Laboratory Data

AIRTECH
Environmental
Services Inc.

Gravimetric
Analytical Report

Performed for
Big Rivers
Green Station
Unit 2
Project No. 3648
August 23, 2011

Analyst: _____
James Christ

The following data has been reviewed for completeness, accuracy, adherence to method protocol and compliance with quality assurance guidelines.

Reviewer: _____ Date: 8/23/11

601 COUNTRY CLUB DRIVE, SUITE A, BENSENVILLE, ILLINOIS - TEL: 630-860-4740
FAX: 630-860-4745

Table of Contents

Project Summary

General

Project Information	
Date Received	July 29, 2011
Analytical Protocol	EPA Methods 5B/202
Number of Samples Received	12

Analytical Equipment

Equipment Information	Manufacturer	Model	Serial No.
Analytical Balance	Ohaus	AV114C	8028031056

Sample Remarks

All samples were analyzed according to the EPA Method 5 Section 4 and EPA Method 202 Section 11. A summary of the analytical results is presented in Table 1.

QA/QC

All sample weights were taken until two consecutive weights were within 0.0005g. The Ohaus balance was calibrated daily in addition to the yearly full scale calibration that was performed by Automated Scale Corporation on April 12, 2011.

Condition of Samples When Received

Samples were received in good condition.

Table 1. Summary of EPA Methods 5B/202 Results

Stack

Filterable PM	Run 1	Run 2	Run 3
Front-Half Particulate (g)	0.0083	0.0079	0.0077

Condensible Particulate	Run 1	Run 2	Run 3
Condensible Particulate (g)	0.0137	0.0291	0.0219

Total Particulate	Run 1	Run 2	Run 3
Total Particulate (g)	0.0220	0.0370	0.0296

Appendix

Includes the following:

- *Data Entry*
- *Raw Data*
- *Calibration Logs*

Data Entry

Includes the following:

- *Filter Data Entry*
- *Front-Half-Rinse Data Entry*
- *Organic Fraction Data Entry*
- *Inorganic Fraction Data Entry*

Big Rivers Electric | **Method 5B/202 Parameters Green Unit 2 Stack** | **Project No. 3648**

Method 5B/202 Parameters		**Run 1**	**Run 2**	**Run 3**
Filter		12171	12170	12172
Filter tare weight (g)	Trial 1	0.3478	0.3449	0.3459
	Trial 2	0.3473	0.3445	0.3456
	Average	0.3476	0.3447	0.3458
Filter final weight (g)	Trial 1	0.3501	0.3490	0.3494
	Trial 2	0.3501	0.3491	0.3496
	Average	0.3501	0.3491	0.3495
Filter net weight, m_f (g)		**0.0026**	**0.0043**	**0.0038**
PM Front Half Wash	*Beaker ID*	*25*	*59*	*14*
Beaker tare weight (g)	Trial 1	40.0471	38.1341	37.6702
	Trial 2	40.0472	38.1345	37.6701
	Average	40.0472	38.1343	37.6702
Beaker final weight (g)	Trial 1	40.0531	38.1380	37.6742
	Trial 2	40.0528	38.1377	37.6739
	Average	40.0530	38.1379	37.6741
Volume of Wash, V_{aw} (ml)		75	75	75
Beaker net weight, m_a (g)		**0.0058**	**0.0036**	**0.0039**
Organic Fraction				
	Weighing tin ID	*W2*	*W3*	*W4*
Weighing tin tare weight (g)	Trial 1	3.5674	3.5386	3.5875
	Trial 2	3.5673	3.5384	3.5875
	Average	3.5674	3.5385	3.5875
Weighing tin final weight (g)	Trial 1	3.5697	3.5531	3.5900
	Trial 2	3.5693	3.5529	3.5902
	Average	3.5695	3.5530	3.5901
Volume of Wash, Vaw (ml)		360	350	390
Weighing tin net weight, ma (g)		**0.0021**	**0.0145**	**0.0026**
Inorganic Fraction				
	Beaker ID	*410*	*316*	*242*
Weighing tin tare weight (g)	Trial 1	102.0871	85.7024	83.1444
	Trial 2	102.0875	85.7029	83.1443
	Average	102.0873	85.7027	83.1444
Weighing tin final weight (g)	Trial 1	102.0998	85.7184	83.1651
	Trial 2	102.1002	85.7184	83.1646
	Average	102.1000	85.7184	83.1649
Volume of Wash, Vaw (ml)		475	500	475
Weighing tin net weight, ma (g)		**0.0127**	**0.0157**	**0.0205**

Raw Data

Includes the following:

- *Filter Gravimetric Data Sheets*
- *Beaker Gravimetric Data Sheets*
- *Tin Gravimetric Data Sheets*

AIRTECH ENVIRONMENTAL SERVICES INC.

Filter Gravimetric Data Sheet

Run No.	Proj. No./Location	Appearance		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare	0.3435	7/11 13:39	0.3429	7/14 1611	0.3424	7/15 1041	✓
			Tech		SH		DD			
Filter ID			Final							
			Tech							
12169			Notes							

Run No.	Proj. No./Location	Appearance		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
2	7648 Green ~~Wilson~~ U-2 ~~Exp~~ Stack	light spots	Tare	0.3449	7/11 13:40	0.5445	7/14 1612			✓
			Tech		SH		DD			
Filter ID			Final	0.3735	7/27 15:33	0.3490	8/4 7:32	0.3491	8/5 10:07	✓
			Tech		SH		/		MH	
12170			Notes							

Run No.	Proj. No./Location	Appearance		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
1	Green U-2 Stack	light spots	Tare	0.3478	7/11 13:41	0.3473	7/14 1613			✓
			Tech		SH		DD			
Filter ID			Final	0.3501	8/4 7:34	0.3501	8/5 10:06			✓
			Tech		/		MH			
12171			Notes							

Run No.	Proj. No./Location	Appearance		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
3	Green U-2 Stack	light spots	Tare	0.3459	7/11 13:42	0.3456	7/14 1614			✓
			Tech		SH		DD			
Filter ID			Final	0.3494	8/4 7:33	0.3496	8/5 10:07			✓
			Tech		/		MH			
12172			Notes							

Run No.	Proj. No./Location	Appearance		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare	0.3401	7/11 13:44	0.3405	7/14 1615			✓
			Tech		SH		DD			
Filter ID			Final							
			Tech							
12173			Notes							

Run No.	Proj. No./Location	Appearance		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
1	7648 Wilson Stack	light spots	Tare	0.3417	7/11 13:45	0.3416	7/14 1616			✓
			Tech		SH		DD			
Filter ID			Final	0.3592	7/27 13:4[illegible]	0.3595	7/28 10:29			✓
			Tech		SH		MH			
12174			Notes							

Run No.	Proj. No./Location	Appearance		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare	0.3419	7/11 13:46	0.3417	7/14 1617			✓
			Tech		SH		DD			
Filter ID			Final							
			Tech							
12175			Notes							

Run No.	Proj. No./Location	Appearance		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare	0.3427	7/11 13:47	0.5429	7/14 1618			✓
			Tech		SH		DD			
Filter ID			Final							
			Tech							
12176			Notes							

Run No.	Proj. No./Location	Appearance		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare	0.3409	7/11 13:49	0.3408	7/14 1619			✓
			Tech		SH		DD			
Filter ID			Final							
			Tech							
SH ~~12178~~ 12177			Notes	Filter Grav						

AIRTECH ENVIRONMENTAL SERVICES INC.

Beaker Gravimetric Data Sheet

PROJECT NO. 3648-Green

Page		of	

Client	Big Rivers	Date Received	
Plant	Green		

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
3	unit 1	202	Tare	3.5142	6/6 15:58	3.5142	6/9 15:36			✓
			Tech		MK		MK			
Beaker ID	200+180+90	Hex	Final	3.5249	8/5 9:56	3.5244	8/8 11:07			✓
W1	470 mls	Ace	Tech		MH		MH			
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
1	unit 2	202	Tare	3.5674	6/6 15:58	3.5673	6/9 15:37			✓
			Tech		MK		MK			
Beaker ID	200+160	Hex	Final	3.5697	8/5 10:33	3.5693	8/8 11:18			✓
W2	360 mls	Ace	Tech		MH		MH			
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
2	unit 2	202	Tare	3.5386	6/6 15:58	3.5384	6/9 15:37			✓
			Tech		MK		MK			
Beaker ID	200+160+30	Hex	Final	3.5531	8/5 9:56	3.5529	8/8 11:07			✓
W3	350 mls	Ace	Tech		MH		MH			
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
3	unit 2	202	Tare	3.5875	6/6 15:57	3.5875	6/9 15:36			✓
			Tech		MK		MK			
Beaker ID	200+190	Hex	Final	3.5909	8/5 10:32	3.5900	8/8 11:16	3.5902	8/9 7:30	✓
W4	390 mls	Ace	Tech		MH		MH		/	
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare	3.5570	6/6 15:57	3.5569	6/9 15:36			✓
			Tech		MK		MK			
Beaker ID			Final							
W5	mls		Tech							
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare	3.5312	6/6 15:56	3.5311	6/9 15:34			✓
			Tech		MK		MK			
Beaker ID			Final							
W6	mls		Tech							
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare	3.5485	6/6 15:55	3.5486	6/9 15:31			✓
			Tech		MK		MK			
Beaker ID			Final							
W7	mls		Tech							
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare	3.5363	6/6 15:54	3.5364	6/9 15:31			✓
			Tech		MK		MK			
Beaker ID			Final							
W8	mls		Tech							
			Notes							

AIRTECH ENVIRONMENTAL SERVICES INC.

Beaker Gravimetric Data Sheet

PROJECT NO. 3648 -Green

Page		of	

Client	Big Rivers	Date Received	
Plant	Green		

Run No	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
1	unit 1	SB	Tare	36.9001	7/11 15:07	36.8978	10:53 7/26	36.9983	7/27 14:41	✓
			Tech		SH		MH		SH	
Beaker ID			Final	36.9072	8/5 10:26	36.9068	8/8 11:24			✓
44	50 mls		Tech		MH		MH			
			Notes							

Run No	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
2	unit 1	SB	Tare	43.3680	7/11 15:10	43.3658	10:50 7/26	43.3660	7/27 13:52	✓
			Tech		SH		MH		SH	
Beaker ID			Final	43.3743	8/5 10:25	43.3710	8/8 11:25			✓
43	50 mls		Tech		MH		MH			
			Notes							

Run No	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
3	unit 1	SB	Tare	35.1917	7/11 15:11	35.1889	10:50 7/26	35.1894	7/27 13:50	✓
			Tech		SH		MH		SH	
Beaker ID			Final	35.1955	8/5 10:27	35.1951	8/8 11:23			✓
16	75 mls		Tech		MH		MH			
			Notes							

Run No	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
1	unit 2	SB	Tare	40.0493	7/11 15:13	40.0471	10:51 7/26	40.0472	7/27 13:49	✓
			Tech		SH		MH		SH	
Beaker ID			Final	40.0531	8/5 10:27	40.0528	8/8 11:23			✓
25	75 mls		Tech		MH		MH			
			Notes							

Run No	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
2	unit 2	SB	Tare	38.1366	7/11 15:14	38.1341	10:53 7/26	38.1345	7/27 13:47	✓
			Tech		SH		MH		SH	
Beaker ID			Final	38.1380	8/5 10:25	38.1377	8/8 11:25			✓
59	75 mls		Tech		MH		MH			
			Notes							

Run No	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
3	unit 2	SB	Tare	37.6724	7/11 15:14	37.6702	10:53 7/26	37.6701	7/27 13:48	✓
			Tech		SH		MH		SH	
Beaker ID			Final	37.6739	8/5 10:26	37.6739	8/8 11:24			✓
14	75 mls		Tech	42	MH		MH			
			Notes							

Run No	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare	34.3917	7/11 15:15	34.3894	10:51 7/26	34.3898	7/27 13:49	✓
			Tech		SH		MH		SH	
Beaker ID			Final							
17	mls		Tech							
			Notes							

Run No	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare	35.0492	7/11 15:16	35.0472	10:55 7/26	35.0478	7/27 13:43	✓
			Tech		SH		MH		SH	
Beaker ID			Final							
52	mls		Tech							
			Notes							

AIRTECH ENVIRONMENTAL SERVICES INC.
Beaker Gravimetric Data Sheet

PROJECT NO. 3648 - Green

Page		of	

Client	Big Rivers	Date Received	7/27
Plant	[redacted]	Green	

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
4	ESP-1	DI	Tare	97.9887	7/27 14:22 SH	97.9871	7/28 11:26 MH	97.9874	7/28 9:21 MH	✓
Beaker ID	200+		Tech							
[redacted]	mls		Final							
			Tech							
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
5	ESP-1	DI	Tare	101.5684	7/27 14:23 SH	101.5673	7/28 11:27 MH	101.5675	7/28 9:21 MH	✓
Beaker ID	200+		Tech							
[redacted]	mls		Final							
			Tech							
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
6	ESP-1	DI	Tare	98.3276	7/27 14:23 SH	98.3269	7/28 11:27 MH	98.3281	7/28 9:22 MH	✓
Beaker ID	200+		Tech							
[redacted]	mls		Final							
			Tech							
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
1	unit 1	DI	Tare	109.4969	7/27 14:24 SH	109.4976	11:28 7/28 MH	109.4980	7/28 9:29 MH	✓
Beaker ID	200+200+50		Tech							
406	450 mls		Final	109.5108	8/5 10:28 MH	109.5103	8/8 11:20 MH			✓
			Tech							
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
2	unit 1	DI	Tare	85.8483	7/27 14:25 SH	85.8489	7/28 11:28 MH	85.8483	7/28 9:24 MH	✓
Beaker ID	200+200+60		Tech							
107	460 mls		Final	85.8644	8/5 10:30 MH	85.8640	8/8 11:21 MH			✓
			Tech							
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
3	unit 1	DI	Tare	101.3256	7/27 14:25 SH	101.3241	7/28 11:29 MH	101.3245	7/28 9:26 MH	✓
Beaker ID	200+215		Tech							
401	415 mls		Final	101.3408	8/4 7:19 /	101.3390	8/5 10:30 MH	101.3386	8/8 11:22 MH	✓
			Tech							
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
1	unit 2	DI	Tare	102.0887	7/27 14:26 SH	102.0871	7/28 11:29 MH	102.0875	7/28 9:30 MH	✓
Beaker ID	200+200+75		Tech							
410	475 mls		Final	102.1014	8/5 10:29 MH	102.0998	~~102.1002~~ 8/8 11:21 MH	102.1002	8/9 7:37 /	✓
			Tech							
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
2	unit 2	DI	Tare	85.7036	7/27 14:27 SH	85.7024	7/28 11:30 MH	85.7029	7/28 9:30 MH	✓
Beaker ID	200+200+100		Tech							
316	500 mls		Final	85.7189	8/5 10:31 MH	85.7184	8/8 11:21 MH			✓
			Tech							
			Notes							

AIRTECH ENVIRONMENTAL SERVICES INC.

Beaker Gravimetric Data Sheet

PROJECT NO. 3648 - Green

Page		of	

Client	Big Rivers	Date Received	
Plant	Green		

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
3	unit 2	DI	Tare	83.1452	7/27 14:04	83.1444	7/28 11:12	83.1443	8/. 11:28	✓
	200+200+75		Tech		SH		MH		MH	
Beaker ID			Final	83.1651	8/5 10:28	83.1646	8/8 11:19			✓
242	475 mls		Tech		MH		MH			
			Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare							
			Tech							
Beaker ID			Final							
			Tech							
	mls		Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare							
			Tech							
Beaker ID			Final							
			Tech							
	mls		Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare							
			Tech							
Beaker ID			Final							
			Tech							
	mls		Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare							
			Tech							
Beaker ID			Final							
			Tech							
	mls		Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare							
			Tech							
Beaker ID			Final							
			Tech							
	mls		Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare							
			Tech							
Beaker ID			Final							
			Tech							
	mls		Notes							

Run No.	Location/Volume	Method/ Reagent		Weight	Date / Time	Weight	Date / Time	Weight	Date / Time	Good
			Tare							
			Tech							
Beaker ID			Final							
			Tech							
	mls		Notes							

Calibration Data

Includes the following:

- *Daily Analytical Balance Calibration Log*
- *Yearly Analytical Balance Test and Calibration Certificate*

AIRTECH ENVIRONMENTAL SERVICES INC.
Analytical Balance Daily Calibration

Scale ID	Ohaus AV114C
Units of Measure	grams

Full Cal Test Date	4/12/11

Date	Tech Initials	100.0000g	5.0000g	0.1000g	Barometric Pressure (in. Hg)	Relative Humidity (%)	Ambient Temp (°F)	Notes
4/25/11	TC	99.9999	4.9999	0.1001	29.3	47	68	
4/26/11	NR	99.9999	5.0000	0.1000	29.9	60	70	
4/27/11	NR	100.0001	5.0000	0.1001	29.9	60	70	
4/28/11	NR	100.0001	5.0000	0.1001	29.2	55	70	
4/29/11	NR	100.0002	5.0000	0.0999	29.4	50	70	
4/30/11	NR	100.0001	5.0000	0.1000	29.4	50	68	
5/2/11	TC	100.0000	5.0000	0.1000	29.5	48	70	
5/3/11	TC	99.9999	4.9999	0.0999	29.6	46	68	
5/4/11	TC	99.9998	5.0000	0.1000	29.8	45	68	
5/5/11	TC	100.0000	5.0000	0.1001	29.5	46	70	
5/6/11	TC	99.9999	4.9999	0.0999	29.2	47	70	
5/16/11	NR	100.0000	5.0000	0.1000	29.4	45	70	
5/17/11	NR	100.0002	4.9999	0.1000	29.4	45	70	
5/18/11	NR	100.0002	4.9999	0.0999	29.4	45	72	
5/19/11	NR	100.0001	5.0000	0.1001	29.5	50	71	
5/20/11	NR	100.0001	4.9999	0.1000	29.21	50	75	
5/21/11	NR	100.0000	4.9999	0.1000	29.4	50	67	
5/22/11	NR	99.9999	4.9999	0.1001	29.5	50	65	
5/23/11	TC	99.9999	4.9999	0.0999	29.9	47	74	
5/26/11	TC	100.0001	4.9999	0.1000	29.1	48	70	
5/31/11	TC	100.0000	5.0000	0.1000	29.4	45	73	
6/1/11	TC	100.0000	4.9999	0.0998	29.6	48	74	
6/2/11	TC	100.0000	5.0000	0.0999	29.6	44	72	
6/6/11	TC	100.0000	5.0001	0.1000	29.4	47	68	
6/8/11	NR	100.0001	4.9999	0.0999	29.3	50	76	
6/9/11	NR	100.0002	5.0001	0.1001	29.4	50	71	
6/10/11	NR	100.0001	5.0000	0.0999	29.5	50	68	
6/13/11	TC	100.0000	4.9999	0.0999	29.6	44	64	
6/16/11	EA	100.0002	5.0001	0.1000	29.2	60	68	
6/22/11	TC	100.0000	5.0001	0.1001	28.9	48	65	
6/24/11	EW	100.0001	5.0001	0.1000	29.10	64	68	
6/27/11	TC	100.0000	4.9999	0.0999	29.2	58	68	
6/28/11	NR	100.0001	5.0000	0.1000	29.4	50	68	
6/30/11	NR	100.0000	5.0000	0.1000	29.6	50	68	
7/7/11	TC	100.0000	5.0000	0.1000	29.4	48	70	
7/8/11	TC	100.0001	4.9999	0.1001	29.4	47	70	
7/11/11	TC	99.9999	5.0001	0.1001	29.2	47	70	
7/12/11	TC	100.0000	5.0000	0.1000	29.4	48	65	
7/13/11	TC	100.0000	4.9999	0.0999	29.3	42	66	
7/25/11	TC	100.0000	4.9999	0.0999	29.3	61	70	

AIRTECH ENVIRONMENTAL SERVICES INC.
Analytical Balance Daily Calibration

Scale ID	Ohaus AV114C
Units of Measure	grams

Full Cal Test Date	4/13/10

Date	Tech Initials	100.0000g	0.1000g	5.0000g	Barometric Pressure (in. Hg)	Relative Humidity (%)	Ambient Temp (^{0}F)	Notes
7/26/11	MH	100.0001	0.1000	5.0000	29.27	71	65	
7/27/11	MH	100.0000	0.1001	5.0001	29.31	70	66	
7/28/11	MH	100.0000	0.1000	5.0001	29.34	70	64	
7/29/11	MH	100.0000	0.1001	5.0000	29.41	69	65	
8/1/11	MH	100.0000	0.1000	5.0000	29.58	70	62	
8/2/11	MH	100.0000	0.1000	5.0000	29.34	70	60	
8/3/11	TC	99.9999	0.1001	4.9999	29.4	61	68	
8/4/11	TC	99.9999	0.0999	5.0000	29.5	60	68	
8/5/11	TC	100.0000	0.1000	5.0000	29.4	46	68	
8/8/11	MH	100.0000	0.1000	5.0001	29.28	60	70	
8/9/11	TC	100.0000	0.1000	5.0001	29.1	50	68	
8/11/11	MC	99.9999	0.1000	4.9999	29.4	50	74	
8/12/11	MH				29.44	50	74	
8/15/11	TC	100.0000	0.1000	5.0001	29.4	46	70	
8/17/11	CB	99.9999	0.1000	5.0001	29.3	55	72	
8/22/11	TC	99.9999	0.1000	5.0000	29.4	51	72	
8/23/11	TC	100.0000	0.0999	5.0001	29.4	44	68	
8/24/11	TC	100.0001	0.1000	5.0000	29.1	52	70	

AUTOMATED SCALE CORPORATION

202 W. Fay Ave. Addison, IL 60101 800/498-6650

TEST & CALIBRATION CERTIFICATE

L-A-B Accredited: Certificate #LI053-1

Tests and/or calibrations shall stop when environmental conditions will jeopardize the results. (rain, wind, vibration, temperature, and etc.)

