ni	60	0.002	ug/L	0.002	102	16	18	26
	Ni	62	0.921	ug/L	0.085	9	966	1175	2
	Cu	63	0.035	ug/L	0.006	17	754	837	3
	Cu	65	0.001	ug/L	0.001	159	39	36	9
	Zn	66	0.385	ug/L	0.009	2	197	747	2
	Zn	67	0.374	ug/L	0.020	5	32	121	4
	Zn	68	0.391	ug/L	0.034	8	191	571	6
	As	75	0.174	ug/L	0.016	9	1284	1326	2
	As-1	75	0.383	ug/L	0.049	12	7106	6547	1
	Se	82	0.077	ug/L	0.029	37	-5	7	59
	Se	78	1.280	ug/L	0.177	13	7187	6588	1
	Mo	98	0.006	ug/L	0.001	14	29	44	6
	Y	89		ug/L			323430	278621	2
	Kr	83		ug/L			1769	1728	2
>	In	115		ug/L			748057	671134	2
	Ag	107	0.001	ug/L	0.001	80	15	18	19
	Cd	111	0.005	ug/L	0.004	76	43	55	24
	Cd	114	0.000	ug/L	0.000	297	22	20	13
	Sb	121	0.044	ug/L	0.013	28	335	747	18
	Sb	123	0.043	ug/L	0.006	14	270	573	9
	Ba	135	0.001	ug/L	0.002	296	19	18	24
	Ba	137	0.001	ug/L	0.001	75	36	38	12
>	Tb	159		ug/L			853957	761215	0
	Tl	205	0.000	ug/L	0.000	272	75	69	8
	Pb	208	0.001	ug/L	0.000	5	139	147	0
	Bi	209		ug/L			1664308	1474878	1
	Th	232	0.054	ug/L	0.009	16	1034	2425	9
	U	238	0.001	ug/L	0.000	32	25	48	17

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 5.9.12 Analyst: JB Page: 1 of 3

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		TDO			2934-5
		1			2933-5
		2			2931-4
		3			↓ -5
		4			2934-9
		5			2931-7
		Rinse Sample			r ≥ 0.9997
		SO			
		ICV			2930-2
		ICB			
		CCV1			
		CCB1			
		Low Check			✓
		ICSA			
		ICSAB			
		B1			
		B2			
		CCV2			See Logs
		CCB2			
		CCV3			See Logs
		CCB3			
		US61 MB1	REN	2 ✓	Ce only
		↓ MB2	↓	↓ ✓	↓ ↓
		US02R MB1	↓	↓ ✓	As only

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 5.9.12 Analyst: JW Page: 2 of 3

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		V502R MB2	REN	2 ✓	Aqueous
		MB2spk		✓	
		MB1spk		1	
		A-L		10 ✓	
		A		2	
		ADUP		✓	
		Aspk		✓ ✓	
		CCV4			Aglow 02 exhyb
		CCB4			
		V502RI-L	REN	10 ✓	Aqueous
		I		2	
		IDUP		✓	
		Ispk		✓	
		V502RD			
		E			
		J			
		K			
		LR200			Aglow
		BZ			
		CCV5			Aglow
		CCB5			
		LR300			Aglow
		BK			
		CCV6			Aglow

US52 : 00741

ANALYTICAL RESOURCES INCORPORATED

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA **Analysis Date:** 5.9.17

MZ	Analyst 5/4.17	Peer MSM	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Calibration:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	see log
ICB/CCB	✓	✓	↓
Samples:			
RSD's & SD's	✓	✓	see log
Internal Standards	✓	✓	↓
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	
Post Spikes/Serial Dilutions	✓	✓	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	
Matrix Duplicates	✓	✓	
Method Blanks	✓	✓	
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and QAF's	—	—	

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ariSTDaily+torch.swz

Optimization Status

Start Time: 5/9/2012 10:25:58 AM

Daily Performance Check

Optimization Settings:

Method: C:\NexIONData\Method\Daily Performancenew.mth.
Intensity Criterion: Be 9.0122 > 3000
Intensity Criterion: Mg 23.985 > 20000
Intensity Criterion: In 114.904 > 50000
Intensity Criterion: Pb 207.977 > 20000
Intensity Criterion: U 238.05 > 40000
Intensity Criterion: Bkgd 220 <= 5
Formula Criterion: CeO 155.9 / Ce 139.905 <= 0.025
Formula Criterion: Ce++ 69.9527 / Ce 139.905 <= 0.03

Optimization Results:

Initial Try

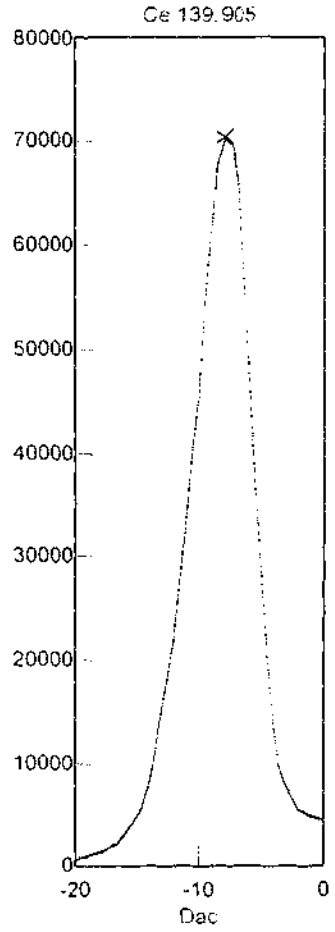
Obtained Intensity (Be 9.0122): 7366.92
Obtained Intensity (Mg 23.985): 44969.22
Obtained Intensity (In 114.904): 74663.93
Obtained Intensity (Pb 207.977): 27940.63
Obtained Intensity (U 238.05): 52902.72
Obtained Intensity (Bkgd 220): 0.00
Obtained Formula (CeO 155.9 / Ce 139.905): 0.015 (=1019.53 / 69357.97)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.012 (=814.51 / 69357.97)

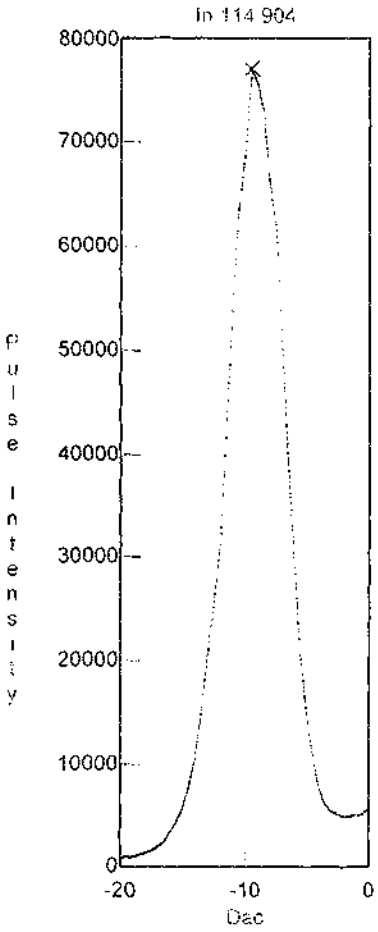
[Passed] Optimum value(s): N/A

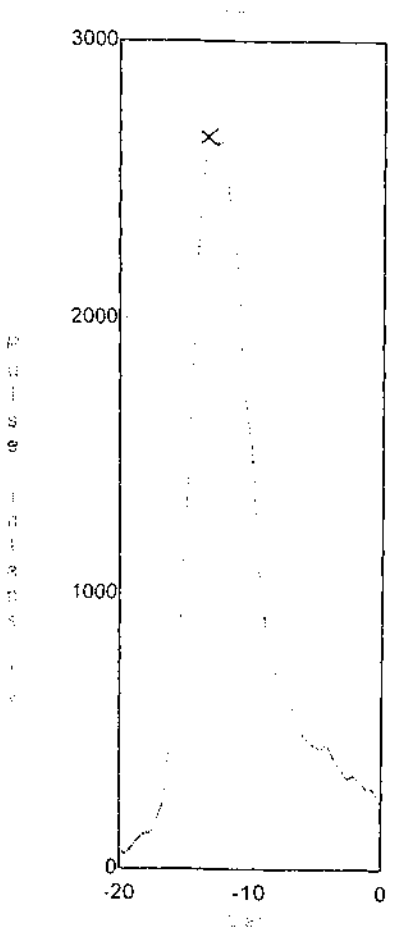
End Time: 5/9/2012 10:28:34 AM

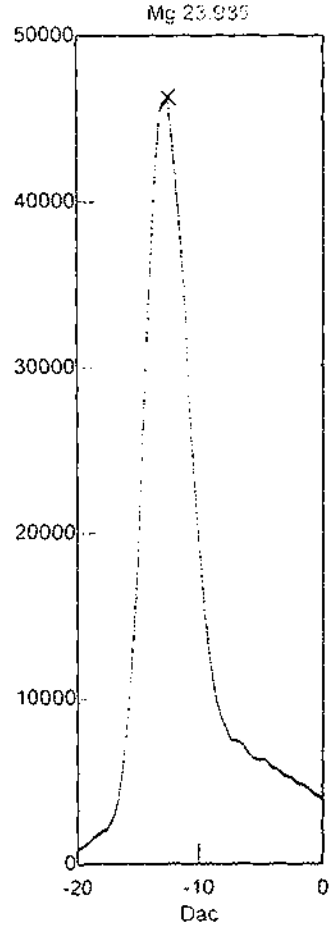
US52 : 00743

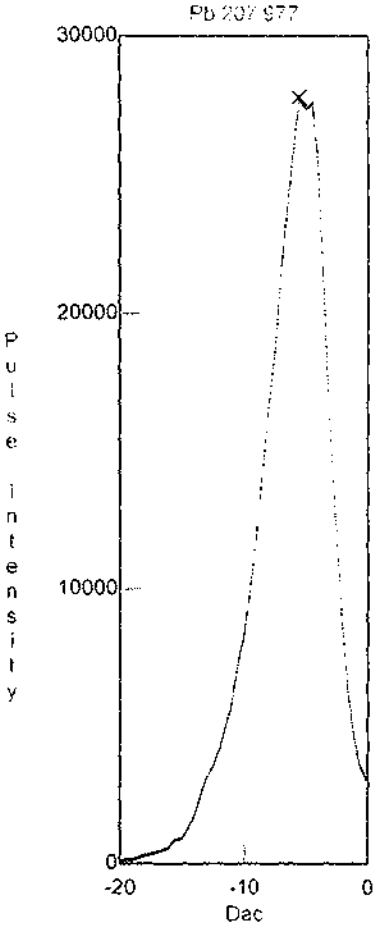
5/9/17

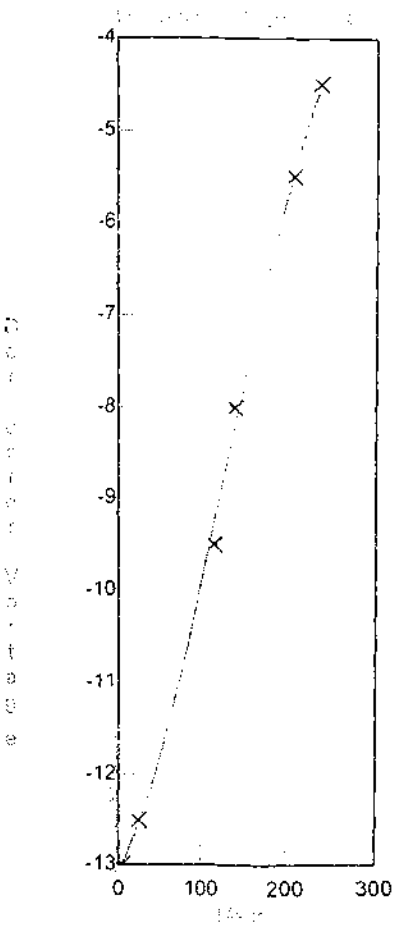












US52 : 007U4

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ariSTDaily+torch.swz

Start Time: 5/9/2012 10:21:22 AM
End Time: 5/9/2012 10:25:33 AM

AutoLens STD/DRC - [Passed] Optimum value(s): Correlation Coefficient = 0.998; Intercept = -13.08

US52 : 00745

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\NexIONData\Wizard\SmartTune\ariSTDaily+torch.swz

Start Time: 5/9/2012 10:14:39 AM
End Time: 5/9/2012 10:21:14 AM

Mass Calibration and Resolution - [Passed] Optimum value(s): N/A
Target/Obtained mass (7.016/7.025), Target/Obtained resolution (0.7/0.708)
Target/Obtained mass (23.985/24.025), Target/Obtained resolution (0.7/0.710)
Target/Obtained mass (114.904/114.925), Target/Obtained resolution (0.7/0.711)
Target/Obtained mass (238.05/238.075), Target/Obtained resolution (0.7/0.700)

U552:00746

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ariSTDaily+torch.swz

Optimization Status

Start Time: 5/9/2012 10:13:39 AM

Torch Alignment

Optimization Settings:

Method: Torch Alignment.mth.