Standards Used: Traceable through NIST to the SI units

Test equipment and weight (s) certificates available on request

Client Name & Address	Location (Plant and / or Dept.)	Procedure used: 5.4-02 Process Control
Air Tech	Lab	Uncertainty of measurement (UM) Yes [ ] No [X]
601 A Country Club	NA	Temperature Yes [X] No [ ]
Bensenville	Contact: Jim C	Identified metrological reference: NIST Handbook 44

Manufacturer	Model #	Serial #	Capacity X Grad.
Indicator: Ohaus	AV114C	8028031056	110g x .0001
Platform: NA	NA	NA	NA

Inspection Cycle: 365 day Equipment ID: NA

Scale Platform Corner Test / Parallelogram Side/Front Test

	Indicator	
1	C	2
	See Shift Test Below	
A		B
3	D	4

Cert# Client Tolerance (.1)% As Found/Left Shift Test

Date		A	B	C	D	Zero	As Found AMT 1	As Found AMT 2	As Left AMT 2	As Left AMT 1	Pass/Fail P/F	UM	Temp. F°	Tech	Traceable Cert. #/ Wt. ID
4-13-10	F	50.0002	50.0002	50.0002	50.0002	3	50.0000	100.0000	100.0000	50.0000	P	NA	74	VJ	# 1538014
	L	50.0001	50.0001	50.0001	50.0001										ID ASTMOM
4-12-11	F	60.0000	60.0000	50.0000	50.0000	8	50.0000	100.0001	100.0000	50.0000	P	NA	74	GR	# 1538014
	L	60.0000	60.0000	50.0000	50.0000										ID ASTMOM
	F														#
	L														ID
	F														#
	L														ID
	F														#
	L														ID
	F														#
	L														ID
	F														#
	L														ID
	F														#
	L														ID
	F														#
	L														ID
	F														#
	L														ID
	F														#
	L														ID
	F														#
	L														ID

Comments:

AIRTECH
Environmental
Services Inc.

Ion Chromatography
Analytical Report

Performed for
Big Rivers Energy
Green Station Unit 2
Project No. 3648
August 22, 2011

Analyst: _____
Michael Ogletree

Reviewer: _____
Timothy Wojtach

702 WEST 48TH AVENUE, UNIT J - DENVER, COLORADO - TEL: 303.670.0530 - FAX: 303.670.4130

Table of Contents

Project Summary

General

Project Information	
Date Received	8/9/2011
Analytical Protocol	EPA Method 26A
Total Number of Samples Received	10
Total Number of Blanks Received	1

Analytical Equipment

Equipment Information	Manufacturer	Model	Serial No.
Ion Chromatograph	Dionex	ICS-90	02070247
Analytical Column	Dionex	AS14A	007967
Guard Column	Dionex	AG14A	009807
Anion Suppressor	Dionex	AMMS III 4 mm	1934

Parameters	Conditions
Eluent	8.0 mM Sodium Carbonate/1.0 mM Sodium Bicarbonate
Regenerant	0.075 N Sulfuric Acid
Sample Volume	10 µl
Flow Rate	1.0 ml/m
Back Pressure	2,700 PSI

Condition of Samples When Received

Samples were received for analysis in good condition. The samples are summarized in the table below:

Sample ID	Solution	Volume (ml)
Inlet 1A R1-IMP-26A	0.1 N H_2SO_4	414
Inlet 1A R2-IMP-26A	0.1 N H_2SO_4	438
Inlet 1A R3-IMP-26A	0.1 N H_2SO_4	503
Inlet 1B R1-IMP-26A	0.1 N H_2SO_4	426
Inlet 1B R2-IMP-26A	0.1 N H_2SO_4	461
Inlet 1B R3-IMP-26A	0.1 N H_2SO_4	413
Stack R1-IMP-26A	0.1 N H_2SO_4	515
Stack R2-IMP-26A	0.1 N H_2SO_4	521
Stack R3-IMP-26A	0.1 N H_2SO_4	545
RB-0.1N H_2SO_4	0.1 N H_2SO_4	490

Methodology

All samples were analyzed according to the EPA Method 26A procedures found in 40 CFR Part 60 Appendix A.

Detection Limit

The detection limits for HCl and HF were determined using the procedures found in 40 CFR Part 236, Appendix B, entitled "Definition and Procedure for the Determination of the Method Detection Limit". Seven injections of the 0.5 µg/ml standard were analyzed. The detection limit was determined to be <0.0441 µg/ml for Cl^- and <0.0647 µg/ml for F^-.

QA/QC

All sample analysis was performed in duplicate with a percent difference within five percent (5%) of the mean.

The chloride and fluoride calibration curve were generated using four calibration standards. The standards were prepared by diluting NIST traceable chloride and fluoride standards with 0.2 N H_2SO_4.

The chloride standard used for this project was a 2000 µg/ml chloride solution, lot number 030523, manufactured by Dionex Corporation of Sunnyvale, California.

The fluoride standard used for this project was a 2000 µg/ml fluoride solution, lot number 092209, manufactured by Dionex Corporation of Sunnyvale, California.

Results that were determined to be below the lowest calibration standard and above the minimum detection limit were calculated using the corresponding average response factor.

Samples that were found to have concentrations above the highest calibration standard were diluted with deionized water to fall within the calibration curve. Samples diluted included: ESP inlet 1 runs, and ESP inlet 2 runs.

Appendix

Includes the following:

- Results
- Calibration Data
- Raw Data
- Chain of Custody

Results

Includes the following:

- Hydrogen Chloride Results
- Hydrogen Fluoride Results

HYDROGEN FLUORIDE ANALYSIS

Sample Parameters	Reagent Blank	ESP Inlet 1 Run 1	ESP Inlet 1 Run 2	ESP Inlet 1 Run 3
Volume (ml)	490	414	438	503
Dilution factor	1	10	10	10
Peak Area # 1	0.0000	0.1990	0.2570	0.3210
Peak Area # 2	0.0000	0.1990	0.2660	0.3210
Average	0.000	0.199	0.259	0.321
Injections % of mean	NA	0.3%	0.6%	0.0%

RESULTS

Average Response Factor	x			
Linear Regression		x	x	x
Fluoride (µg/ml)	< 0.0647	16.8	20.6	24.5
Hydrogen Fluoride (µg/ml)	< 0.0682	17.7	21.6	25.8
Hydrogen Fluoride (mg)	< 0.0334	73.2	94.8	130

HYDROGEN CHLORIDE ANALYSIS

Sample Parameters	Reagent Blank	ESP Inlet 1 Run 1	ESP Inlet 1 Run 2	ESP Inlet 1 Run 3
Volume (ml)	490	414	438	503
Dilution factor	1	10	10	10
Peak Area # 1	0.0000	0.9680	1.0320	1.2400
Peak Area # 2	0.0000	0.9630	1.0330	1.2420
Average	0.00	0.965	1.03	1.24
Injections % of mean	NA	0.2%	0.0%	0.1%

RESULTS

Average Response Factor	x			
Linear Regression		x	x	x
Chloride (µg/ml)	< 0.0441	93.7	98.2	118
Hydrogen Chloride (µg/ml)	< 0.0456	96.4	101.0	124
Hydrogen Chloride (mg)	< 0.0222	399	442	610

HYDROGEN FLUORIDE ANALYSIS

Sample Parameters	ESP Inlet 2 Run 1	ESP Inlet 2 Run 2	ESP Inlet 2 Run 3
Volume (ml)	426	461	413
Dilution factor	10	10	10
Peak Area # 1	0.2360	0.1780	0.1380
Peak Area # 2	0.2280	0.1770	0.1850
Average	0.234	0.178	0.19
Injections % of mean	1.7%	0.5%	0.0%

RESULTS

Average Response Factor			
Linear Regression	x	x	x
Fluoride (µg/ml)	19.0	15.5	16.0
Hydrogen Fluoride (µg/ml)	20.0	16.3	16.8
Hydrogen Fluoride (mg)	85.3	75.2	69.6

HYDROGEN CHLORIDE ANALYSIS

Sample Parameters	ESP Inlet 2 Run 1	ESP Inlet 2 Run 2	ESP Inlet 2 Run 3
Volume (ml)	426	461	413
Dilution factor	10	10	10
Peak Area # 1	1.1050	1.1460	1.3040
Peak Area # 2	1.1110	1.1440	1.3170
Average	1.11	1.15	1.31
Injections % of mean	0.1%	0.1%	0.5%

RESULTS

Average Response Factor			
Linear Regression	x	x	x
Chloride (µg/ml)	105	109	124
Hydrogen Chloride (µg/ml)	108	112	128
Hydrogen Chloride (mg)	462	516	528

HYDROGEN FLUORIDE ANALYSIS

Sample Parameters	Unit 1 Stack Run 1	Unit 1 Stack Run 2	Unit 1 Stack Run 3
Volume (ml)	515	521	545
Dilution factor	1	1	1
Peak Area # 1	0 0200	0 0080	0 0120
Peak Area # 2	0 0210	0 0080	0 0080
Average	0 0205	0 00800	0 00900
Injections % of mean	2 4%	0.0%	0.0%

RESULTS

Average Response Factor	x	x	x
Linear Regression			
Fluoride (µg/ml)	0 145	0 0565	0 0635
Hydrogen Fluoride (µg/ml)	0 152	0.0585	0 0669
Hydrogen Fluoride (mg)	0.0735	0 0310	0.0361

HYDROGEN CHLORIDE ANALYSIS

Sample Parameters	Unit 1 Stack Run 1	Unit 1 Stack Run 2	Unit 1 Stack Run 3
Volume (ml)	515	521	545
Dilution factor	1	1	1
Peak Area # 1	0 2220	0 1780	0 1080
Peak Area # 2	0 2230	0 1790	0 1090
Average	0 223	0 179	0 109
Injections % of mean	0 2%	0 3%	0.0%

RESULTS

Average Response Factor			
Linear Regression	x	x	x
Chloride (µg/ml)	2 18	1.77	1 11
Hydrogen Chloride (µg/ml)	2 25	1 82	1 15
Hydrogen Chloride (mg)	1 16	0.948	0 625

Calibration Data

Includes the following:

- Hydrogen Chloride Standards
- Hydrogen Fluoride Standards
- Detection Limits
- Hydrogen Chloride Calibration Curve
- Hydrogen Fluoride Calibration Curve

IC Operating Conditions	
Ion Chromatograph	Dionex ICS-90
Data Acquisition	Dionex PeakNet 6.4
Carrier Gas	Nitrogen
Injection Type	Manual
Injection Volume (µl)	10.0
Column Type	AS-14A
Detector Type	Suppressed Conductivity ECD-1

Calibration Summary	Standard 1	Standard 2	Standard 3	Standard 4
Fluoride (µg/ml)	1.0	5.0	10.0	20.0
Pre Analysis Injection # 1	0.1350	0.6940	1.4870	3.0940
Pre Analysis Injection # 2	0.1310	0.7030	1.4840	3.0820
Average	**0.133**	**0.699**	**1.49**	**3.09**
% difference of injections	3.1%	1.3%	0.2%	0.4%
Post Analysis Injection # 1	0.1160	0.7060	1.4980	3.1660
Post Analysis Injection # 2	0.1150	0.7150	1.5000	3.1710
Average	**0.116**	**0.711**	**1.50**	**3.17**
% difference of injections	0.9%	1.3%	0.1%	0.2%
Overall Average	**0.124**	**0.705**	**1.49**	**3.13**
Pre/Post Analysis, % of mean	7.0%	0.9%	0.5%	1.3%
RESULTS				
Response Factor	8.05	7.10	6.70	6.39
Average Response Factor	7.06			
Slope	6.29			
Intercept	0.429			

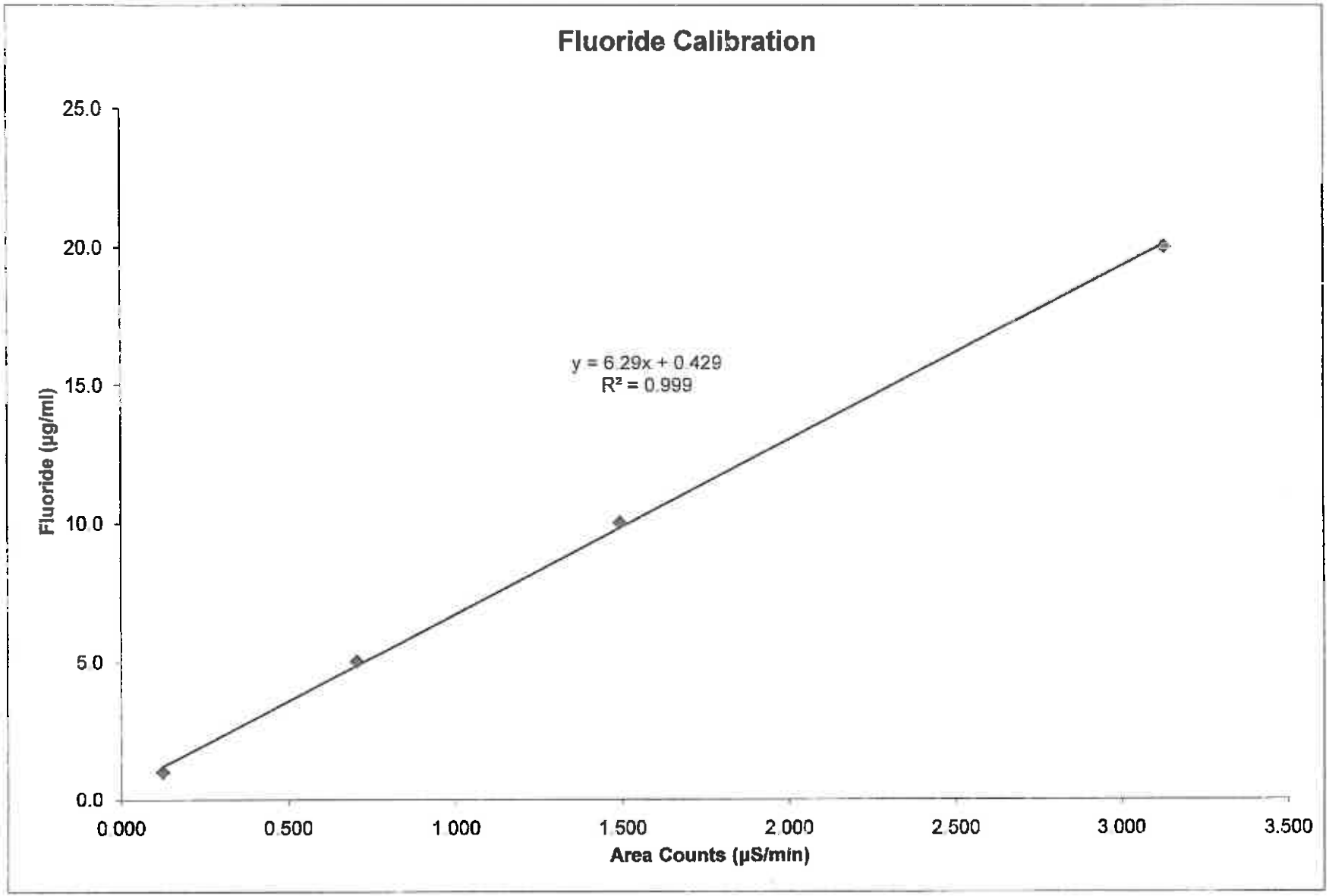
Calibration Summary	Standard 1	Standard 2	Standard 3	Standard 4
Chloride (µg/ml)	1.0	5.0	10.0	20.0
Pre Analysis Injection # 1	0.1070	0.5140	1.0100	2.0790
Pre Analysis Injection # 2	0.1070	0.5140	1.0200	2.0860
Average	**0.107**	**0.514**	**1.02**	**2.08**
% difference of injections	0.0%	0.0%	1.0%	0.3%
Post Analysis Injection # 1	0.0920	0.5450	1.0510	2.1580
Post Analysis Injection # 2	0.0920	0.5480	1.0510	2.1500
Average	**0.0920**	**0.547**	**1.05**	**2.15**
% difference of injections	0.0%	0.5%	0.0%	0.4%
Overall Average	**0.100**	**0.530**	**1.03**	**2.12**
Pre/Post Analysis, % of mean	7.5%	3.1%	1.7%	1.7%
RESULTS				
Response Factor	10.05	9.43	9.68	9.44
Average Response Factor	9.65			
Slope	9.43			
Intercept	0.0864			

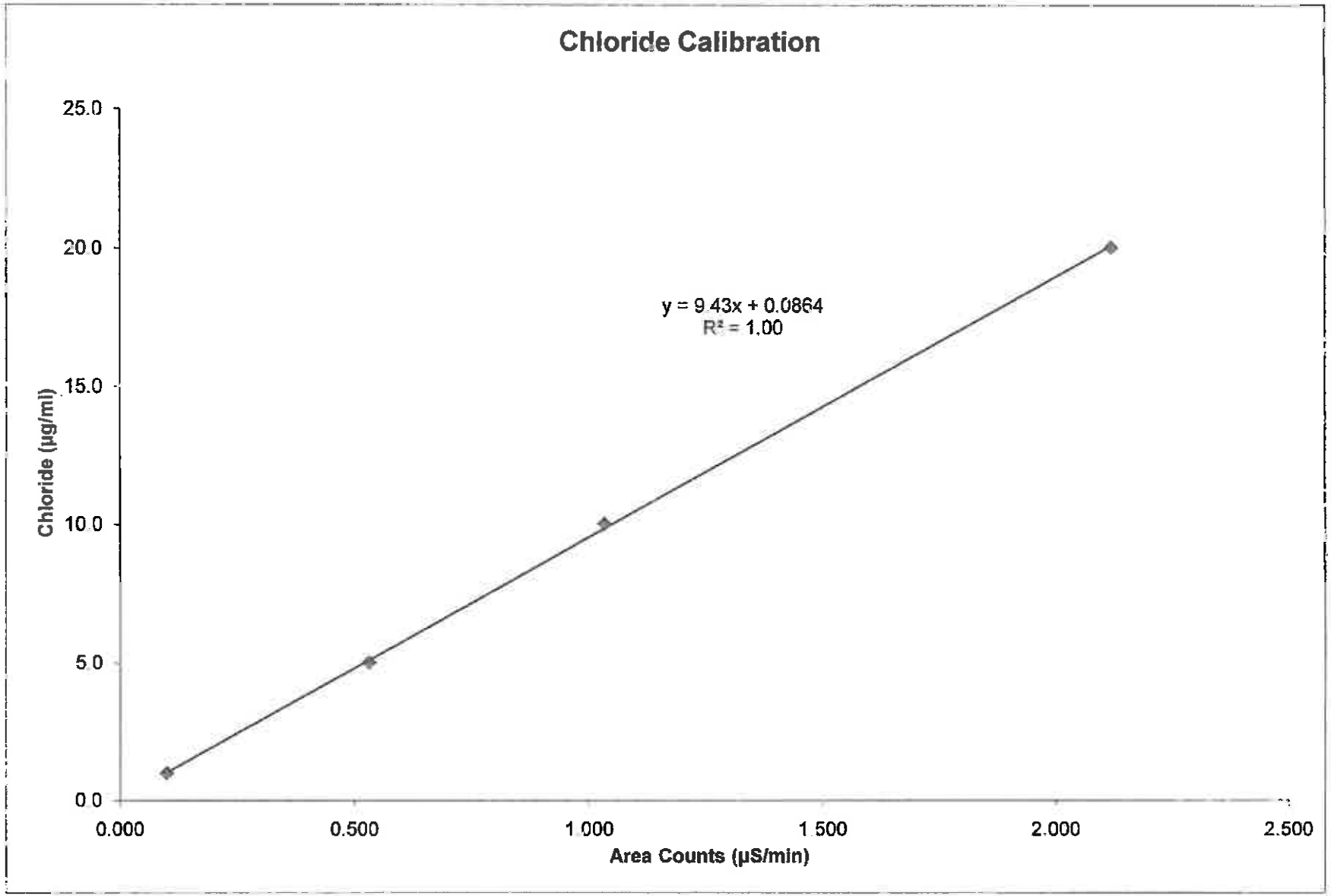
Drift Check (8/11/11)	Chloride	Fluoride
Concentration (µg/ml)	5.0	5.0
Pre Analysis Injection # 1	0.5060	0.6930
Pre Analysis Injection # 2	0.5050	0.6980
Average	**0.505**	**0.696**
% difference of injections	0.2%	0.7%