Intensity Criterion: In 114.904 Maximum

Optimization Results:

	Vertical	Horizontal	Intensity
[Passed]	1.51 mm	-0.74 mm	75710.37

End Time: 5/9/2012 10:14:29 AM

US52 : 00747

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\ariSTDaily+torch.swz

Optimization Status

Start Time: 5/9/2012 10:10:25 AM

Daily Performance Check

Optimization Settings:

Method: C:\NexIONData\Method\Daily Performancenew.mth.
Intensity Criterion: Be 9.0122 > 3000
Intensity Criterion: Mg 23.985 > 20000
Intensity Criterion: In 114.904 > 50000
Intensity Criterion: Pb 207.977 > 20000
Intensity Criterion: U 238.05 > 40000
Intensity Criterion: Bkgd 220 <= 5
Formula Criterion: CeO 155.9 / Ce 139.905 <= 0.025
Formula Criterion: Ce++ 69.9527 / Ce 139.905 <= 0.03

Optimization Results:

Initial Try

Obtained Intensity (Be 9.0122): 5945.39
Obtained Intensity (Mg 23.985): 30179.96
Obtained Intensity (In 114.904): 59244.40
Obtained Intensity (Pb 207.977): 22988.40
Obtained Intensity (U 238.05): 41742.82
Obtained Intensity (Bkgd 220): 0.03
Obtained Formula (CeO 155.9 / Ce 139.905): 0.011 (=645.03 / 57446.20)
Obtained Formula (Ce++ 69.9527 / Ce 139.905): 0.010 (=578.42 / 57446.20)

[Passed] Optimum value(s): N/A

End Time: 5/9/2012 10:13:29 AM

US52 : 00748

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 10:58:06
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L				1543122	0
	Be	9		ug/L				6	24
	C	13		ug/L				127129	1
	Cl	37		ug/L				5050176	1
>	Sc	45		ug/L				1120759	1
	V	51		ug/L				6334	2
	V-1	51		ug/L				56	10
	Cr	52		ug/L				18698	1
	Cr	53		ug/L				105	21
	Mn	55		ug/L				526	4
	Co	59		ug/L				70	9
>	Ge	72		ug/L				431510	1
	Ni	60		ug/L				551	83
	Ni	62		ug/L				118	45
	Cu	63		ug/L				111	11
	Cu	65		ug/L				40	27
	Zn	66		ug/L				238	4
	Zn	67		ug/L				33	29
	Zn	68		ug/L				573	4
	As	75		ug/L				1303	3
	As-1	75		ug/L				6451	0
	Se	82		ug/L				2	1210
	Se	78		ug/L				6569	0
	Mo	98		ug/L				12	40
	Y	89		ug/L				329245	1
	Kr	83		ug/L				1812	2
>	In	115		ug/L				907813	0
	Ag	107		ug/L				14	21
	Cd	111		ug/L				73	11
	Cd	114		ug/L				29	7
	Sb	121		ug/L				48	21
	Sb	123		ug/L				36	43
	Ba	135		ug/L				27	11
	Ba	137		ug/L				35	23
>	Tb	159		ug/L				916474	0
	Tl	205		ug/L				18	15
	Pb	208		ug/L				126	4
	Bi	209		ug/L				2081983	4
	Th	232		ug/L				13	22
	U	238		ug/L				4	44

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 11:02:15
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1543122	1532677	1
	Be	9	0.200	ug/L	0.001	0	6	1189	1
	C	13		ug/L			127129	126738	2
	Cl	37		ug/L			5050176	4925808	3
>	Sc	45		ug/L			1120759	1137813	3
	V	51	0.200	ug/L	0.013	6	6334	10378	0
	V-1	51	0.200	ug/L	0.008	4	56	4224	1
	Cr	52	0.500	ug/L	0.017	3	18698	26857	2
	Cr	53	0.500	ug/L	0.004	0	105	1067	3
	Mn	55	0.500	ug/L	0.022	4	526	11545	1
	Co	59	0.200	ug/L	0.005	2	70	3116	0
>	Ge	72		ug/L			431510	442114	1
	Ni	60	0.500	ug/L	0.037	7	551	1746	3
	Ni	62	0.500	ug/L	0.041	8	118	294	3
	Cu	63	0.500	ug/L	0.027	5	111	3729	4
	Cu	65	0.500	ug/L	0.005	1	40	1629	2
	Zn	66	4.000	ug/L	0.015	0	238	9323	1
	Zn	67	4.000	ug/L	0.053	1	33	1372	2
	Zn	68	4.000	ug/L	0.128	3	573	6746	1
	As	75	0.200	ug/L	0.033	16	1303	1633	1
	As-1	75	0.200	ug/L	0.154	77	6451	6816	1
	Se	82	0.500	ug/L	0.019	3	2	81	4
	Se	78	0.500	ug/L	0.804	160	6569	6815	1
	Mo	98	0.200	ug/L	0.011	5	12	805	4
	Y	89		ug/L			329245	325901	2
	Kr	83		ug/L			1812	1823	0
>	In	115		ug/L			907813	912104	1
	Ag	107	0.200	ug/L	0.003	1	14	1943	1
	Cd	111	0.100	ug/L	0.003	2	73	559	3
	Cd	114	0.100	ug/L	0.006	5	29	1211	4
	Sb	121	0.200	ug/L	0.001	0	48	2919	1
	Sb	123	0.200	ug/L	0.004	1	36	2239	1
	Ba	135	0.500	ug/L	0.009	1	27	2360	1
	Ba	137	0.500	ug/L	0.005	1	35	4160	1
>	Tb	159		ug/L			916474	922203	1
	Tl	205	0.200	ug/L	0.006	3	18	6070	1
	Pb	208	0.100	ug/L	0.001	1	126	5036	0
	Bi	209		ug/L			2081983	2102555	4
	Th	232	0.200	ug/L	0.003	1	13	6515	1
	U	238	0.200	ug/L	0.004	1	4	8365	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 11:06:25
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1543122	1550487	1
	Be	9	10.000	ug/L	0.185	1	6	55933	1
	C	13		ug/L			127129	130307	1
	Cl	37		ug/L			5050176	5044707	1
>	Sc	45		ug/L			1120759	1135590	0
	V	51	10.000	ug/L	0.016	0	6334	207726	0
	V-1	51	10.000	ug/L	0.064	0	56	200761	1
	Cr	52	10.001	ug/L	0.169	1	18698	182752	0
	Cr	53	9.999	ug/L	0.105	1	105	18423	1
	Mn	55	10.000	ug/L	0.193	1	526	216815	2
	Co	59	10.000	ug/L	0.242	2	70	149447	2
>	Ge	72		ug/L			431510	445703	0
	Ni	60	10.005	ug/L	0.100	1	551	31070	0
	Ni	62	10.005	ug/L	0.065	0	118	4408	1
	Cu	63	9.998	ug/L	0.251	2	111	66667	1
	Cu	65	9.998	ug/L	0.159	1	40	29398	0
	Zn	66	9.607	ug/L	0.397	4	238	17895	3
	Zn	67	9.759	ug/L	0.101	1	33	2892	0
	Zn	68	9.678	ug/L	0.347	3	573	13097	3
	As	75	10.000	ug/L	0.101	1	1303	16687	0
	As-1	75	10.001	ug/L	0.059	0	6451	21278	0
	Se	82	10.003	ug/L	0.102	1	2	1857	0
	Se	78	10.014	ug/L	0.070	0	6569	10763	1
	Mo	98	10.000	ug/L	0.122	1	12	41150	0
	Y	89		ug/L			329245	332725	0
	Kr	83		ug/L			1812	1858	0
>	In	115		ug/L			907813	930188	1
	Ag	107	10.000	ug/L	0.274	2	14	92971	0
	Cd	111	10.000	ug/L	0.215	2	73	45893	1
	Cd	114	10.000	ug/L	0.306	3	29	114963	1
	Sb	121	10.000	ug/L	0.222	2	48	149521	0
	Sb	123	10.000	ug/L	0.251	2	36	113151	0
	Ba	135	9.995	ug/L	0.146	1	27	39281	0
	Ba	137	9.994	ug/L	0.156	1	35	67609	1
>	Tb	159		ug/L			916474	944025	0
	Tl	205	10.000	ug/L	0.022	0	18	306087	0
	Pb	208	10.000	ug/L	0.034	0	126	409870	0
	Bi	209		ug/L			2081983	2163198	0
	Th	232	10.000	ug/L	0.179	1	13	380118	1
	U	238	10.000	ug/L	0.106	1	4	417191	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 3
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 11:10:47
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1543122	1517339	0
	Be	9	20.077	ug/L	0.281	1	6	111632	1
	C	13		ug/L			127129	125038	2
	Cl	37		ug/L			5050176	5195283	2
>	Sc	45		ug/L			1120759	1132476	2
	V	51	20.080	ug/L	0.983	4	6334	415724	2
	V-1	51	20.101	ug/L	1.103	5	56	410276	2
	Cr	52	19.907	ug/L	0.362	1	18698	338115	1
	Cr	53	19.983	ug/L	0.829	4	105	36464	2
	Mn	55	20.069	ug/L	0.621	3	526	439205	1
	Co	59	19.947	ug/L	0.465	2	70	293984	1
>	Ge	72		ug/L			431510	439549	1
	Ni	60	20.126	ug/L	0.664	3	551	62611	1
	Ni	62	20.061	ug/L	0.499	2	118	8698	1
	Cu	63	19.986	ug/L	0.636	3	111	130936	1
	Cu	65	19.956	ug/L	0.102	0	40	57335	1
	Zn	66	19.944	ug/L	0.494	2	238	36031	1
	Zn	67	20.254	ug/L	0.318	1	33	6152	0
	Zn	68	19.896	ug/L	0.371	1	573	25484	0
	As	75	20.040	ug/L	0.485	2	1303	31887	0
	As-1	75	20.074	ug/L	0.630	3	6451	35927	1
	Se	82	20.084	ug/L	0.460	2	2	3737	0
	Se	78	20.225	ug/L	0.901	4	6569	14983	1
	Mo	98	20.112	ug/L	0.726	3	12	83458	2
	Y	89		ug/L			329245	336112	2
	Kr	83		ug/L			1812	1854	1
>	In	115		ug/L			907813	938384	0
	Ag	107	19.892	ug/L	0.538	2	14	182665	1
	Cd	111	20.067	ug/L	0.222	1	73	94094	0
	Cd	114	20.042	ug/L	0.257	1	29	234456	0
	Sb	121	20.014	ug/L	0.226	1	48	302777	0
	Sb	123	20.016	ug/L	0.241	1	36	229222	0
	Ba	135	20.014	ug/L	0.480	2	27	79550	1
	Ba	137	20.007	ug/L	0.357	1	35	136712	0
>	Tb	159		ug/L			916474	949863	0
	Tl	205	20.007	ug/L	0.167	0	18	617011	0
	Pb	208	20.010	ug/L	0.160	0	126	826669	0
	Bi	209		ug/L			2081983	2185025	0
	Th	232	20.121	ug/L	0.184	0	13	788641	1
	U	238	20.015	ug/L	0.209	1	4	842687	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 4
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 11:15:19
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1543122	1496537	2
	Be	9	49.655	ug/L	1.230	2	6	263099	1
	C	13		ug/L			127129	116379	3
	Cl	37		ug/L			5050176	5146433	0
>	Sc	45		ug/L			1120759	1135441	2
	V	51	49.712	ug/L	2.316	4	6334	994095	2
	V-1	51	49.695	ug/L	2.036	4	56	987063	1
	Cr	52	49.864	ug/L	1.422	2	18698	809668	0
	Cr	53	49.802	ug/L	0.554	1	105	89243	1
	Mn	55	49.741	ug/L	1.309	2	526	1063248	0
	Co	59	49.679	ug/L	2.076	4	70	710970	2
>	Ge	72		ug/L			431510	429263	0
	Ni	60	49.601	ug/L	1.442	2	551	144245	3
	Ni	62	49.878	ug/L	0.581	1	118	20699	0
	Cu	63	49.738	ug/L	1.096	2	111	310007	1
	Cu	65	49.808	ug/L	1.535	3	40	137034	2
	Zn	66	49.437	ug/L	0.811	1	238	82406	0
	Zn	67	49.548	ug/L	1.185	2	33	14037	2
	Zn	68	49.512	ug/L	1.321	2	573	58356	1
	As	75	49.996	ug/L	0.819	1	1303	75733	0
	As-1	75	50.078	ug/L	0.697	1	6451	78518	0
	Se	82	49.792	ug/L	1.213	2	2	8861	1
	Se	78	50.069	ug/L	0.237	0	6569	26728	0
	Mo	98	49.788	ug/L	1.153	2	12	197615	1
	Y	89		ug/L			329245	324860	2
	Kr	83		ug/L			1812	1828	1
>	In	115		ug/L			907813	932393	0
	Ag	107	49.750	ug/L	0.796	1	14	442845	0
	Cd	111	49.702	ug/L	0.687	1	73	224761	0
	Cd	114	49.694	ug/L	1.031	2	29	560453	1
	Sb	121	49.615	ug/L	0.666	1	48	718100	0
	Sb	123	49.536	ug/L	0.823	1	36	538647	1
	Ba	135	49.782	ug/L	0.260	0	27	192400	0
	Ba	137	49.866	ug/L	0.492	0	35	334055	1
>	Tb	159		ug/L			916474	958889	1
	Tl	205	49.761	ug/L	0.117	0	18	1513048	0
	Pb	208	49.730	ug/L	0.454	0	126	2019387	0
	Bi	209		ug/L			2081983	2149841	0
	Th	232	49.978	ug/L	0.665	1	13	1972836	0
	U	238	50.161	ug/L	0.269	0	4	2166744	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Standard 5
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 11:20:52
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1543122	1473506	1
	Be	9	99.271	ug/L	2.103	2	6	505881	3
	C	13		ug/L			127129	120656	3
	Cl	37		ug/L			5050176	5171433	2
>	Sc	45		ug/L			1120759	1137935	0
	V	51	100.154	ug/L	3.628	3	6334	2012372	3
	V-1	51	100.119	ug/L	4.312	4	56	2002146	4
	Cr	52	99.529	ug/L	1.230	1	18698	1576933	1
	Cr	53	99.398	ug/L	1.608	1	105	174923	2
	Mn	55	100.738	ug/L	1.194	1	526	2212621	0
	Co	59	99.882	ug/L	2.561	2	70	1427580	1
>	Ge	72		ug/L			431510	422649	1
	Ni	60	100.417	ug/L	1.466	1	551	290911	0
	Ni	62	99.781	ug/L	2.526	2	118	40355	1
	Cu	63	100.220	ug/L	1.111	1	111	619536	1
	Cu	65	100.151	ug/L	3.494	3	40	272595	2
	Zn	66	99.722	ug/L	1.614	1	238	161923	0
	Zn	67	99.195	ug/L	2.863	2	33	26914	1
	Zn	68	99.453	ug/L	1.062	1	573	112828	1
	As	75	99.671	ug/L	1.626	1	1303	145793	0
	As-1	75	99.739	ug/L	1.305	1	6451	146476	0
	Se	82	99.450	ug/L	1.920	1	2	17110	1
	Se	78	99.693	ug/L	0.870	0	6569	45619	1
	Mo	98	100.895	ug/L	0.614	0	12	406457	1
	Y	89		ug/L			329245	316562	1
	Kr	83		ug/L			1812	1874	1
>	In	115		ug/L			907813	924165	0
	Ag	107	98.769	ug/L	3.667	3	14	837072	3
	Cd	111	99.695	ug/L	1.383	1	73	442317	1
	Cd	114	100.244	ug/L	0.627	0	29	1129802	0
	Sb	121	100.783	ug/L	0.646	0	48	1484600	0
	Sb	123	100.965	ug/L	1.198	1	36	1124384	1
	Ba	135	100.809	ug/L	0.810	0	27	396855	0
	Ba	137	100.358	ug/L	1.499	1	35	674410	1
>	Tb	159		ug/L			916474	962214	0
	Tl	205	101.088	ug/L	0.423	0	18	3200385	0
	Pb	208	100.586	ug/L	0.350	0	126	4180370	0
	Bi	209		ug/L			2081983	2086589	4
	Th	232	101.362	ug/L	1.077	1	13	4206350	1
	U	238	100.142	ug/L	1.064	1	4	4361518	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Rinse sample
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 11:27:04
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120508.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1543122	1494322	0
	Be	9	0.003	ug/L	0.000	4	6	22	2
	C	13		ug/L			127129	120252	3
	Cl	37		ug/L			5050176	5289492	1
>	Sc	45		ug/L			1120759	1166767	0
	V	51	-0.000	ug/L	0.007	4768	6334	6592	2
	V-1	51	0.001	ug/L	0.000	14	56	77	3
	Cr	52	0.002	ug/L	0.022	1378	18698	19492	2
	Cr	53	0.006	ug/L	0.005	92	105	119	7
	Mn	55	-0.001	ug/L	0.001	62	526	516	4
	Co	59	0.000	ug/L	0.001	2266	70	74	12
>	Ge	72		ug/L			431510	434429	1
	Ni	60	-0.161	ug/L	0.003	2	551	77	13
	Ni	62	-0.136	ug/L	0.010	7	118	62	5
	Cu	63	-0.002	ug/L	0.002	112	111	100	12
	Cu	65	0.000	ug/L	0.002	451	40	41	10
	Zn	66	-0.015	ug/L	0.013	83	238	215	9
	Zn	67	0.026	ug/L	0.029	112	33	41	18
	Zn	68	0.040	ug/L	0.028	70	573	623	4
	As	75	-0.026	ug/L	0.031	118	1303	1273	2
	As-1	75	0.051	ug/L	0.051	101	6451	6567	0
	Se	82	-0.091	ug/L	0.063	69	2	-13	81
	Se	78	0.157	ug/L	0.143	91	6569	6676	0
	Mo	98	0.019	ug/L	0.002	9	12	92	8
	Y	89		ug/L			329245	330907	1
	Kr	83		ug/L			1812	1815	1
>	In	115		ug/L			907813	950666	1
	Ag	107	0.003	ug/L	0.000	13	14	42	8
	Cd	111	0.002	ug/L	0.002	69	73	87	7
	Cd	114	0.001	ug/L	0.001	111	29	40	26
	Sb	121	0.087	ug/L	0.012	13	48	1360	12
	Sb	123	0.088	ug/L	0.015	17	36	1043	15
	Ba	135	-0.001	ug/L	0.001	256	27	26	21
	Ba	137	0.001	ug/L	0.001	130	35	44	20
>	Tb	159		ug/L			916474	921825	2
	Tl	205	0.007	ug/L	0.000	7	18	223	5
	Pb	208	0.001	ug/L	0.000	45	126	164	10
	Bi	209		ug/L			2081983	2205575	0
	Th	232	0.131	ug/L	0.020	15	13	5221	17
	U	238	0.003	ug/L	0.001	19	4	143	20

Sample Information

Sample Date/Time: Wednesday, May 09, 2012 11:20:52
Method File: C:\NexION Data\Method\200.8nomin.mth
Mass Calibration File: C:\NexION Data\MassCal\default.tun
Conditions File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

Calibration

Analyte	Mass	r Corr Coef	Slope	Std 1 Conc	Std 2 Conc	Std 3 Conc	Std 4 Conc	Std 5 Conc
Li	6							
Be	9	**0.9999**	0.003	0.20	10	20	50	100
C	13							
Cl	37							
Sc	45							
V	51	**1.0000**	0.018	0.20	10	20	50	100
V-1	51	**1.0000**	0.018	0.20	10	20	50	100
Cr	52	**1.0000**	0.014	0.50	10	20	50	100
Cr	53	**0.9999**	0.002	0.50	10	20	50	100
Mn	55	**0.9999**	0.019	0.50	10	20	50	100
Co	59	**1.0000**	0.013	0.20	10	20	50	100
Ge	72							
Ni	60	**0.9999**	0.007	0.50	10	20	50	100
Ni	62	**1.0000**	0.001	0.50	10	20	50	100
Cu	63	**1.0000**	0.015	0.50	10	20	50	100
Cu	65	**1.0000**	0.006	0.50	10	20	50	100
Zn	66	**0.9999**	0.004	4.00	10	20	50	100
Zn	67	**0.9998**	0.001	4.00	10	20	50	100
Zn	68	**0.9999**	0.003	4.00	10	20	50	100
As	75	**1.0000**	0.003	0.20	10	20	50	100
As-1	75	**1.0000**	0.003	0.20	10	20	50	100
Se	82	**0.9990**	0.000	0.50	10	20	50	100
Se	78	**1.0000**	0.001	0.50	10	20	50	100
Mo	98	**0.9999**	0.010	0.20	10	20	50	100
Y	89							
Kr	83							
In	115							
Ag	107	**0.9997**	0.009	0.20	10	20	50	100
Cd	111	**1.0000**	0.005	0.10	10	20	50	100
Cd	114	**1.0000**	0.012	0.10	10	20	50	100
Sb	121	**0.9999**	0.016	0.20	10	20	50	100
Sb	123	**0.9998**	0.012	0.20	10	20	50	100
Ba	135	**0.9999**	0.004	0.50	10	20	50	100
Ba	137	**1.0000**	0.007	0.50	10	20	50	100
Tb	159							
Tl	205	**0.9998**	0.033	0.20	10	20	50	100
Pb	208	**0.9999**	0.043	0.10	10	20	50	100
Bi	209							
Th	232	**0.9997**	0.043	0.20	10	20	50	100
U	238	**1.0000**	0.045	0.20	10	20	50	100

ICP-MS Quantitative Analysis - Summary Report

Sample ID: Blank
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 11:37:31
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L				1469308	0
	Be	9		ug/L				18	14
	C	13		ug/L				115227	0
	Cl	37		ug/L				5056971	0
>	Sc	45		ug/L				1150108	1
	V	51		ug/L				6633	2
	V-1	51		ug/L				59	21
	Cr	52		ug/L				19531	1
	Cr	53		ug/L				104	7
	Mn	55		ug/L				477	3
	Co	59		ug/L				69	17
>	Ge	72		ug/L				432270	1
	Ni	60		ug/L				81	20
	Ni	62		ug/L				65	9
	Cu	63		ug/L				73	14
	Cu	65		ug/L				32	23
	Zn	66		ug/L				220	8
	Zn	67		ug/L				39	20
	Zn	68		ug/L				626	6
	As	75		ug/L				1266	2
	As-1	75		ug/L				6603	0
	Se	82		ug/L				-10	201
	Se	78		ug/L				6721	0
	Mo	98		ug/L				26	4
	Y	89		ug/L				327238	1
	Kr	83		ug/L				1809	3
>	In	115		ug/L				929401	0
	Ag	107		ug/L				20	21
	Cd	111		ug/L				75	18
	Cd	114		ug/L				31	22
	Sb	121		ug/L				417	15
	Sb	123		ug/L				326	25
	Ba	135		ug/L				23	24
	Ba	137		ug/L				45	18
>	Tb	159		ug/L				920152	1
	Tl	205		ug/L				78	12
	Pb	208		ug/L				146	2
	Bi	209		ug/L				2152313	0
	Th	232		ug/L				1253	0
	U	238		ug/L				35	23

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICV
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 11:41:40
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1480678	1
	Be	9	51.349	ug/L	1.520	2	18	262869	2
	C	13		ug/L			115227	123955	3
	Cl	37		ug/L			5056971	5345079	2
>	Sc	45		ug/L			1150108	1159769	0
	V	51	50.364	ug/L	0.946	1	6633	1034823	2
	V-1	51	50.377	ug/L	0.772	1	59	1026807	1
	Cr	52	51.034	ug/L	0.825	1	19531	833866	1
	Cr	53	51.084	ug/L	1.125	2	104	91663	1
	Mn	55	48.226	ug/L	0.197	0	477	1079834	0
	Co	59	50.763	ug/L	1.626	3	69	739550	2
>	Ge	72		ug/L			432270	431429	0
	Ni	60	51.850	ug/L	1.026	1	81	153138	1
	Ni	62	52.157	ug/L	1.680	3	65	21538	2
	Cu	63	51.503	ug/L	0.710	1	73	325004	1
	Cu	65	50.196	ug/L	1.173	2	32	139515	2
	Zn	66	49.561	ug/L	1.158	2	220	82266	2
	Zn	67	49.982	ug/L	0.956	1	39	13869	2
	Zn	68	49.909	ug/L	0.770	1	626	58132	1
	As	75	51.056	ug/L	0.543	1	1266	76841	1
	As-1	75	49.906	ug/L	0.862	1	6603	78186	1
	Se	82	83.465	ug/L	0.817	0	-10	13795	0
	Se	78	77.610	ug/L	1.529	1	6721	37824	1
	Mo	98	50.600	ug/L	0.434	0	26	208099	1
	Y	89		ug/L			327238	331000	1
	Kr	83		ug/L			1809	1829	3
>	In	115		ug/L			929401	936782	0
	Ag	107	50.507	ug/L	0.630	1	20	433948	1
	Cd	111	50.320	ug/L	0.660	1	75	226341	1
	Cd	114	48.984	ug/L	0.397	0	31	559633	0
	Sb	121	48.593	ug/L	0.100	0	417	725988	0
	Sb	123	48.364	ug/L	0.462	0	326	546255	0
	Ba	135	50.142	ug/L	0.620	1	23	200093	0
	Ba	137	50.143	ug/L	0.869	1	45	341581	1
>	Tb	159		ug/L			920152	948427	0
	Tl	205	48.780	ug/L	0.961	1	78	1522162	1
	Pb	208	49.425	ug/L	0.585	1	146	2024634	0
	Bi	209		ug/L			2152313	2136226	0
	Th	232	51.306	ug/L	2.564	4	1253	2099545	4
	U	238	51.955	ug/L	1.038	1	35	2230259	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICB
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 11:46:52
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1476018	1
	Be	9	0.001	ug/L	0.002	195	18	24	48
	C	13		ug/L			115227	116392	1
	Cl	37		ug/L			5056971	5227374	2
>	Sc	45		ug/L			1150108	1159302	1
	V	51	-0.004	ug/L	0.016	360	6633	6596	5
	V-1	51	0.003	ug/L	0.003	95	59	117	47
	Cr	52	-0.019	ug/L	0.037	188	19531	19378	3
	Cr	53	0.007	ug/L	0.015	217	104	117	21
	Mn	55	0.004	ug/L	0.004	107	477	565	16
	Co	59	0.003	ug/L	0.006	191	69	120	79
>	Ge	72		ug/L			432270	431223	1
	Ni	60	0.002	ug/L	0.004	197	81	86	12
	Ni	62	0.008	ug/L	0.012	159	65	68	8
	Cu	63	0.006	ug/L	0.007	111	73	110	37
	Cu	65	0.002	ug/L	0.002	87	32	39	16
	Zn	66	0.009	ug/L	0.014	150	220	234	8
	Zn	67	0.026	ug/L	0.033	128	39	46	18
	Zn	68	0.004	ug/L	0.021	587	626	628	4
	As	75	-0.011	ug/L	0.026	237	1266	1247	3
	As-1	75	0.000	ug/L	0.031	14161	6603	6587	0
	Se	82	-0.067	ug/L	0.082	121	-10	-21	61
	Se	78	-0.026	ug/L	0.141	547	6721	6694	0
	Mo	98	0.011	ug/L	0.005	48	26	71	29
	Y	89		ug/L			327238	333047	1
	Kr	83		ug/L			1809	1806	2
>	In	115		ug/L			929401	940020	1
	Ag	107	0.002	ug/L	0.001	26	20	37	13
	Cd	111	0.001	ug/L	0.001	101	75	81	7
	Cd	114	0.001	ug/L	0.001	51	31	44	14
	Sb	121	0.015	ug/L	0.007	49	417	641	16
	Sb	123	0.015	ug/L	0.009	62	326	496	20
	Ba	135	0.003	ug/L	0.001	41	23	34	12
	Ba	137	-0.001	ug/L	0.001	212	45	41	18
>	Tb	159		ug/L			920152	918359	1
	Tl	205	0.001	ug/L	0.001	110	78	108	29
	Pb	208	0.001	ug/L	0.000	24	146	174	3
	Bi	209		ug/L			2152313	2151332	0
	Th	232	0.080	ug/L	0.025	31	1253	4393	21
	U	238	0.002	ug/L	0.000	23	35	118	15