Drift Check (8/16/11)	Chloride	Fluoride
Concentration (µg/ml)	5.0	5.0
Pre Analysis Injection # 1	0.4960	0.6680
Pre Analysis Injection # 2	0.4950	0.6740
Average	**0.496**	**0.671**
% difference of injections	0.0%	0.9%

Drift Check (8/17/11)	Chloride	Fluoride
Concentration (µg/ml)	5.0	5.0
Pre Analysis Injection # 1	0.5130	0.7050
Pre Analysis Injection # 2	0.5170	0.7030
Average	**0.515**	**0.704**
% difference of injections	0.3%	0.3%

Detection Limit Parameters	Chloride	Fluoride
Standard (µg/ml)	0.5	0.5
Injection 1	0.064	0.073
Injection 2	0.059	0.067
Injection 3	0.059	0.065
Injection 4	0.060	0.065
Injection 5	0.059	0.065
Injection 6	0.059	0.062
Injection 7	0.057	0.064
Average	0.0596	0.0659
RESULTS		
Response Factor	8.39	7.59
Standard Deviation	0.00215	0.00348
No of Samples (n)	7	7
Student t value ($t_{0.975}$)	2.447	2.447
Calculated limit of detection (µg/ml)	0.0441	0.0647


Fluoride Calibration
25.0
20.0
15.0
10.0
5.0
0.0
Fluoride (µg/ml)
y = 6.29x + 0.429
R² = 0.999
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
Area Counts (µS/min)


Chloride Calibration
y = 9.43x + 0.0864
R² = 1.00
Chloride (µg/ml)
25.0
20.0
15.0
10.0
5.0
0.0
0.000
0.500
1.000
1.500
2.000
2.500
Area Counts (µS/min)

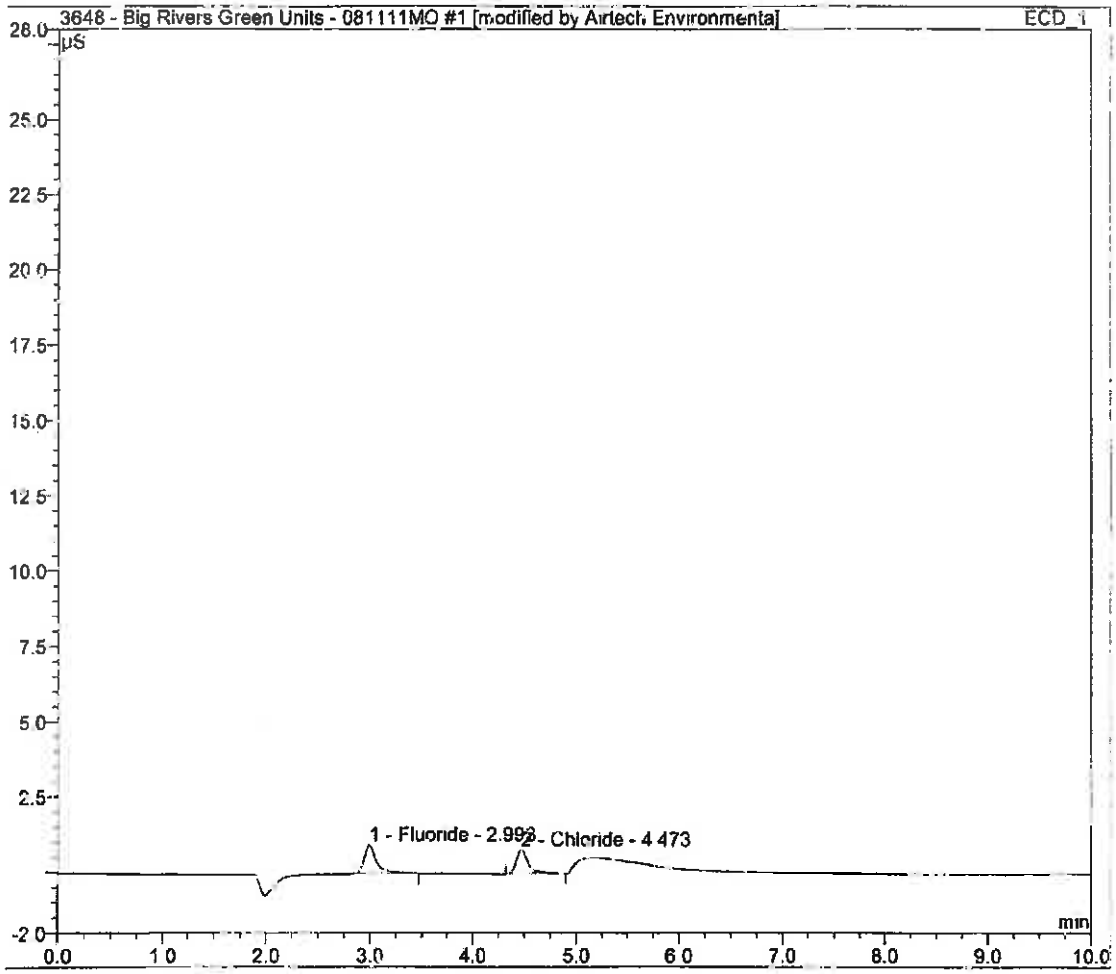
Raw Data

Includes the following:

- Pre Analysis Chromatograms
- Sample Chromatograms
- Drift Check Chromatograms
- Post Analysis Chromatograms
- Lab Book Data Entry

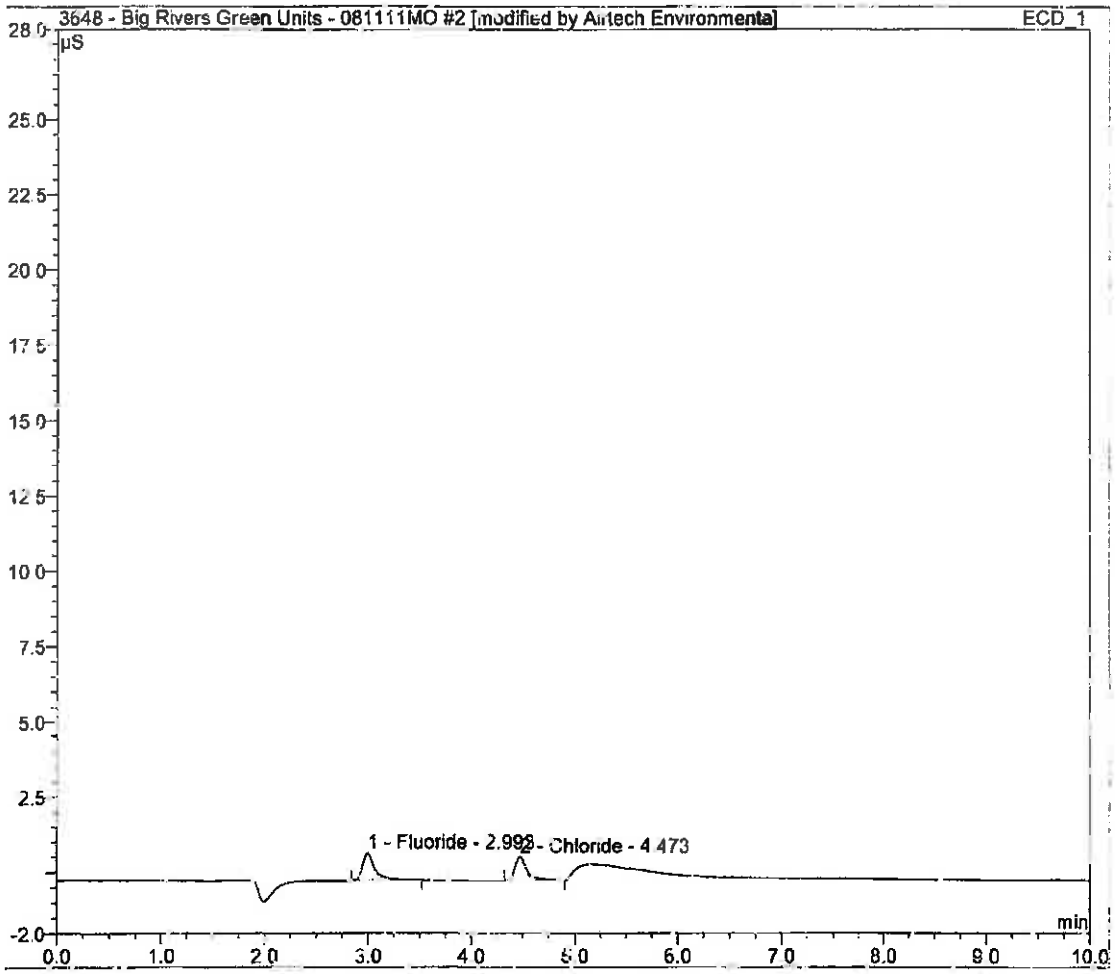
Sample Name:	**cal std 1 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator.*	**n.a.**
Inj. Date/Time	**10.08.11 09:37**	*Run Time.*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.99	Fluoride	BMB*	0.135	0.949	0.1371
2	4.47	Chloride	BMB*	0.107	0.786	0.1545
		TOTAL:		0.24	1.74	0.29



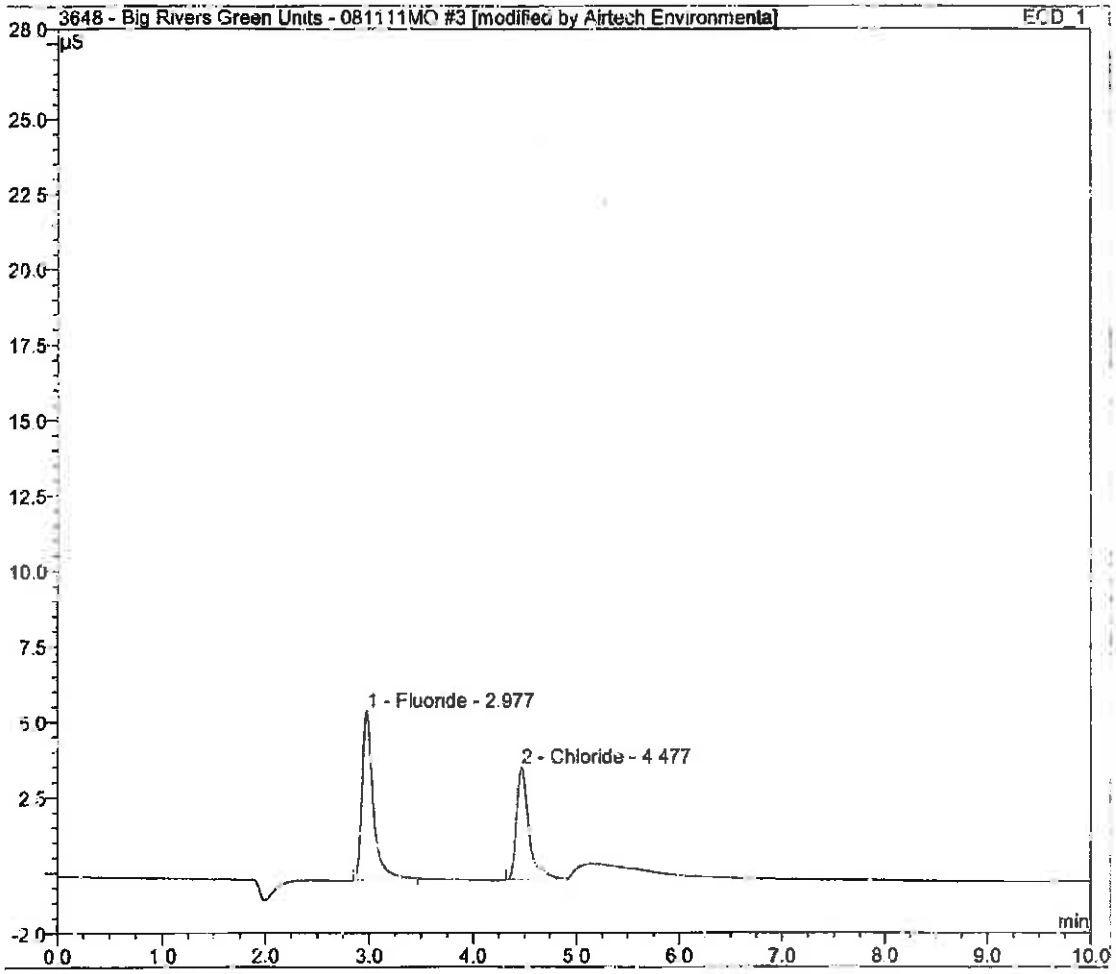
Sample Name:	**cal std 1 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**10.08.11 09:53**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.99	Fluoride	BMB*	0.131	0.920	0.1330
2	4.47	Chloride	BMB*	0.107	0.803	0.1543
		TOTAL:		0.24	1.72	0.29



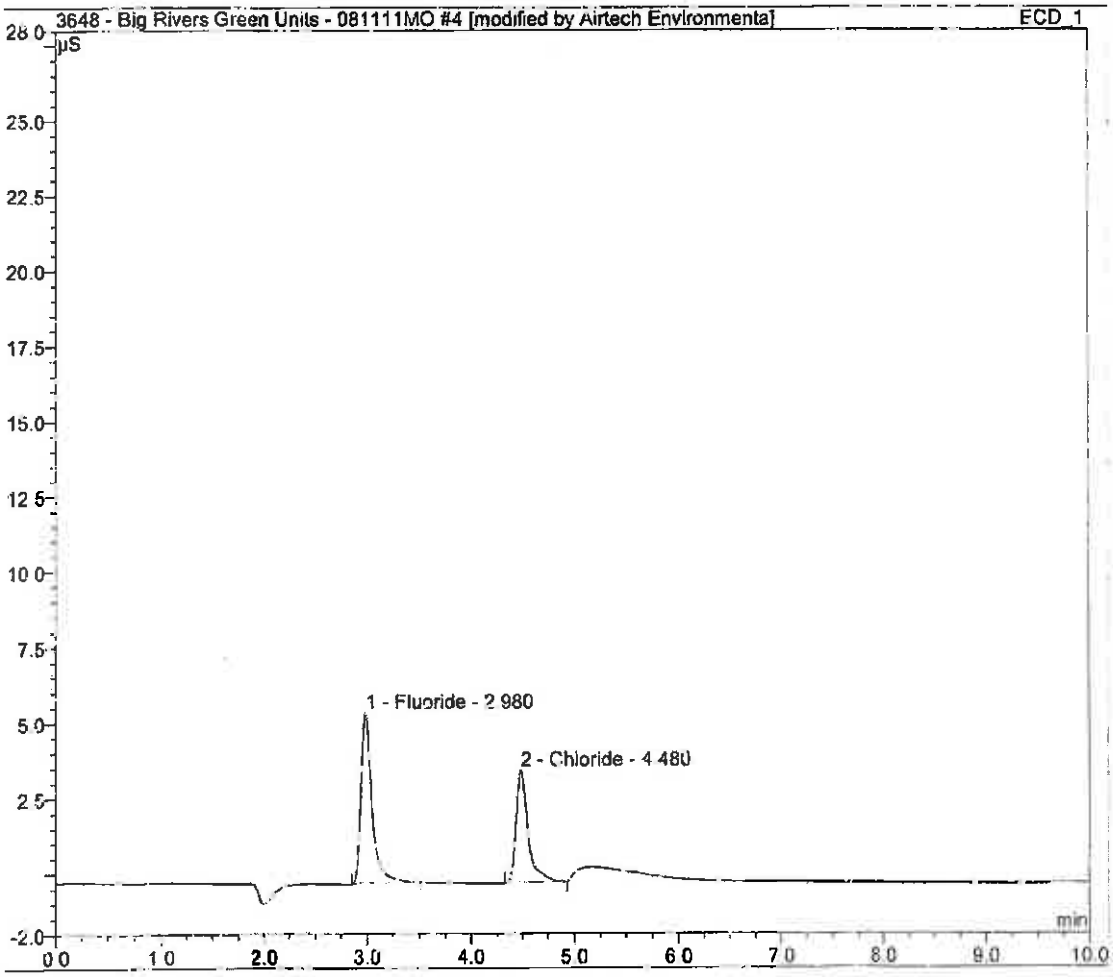
Sample Name:	**cal std 2 - Cl & F in H2SO4**	*Inj. Vol.*	**10.0**
Sample Type	**standard**	*Dilution Factor*	**1.0000**
Program:	**ChlorideCal**	*Operator*	**n.a.**
Inj. Date/Time	**10.08.11 10:15**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.98	Fluoride	BMB*	0.694	5.599	0.7025
2	4.48	Chloride	BMB*	0.514	3.737	0.7404
		TOTAL		1.21	9.34	1.44



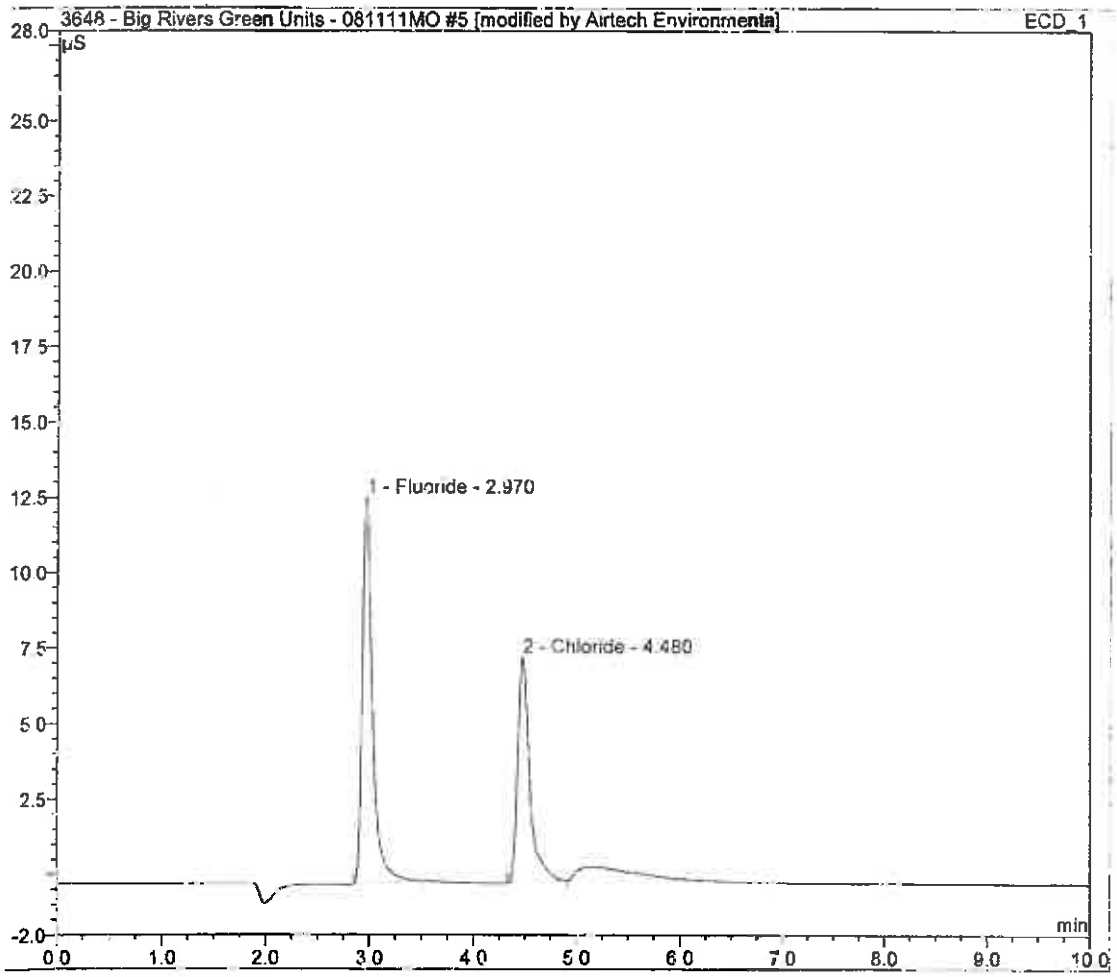
Sample Name:	**cal std 2 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time	**10.08.11 10:31**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.98	Fluoride	BMB*	0.703	5.675	0.7120
2	4.48	Chloride	BMB*	0.514	3.743	0.7408
		TOTAL:		1.22	9.42	1.45