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 11:51:01
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1447591	0
	Be	9	52.081	ug/L	0.717	1	18	260710	1
	C	13		ug/L			115227	114307	3
	Cl	37		ug/L			5056971	5079097	2
>	Sc	45		ug/L			1150108	1155721	1
	V	51	48.758	ug/L	0.794	1	6633	998321	0
	V-1	51	48.942	ug/L	1.102	2	59	993786	0
	Cr	52	49.770	ug/L	0.492	0	19531	810889	2
	Cr	53	50.447	ug/L	1.576	3	104	90180	1
	Mn	55	48.347	ug/L	1.141	2	477	1078689	2
	Co	59	50.062	ug/L	1.371	2	69	726597	1
>	Ge	72		ug/L			432270	429764	0
	Ni	60	50.169	ug/L	0.419	0	81	147613	0
	Ni	62	51.182	ug/L	0.782	1	65	21056	1
	Cu	63	50.554	ug/L	0.511	1	73	317797	1
	Cu	65	49.884	ug/L	0.130	0	32	138116	0
	Zn	66	49.545	ug/L	1.098	2	220	81915	2
	Zn	67	50.165	ug/L	0.432	0	39	13865	0
	Zn	68	50.491	ug/L	0.551	1	626	58578	1
	As	75	50.959	ug/L	0.369	0	1266	76401	0
	As-1	75	50.377	ug/L	0.296	0	6603	78557	0
	Se	82	54.799	ug/L	0.592	1	10	9019	1
	Se	78	49.621	ug/L	0.373	0	6721	26500	0
	Mo	98	48.953	ug/L	1.218	2	26	200551	2
	Y	89		ug/L			327238	329687	0
	Kr	83		ug/L			1809	1828	2
>	In	115		ug/L			929401	941925	0
	Ag	107	49.914	ug/L	0.475	0	20	431203	1
	Cd	111	50.443	ug/L	0.665	1	75	228119	0
	Cd	114	49.129	ug/L	0.626	1	31	564328	0
	Sb	121	47.936	ug/L	0.284	0	417	720078	0
	Sb	123	47.611	ug/L	0.833	1	326	540656	0
	Ba	135	48.444	ug/L	0.626	1	23	194371	0
	Ba	137	48.465	ug/L	0.434	0	45	331955	0
>	Tb	159		ug/L			920152	940123	0
	Tl	205	48.556	ug/L	0.260	0	78	1502050	0
	Pb	208	49.590	ug/L	0.642	1	146	2013602	0
	Bi	209		ug/L			2152313	2157135	0
	Th	232	48.032	ug/L	1.180	2	1253	1948585	1
	U	238	51.291	ug/L	0.120	0	35	2182666	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 11:56:13
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1438294	0
	Be	9	0.001	ug/L	0.002	167	18	23	43
	C	13		ug/L			115227	116661	1
	Cl	37		ug/L			5056971	5126503	2
>	Sc	45		ug/L			1150108	1165714	1
	V	51	0.008	ug/L	0.004	55	6633	6886	2
	V-1	51	0.001	ug/L	0.001	77	59	76	15
	Cr	52	0.025	ug/L	0.016	63	19531	20204	2
	Cr	53	-0.000	ug/L	0.004	958	104	105	8
	Mn	55	0.001	ug/L	0.001	106	477	510	4
	Co	59	-0.000	ug/L	0.001	845	69	69	10
>	Ge	72		ug/L			432270	424778	1
	Ni	60	0.013	ug/L	0.013	97	81	117	31
	Ni	62	0.019	ug/L	0.017	85	65	72	8
	Cu	63	0.004	ug/L	0.001	32	73	94	8
	Cu	65	-0.000	ug/L	0.001	1702	32	31	4
	Zn	66	0.042	ug/L	0.013	31	220	285	8
	Zn	67	0.011	ug/L	0.015	134	39	41	10
	Zn	68	0.011	ug/L	0.031	288	626	627	4
	As	75	0.033	ug/L	0.021	64	1266	1292	1
	As-1	75	0.034	ug/L	0.067	196	6603	6536	0
	Se	82	-0.009	ug/L	0.093	985	-10	-12	124
	Se	78	0.124	ug/L	0.177	142	6721	6653	0
	Mo	98	0.014	ug/L	0.006	42	26	83	28
	Y	89		ug/L			327238	320952	1
	Kr	83		ug/L			1809	1844	3
>	In	115		ug/L			929401	932633	0
	Ag	107	0.002	ug/L	0.003	109	20	41	56
	Cd	111	0.001	ug/L	0.002	176	75	80	9
	Cd	114	0.002	ug/L	0.003	157	31	51	60
	Sb	121	0.086	ug/L	0.006	7	417	1693	5
	Sb	123	0.083	ug/L	0.004	5	326	1256	3
	Ba	135	0.002	ug/L	0.002	83	23	31	20
	Ba	137	0.000	ug/L	0.003	2309	45	46	39
>	Tb	159		ug/L			920152	915440	1
	Tl	205	0.001	ug/L	0.002	120	78	117	40
	Pb	208	0.001	ug/L	0.001	69	146	174	12
	Bi	209		ug/L			2152313	2177121	0
	Th	232	0.097	ug/L	0.023	23	1253	5098	18
	U	238	0.003	ug/L	0.001	43	35	141	32

ICP-MS Quantitative Analysis - Summary Report

Sample ID: LOW CHECK
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:00:21
Number of Replicates: 3
Method File: C:\NexIONData\Method\200.8nomin.mth
Tuning File: C:\NexIONData\MassCal\default.tun
Optimization File: C:\NexIONData\Conditions\default.dac
Calibration File: C:\NexIONData\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1424055	1
	Be	9	0.213	ug/L	0.007	3	18	1068	2
	C	13		ug/L			115227	120479	0
	Cl	37		ug/L			5056971	5162692	1
>	Sc	45		ug/L			1150108	1149984	1
	V	51	0.207	ug/L	0.012	5	6633	10830	1
	V-1	51	0.201	ug/L	0.004	2	59	4118	1
	Cr	52	0.555	ug/L	0.021	3	19531	28301	1
	Cr	53	0.533	ug/L	0.009	1	104	1051	2
	Mn	55	0.495	ug/L	0.006	1	477	11474	2
	Co	59	0.201	ug/L	0.004	2	69	2969	0
>	Ge	72		ug/L			432270	426570	1
	Ni	60	0.502	ug/L	0.003	0	81	1544	1
	Ni	62	0.526	ug/L	0.028	5	65	278	2
	Cu	63	0.552	ug/L	0.007	1	73	3514	1
	Cu	65	0.535	ug/L	0.023	4	32	1500	3
	Zn	66	4.152	ug/L	0.100	2	220	7012	1
	Zn	67	3.642	ug/L	0.137	3	39	1035	4
	Zn	68	4.020	ug/L	0.137	3	626	5195	1
	As	75	0.247	ug/L	0.012	4	1266	1612	2
	As-1	75	0.213	ug/L	0.079	37	6603	6817	0
	Se	82	0.652	ug/L	0.107	16	-10	96	19
	Se	78	0.520	ug/L	0.302	58	6721	6838	0
	Mo	98	0.204	ug/L	0.007	3	26	855	2
	Y	89		ug/L			327238	330663	2
	Kr	83		ug/L			1809	1778	2
>	In	115		ug/L			929401	930227	0
	Ag	107	0.209	ug/L	0.007	3	20	1799	3
	Cd	111	0.104	ug/L	0.003	2	75	541	2
	Cd	114	0.107	ug/L	0.000	0	31	1243	0
	Sb	121	0.203	ug/L	0.001	0	417	3420	0
	Sb	123	0.197	ug/L	0.003	1	326	2536	1
	Ba	135	0.484	ug/L	0.014	2	23	1940	2
	Ba	137	0.502	ug/L	0.006	1	45	3438	1
>	Tb	159		ug/L			920152	898137	1
	Tl	205	0.206	ug/L	0.005	2	78	6159	0
	Pb	208	0.109	ug/L	0.002	1	146	4385	0
	Bi	209		ug/L			2152313	2097916	5
	Th	232	0.200	ug/L	0.007	3	1253	8953	2
	U	238	0.205	ug/L	0.009	4	35	8366	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICSA
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:04:29
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1469308	1444274	0
[	Be	9	0.000	ug/L	0.002	2486	18	18	41
	C	13		ug/L			115227	249821	2
	Cl	37		ug/L			5056971	13112754	1
[>	Sc	45		ug/L			1150108	1087598	1
[	V	51	0.109	ug/L	0.028	25	6633	8359	5
[	V-1	51	0.461	ug/L	0.009	2	59	8875	1
[	Cr	52	0.941	ug/L	0.077	8	19531	32544	2
[	Cr	53	2.227	ug/L	0.020	0	104	3842	0
[	Mn	55	0.099	ug/L	0.002	1	477	2527	0
[	Co	59	0.019	ug/L	0.002	12	69	322	9
[>	Ge	72		ug/L			432270	404728	2
[	Ni	60	0.394	ug/L	0.025	6	81	1166	4
[	Ni	62	1.644	ug/L	0.135	8	65	695	5
[	Cu	63	0.998	ug/L	0.031	3	73	5970	1
[	Cu	65	0.377	ug/L	0.022	5	32	1013	5
[	Zn	66	0.715	ug/L	0.030	4	220	1317	6
[	Zn	67	6.447	ug/L	0.097	1	39	1709	1
[	Zn	68	0.177	ug/L	0.023	12	626	777	5
[	As	75	0.063	ug/L	0.024	37	1266	1273	2
[	As-1	75	0.169	ug/L	0.164	97	6603	6406	2
[	Se	82	-0.301	ug/L	0.047	15	-10	-56	14
[	Se	78	0.586	ug/L	0.469	80	6721	6511	1
[	Mo	98	404.562	ug/L	9.517	2	26	1560069	1
	Y	89		ug/L			327238	313771	1
	Kr	83		ug/L			1809	1947	3
[>	In	115		ug/L			929401	924127	1
[	Ag	107	0.022	ug/L	0.001	5	20	209	3
[	Cd	111	0.112	ug/L	0.014	12	75	571	11
[	Cd	114	0.183	ug/L	0.013	7	31	2093	5
[	Sb	121	0.043	ug/L	0.002	4	417	1045	3
[	Sb	123	0.039	ug/L	0.004	10	326	762	7
[	Ba	135	0.044	ug/L	0.001	2	23	198	1
[	Ba	137	0.038	ug/L	0.002	4	45	297	5
[>	Tb	159		ug/L			920152	979650	2
[	Tl	205	0.003	ug/L	0.002	65	78	171	31
[	Pb	208	0.038	ug/L	0.001	3	146	1753	0
[	Bi	209		ug/L			2152313	2006904	5
[	Th	232	0.214	ug/L	0.097	45	1253	10286	36
[	U	238	0.001	ug/L	0.000	3	35	85	2

ICP-MS Quantitative Analysis - Summary Report

Sample ID: ICSAB
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:09:40
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1448633	0
	Be	9	0.000	ug/L	0.002	2812	18	18	43
	C	13		ug/L			115227	231349	0
	Cl	37		ug/L			5056971	13052907	2
>	Sc	45		ug/L			1150108	1085631	2
	V	51	0.130	ug/L	0.107	82	6633	8777	25
	V-1	51	0.530	ug/L	0.014	2	59	10165	2
	Cr	52	20.320	ug/L	0.560	2	19531	321749	0
	Cr	53	21.891	ug/L	0.955	4	104	36801	1
	Mn	55	18.807	ug/L	0.465	2	477	394334	1
	Co	59	19.157	ug/L	0.732	3	69	261172	2
>	Ge	72		ug/L			432270	393144	0
	Ni	60	19.149	ug/L	0.205	1	81	51592	2
	Ni	62	21.079	ug/L	0.079	0	65	7968	0
	Cu	63	19.815	ug/L	0.241	1	73	113978	0
	Cu	65	19.684	ug/L	1.092	5	32	49856	4
	Zn	66	18.398	ug/L	0.486	2	220	27948	1
	Zn	67	22.689	ug/L	0.293	1	39	5755	1
	Zn	68	17.997	ug/L	0.551	3	626	19463	2
	As	75	18.240	ug/L	0.226	1	1266	25754	0
	As-1	75	18.902	ug/L	0.281	1	6603	30714	0
	Se	82	-0.469	ug/L	0.037	7	-10	-80	6
	Se	78	0.481	ug/L	0.187	38	6721	6288	0
	Mo	98	417.557	ug/L	6.780	1	26	1564485	0
	Y	89		ug/L			327238	305086	1
	Kr	83		ug/L			1809	1960	0
>	In	115		ug/L			929401	951261	0
	Ag	107	19.681	ug/L	0.415	2	20	171701	1
	Cd	111	18.957	ug/L	0.430	2	75	86625	1
	Cd	114	18.915	ug/L	0.138	0	31	219455	0
	Sb	121	0.046	ug/L	0.003	7	417	1128	4
	Sb	123	0.044	ug/L	0.003	7	326	841	4
	Ba	135	0.046	ug/L	0.005	10	23	211	8
	Ba	137	0.039	ug/L	0.003	7	45	316	6
>	Tb	159		ug/L			920152	1010847	1
	Tl	205	0.001	ug/L	0.000	7	78	127	3
	Pb	208	0.039	ug/L	0.001	1	146	1872	0
	Bi	209		ug/L			2152313	2193768	0
	Th	232	0.066	ug/L	0.017	25	1253	4232	17
	U	238	0.001	ug/L	0.000	12	35	83	6

ICP-MS Quantitative Analysis - Summary Report

Sample ID: B1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:15:12
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank intens.	Meas. intens.	Intens. RSD
>	Li	6		ug/L			1469308	1475707	3
	Be	9	-0.000	ug/L	0.000	41	18	15	3
	C	13		ug/L			115227	118340	7
	Cl	37		ug/L			5056971	5278731	4
>	Sc	45		ug/L			1150108	1146443	0
	V	51	0.002	ug/L	0.014	855	6633	6644	4
	V-1	51	0.020	ug/L	0.003	13	59	470	11
	Cr	52	-0.001	ug/L	0.046	3655	19531	19449	3
	Cr	53	0.067	ug/L	0.008	11	104	223	5
	Mn	55	0.025	ug/L	0.003	11	477	1021	5
	Co	59	-0.000	ug/L	0.001	132	69	62	15
>	Ge	72		ug/L			432270	408513	0
	Ni	60	0.015	ug/L	0.003	22	81	117	7
	Ni	62	0.151	ug/L	0.026	17	65	120	7
	Cu	63	0.111	ug/L	0.001	1	73	735	1
	Cu	65	0.106	ug/L	0.006	5	32	308	4
	Zn	66	1.382	ug/L	0.070	5	220	2373	3
	Zn	67	1.293	ug/L	0.065	4	39	375	5
	Zn	68	1.375	ug/L	0.078	5	626	2090	3
	As	75	0.022	ug/L	0.042	189	1266	1228	4
	As-1	75	0.053	ug/L	0.050	93	6603	6312	0
	Se	82	0.027	ug/L	0.232	861	-10	-6	602
	Se	78	0.154	ug/L	0.202	130	6721	6410	0
	Mo	98	0.068	ug/L	0.016	23	26	288	21
	Y	89		ug/L			327238	316487	2
	Kr	83		ug/L			1809	1718	3
>	In	115		ug/L			929401	997621	1
	Ag	107	0.001	ug/L	0.001	161	20	27	36
	Cd	111	-0.000	ug/L	0.001	754	75	80	6
	Cd	114	0.001	ug/L	0.000	39	31	41	5
	Sb	121	-0.017	ug/L	0.001	7	417	174	12
	Sb	123	-0.018	ug/L	0.001	6	326	133	11
	Ba	135	0.021	ug/L	0.003	15	23	115	11
	Ba	137	0.019	ug/L	0.002	9	45	183	7
>	Tb	159		ug/L			920152	985325	0
	Tl	205	0.000	ug/L	0.001	227	78	92	21
	Pb	208	0.017	ug/L	0.001	4	146	871	4
	Bi	209		ug/L			2152313	2366508	0
	Th	232	-0.026	ug/L	0.000	1	1253	237	5
	U	238	-0.000	ug/L	0.000	13	35	22	9

ICP-MS Quantitative Analysis - Summary Report

Sample ID: B2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:20:43
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1521340	1
	Be	9	-0.000	ug/L	0.001	321	18	17	26
	C	13		ug/L			115227	124728	3
	Cl	37		ug/L			5056971	5208683	2
>	Sc	45		ug/L			1150108	1178281	2
	V	51	-0.004	ug/L	0.011	243	6633	6703	2
	V-1	51	0.012	ug/L	0.001	8	59	311	6
	Cr	52	-0.022	ug/L	0.041	187	19531	19652	2
	Cr	53	0.038	ug/L	0.001	1	104	176	2
	Mn	55	0.030	ug/L	0.001	4	477	1165	1
	Co	59	0.000	ug/L	0.001	201	69	78	17
>	Ge	72		ug/L			432270	412728	1
	Ni	60	0.009	ug/L	0.005	59	81	103	13
	Ni	62	0.017	ug/L	0.023	134	65	69	11
	Cu	63	0.148	ug/L	0.009	6	73	965	5
	Cu	65	0.145	ug/L	0.008	5	32	415	4
	Zn	66	2.092	ug/L	0.102	4	220	3522	3
	Zn	67	1.833	ug/L	0.123	6	39	522	4
	Zn	68	2.026	ug/L	0.045	2	626	2830	0
	As	75	0.015	ug/L	0.007	48	1266	1230	1
	As-1	75	0.110	ug/L	0.093	84	6603	6454	0
	Se	82	-0.078	ug/L	0.109	140	-10	-22	75
	Se	78	0.371	ug/L	0.350	94	6721	6558	0
	Mo	98	0.018	ug/L	0.005	30	26	95	23
	Y	89		ug/L			327238	323321	1
	Kr	83		ug/L			1809	1782	1
>	In	115		ug/L			929401	1019903	1
	Ag	107	0.000	ug/L	0.001	591	20	24	56
	Cd	111	0.001	ug/L	0.004	537	75	87	26
	Cd	114	0.005	ug/L	0.007	138	31	102	92
	Sb	121	-0.017	ug/L	0.003	19	417	185	30
	Sb	123	-0.017	ug/L	0.003	15	326	145	23
	Ba	135	0.019	ug/L	0.002	12	23	107	10
	Ba	137	0.020	ug/L	0.002	9	45	199	8
>	Tb	159		ug/L			920152	1009693	1
	Tl	205	0.000	ug/L	0.002	591	78	97	66
	Pb	208	0.020	ug/L	0.001	6	146	1034	6
	Bi	209		ug/L			2152313	2378812	1
	Th	232	-0.027	ug/L	0.001	4	1253	211	28
	U	238	-0.000	ug/L	0.001	2735	35	38	104

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:25:57
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1558214	2
	Be	9	49.781	ug/L	1.131	2	18	268145	0
	C	13		ug/L			115227	125327	0
	Cl	37		ug/L			5056971	5329852	3
>	Sc	45		ug/L			1150108	1171567	2
	V	51	47.413	ug/L	0.344	0	6633	984323	2
	V-1	51	47.553	ug/L	0.870	1	59	978748	1
	Cr	52	48.114	ug/L	0.568	1	19531	795134	1
	Cr	53	48.626	ug/L	2.771	5	104	88067	3
	Mn	55	47.967	ug/L	0.798	1	477	1084667	1
	Co	59	46.877	ug/L	1.447	3	69	689513	0
>	Ge	72		ug/L			432270	412906	3
	Ni	60	50.729	ug/L	1.146	2	81	143346	2
	Ni	62	51.102	ug/L	1.087	2	65	20190	2
	Cu	63	50.857	ug/L	2.997	5	73	306728	2
	Cu	65	49.407	ug/L	1.893	3	32	131307	0
	Zn	66	48.738	ug/L	1.746	3	220	77357	0
	Zn	67	51.112	ug/L	1.788	3	39	13561	0
	Zn	68	50.975	ug/L	2.116	4	626	56765	2
	As	75	51.163	ug/L	2.606	5	1266	73604	1
	As-1	75	50.441	ug/L	2.194	4	6603	75493	1
	Se	82	56.187	ug/L	3.023	5	-10	8873	1
	Se	78	50.585	ug/L	1.583	3	6721	25816	1
	Mo	98	50.467	ug/L	2.479	4	26	198397	1
	Y	89		ug/L			327238	335306	1
	Kr	83		ug/L			1809	1768	2
>	In	115		ug/L			929401	1021759	1
	Ag	107	48.703	ug/L	1.059	2	20	456323	1
	Cd	111	48.957	ug/L	0.463	0	75	240174	1
	Cd	114	49.012	ug/L	0.769	1	31	610688	1
	Sb	121	47.963	ug/L	0.462	0	417	781504	0
	Sb	123	47.332	ug/L	0.769	1	326	583003	0
	Ba	135	48.472	ug/L	0.886	1	23	210938	0
	Ba	137	49.124	ug/L	0.116	0	45	364991	1
>	Tb	159		ug/L			920152	1046748	1
	Tl	205	48.239	ug/L	1.238	2	78	1661051	1
	Pb	208	49.128	ug/L	0.593	1	146	2220940	0
	Bi	209		ug/L			2152313	2369460	1
	Th	232	49.627	ug/L	1.745	3	1253	2240934	1
	U	238	50.117	ug/L	1.242	2	35	2373973	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:31:53
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1550667	0
	Be	9	-0.000	ug/L	0.001	137	18	17	15
	C	13		ug/L			115227	126697	2
	Cl	37		ug/L			5056971	5305426	3
>	Sc	45		ug/L			1150108	1178786	0
	V	51	0.001	ug/L	0.006	502	6633	6822	1
	V-1	51	0.007	ug/L	0.001	13	59	202	8
	Cr	52	-0.002	ug/L	0.019	832	19531	19981	1
	Cr	53	0.018	ug/L	0.004	23	104	141	6
	Mn	55	-0.000	ug/L	0.004	8908	477	488	16
	Co	59	0.003	ug/L	0.005	170	69	113	62
>	Ge	72		ug/L			432270	417215	0
	Ni	60	-0.003	ug/L	0.010	393	81	71	39
	Ni	62	0.005	ug/L	0.032	639	65	65	18
	Cu	63	0.014	ug/L	0.009	66	73	153	35
	Cu	65	0.007	ug/L	0.011	150	32	50	57
	Zn	66	-0.008	ug/L	0.013	164	220	200	9
	Zn	67	-0.010	ug/L	0.022	221	39	35	15
	Zn	68	0.035	ug/L	0.010	29	626	643	2
	As	75	0.032	ug/L	0.017	53	1266	1268	1
	As-1	75	0.034	ug/L	0.024	70	6603	6420	0
	Se	82	-0.001	ug/L	0.112	7538	-10	-10	167
	Se	78	0.099	ug/L	0.089	89	6721	6526	0
	Mo	98	0.015	ug/L	0.002	13	26	86	8
	Y	89		ug/L			327238	330647	1
	Kr	83		ug/L			1809	1794	2
>	In	115		ug/L			929401	1019736	0
	Ag	107	0.002	ug/L	0.002	128	20	37	52
	Cd	111	0.000	ug/L	0.001	258	75	85	5
	Cd	114	0.001	ug/L	0.001	115	31	51	36
	Sb	121	0.062	ug/L	0.007	11	417	1458	7
	Sb	123	0.060	ug/L	0.004	6	326	1099	4
	Ba	135	0.002	ug/L	0.001	59	23	33	13
	Ba	137	0.000	ug/L	0.001	191	45	53	13
>	Tb	159		ug/L			920152	1000008	0
	Tl	205	-0.000	ug/L	0.001	3474	78	84	20
	Pb	208	0.000	ug/L	0.000	86	146	176	8
	Bi	209		ug/L			2152313	2385116	0
	Th	232	0.042	ug/L	0.008	18	1253	3193	10
	U	238	0.001	ug/L	0.000	35	35	98	21