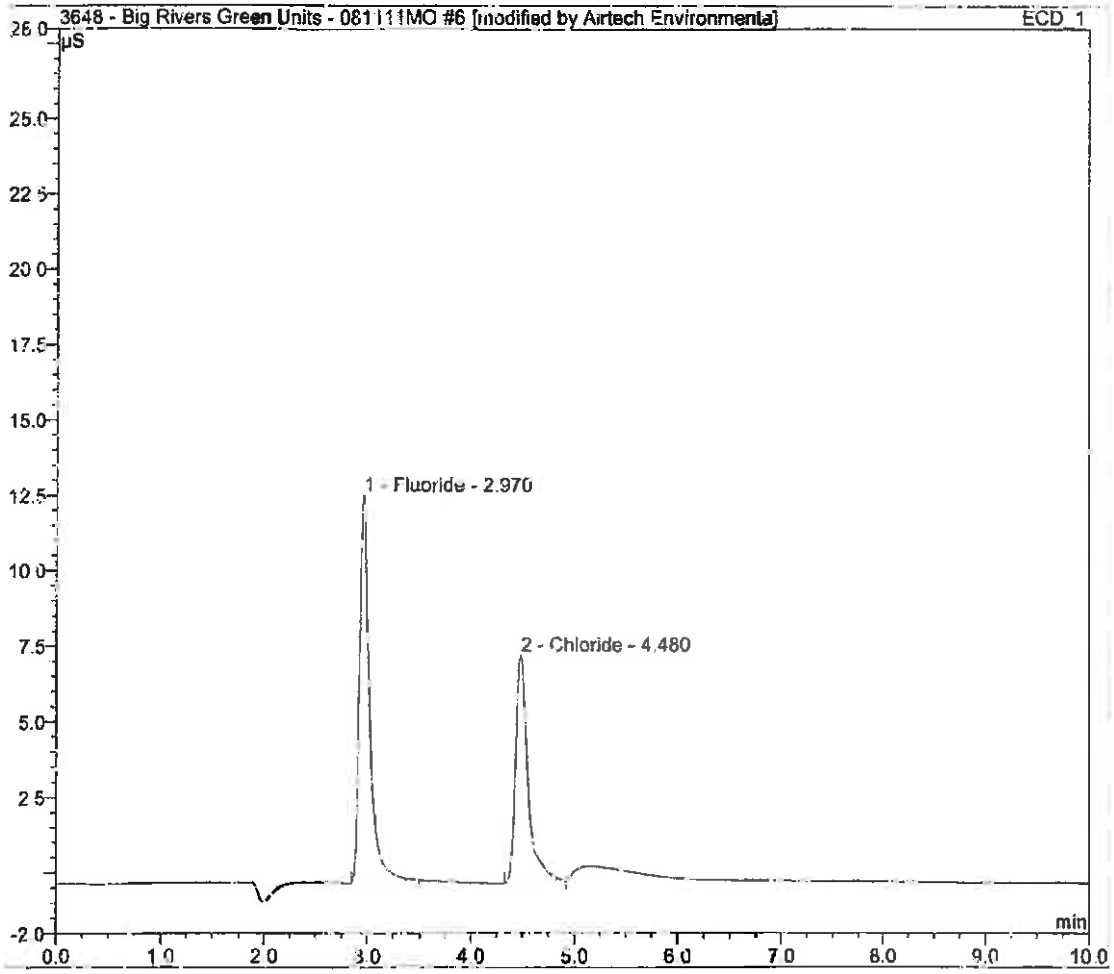
Sample Name:	**cal std 3 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**10.08.11 10:51**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.97	Fluoride	BMB*	1.487	12.822	1.5055
2	4.48	Chloride	BMB*	1.010	7.476	1.4559
		TOTAL:		2.50	20.30	2.96



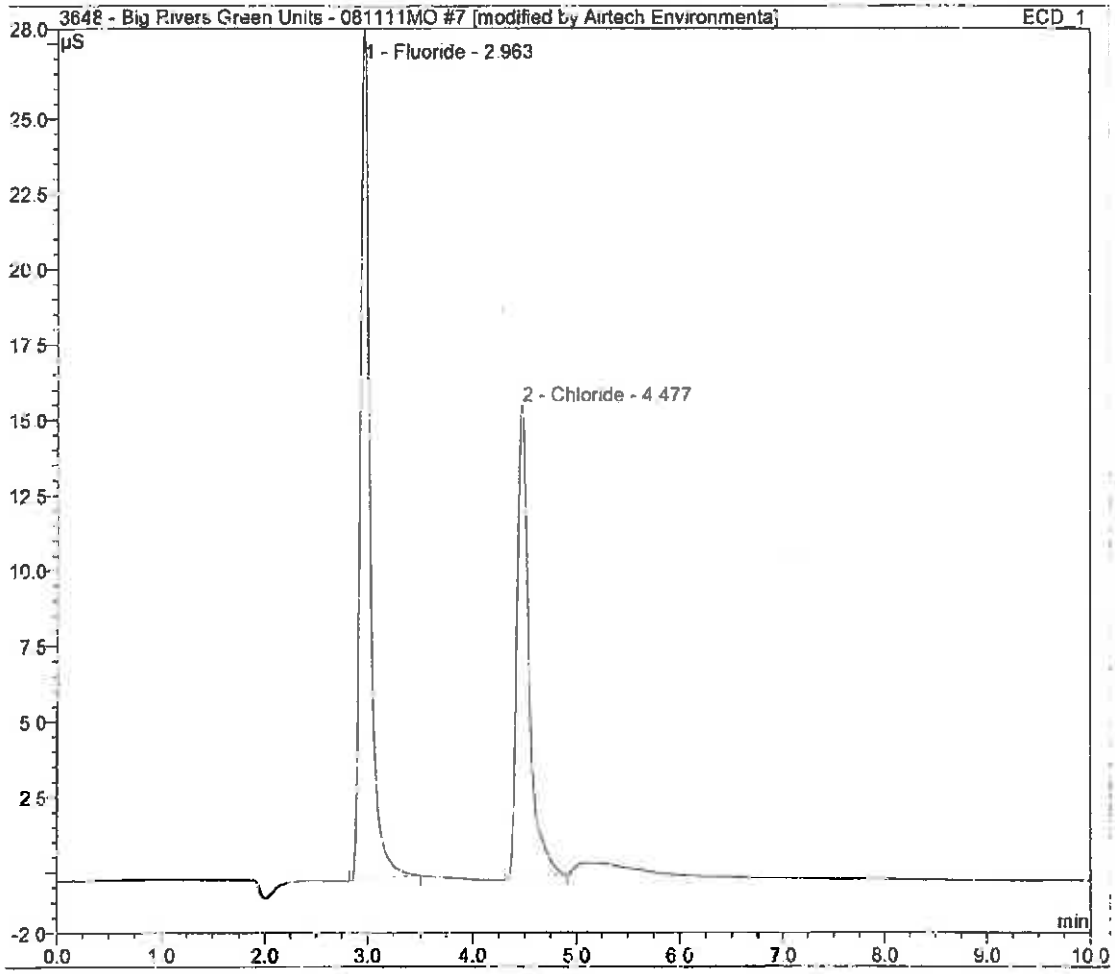
Sample Name:	**cal std 3 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**10.08.11 11:19**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.97	Fluoride	BMB*	1.484	12.797	1.5027
2	4.48	Chloride	BMB*	1.020	7.495	1.4704
		TOTAL:		2.50	20.29	2.97



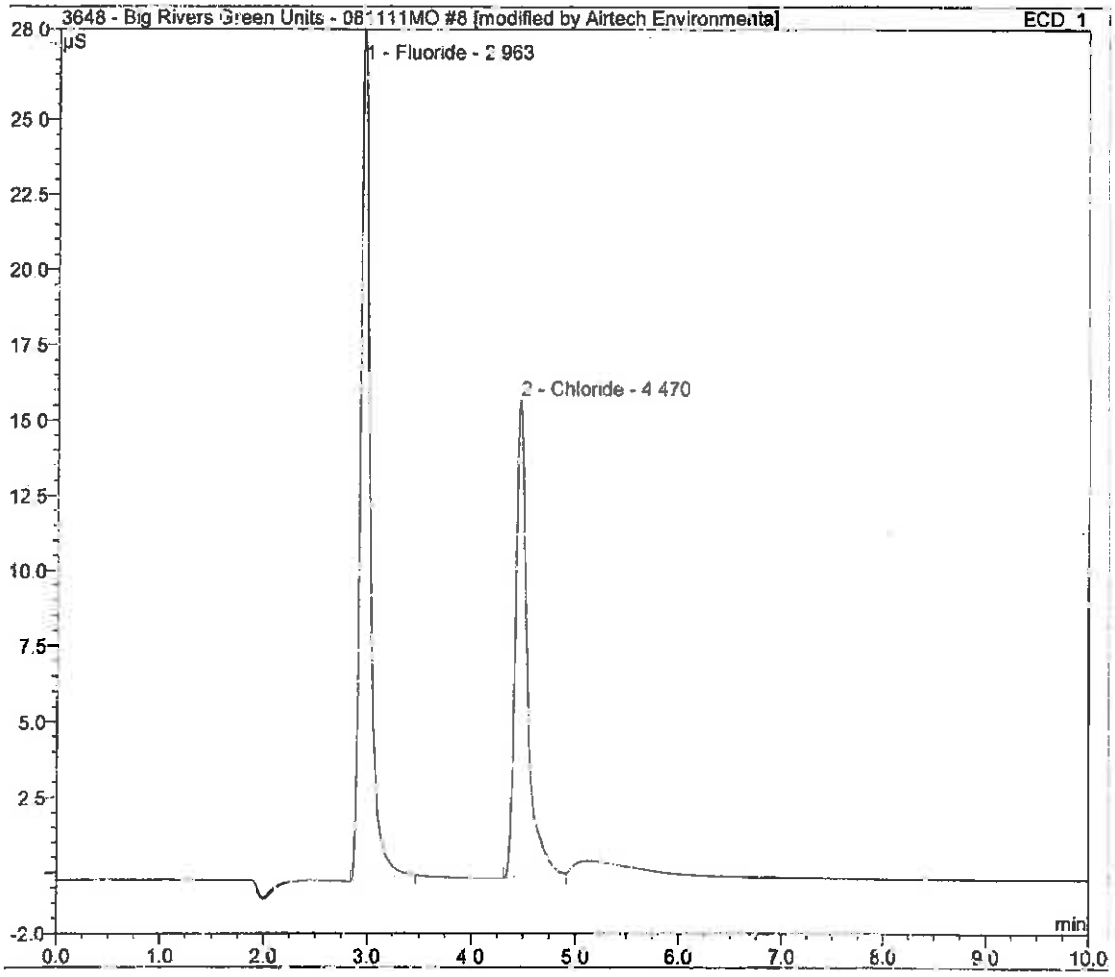
Sample Name:	**cal std 4 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**10.08.11 12:01**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.96	Fluoride	BMB*	3.094	28.415	3.1333
2	4.48	Chloride	BMB*	2.079	15.670	2.9962
		TOTAL:		5.17	44.08	6.13



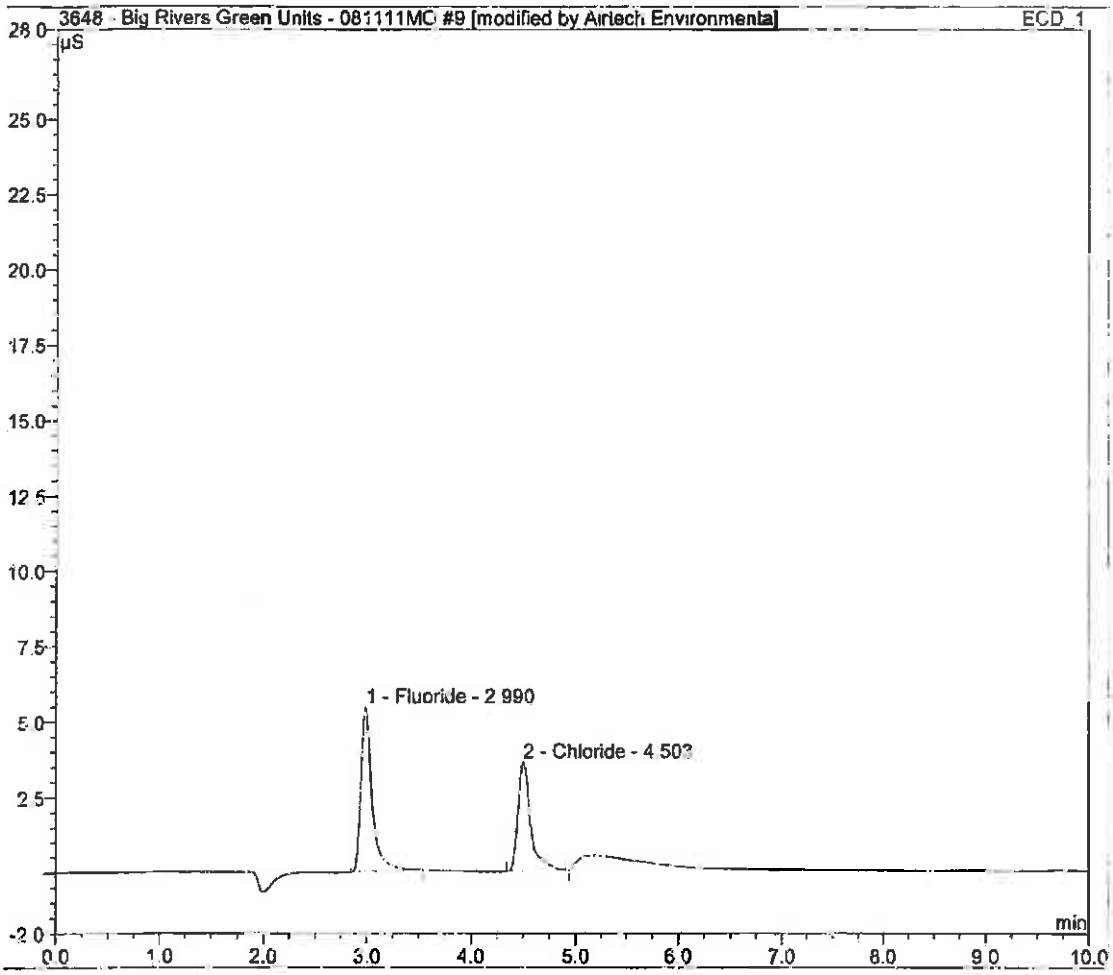
Sample Name:	**cal std 4 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**10.08.11 12:22**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.96	Fluoride	BMB*	3.082	28.444	3.1210
2	4.47	Chloride	BMB*	2.086	15.804	3.0070
		TOTAL:		5.17	44.25	6.13



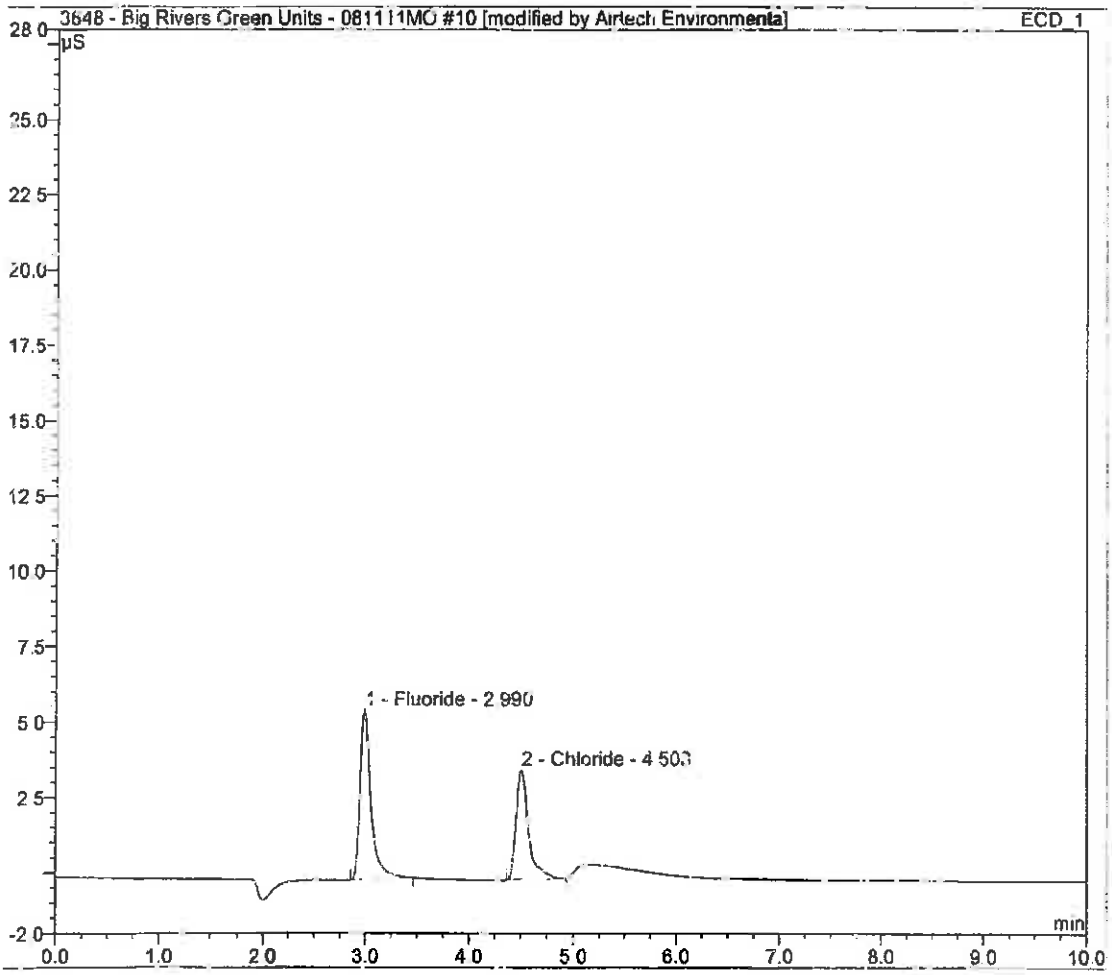
Sample Name:	cal std 2 - Cl & F in H2SO4	*Inj. Vol.:*	10.0
Sample Type:	standard	*Dilution Factor*	1.0000
Program:	ChlorideCal	*Operator:*	n.a.
Inj. Date/Time.	11.08.11 08:41	*Run Time.*	3.91

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.99	Fluoride	BMB*	0.693	5.464	0.7015
2	4.50	Chloride	BMB*	0.506	3.619	0.7293
		TOTAL:		1.20	9.08	1.43