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV3
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:37:23
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1556311	0
	Be	9	49.548	ug/L	1.315	2	18	266675	2
	C	13		ug/L			115227	121053	3
	Cl	37		ug/L			5056971	5532935	3
>	Sc	45		ug/L			1150108	1189285	3
	V	51	47.160	ug/L	1.610	3	6633	993202	1
	V-1	51	47.263	ug/L	1.491	3	59	987111	1
	Cr	52	47.999	ug/L	2.568	5	19531	804374	1
	Cr	53	48.376	ug/L	1.806	3	104	88946	1
	Mn	55	45.906	ug/L	1.666	3	477	1053114	0
	Co	59	45.827	ug/L	2.126	4	69	683869	0
>	Ge	72		ug/L			432270	413104	0
	Ni	60	50.025	ug/L	1.080	2	81	141485	2
	Ni	62	49.480	ug/L	1.475	2	65	19568	2
	Cu	63	50.494	ug/L	0.667	1	73	305111	1
	Cu	65	49.144	ug/L	1.429	2	32	130782	2
	Zn	66	49.684	ug/L	0.802	1	220	78959	1
	Zn	67	49.878	ug/L	1.429	2	39	13251	2
	Zn	68	50.570	ug/L	2.187	4	626	56385	3
	As	75	51.186	ug/L	0.445	0	1266	73759	0
	As-1	75	50.570	ug/L	0.992	1	6603	75773	1
	Se	82	56.255	ug/L	0.733	1	10	8900	1
	Se	78	51.017	ug/L	1.573	3	6721	26007	1
	Mo	98	51.238	ug/L	0.762	1	26	201764	1
	Y	89		ug/L			327238	329473	2
	Kr	83		ug/L			1809	1766	1
>	In	115		ug/L			929401	1016027	1
	Ag	107	46.715	ug/L	0.700	1	20	435242	0
	Cd	111	48.801	ug/L	0.936	1	75	238047	1
	Cd	114	49.306	ug/L	0.350	0	31	610923	1
	Sb	121	48.260	ug/L	0.768	1	417	781869	0
	Sb	123	47.645	ug/L	0.500	1	326	583614	0
	Ba	135	48.287	ug/L	0.629	1	23	208973	0
	Ba	137	49.113	ug/L	0.549	1	45	362832	0
>	Tb	159		ug/L			920152	1029473	2
	Tl	205	48.531	ug/L	1.463	3	78	1643139	0
	Pb	208	49.455	ug/L	1.194	2	146	2198246	0
	Bi	209		ug/L			2152313	2345645	0
	Th	232	50.266	ug/L	1.740	3	1253	2231980	1
	U	238	50.744	ug/L	1.532	3	35	2363425	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB3
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:43:15
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1510313	1
	Be	9	0.001	ug/L	0.001	132	18	22	24
	C	13		ug/L			115227	122990	0
	Cl	37		ug/L			5056971	5386220	2
>	Sc	45		ug/L			1150108	1177933	1
	V	51	-0.010	ug/L	0.003	29	6633	6584	1
	V-1	51	0.005	ug/L	0.001	12	59	167	9
	Cr	52	-0.033	ug/L	0.007	21	19531	19461	0
	Cr	53	0.022	ug/L	0.008	34	104	147	9
	Mn	55	-0.001	ug/L	0.001	44	477	459	2
	Co	59	-0.001	ug/L	0.001	159	69	62	23
>	Ge	72		ug/L			432270	414659	1
	Ni	60	-0.013	ug/L	0.002	14	81	41	14
	Ni	62	0.018	ug/L	0.042	236	65	69	23
	Cu	63	0.003	ug/L	0.002	75	73	87	15
	Cu	65	0.000	ug/L	0.001	249	32	31	6
	Zn	66	-0.006	ug/L	0.010	176	220	202	8
	Zn	67	-0.015	ug/L	0.020	131	39	33	15
	Zn	68	-0.002	ug/L	0.020	835	626	597	2
	As	75	0.052	ug/L	0.021	41	1266	1289	1
	As-1	75	0.069	ug/L	0.097	140	6603	6427	0
	Se	82	0.001	ug/L	0.212	27450	-10	-10	331
	Se	78	0.188	ug/L	0.359	191	6721	6518	0
	Mo	98	0.014	ug/L	0.003	23	26	79	15
	Y	89		ug/L			327238	322461	1
	Kr	83		ug/L			1809	1799	3
>	In	115		ug/L			920401	1001866	0
	Ag	107	0.001	ug/L	0.000	36	20	29	10
	Cd	111	0.000	ug/L	0.001	109	75	84	3
	Cd	114	0.001	ug/L	0.000	40	31	42	8
	Sb	121	0.068	ug/L	0.002	3	417	1542	1
	Sb	123	0.067	ug/L	0.007	9	326	1160	6
	Ba	135	-0.000	ug/L	0.001	218	23	23	12
	Ba	137	-0.001	ug/L	0.001	73	45	43	8
>	Tb	159		ug/L			920152	997995	1
	Tl	205	-0.000	ug/L	0.000	139	78	75	18
	Pb	208	-0.000	ug/L	0.000	359	146	153	11
	Bi	209		ug/L			2152313	2363894	1
	Th	232	0.067	ug/L	0.014	21	1253	4227	14
	U	238	0.001	ug/L	0.000	20	35	92	13

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 MB1 REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:49:34
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1595382	1
	Be	9	0.001	ug/L	0.001	79	18	24	15
	C	13		ug/L			115227	140198	1
	Cl	37		ug/L			5056971	5228259	1
>	Sc	45		ug/L			1150108	1206917	2
	V	51	0.002	ug/L	0.011	661	6633	6992	1
	V-1	51	0.010	ug/L	0.001	12	59	275	7
	Cr	52	0.104	ug/L	0.051	49	19531	22219	2
	Cr	53	0.136	ug/L	0.018	13	104	362	7
	Mn	55	0.017	ug/L	0.001	7	477	890	2
	Co	59	0.001	ug/L	0.001	210	69	81	19
>	Ge	72		ug/L			432270	424626	1
	Ni	60	-0.004	ug/L	0.003	76	81	67	14
	Ni	62	0.011	ug/L	0.013	113	65	68	7
	Cu	63	0.177	ug/L	0.009	4	73	1171	3
	Cu	65	0.157	ug/L	0.012	7	32	462	6
	Zn	66	1.357	ug/L	0.027	1	220	2426	0
	Zn	67	1.199	ug/L	0.084	7	39	364	5
	Zn	68	1.290	ug/L	0.103	7	626	2077	5
	As	75	0.012	ug/L	0.026	205	1266	1262	2
	As-1	75	0.005	ug/L	0.028	586	6603	6493	1
	Se	82	-0.095	ug/L	0.174	182	-10	-26	108
	Se	78	-0.000	ug/L	0.113	41413	6721	6602	1
	Mo	98	0.014	ug/L	0.004	28	26	82	19
	Y	89		ug/L			327238	334824	0
	Kr	83		ug/L			1809	1840	3
>	In	115		ug/L			929401	1034247	1
	Ag	107	-0.000	ug/L	0.000	160	20	20	13
	Cd	111	-0.001	ug/L	0.003	579	75	81	19
	Cd	114	0.001	ug/L	0.000	29	31	42	4
	Sb	121	0.004	ug/L	0.002	68	417	524	8
	Sb	123	0.003	ug/L	0.002	85	326	395	7
	Ba	135	0.009	ug/L	0.002	20	23	66	11
	Ba	137	0.008	ug/L	0.001	11	45	111	5
>	Tb	159		ug/L			920152	1017037	1
	Tl	205	0.001	ug/L	0.001	131	78	119	35
	Pb	208	0.015	ug/L	0.001	3	146	815	1
	Bi	209		ug/L			2152313	2387354	0
	Th	232	0.066	ug/L	0.019	28	1253	4294	18
	U	238	0.000	ug/L	0.000	2353	35	39	16

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US61 MB2 REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:53:41
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1594024	1
	Be	9	0.003	ug/L	0.001	41	18	37	19
	C	13		ug/L			115227	139679	0
	Cl	37		ug/L			5056971	5374840	1
>	Sc	45		ug/L			1150108	1220068	0
	V	51	0.004	ug/L	0.004	112	6633	7121	0
	V-1	51	0.012	ug/L	0.001	10	59	319	7
	Cr	52	0.104	ug/L	0.006	6	19531	22471	1
	Cr	53	0.134	ug/L	0.013	9	104	364	7
	Mn	55	0.064	ug/L	0.003	4	477	2014	2
	Co	59	0.001	ug/L	0.001	81	69	85	10
>	Ge	72		ug/L			432270	424589	0
	Ni	60	-0.004	ug/L	0.005	124	81	68	21
	Ni	62	-0.000	ug/L	0.023	5906	65	64	14
	Cu	63	0.300	ug/L	0.007	2	73	1933	1
	Cu	65	0.294	ug/L	0.011	3	32	836	3
	Zn	66	1.378	ug/L	0.027	1	220	2461	1
	Zn	67	1.195	ug/L	0.173	14	39	363	12
	Zn	68	1.333	ug/L	0.042	3	626	2126	2
	As	75	0.028	ug/L	0.008	29	1266	1285	0
	As-1	75	0.107	ug/L	0.063	59	6603	6636	0
	Se	82	-0.035	ug/L	0.013	36	-10	-16	12
	Se	78	0.371	ug/L	0.232	62	6721	6748	0
	Mo	98	0.005	ug/L	0.001	19	26	48	9
	Y	89		ug/L			327238	341409	2
	Kr	83		ug/L			1809	1841	0
>	In	115		ug/L			929401	1041025	1
	Ag	107	-0.000	ug/L	0.000	96	20	18	25
	Cd	111	-0.001	ug/L	0.001	67	75	78	4
	Cd	114	-0.000	ug/L	0.000	98	31	34	5
	Sb	121	-0.011	ug/L	0.003	23	417	277	16
	Sb	123	-0.012	ug/L	0.003	25	326	214	18
	Ba	135	0.014	ug/L	0.003	19	23	87	13
	Ba	137	0.014	ug/L	0.001	8	45	154	4
>	Tb	159		ug/L			920152	1020284	0
	Tl	205	0.001	ug/L	0.000	38	78	112	8
	Pb	208	0.017	ug/L	0.001	6	146	933	5
	Bi	209		ug/L			2152313	2366896	0
	Th	232	0.018	ug/L	0.007	36	1253	2196	13
	U	238	0.001	ug/L	0.002	161	35	82	84

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US02R MB1
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 09, 2012 12:57:49
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1631876	0
	Be	9	0.001	ug/L	0.001	43	18	28	12
	C	13		ug/L			115227	135779	1
	Cl	37		ug/L			5056971	5329100	7
>	Sc	45		ug/L			1150108	1292751	5
	V	51	-0.014	ug/L	0.009	67	6633	7129	2
	V-1	51	0.011	ug/L	0.001	8	59	304	3
	Cr	52	0.043	ug/L	0.043	99	19531	22697	1
	Cr	53	0.133	ug/L	0.012	9	104	382	2
	Mn	55	0.028	ug/L	0.003	10	477	1223	2
	Co	59	-0.000	ug/L	0.001	1623	69	77	14
>	Ge	72		ug/L			432270	425062	2
	Ni	60	-0.006	ug/L	0.001	15	81	62	2
	Ni	62	-0.001	ug/L	0.002	133	65	63	0
	Cu	63	0.180	ug/L	0.007	3	73	1190	5
	Cu	65	0.184	ug/L	0.006	3	32	534	4
	Zn	66	1.178	ug/L	0.042	3	220	2138	5
	Zn	67	1.103	ug/L	0.084	7	39	339	8
	Zn	68	1.134	ug/L	0.041	3	626	1903	2
	As	75	0.073	ug/L	0.018	25	1266	1351	3
	As-1	75	0.079	ug/L	0.061	77	6603	6604	1
	Se	82	0.126	ug/L	0.166	131	-10	10	260
	Se	78	0.204	ug/L	0.178	86	6721	6689	1
	Mo	98	0.005	ug/L	0.003	59	26	46	27
	Y	89		ug/L			327238	345823	2
	Kr	83		ug/L			1809	1806	1
>	In	115		ug/L			929401	1049072	3
	Ag	107	0.000	ug/L	0.001	193	20	26	25
	Cd	111	-0.002	ug/L	0.001	62	75	77	9
	Cd	114	0.001	ug/L	0.000	36	31	52	10
	Sb	121	-0.014	ug/L	0.002	17	417	234	16
	Sb	123	-0.016	ug/L	0.002	10	326	167	10
	Ba	135	0.013	ug/L	0.002	18	23	83	12
	Ba	137	0.013	ug/L	0.002	13	45	152	7
>	Tb	159		ug/L			920152	1024343	1
	Tl	205	-0.000	ug/L	0.000	103	78	72	20
	Pb	208	0.020	ug/L	0.002	10	146	1041	7
	Bi	209		ug/L			2152313	2451897	5
	Th	232	0.008	ug/L	0.013	179	1253	1731	35
	U	238	0.001	ug/L	0.001	161	35	63	60

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US02R MB2 REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 09, 2012 13:01:57
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1587766	1
	Be	9	0.003	ug/L	0.001	34	18	36	15
	C	13		ug/L			115227	136051	1
	Cl	37		ug/L			5056971	5324619	3
>	Sc	45		ug/L			1150108	1227301	0
	V	51	0.003	ug/L	0.004	132	6633	7148	1
	V-1	51	0.011	ug/L	0.001	9	59	301	7
	Cr	52	0.116	ug/L	0.011	9	19531	22805	0
	Cr	53	0.145	ug/L	0.009	6	104	387	4
	Mn	55	0.035	ug/L	0.001	1	477	1336	1
	Co	59	0.000	ug/L	0.001	239	69	79	14
>	Ge	72		ug/L			432270	425482	1
	Ni	60	-0.001	ug/L	0.003	324	81	77	10
	Ni	62	-0.003	ug/L	0.035	1200	65	63	20
	Cu	63	0.288	ug/L	0.011	3	73	1862	2
	Cu	65	0.277	ug/L	0.013	4	32	789	3
	Zn	66	1.352	ug/L	0.070	5	220	2423	3
	Zn	67	1.207	ug/L	0.106	8	39	368	9
	Zn	68	1.349	ug/L	0.068	5	626	2148	2
	As	75	0.030	ug/L	0.003	9	1266	1290	1
	As-1	75	0.128	ug/L	0.056	43	6603	6680	0
	Se	82	-0.086	ug/L	0.028	32	-10	-24	19
	Se	78	0.417	ug/L	0.188	45	6721	6780	0
	Mo	98	0.003	ug/L	0.001	53	26	37	14
	Y	89		ug/L			327238	348387	0
	Kr	83		ug/L			1809	1860	2
>	In	115		ug/L			928401	1041103	0
	Ag	107	-0.001	ug/L	0.000	41	20	15	18
	Cd	111	-0.002	ug/L	0.002	137	75	76	15
	Cd	114	0.002	ug/L	0.001	40	31	57	15
	Sb	121	-0.018	ug/L	0.002	9	417	162	18
	Sb	123	-0.019	ug/L	0.001	6	326	127	12
	Ba	135	0.017	ug/L	0.004	22	23	99	15
	Ba	137	0.018	ug/L	0.001	6	45	184	4
>	Tb	159		ug/L			920152	1021165	0
	Tl	205	-0.001	ug/L	0.000	9	78	44	9
	Pb	208	0.028	ug/L	0.001	2	146	1411	1
	Bi	209		ug/L			2152313	2390515	0
	Th	232	-0.008	ug/L	0.003	35	1253	1036	12
	U	238	-0.000	ug/L	0.000	9	35	21	7

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US02R MB2SPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 09, 2012 13:06:04
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1613178	1
	Be	9	24.396	ug/L	0.294	1	18	136104	1
	C	13		ug/L			115227	142720	1
	Cl	37		ug/L			5056971	5392102	3
>	Sc	45		ug/L			1150108	1237621	1
	V	51	23.469	ug/L	0.177	0	6633	518404	1
	V-1	51	23.531	ug/L	0.072	0	59	511845	1
	Cr	52	24.077	ug/L	0.762	3	19531	430891	2
	Cr	53	24.305	ug/L	0.687	2	104	46593	2
	Mn	55	23.968	ug/L	1.052	4	477	573030	4
	Co	59	23.858	ug/L	0.545	2	69	370900	1
>	Ge	72		ug/L			432270	425919	1
	Ni	60	25.878	ug/L	0.275	1	81	75507	2
	Ni	62	26.100	ug/L	0.845	3	65	10674	4
	Cu	63	26.878	ug/L	0.633	2	73	167440	1
	Cu	65	26.200	ug/L	0.590	2	32	71888	0
	Zn	66	79.195	ug/L	2.009	2	220	129607	1
	Zn	67	74.231	ug/L	3.682	4	39	20304	3
	Zn	68	78.138	ug/L	1.704	2	626	89482	0
	As	75	27.626	ug/L	0.547	1	1266	41619	2
	As-1	75	24.833	ug/L	0.486	1	6603	41677	2
	Se	82	84.154	ug/L	1.032	1	-10	13730	0
	Se	78	75.228	ug/L	0.695	0	6721	36396	1
	Mo	98	0.008	ug/L	0.002	30	26	56	15
	Y	89		ug/L			327238	341166	2
	Kr	83		ug/L			1809	1854	1
>	In	115		ug/L			929401	1038272	1
	Ag	107	24.242	ug/L	0.077	0	20	230856	1
	Cd	111	24.202	ug/L	0.280	1	75	120694	1
	Cd	114	24.298	ug/L	0.934	3	31	307540	1
	Sb	121	-0.017	ug/L	0.002	9	17	185	13
	Sb	123	-0.017	ug/L	0.002	13	326	145	18
	Ba	135	24.384	ug/L	0.229	0	23	107853	1
	Ba	137	24.593	ug/L	0.742	3	45	185646	1
>	Tb	159		ug/L			920152	1021429	0
	Tl	205	25.098	ug/L	0.417	1	78	843536	1
	Pb	208	25.510	ug/L	0.274	1	146	1125508	0
	Bi	209		ug/L			2152313	2409532	0
	Th	232	23.894	ug/L	0.238	0	1253	1054035	1
	U	238	24.597	ug/L	0.277	1	35	1137226	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US02R MB1SPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 09, 2012 13:10:12
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1469308	1616311	1
[	Be	9	24.641	ug/L	0.812	3	18	137700	2
	C	13		ug/L			115227	142057	4
	Cl	37		ug/L			5056971	5303451	2
[>	Sc	45		ug/L			1150108	1216434	1
[	V	51	24.341	ug/L	0.736	3	6633	528010	1
[	V-1	51	24.293	ug/L	0.720	2	59	519200	1
[	Cr	52	25.072	ug/L	0.722	2	19531	440080	1
[	Cr	53	24.901	ug/L	0.674	2	104	46911	1
[	Mn	55	24.368	ug/L	0.859	3	477	572452	3
[	Co	59	24.025	ug/L	0.690	2	69	367107	2
[>	Ge	72		ug/L			432270	434400	1
[	Ni	60	25.800	ug/L	0.593	2	81	76768	2
[	Ni	62	26.108	ug/L	0.634	2	65	10889	2
[	Cu	63	26.190	ug/L	0.185	0	73	166437	0
[	Cu	65	25.781	ug/L	0.278	1	32	72158	0
[	Zn	66	78.915	ug/L	2.830	3	220	131706	2
[	Zn	67	70.743	ug/L	1.238	1	39	19745	1
[	Zn	68	77.504	ug/L	3.077	3	626	90534	3
[	As	75	27.648	ug/L	0.420	1	1266	42475	0
[	As-1	75	24.898	ug/L	0.247	0	6603	42597	0
[	Se	82	83.178	ug/L	2.083	2	-10	13839	1
[	Se	78	74.328	ug/L	1.590	2	6721	36755	0
[	Mo	98	0.006	ug/L	0.000	5	26	49	2
	Y	89		ug/L			327238	343067	2
	Kr	83		ug/L			1809	1876	1
[>	In	115		ug/L			929401	1033613	1
[	Ag	107	24.672	ug/L	0.679	2	20	233848	2
[	Cd	111	24.798	ug/L	0.376	1	75	123094	0
[	Cd	114	24.841	ug/L	0.399	1	31	313123	1
[	Sb	121	-0.018	ug/L	0.002	8	417	165	16
[	Sb	123	-0.019	ug/L	0.001	7	326	129	14
[	Ba	135	24.443	ug/L	0.387	1	23	107622	0
[	Ba	137	24.814	ug/L	0.393	1	45	186506	0
[>	Tb	159		ug/L			920152	1019124	0
[	Tl	205	25.242	ug/L	0.248	0	78	846565	1
[	Pb	208	25.751	ug/L	0.252	0	146	1133586	0
[	Bi	209		ug/L			2152313	2391295	1
[	Th	232	24.458	ug/L	0.517	2	1253	1076279	1
[	U	238	24.641	ug/L	0.087	0	35	1136722	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US02R A-L REN
Sample Dil Factor: 10
Comments:
Sample Date/Time: Wednesday, May 09, 2012 13:14:19
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1584312	3
	Be	9	0.004	ug/L	0.001	23	..18	: 43	10
	C	13		ug/L			115227	130888	2
	Cl	37		ug/L			5056971	5480841	3
>	Sc	45		ug/L			1150108	1233061	1
	V	51	0.206	ug/L	0.002	0	6633	11581	2
	V-1	51	0.217	ug/L	0.003	1	59	4762	2
	Cr	52	0.227	ug/L	0.019	8	19531	24790	0
	Cr	53	0.267	ug/L	0.023	8	104	620	5
	Mn	55	102.021	ug/L	3.012	2	477	2427513	1
	Co	59	0.015	ug/L	0.003	17	69	300	14
>	Ge	72		ug/L			432270	420676	1
	Ni	60	0.177	ug/L	0.016	9	81	587	7
	Ni	62	0.096	ug/L	0.032	32	65	102	13
	Cu	63	0.378	ug/L	0.007	1	73	2398	1
	Cu	65	0.192	ug/L	0.005	2	32	553	3
	Zn	66	2.327	ug/L	0.057	2	220	3969	2
	Zn	67	1.945	ug/L	0.061	3	39	562	1
	Zn	68	2.510	ug/L	0.022	0	626	3429	1
	As	75	U 0.104	ug/L	0.034	32	1266	1383	3
	As-1	75	0.144	ug/L	0.077	53	6603	6627	0
	Se	82	-0.003	ug/L	0.213	7548	-10	-11	311
	Se	78	0.283	ug/L	0.332	117	6721	6651	0
	Mo	98	0.001	ug/L	0.001	53	26	29	6
	Y	89		ug/L			327238	338801	1
	Kr	83		ug/L			1809	1837	3
>	In	115		ug/L			929401	1023244	0
	Ag	107	0.002	ug/L	0.000	26	20	39	11
	Cd	111	0.014	ug/L	0.002	14	75	153	7
	Cd	114	0.015	ug/L	0.000	3	31	219	2
	Sb	121	-0.013	ug/L	0.002	14	417	240	13
	Sb	123	-0.015	ug/L	0.001	9	326	168	10
	Ba	135	0.892	ug/L	0.006	0	23	3915	0
	Ba	137	0.905	ug/L	0.012	1	45	6785	0
>	Tb	159		ug/L			920152	1030447	0
	Tl	205	0.001	ug/L	0.000	39	78	126	11
	Pb	208	0.028	ug/L	0.001	2	146	1398	2
	Bi	209		ug/L			2152313	2340472	0
	Th	232	0.221	ug/L	0.077	34	1253	11209	29
	U	238	0.008	ug/L	0.001	10	35	403	8

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US02R A REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 09, 2012 13:18:27
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
[>	Li	6		ug/L			1469308	1494903	1
[	Be	9	0.010	ug/L	0.001	5	18	69	5
	C	13		ug/L			115227	138670	3
	Cl	37		ug/L			5056971	5836152	2
[>	Sc	45		ug/L			1150108	1231004	2
[	V	51	0.917	ug/L	0.040	4	6633	26962	1
[	V-1	51	0.944	ug/L	0.051	5	59	20475	3
[	Cr	52	0.292	ug/L	0.013	4	19531	25857	3
[	Cr	53	0.387	ug/L	0.031	7	104	847	4
[	Mn	55	475.589	ug/L	13.011	2	477	11293844	1
[	Co	59	0.065	ug/L	0.005	7	69	1079	5
[>	Ge	72		ug/L			432270	395251	1
[	Ni	60	0.833	ug/L	0.025	2	81	2327	3
[	Ni	62	1.362	ug/L	0.286	21	65	572	17
[	Cu	63	1.552	ug/L	0.056	3	73	9032	1
[	Cu	65	0.506	ug/L	0.012	2	32	1318	0
[	Zn	66	1.970	ug/L	0.045	2	220	3188	0
[	Zn	67	1.723	ug/L	0.130	7	39	472	7
[	Zn	68	3.461	ug/L	0.170	4	626	4224	2
[	As	75	0.352	ug/L	0.024	6	1266	1636	3
[	As-1	75	0.537	ug/L	0.020	3	6603	6743	1
[	Se	82	0.126	ug/L	0.109	86	-10	9	179
[	Se	78	0.979	ug/L	0.114	11	6721	6505	1
[	Mo	98	0.017	ug/L	0.003	16	26	87	12
	Y	89		ug/L			327238	323653	0
	Kr	83		ug/L			1809	1760	1
[>	In	115		ug/L			929401	999255	0
[	Ag	107	0.001	ug/L	0.000	55	20	29	15
[	Cd	111	0.059	ug/L	0.005	8	75	363	6
[	Cd	114	0.064	ug/L	0.001	2	31	809	2
[	Sb	121	0.016	ug/L	0.002	14	417	708	5
[	Sb	123	0.016	ug/L	0.002	13	326	547	5
[	Ba	135	4.407	ug/L	0.014	0	23	18783	1
[	Ba	137	4.481	ug/L	0.034	0	45	32607	1
[>	Tb	159		ug/L			920152	1043449	0
[	Tl	205	0.001	ug/L	0.000	10	78	117	2
[	Pb	208	0.028	ug/L	0.000	1	146	1447	2
[	Bi	209		ug/L			2152313	2213457	0
[	Th	232	0.197	ug/L	0.086	43	1253	10254	37
[	U	238	0.027	ug/L	0.001	4	35	1310	3

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US02R ADUP REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 09, 2012 13:22:34
Number of Replicates: 3
Method File: C:\NexION\Data\Method\200.8nomin.mth
Tuning File: C:\NexION\Data\MassCal\default.tun
Optimization File: C:\NexION\Data\Conditions\default.dac
Calibration File: C:\NexION\Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1473808	1
	Be	9	0.008	ug/L	0.003	32	18	59	21
	C	13		ug/L			115227	133460	2
	Cl	37		ug/L			5056971	5648885	1
>	Sc	45		ug/L			1,150,108	1,246,137	2
	V	51	0.880	ug/L	0.030	3	6633	26484	0
	V-1	51	0.916	ug/L	0.028	3	59	20111	0
	Cr	52	0.258	ug/L	0.021	8	19531	25572	2
	Cr	53	0.384	ug/L	0.011	2	104	851	1
	Mn	55	473.706	ug/L	25.543	5	477	11381701	3
	Co	59	0.069	ug/L	0.004	5	69	1154	2
>	Ge	72		ug/L			432270	384566	0
	Ni	60	0.832	ug/L	0.024	2	81	2261	2
	Ni	62	1.788	ug/L	0.184	10	65	714	9
	Cu	63	1.620	ug/L	0.014	0	73	9176	0
	Cu	65	0.524	ug/L	0.010	1	32	1326	2
	Zn	66	2.279	ug/L	0.075	3	220	3558	2
	Zn	67	2.041	ug/L	0.035	1	39	538	2
	Zn	68	3.818	ug/L	0.138	3	626	4478	2
	As	75	0.419	ug/L	0.030	7	1266	1679	1
	As-1	75	0.616	ug/L	0.070	11	6603	6662	0
	Se	82	0.265	ug/L	0.035	13	-10	29	16
	Se	78	1.209	ug/L	0.275	22	6721	6411	0
	Mo	98	0.017	ug/L	0.003	19	26	85	13
	Y	89		ug/L			327238	322131	0
	Kr	83		ug/L			1809	1733	2
>	In	115		ug/L			929401	1004495	0
	Ag	107	0.002	ug/L	0.002	98	20	36	40
	Cd	111	0.064	ug/L	0.005	7	75	391	5
	Cd	114	0.059	ug/L	0.001	2	31	761	2
	Sb	121	0.016	ug/L	0.001	3	417	709	1
	Sb	123	0.015	ug/L	0.002	11	326	534	3
	Ba	135	4.530	ug/L	0.056	1	23	19410	1
	Ba	137	4.542	ug/L	0.077	1	45	33215	0
>	Tb	159		ug/L			920152	1039822	1
	Tl	205	0.002	ug/L	0.000	26	78	145	8
	Pb	208	0.030	ug/L	0.001	3	146	1493	4
	Bi	209		ug/L			2152313	2248499	0
	Th	232	0.061	ug/L	0.017	27	1253	4128	16
	U	238	0.028	ug/L	0.001	2	35	1366	4