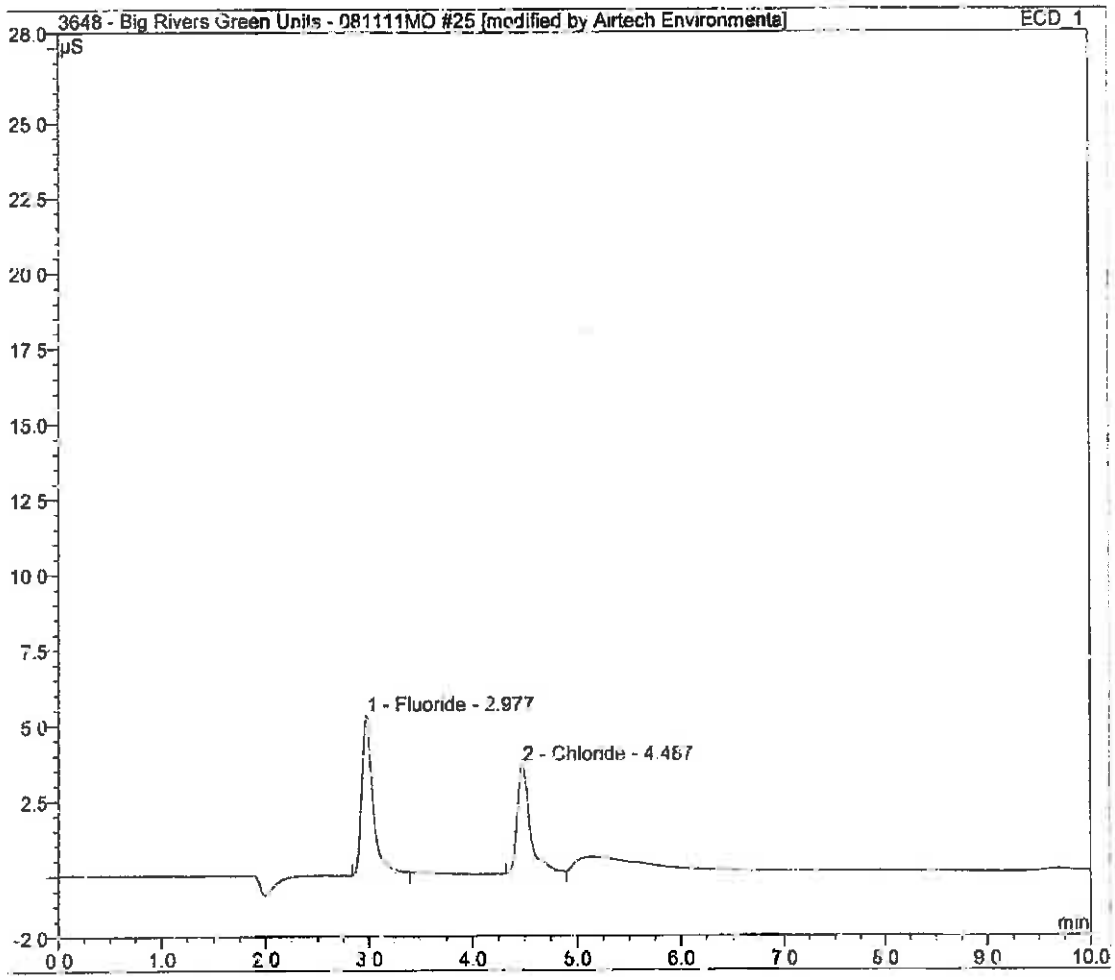
Sample Name:	**cal std 2 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**11.08.11 08:57**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.99	Fluoride	BMB*	0.698	5.640	0.7065
2	4.50	Chloride	BMB*	0.505	3.656	0.7280
TOTAL:				1.20	9.30	1.43



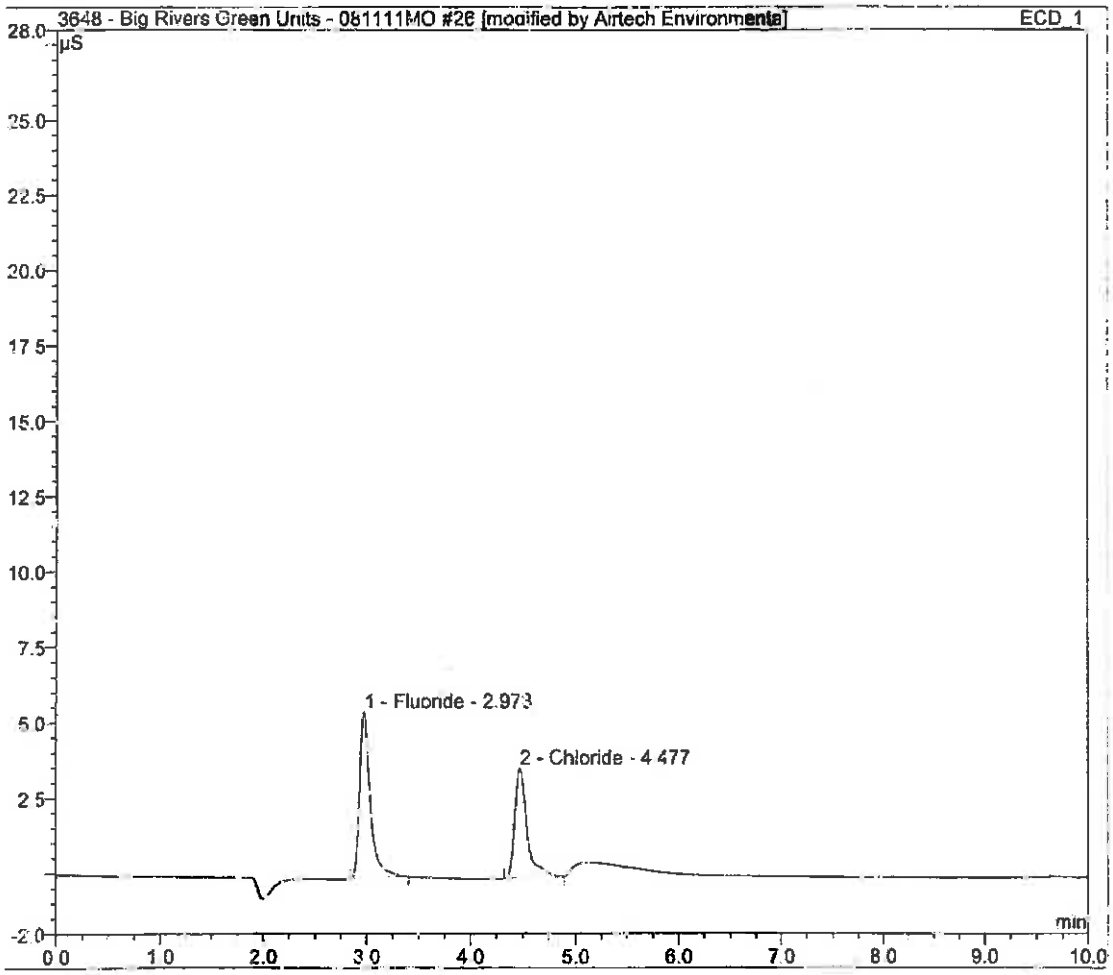
Sample Name:	cal std 2 - Cl & F in H2SO4	*Inj Vol.:*	10.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program	ChlorideCal	*Operator:*	n.a.
Inj Date/Time:	16.08.11 09:24	*Run Time:*	15.00

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.98	Fluoride	BMB*	0.668	5.282	0.6760
2	4.49	Chloride	BMB*	0.496	3.594	0.7154
		TOTAL		1.16	8.88	1.39



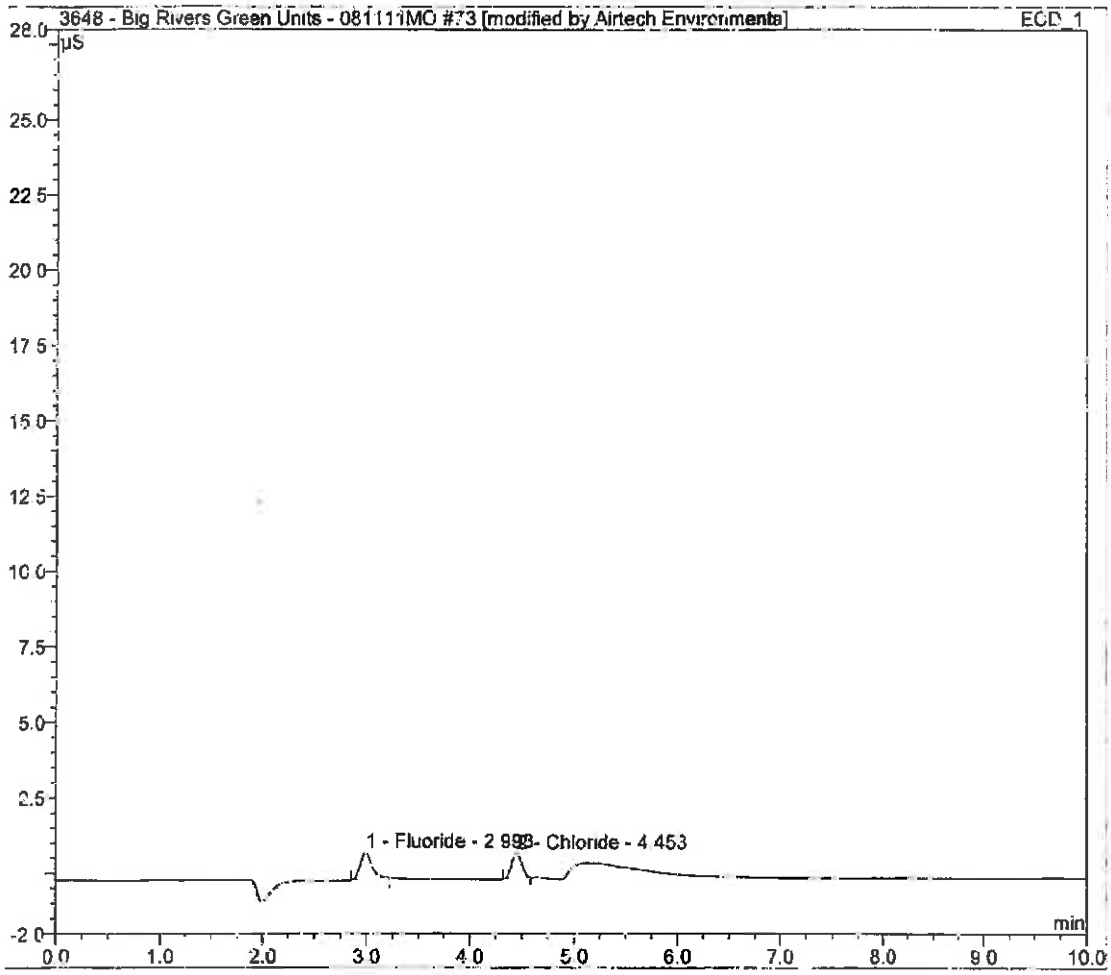
Sample Name:	**cal std 2 - Cl & F in H2SO4**	*Inj Vol:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**16.08.11 09:41**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.97	Fluoride	BMB*	0.674	5.523	0.6829
2	4.48	Chloride	BMB*	0.496	3.645	0.7154
		TOTAL:		1.17	9.17	1.40



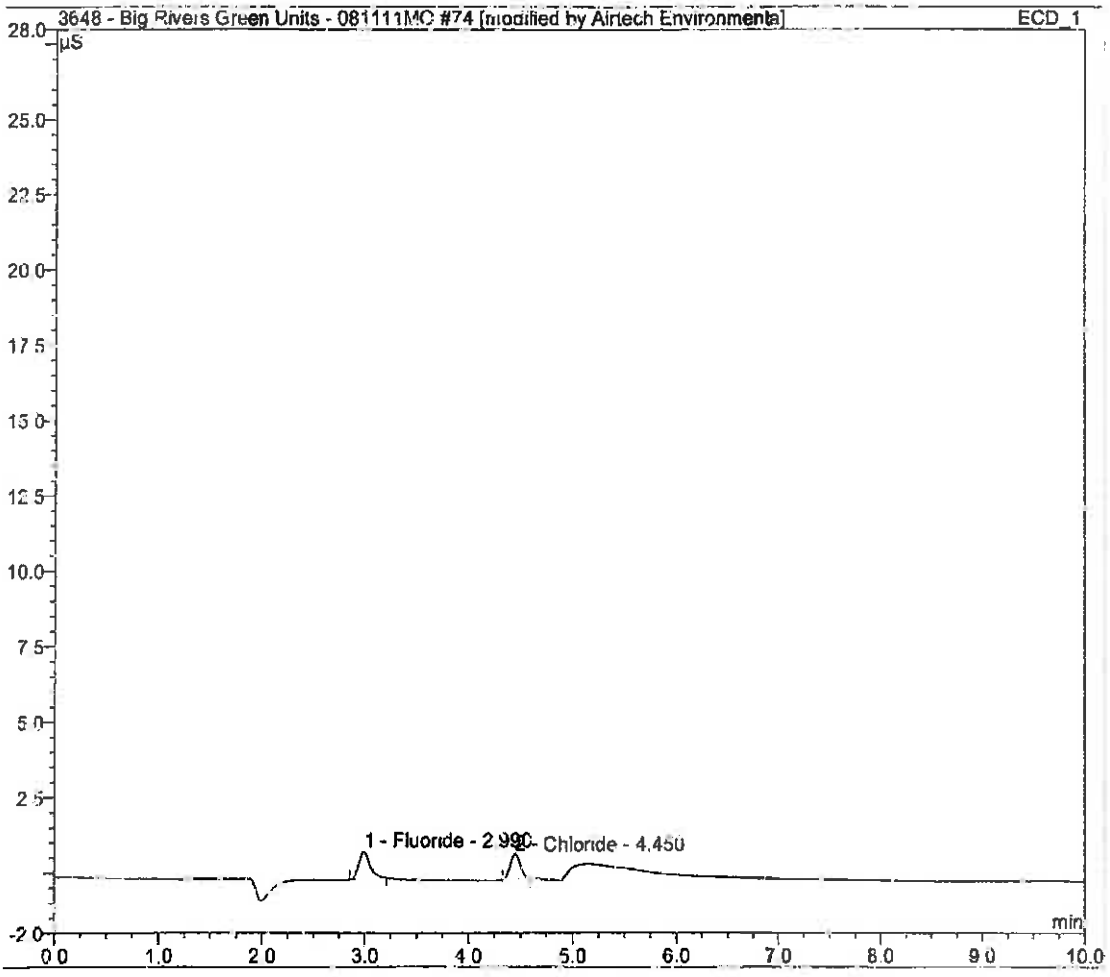
Sample Name:	**cal std 1 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program.	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time.	**18.08.11 12:26**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.99	Fluoride	BMB*	0.116	0.919	0.1142
2	4.45	Chloride	BMB*	0.092	0.838	0.1285
TOTAL:				0.21	1.76	0.24



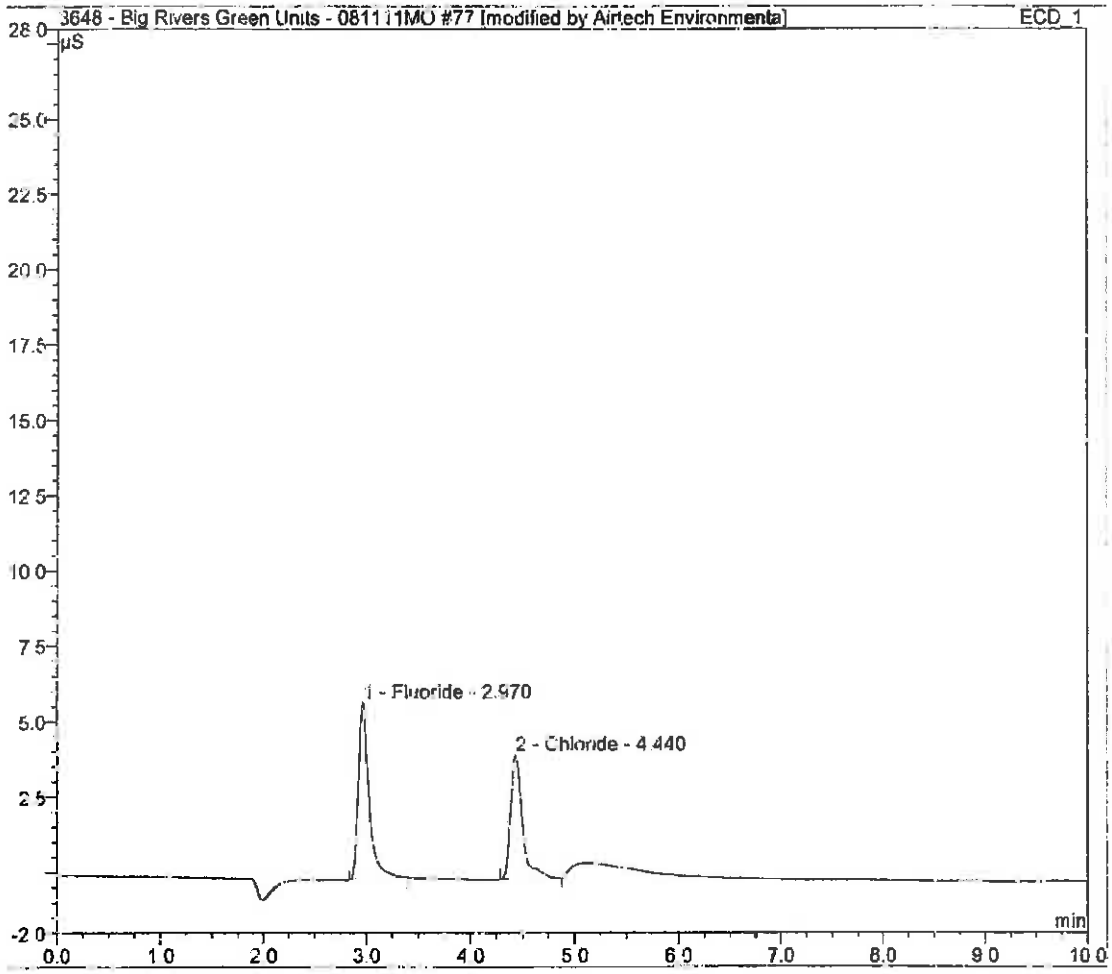
Sample Name:	**cal std 1 - Cl & F in H2SO4**	*Inj Vol:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj Date/Time	**18.08.11 13:08**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.99	Fluoride	BMB*	0.115	0.919	0.1124
2	4.45	Chloride	BMB*	0.092	0.838	0.1281
		TOTAL:		0.21	1.76	0.24



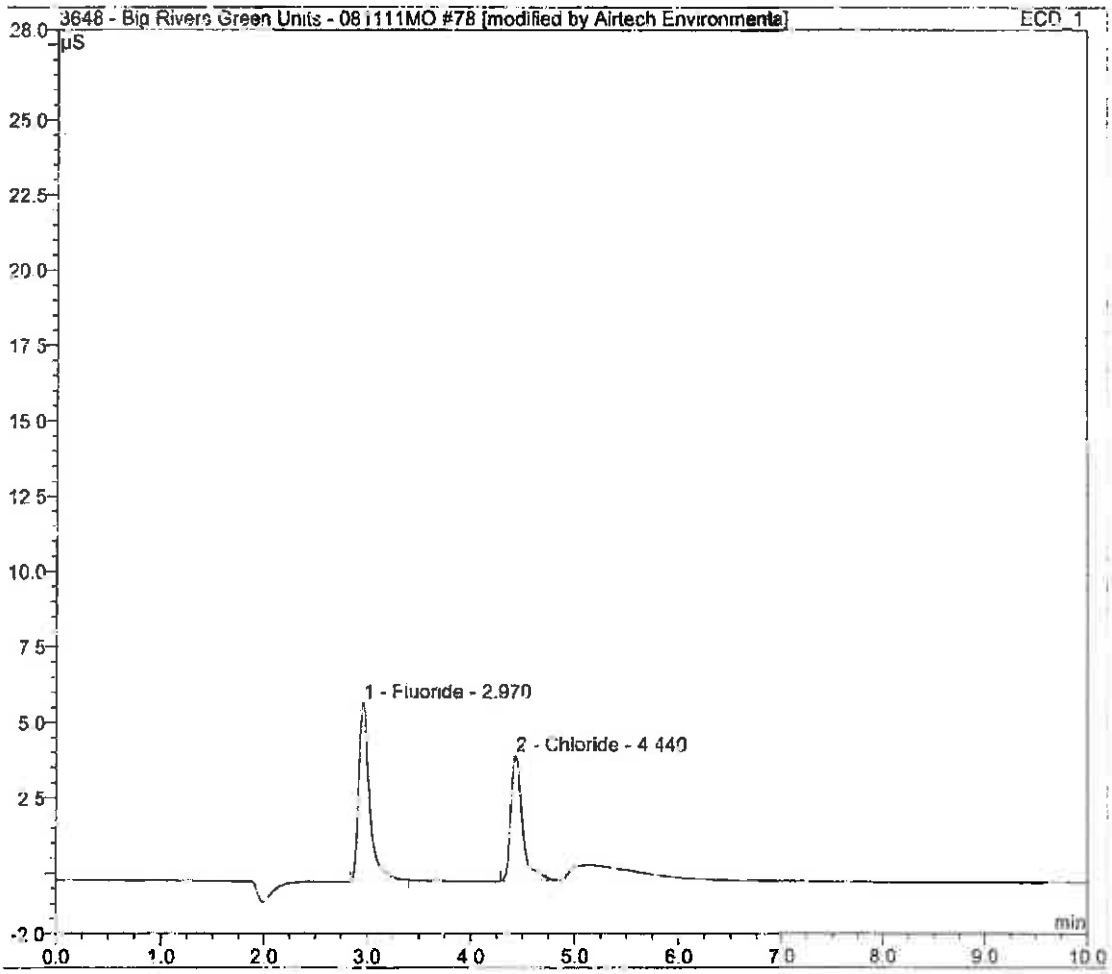
Sample Name:	**cal std 2 - Cl & F in H2SO4**	*Inj. Vol*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time	**18.08.11 14:01**	*Run Time*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.97	Fluoride	BMB*	0.706	5.859	0.6923
2	4.44	Chloride	BMB*	0.545	4.124	0.7568
		TOTAL		1.25	9.98	1.45



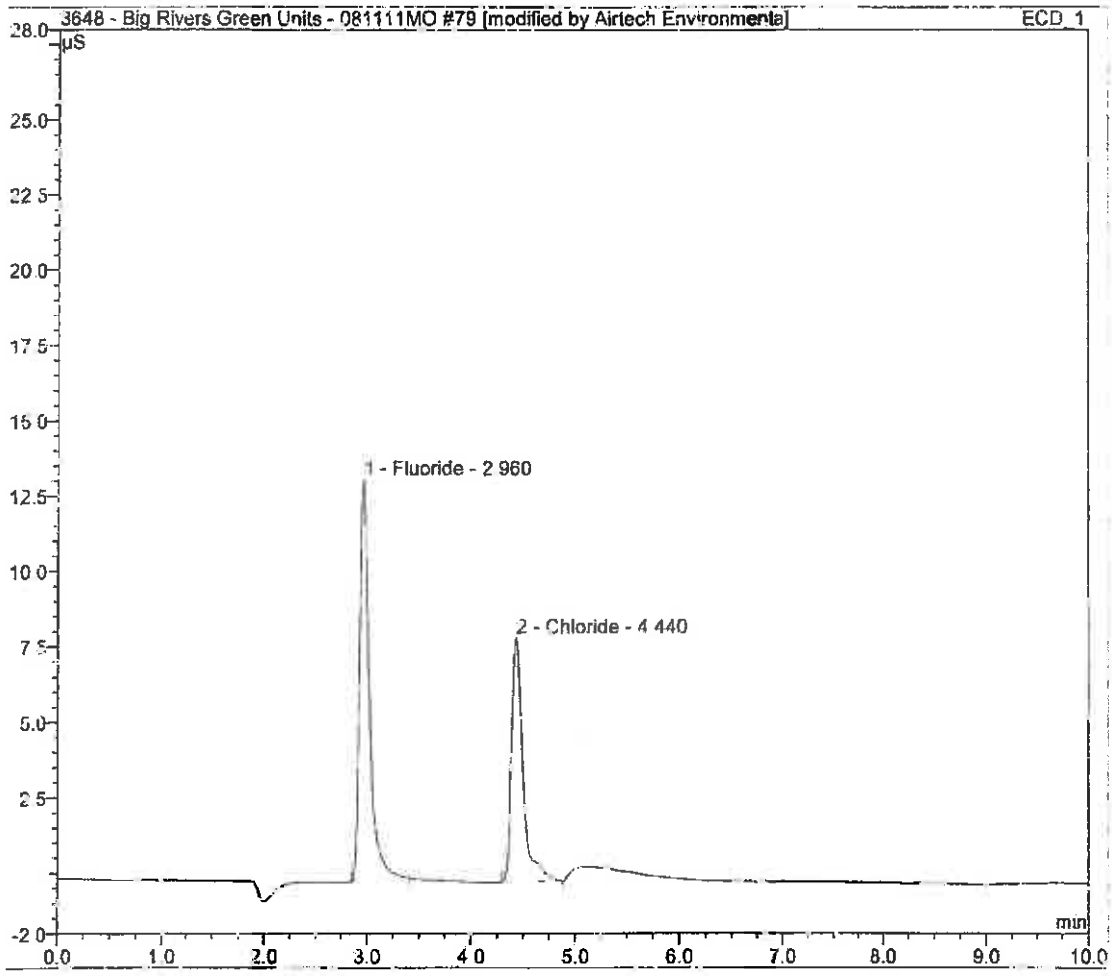
Sample Name:	**cal std 2 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time	**18.08.11 14:17**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.97	Fluoride	BMB*	0.715	5.925	0.7012
2	4.44	Chloride	BMB*	0.548	4.156	0.7609
		TOTAL:		1.26	10.08	1.46



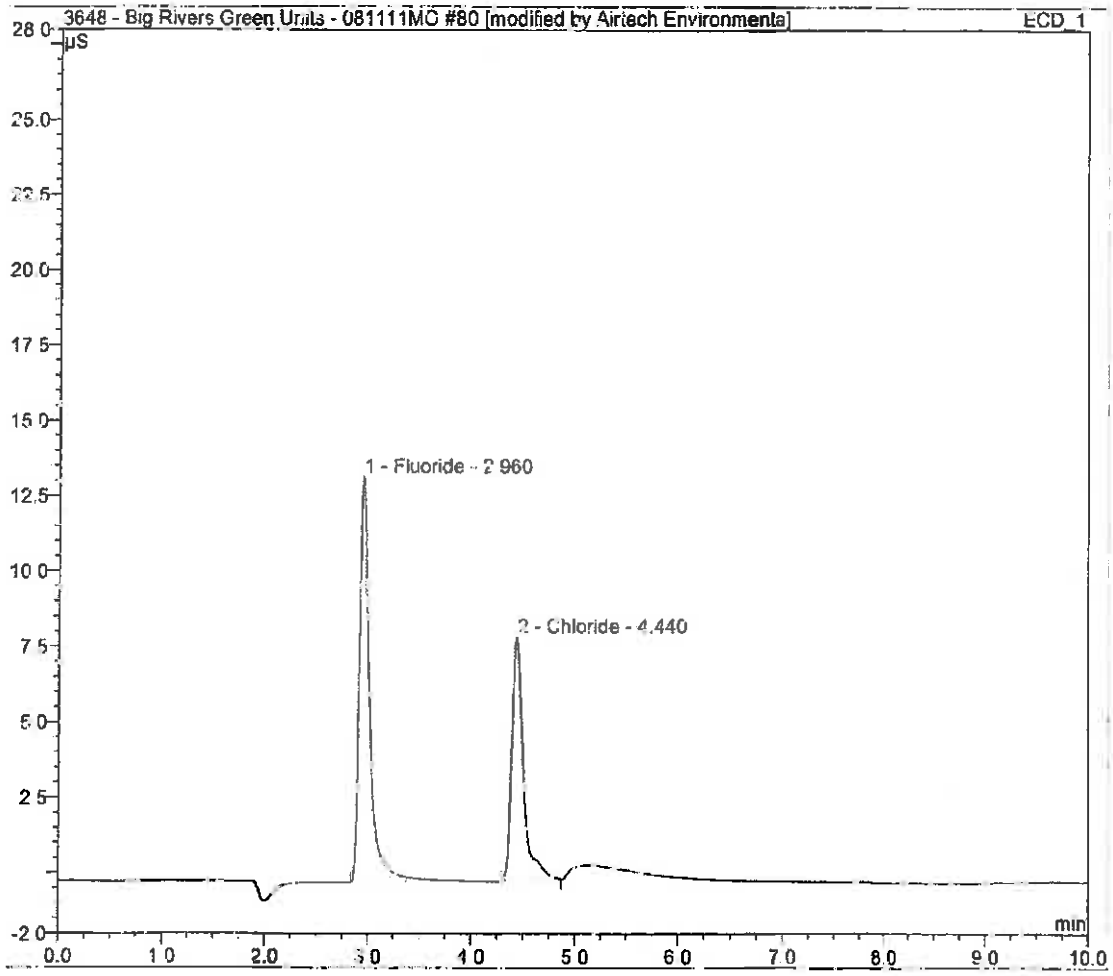
Sample Name:	**cal std 3 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.08.11 14:35**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.96	Fluoride	BMB*	1.498	13.343	1.4695
2	4.44	Chloride	BMB*	1.051	8.072	1.4606
		TOTAL:		2.55	21.41	2.93



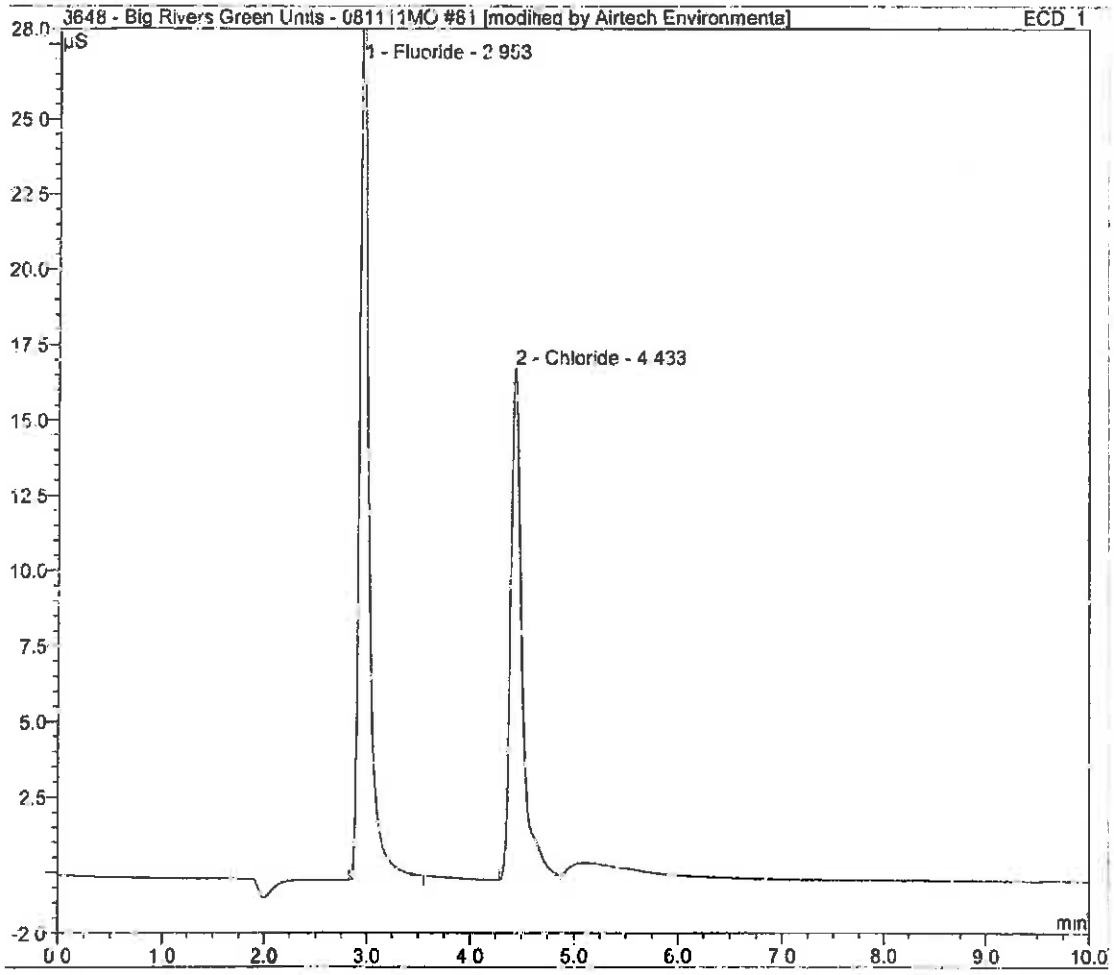
Sample Name:	**cal std 3 - Cl & F in H2SO4**	*Inj. Vol:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.08.11 14:52**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.96	Fluoride	BMB*	1.500	13.371	1.4710
2	4.44	Chloride	BMB*	1.051	8.059	1.4609
		TOTAL:		2.55	21.43	2.93



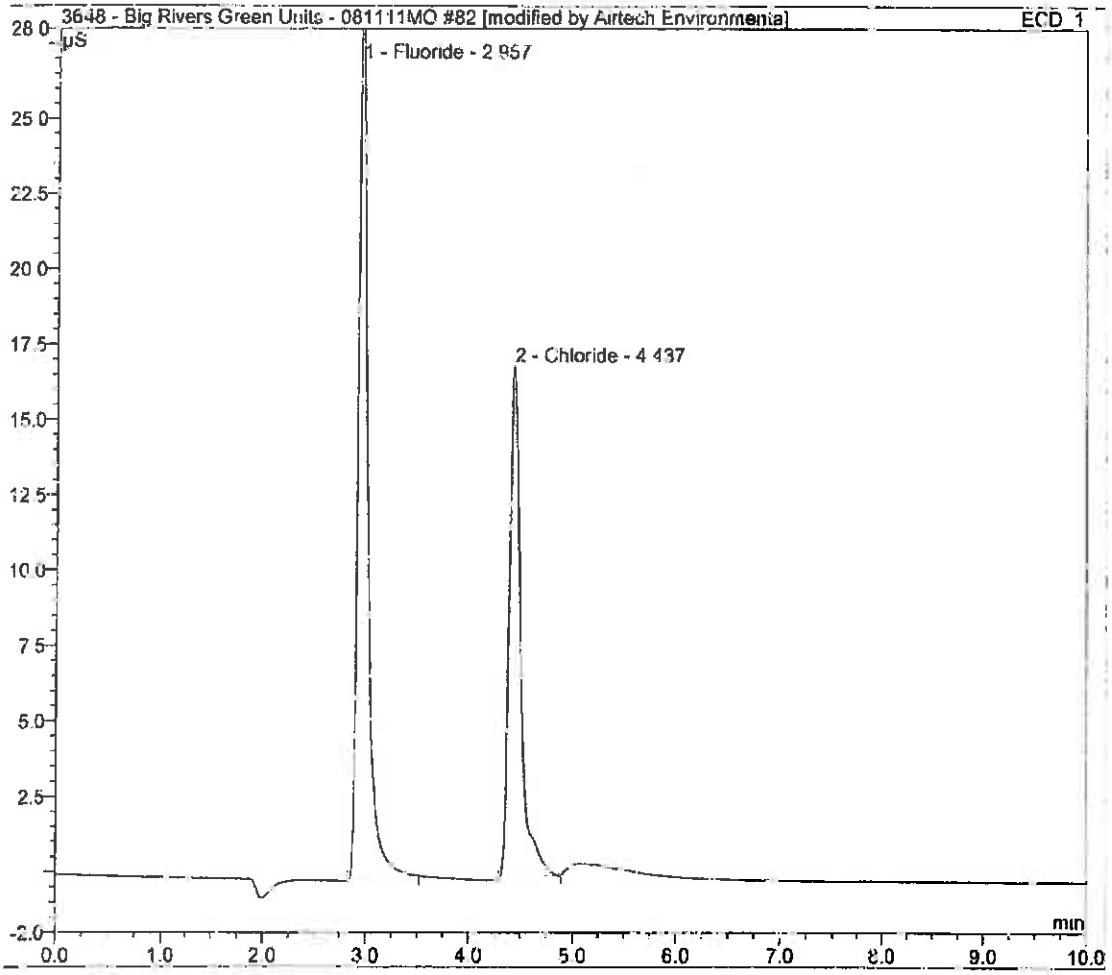
Sample Name:	**cal std 4 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.08.11 15:11**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.95	Fluoride	BMB*	3.166	29.539	3.1048
2	4.43	Chloride	BMB*	2.158	16.910	2.9986
TOTAL:				5.32	46.45	6.10



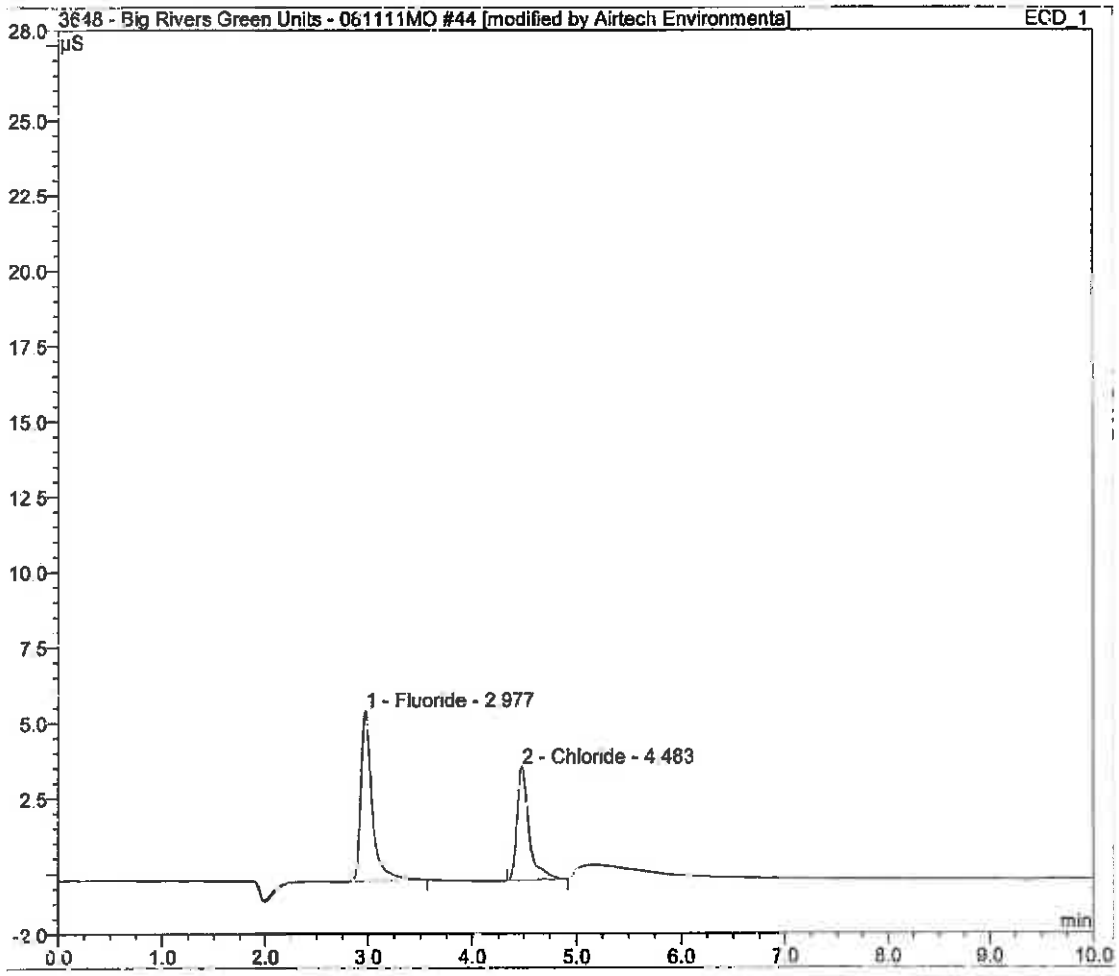
Sample Name:	**cal std 4 - Cl & F in H2SO4**	*Inj. Vol :*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.08.11 15:27**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.96	Fluoride	BMB*	3.171	29.711	3.1095
2	4.44	Chloride	BMB*	2.150	16.978	2.9883
		TOTAL:		5.32	46.69	6.10