ICP-MS Quantitative Analysis - Summary Report

Sample ID: US02R ASPK REN
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 09, 2012 13:26:42
Number of Replicates: 3
Method File: C:\NexIONData\Method\200.8nomin.mth
Tuning File: C:\NexIONData\MassCal\default.tun
Optimization File: C:\NexIONData\Conditions\default.dac
Calibration File: C:\NexIONData\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1457769	0
	Be	9	21.475	ug/L	0.409	1	18	108254	1
	C	13		ug/L			115227	129879	0
	Cl	37		ug/L			5056971	5715602	3
>	Sc	45		ug/L			1150108	1240586	0
	V	51	22.159	ug/L	0.696	3	6633	491008	3
	V-1	51	22.501	ug/L	0.712	3	59	490610	3
	Cr	52	21.219	ug/L	0.239	1	19531	383174	0
	Cr	53	22.458	ug/L	0.234	1	104	43171	1
	Mn	55	470.615	ug/L	17.641	3	477	11269568	4
	Co	59	21.060	ug/L	0.549	2	69	328231	2
>	Ge	72		ug/L			432270	374463	3
	Ni	60	26.067	ug/L	0.723	2	81	66831	2
	Ni	62	27.738	ug/L	1.286	4	65	9960	2
	Cu	63	25.928	ug/L	0.770	2	73	141950	0
	Cu	65	25.338	ug/L	0.273	1	32	61128	2
	Zn	66	71.779	ug/L	2.289	3	220	103247	1
	Zn	67	67.166	ug/L	1.899	2	39	16161	3
	Zn	68	73.433	ug/L	2.520	3	626	73926	0
	As	75	26.739	ug/L	1.119	4	1266	35418	0
	As-1	75	24.775	ug/L	0.944	3	6603	36543	1
	Se	82	78.648	ug/L	2.944	3	-10	11272	0
	Se	78	72.669	ug/L	2.404	3	6721	31093	1
	Mo	98	0.026	ug/L	0.003	13	26	114	7
	Y	89		ug/L			327238	314516	2
	Kr	83		ug/L			1809	1698	4
>	In	115		ug/L			929401	1004607	2
	Ag	107	20.967	ug/L	0.813	3	20	193075	1
	Cd	111	22.357	ug/L	0.480	2	75	107864	1
	Cd	114	22.962	ug/L	0.293	1	31	281286	1
	Sb	121	0.018	ug/L	0.001	4	417	739	2
	Sb	123	0.018	ug/L	0.002	10	326	573	1
	Ba	135	29.693	ug/L	0.900	3	23	127032	1
	Ba	137	29.677	ug/L	1.299	4	45	216669	1
>	Tb	159		ug/L			920152	1050725	1
	Tl	205	24.024	ug/L	0.281	1	78	830563	0
	Pb	208	24.124	ug/L	0.283	1	146	1094890	0
	Bi	209		ug/L			2152313	2248808	1
	Th	232	24.362	ug/L	0.280	1	1253	1105414	1
	U	238	24.410	ug/L	0.458	1	35	1160857	1

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCV4
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 13:32:15
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1461177	2
	Be	9	48.083	ug/L	1.718	3	18	242839	1
	C	13		ug/L			115227	112614	1
	Cl	37		ug/L			5056971	5259258	1
>	Sc	45		ug/L			1150108	1147290	1
	V	51	48.125	ug/L	0.358	0	6633	978500	2
	V-1	51	48.047	ug/L	0.087	0	59	968758	1
	Cr	52	48.311	ug/L	0.706	1	19531	781948	2
	Cr	53	48.026	ug/L	0.860	1	104	85244	0
	Mn	55	46.959	ug/L	0.579	1	477	1040136	1
	Co	59	46.235	ug/L	0.740	1	69	666370	2
>	Ge	72		ug/L			432270	395082	1
	Ni	60	51.102	ug/L	0.554	1	81	138231	2
	Ni	62	51.692	ug/L	1.009	1	65	19549	2
	Cu	63	51.498	ug/L	0.489	0	73	297580	0
	Cu	65	50.816	ug/L	0.980	1	32	129322	0
	Zn	66	48.850	ug/L	1.881	3	220	74231	2
	Zn	67	50.147	ug/L	1.182	2	39	12741	2
	Zn	68	52.052	ug/L	1.304	2	626	55490	1
	As	75	50.354	ug/L	0.860	1	1266	69406	0
	As-1	75	49.662	ug/L	0.839	1	6603	71268	0
	Se	82	56.196	ug/L	0.792	1	-10	8501	0
	Se	78	50.845	ug/L	0.486	0	6721	24810	0
	Mo	98	50.838	ug/L	0.107	0	26	191459	1
	Y	89		ug/L			327238	317504	0
	Kr	83		ug/L			1809	1721	3
>	In	115		ug/L			929401	1017689	1
	Ag	107	42.554	ug/L	0.428	1	20	397186	1
	Cd	111	48.557	ug/L	0.970	1	75	237232	0
	Cd	114	49.455	ug/L	0.628	1	31	613778	1
	Sb	121	47.751	ug/L	0.830	1	417	774915	0
	Sb	123	47.774	ug/L	0.638	1	326	586153	1
	Ba	135	50.257	ug/L	0.205	0	23	217873	1
	Ba	137	50.552	ug/L	0.677	1	45	374069	0
>	Tb	159		ug/L			920152	1019985	0
	Tl	205	50.067	ug/L	0.584	1	78	1680278	0
	Pb	208	51.084	ug/L	0.280	0	146	2250570	0
	Bi	209		ug/L			2152313	2386870	0
	Th	232	52.709	ug/L	1.134	2	1253	2319770	1
	U	238	52.283	ug/L	0.378	0	35	2413793	0

ICP-MS Quantitative Analysis - Summary Report

Sample ID: CCB4
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 09, 2012 13:38:27
Number of Replicates: 3
Method File: C:\NexION Data\Method\200.8nomin.mth
Tuning File: C:\NexION Data\MassCal\default.tun
Optimization File: C:\NexION Data\Conditions\default.dac
Calibration File: C:\NexION Data\System\120509.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD
>	Li	6		ug/L			1469308	1445567	1
	Be	9	-0.000	ug/L	0.001	267	18	16	18
	C	13		ug/L			115227	113664	0
	Cl	37		ug/L			5056971	5211999	2
>	Sc	45		ug/L			1150108	1163357	3
	V	51	0.006	ug/L	0.015	243	6633	6827	2
	V-1	51	0.004	ug/L	0.000	9	59	132	3
	Cr	52	0.019	ug/L	0.058	298	19531	20048	1
	Cr	53	0.010	ug/L	0.011	107	104	124	13
	Mn	55	0.004	ug/L	0.001	25	477	575	2
	Co	59	-0.001	ug/L	0.000	83	69	62	11
>	Ge	72		ug/L			432270	392565	0
	Ni	60	-0.013	ug/L	0.003	20	81	37	19
	Ni	62	0.813	ug/L	0.015	1	65	364	1
	Cu	63	0.072	ug/L	0.003	3	73	480	3
	Cu	65	0.001	ug/L	0.001	46	32	33	5
	Zn	66	0.032	ug/L	0.009	28	220	248	5
	Zn	67	0.031	ug/L	0.019	59	39	43	10
	Zn	68	0.085	ug/L	0.011	12	626	657	1
	As	75	0.018	ug/L	0.006	32	1266	1175	0
	As-1	75	0.303	ug/L	0.096	31	6603	6393	2
	Se	82	-0.041	ug/L	0.142	345	-10	-15	133
	Se	78	1.157	ug/L	0.329	28	6721	6526	1
	Mo	98	0.007	ug/L	0.002	32	26	52	17
	Y	89		ug/L			327238	319787	2
	Kr	83		ug/L			1809	1728	4
>	In	115		ug/L			929401	1015307	0
	Ag	107	0.000	ug/L	0.001	185	20	25	25
	Cd	111	-0.001	ug/L	0.000	32	75	76	2
	Cd	114	0.000	ug/L	0.000	881	31	35	8
	Sb	121	0.056	ug/L	0.004	7	417	1354	4
	Sb	123	0.057	ug/L	0.008	13	326	1049	8
	Ba	135	0.002	ug/L	0.001	47	23	33	10
	Ba	137	-0.000	ug/L	0.000	258	45	48	4
>	Tb	159		ug/L			920152	973092	1
	Tl	205	-0.000	ug/L	0.000	92	78	72	13
	Pb	208	0.000	ug/L	0.000	237	146	159	7
	Bi	209		ug/L			2152313	2384661	0
	Th	232	0.046	ug/L	0.008	16	1253	3244	10
	U	238	0.001	ug/L	0.000	6	35	83	2

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 5·11·12 **Analyst:** JLB **Page:** 1 of 3

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		STD 0			2934-14
		1			2933-5
		2			2931-4
		3			↓ -5
		4			2934-9
		5			2931-7
		River Sample			r ≥ 0.9994 (CAL 82)
		ICV			2930-2
		ICB			
		CCV1			
		CCB1			
		Low Check			
		ICSA			
		ICSAB			62 Ni 123%
		B1			
		B2			
		CCV2			Ba, Li
		CCB2			
		USGS MRB-SPK	REN	2	Cu
		↓ MRB2SPK	↓	↓	↓
		USGS J			Ag CAF
		↓ JPOST			0.02ppb #1, spk #2 (1/10) Ag
		USGS A			Cu
		↓ B	↓	↓	↓

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 81DN1050201

Analysis Date: 5.11.12 **Analyst:** JB **Page:** 2 of 3

All corrections made by analyst unless otherwise noted. 5.11.12 JB

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		US 61C	REN	2	Cu
		H			
		I			
		J			
		CCV3			
		CCB3			62 Ni high
X	✓	US 15 MB1	REN	2	CV CB prep pos blanks
	✓	MB2			
	✓	~~MB3~~			
	✓	~~MB4~~			
Z	X	~~ZZZZZ~~ A		10	
	✓	A		2	CRI
	✓	ADUP			CAL NO. PBW
AIR		AR ~~ASPK~~			Sample Prep Water AIR no zero
		~~APOST~~			0.06ppm #1, 0.06ppm #2 (Cu)
		~~B~~			
AIR		AIR ~~CCV4~~			Sample probe issues
		~~CCB4~~			not run more
		CCV4			
		CCB4			
		US 15 ASPK	REN	2	Ni low 71.6% Recovery for 20
		APOST			Ni CAL
		B			DRAS 10X
		CCV5			

US52 : 00784

ANALYTICAL RESOURCES INCORPORATED

Metals Data Review Checklist

Method: ICP ICP-MS GFA CVA **Analysis Date:** 5·11·12

MZ	Analyst 5.15	Peer MS 5.15	Comment
Logbook:			
Analyst, Date, Method info	✓	✓	
Sample ID's	✓	✓	
Standard/QC solution ID's recorded	✓	✓	
Prep codes	✓	✓	
Dilution factors	✓	✓	
Crossouts/Corrections/Deletions	✓	✓	
Instrument:			
Blank & Standard intensities	✓	✓	
Standard deviations	✓	✓	
Curve fit	✓	✓	
Calibration Verification:			
ICV/CCV	✓	✓	
ICB/CCB	✓	✓	see log
Samples:			
RSD's & SD's	✓	✓	see log
Internal Standards	✓	✓	↓
Carry-over	✓	✓	
Method QC:			
CRI/CRA	✓	✓	
ICSA/ICSAB	✓	✓	see log
Post Spikes/Serial Dilutions	✓	✓	
Analytic Spikes	—	—	
Matrix QC:			
SRM/LCS	✓	✓	
Matrix Spikes	✓	✓	05-15 CAF
Matrix Duplicates	✓	✓	05-15 CAF
Method Blanks	✓	✓	
Data Distribution:			
Requested elements/isotope identified	✓	✓	
Correct samples identified for distribution	✓	✓	
Raw data match distributed data	✓	✓	
Data filename correct	✓	✓	
Necessary Analysts Notes and CAF's:	✓	✓	05-27-15