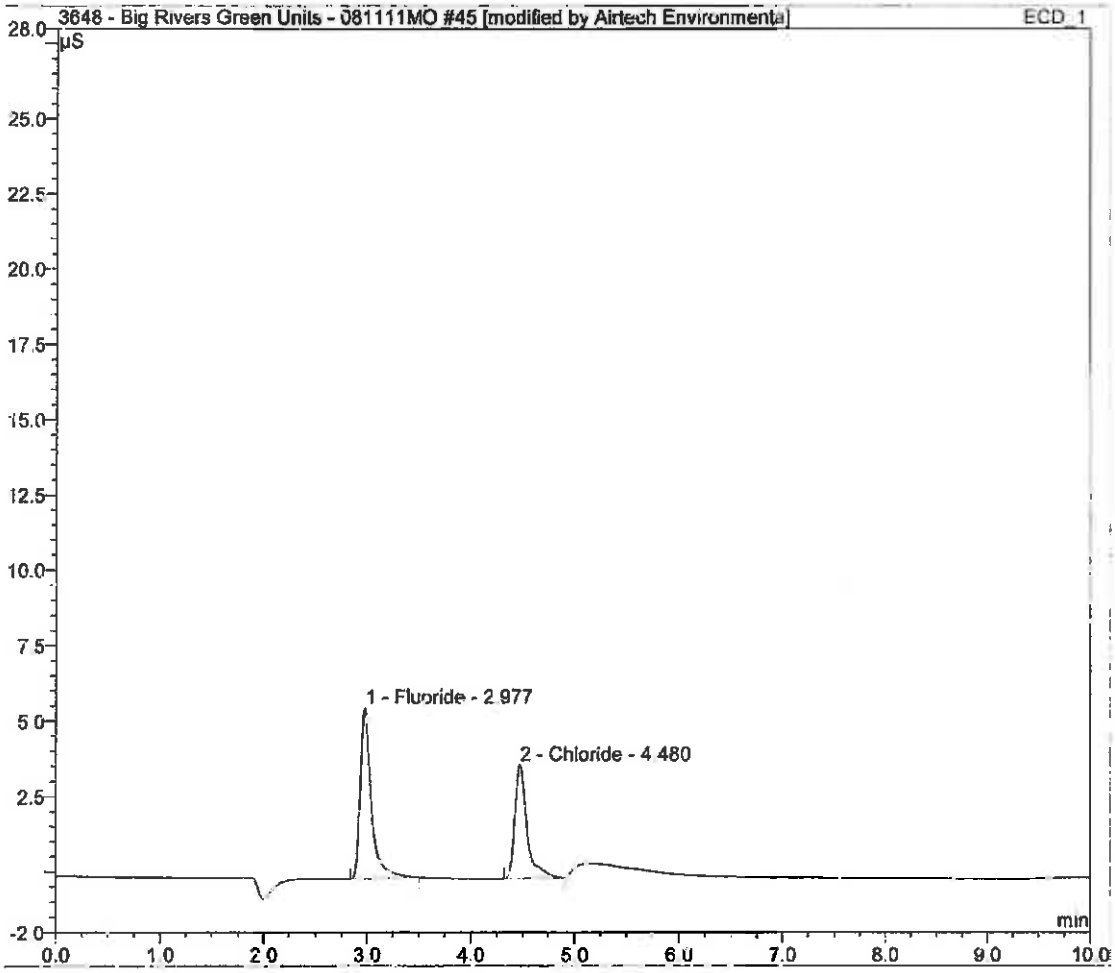
Sample Name:	**cal std 2 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 10:08**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.98	Fluoride	BMB*	0.705	5.626	0.7140
2	4.48	Chloride	BMB*	0.513	3.742	0.7396
		TOTAL:		1.22	9.37	1.45



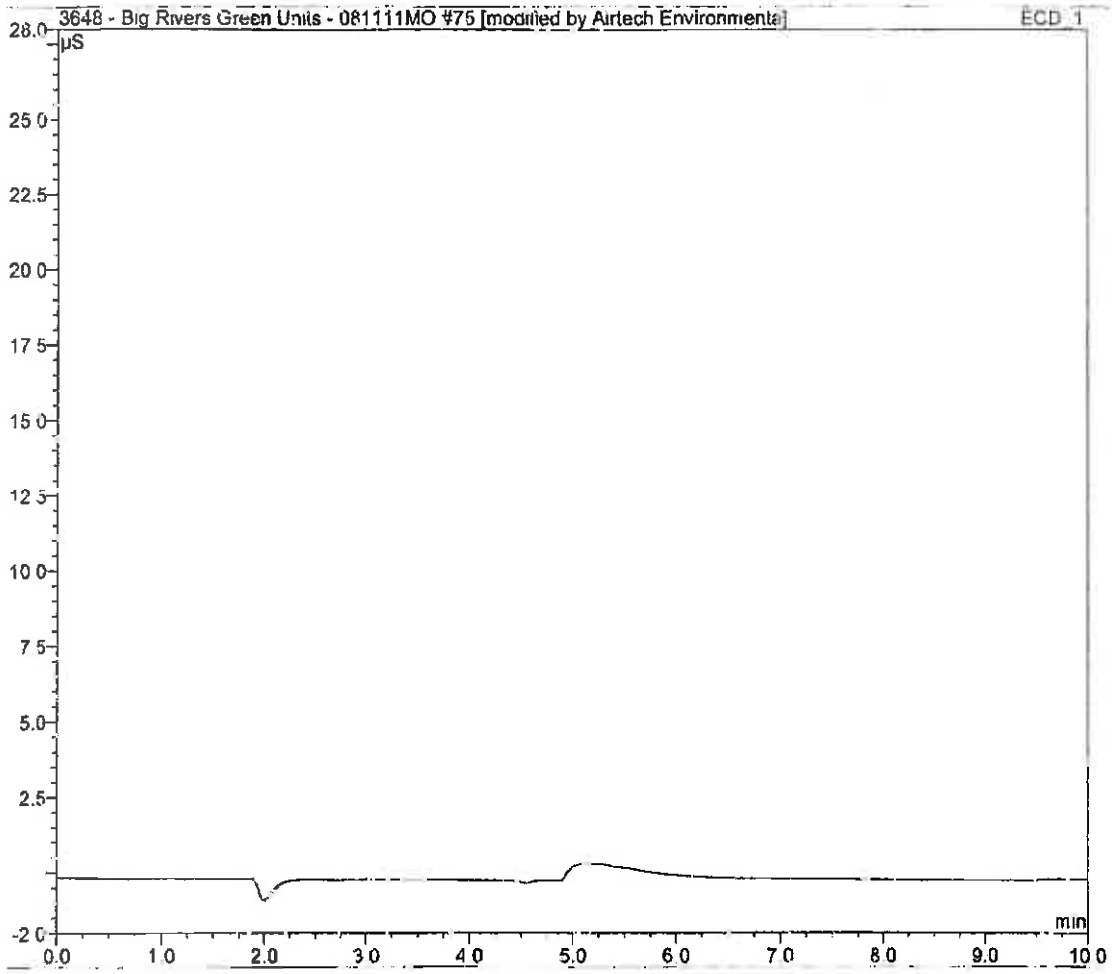
Sample Name:	**cal std 2 - Cl & F in H2SO4**	*Inj. Vol.:*	**10.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 10:26**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.98	Fluoride	BMB*	0.703	5.669	0.7120
2	4.48	Chloride	BMB*	0.517	3.775	0.7446
		TOTAL:		1.22	9.44	1.46



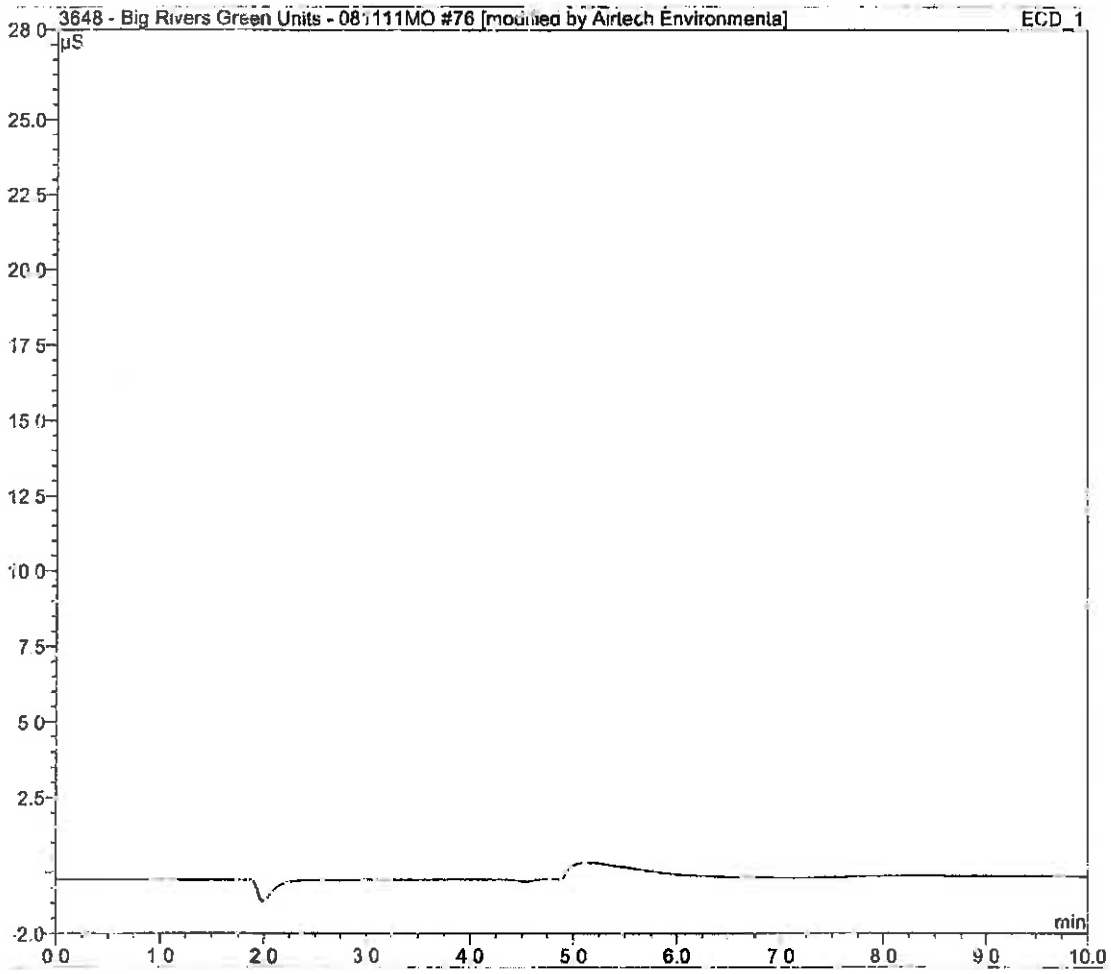
Sample Name:	**Reagent Blank**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time	**18.08.11 13:24**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
		TOTAL:		0.00	0.00	0.00



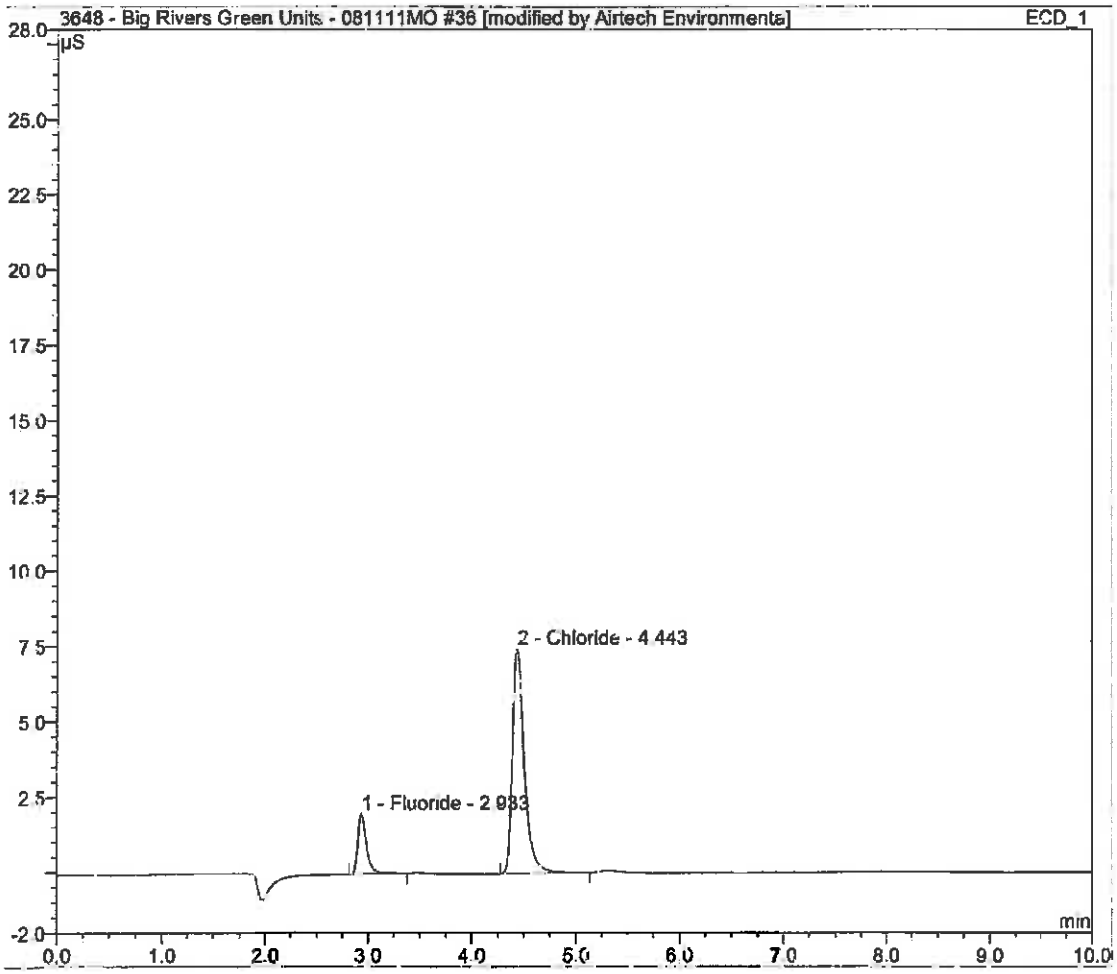
Sample Name:	**Reagent Blank**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.08.11 13:41**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
		TOTAL:		0.00	0.00	0.00



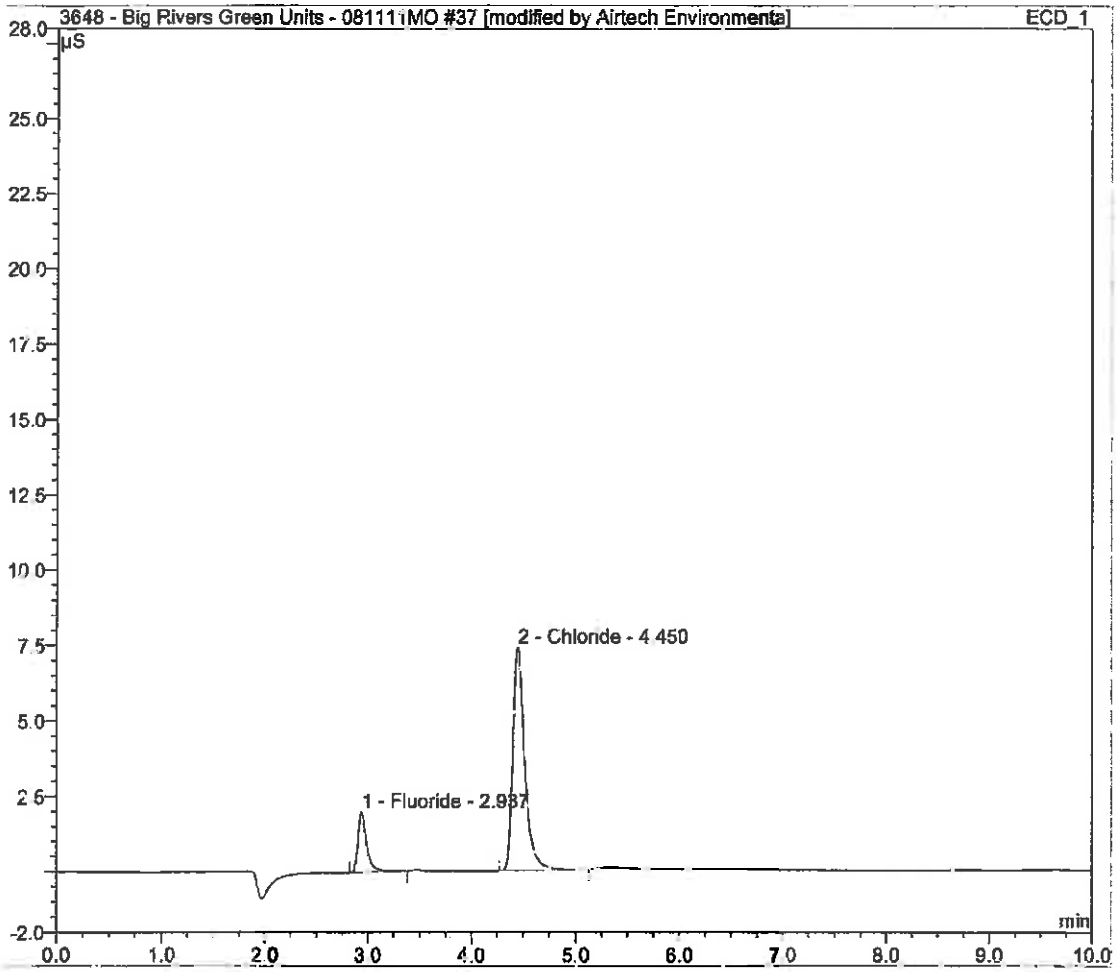
Sample Name:	**Unit 2 ESP Inlet 1 Run 1 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**16.08.11 13:31**	*Run Time:*	**9.31**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.93	Fluoride	BMB*	0.198	2.022	0.2010
2	4.44	Chloride	BMB*	0.986	7.463	1.4218
TOTAL:				1.18	9.48	1.62



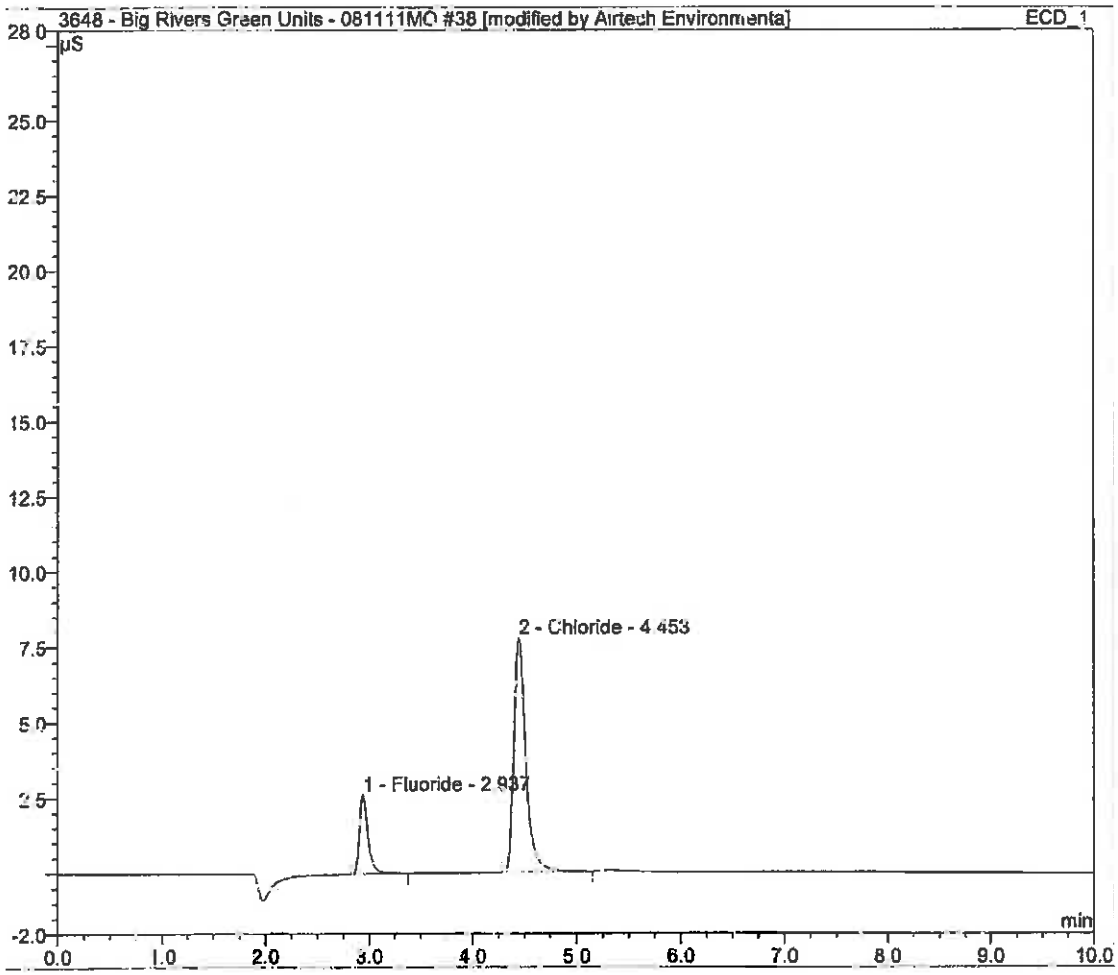
Sample Name:	**Unit 2 ESP Inlet 1 Run 1 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**16.08.11 13:54**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.94	Fluoride	BMB	0.199	2.018	0.2016
2	4.45	Chloride	BMB*	0.983	7.412	1.4164
		TOTAL:		1.18	9.43	1.62



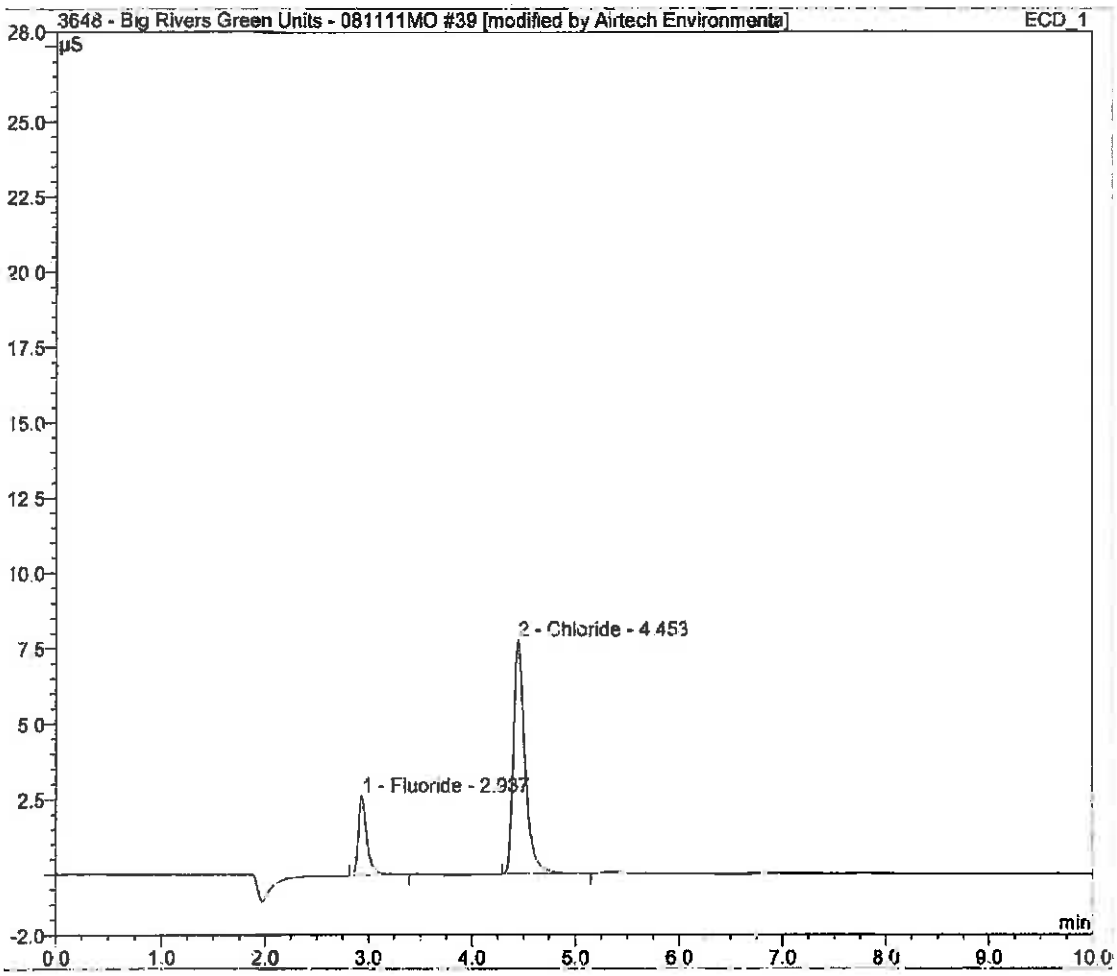
Sample Name:	**Unit 2 ESP Inlet 1 Run 2 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**16.08.11 14:11**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.94	Fluoride	BMB	0.257	2.640	0.2598
2	4.45	Chloride	BMB*	1.032	7.771	1.4869
		TOTAL:		1.29	10.41	1.75



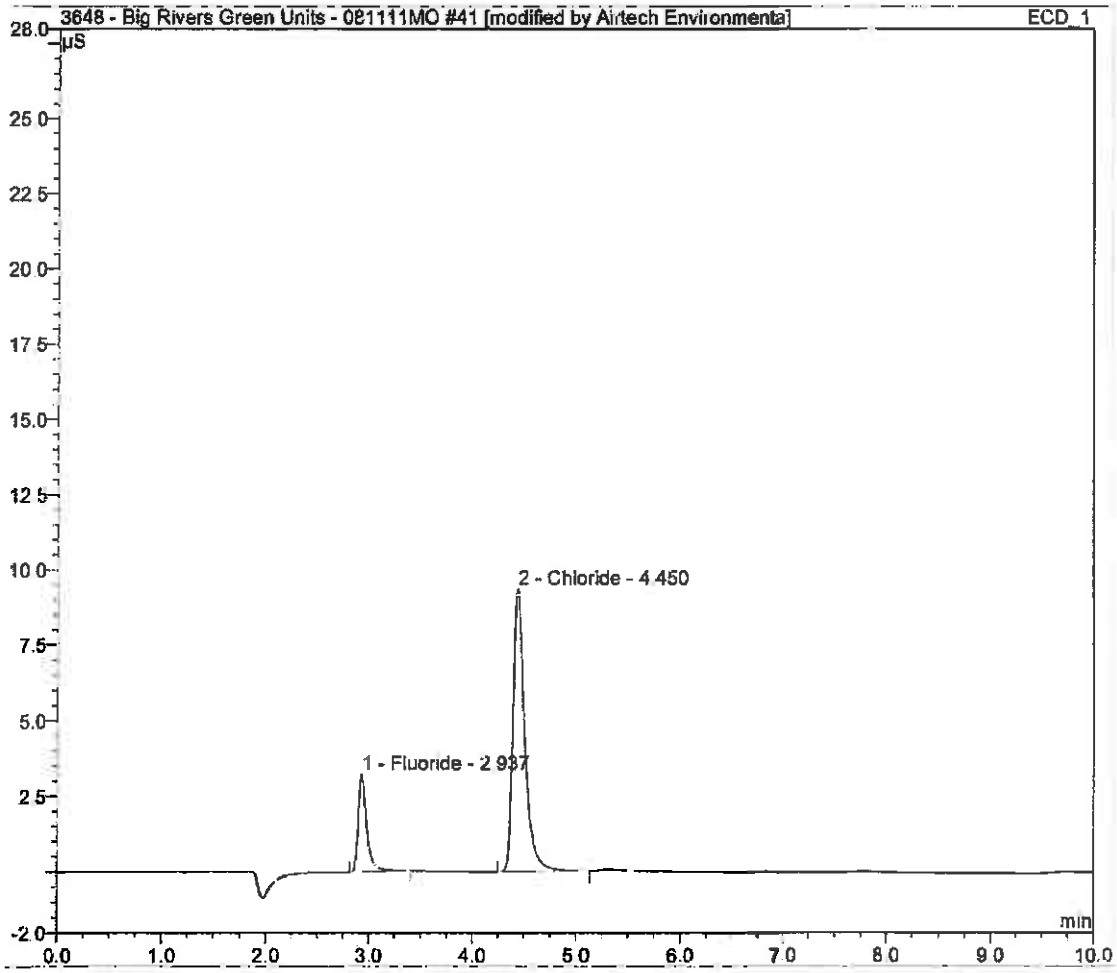
Sample Name:	**Unit 2 ESP Inlet 1 Run 2 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**16.08.11 14:27**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.94	Fluoride	BMB	0.260	2.646	0.2629
2	4.45	Chloride	BMB*	1.033	7.770	1.4894
		TOTAL:		1.29	10.42	1.75



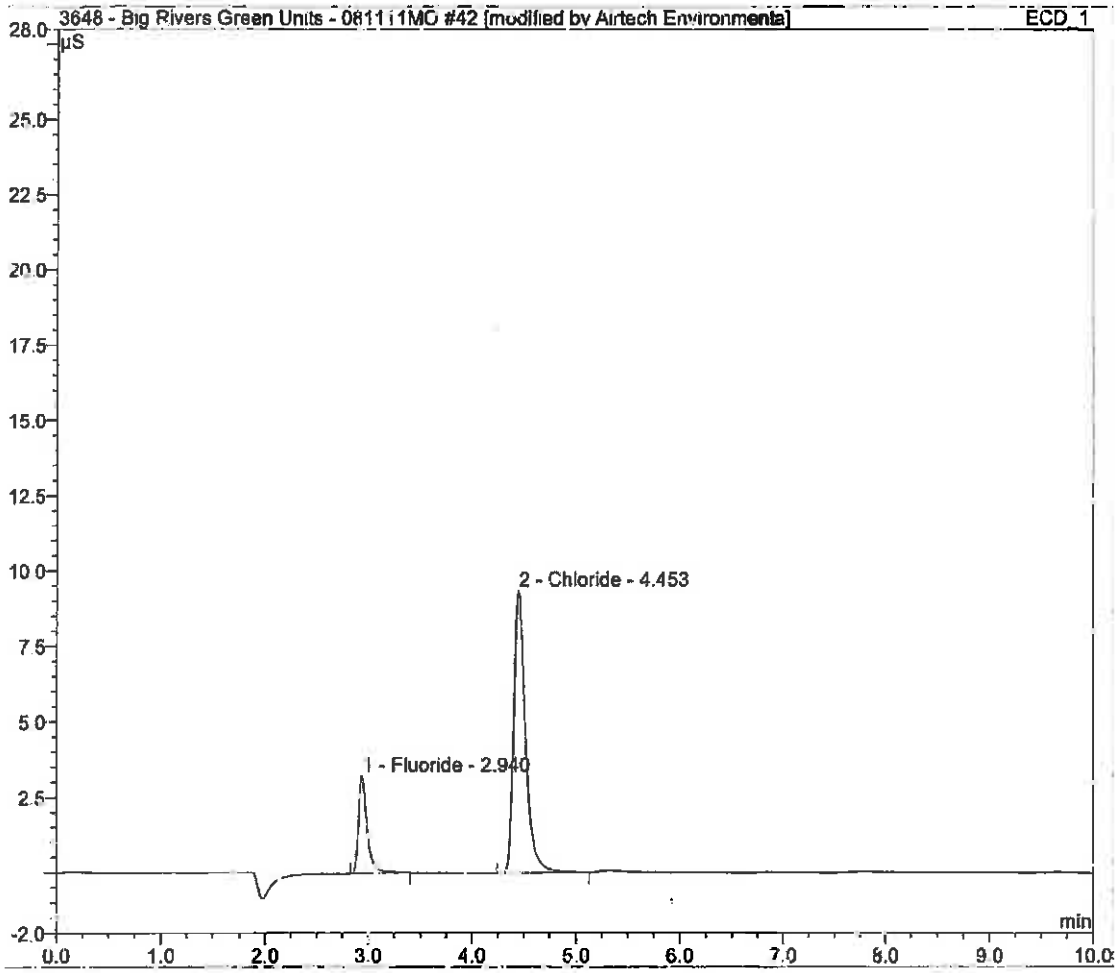
Sample Name:	**Unit 2 ESP Inlet 1 Run 3 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**16.08.11 14:59**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.94	Fluoride	BMB	0.321	3.255	0.3256
2	4.45	Chloride	BMB*	1.240	9.379	1.7871
TOTAL:				1.56	12.63	2.11



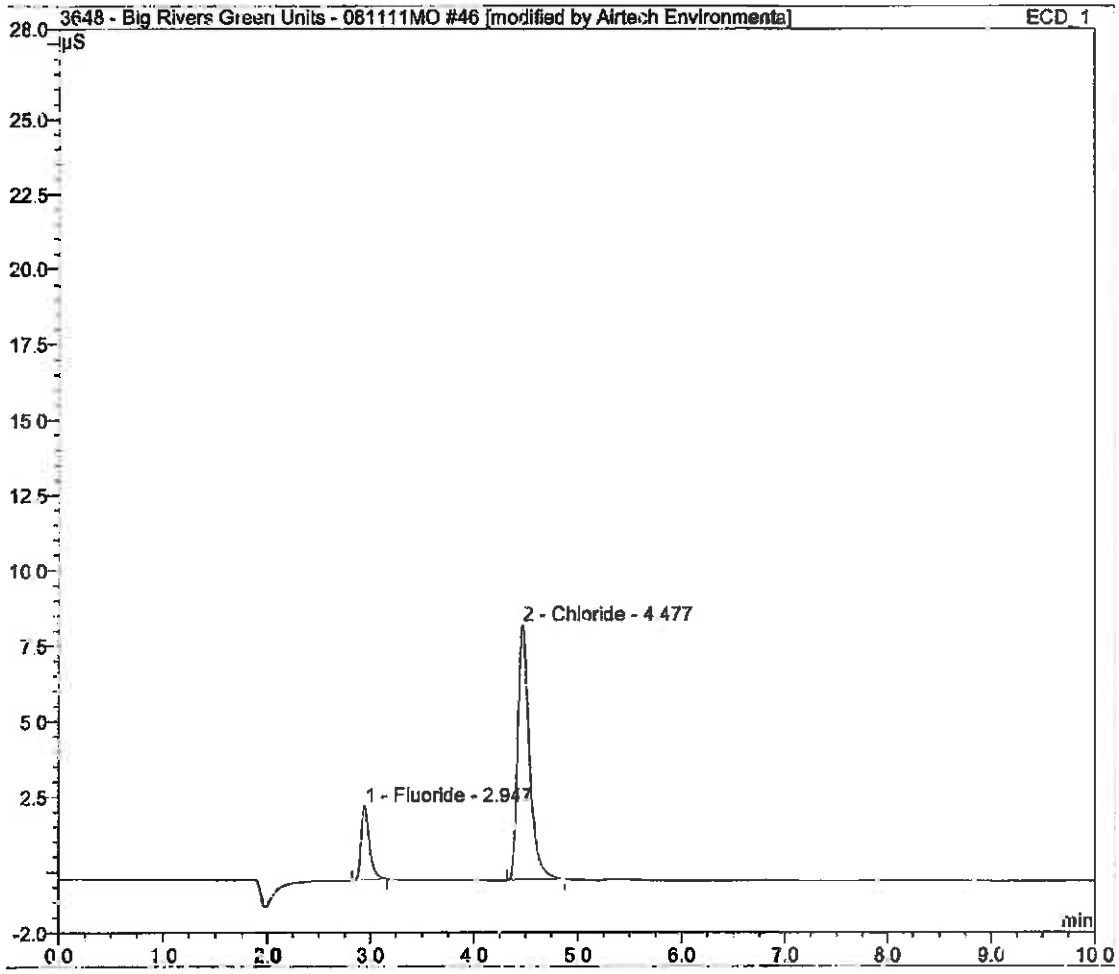
Sample Name:	**Unit 2 ESP Inlet 1 Run 3 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**16.08.11 15:17**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.94	Fluoride	BMB	0.321	3.254	0.3248
2	4.45	Chloride	BMB*	1.242	9.378	1.7903
TOTAL:				1.56	12.63	2.12



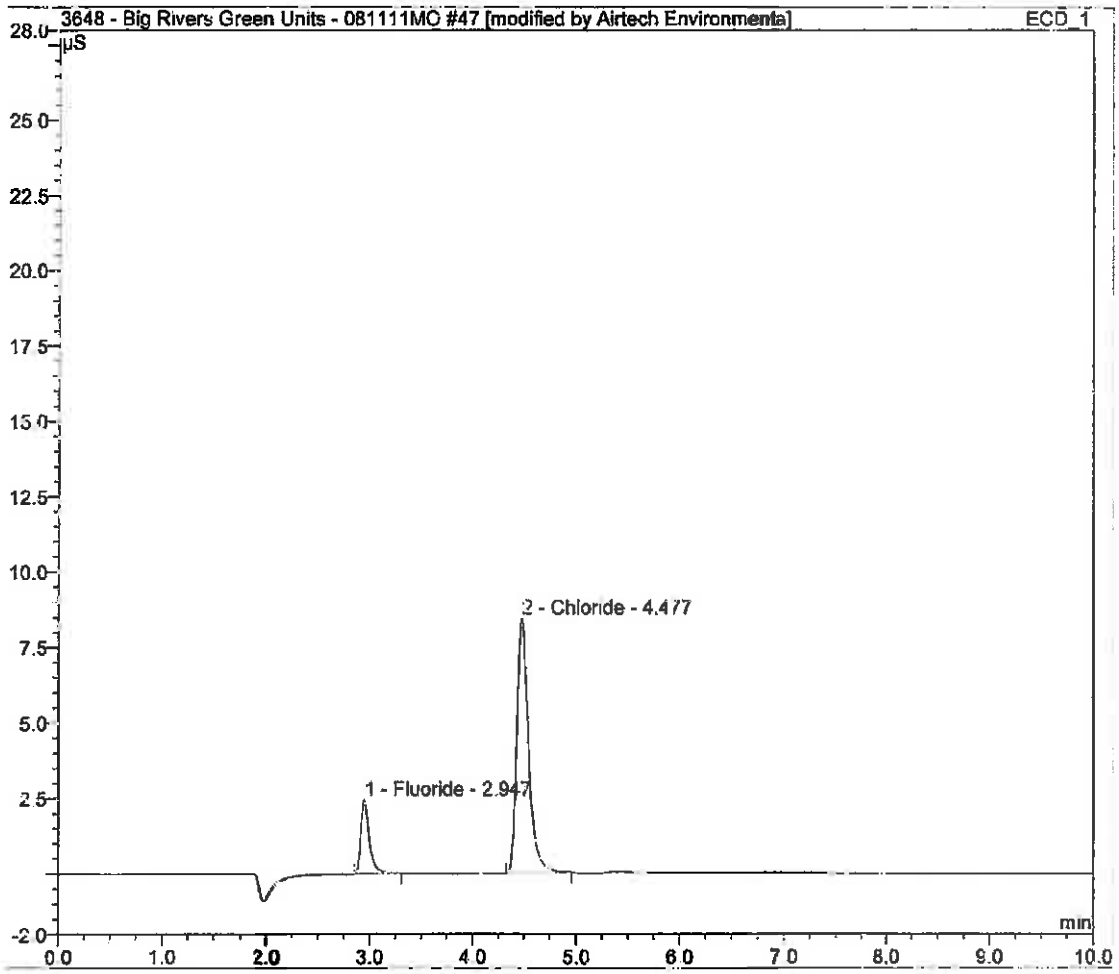
Sample Name:	**Unit 2 ESP Inlet 2 Run 1 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 10:43**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.95	Fluoride	BMB*	0.230	2.463	0.2330
2	4.48	Chloride	BMB*	1.108	8.458	1.5966
TOTAL:				1.34	10.92	1.83



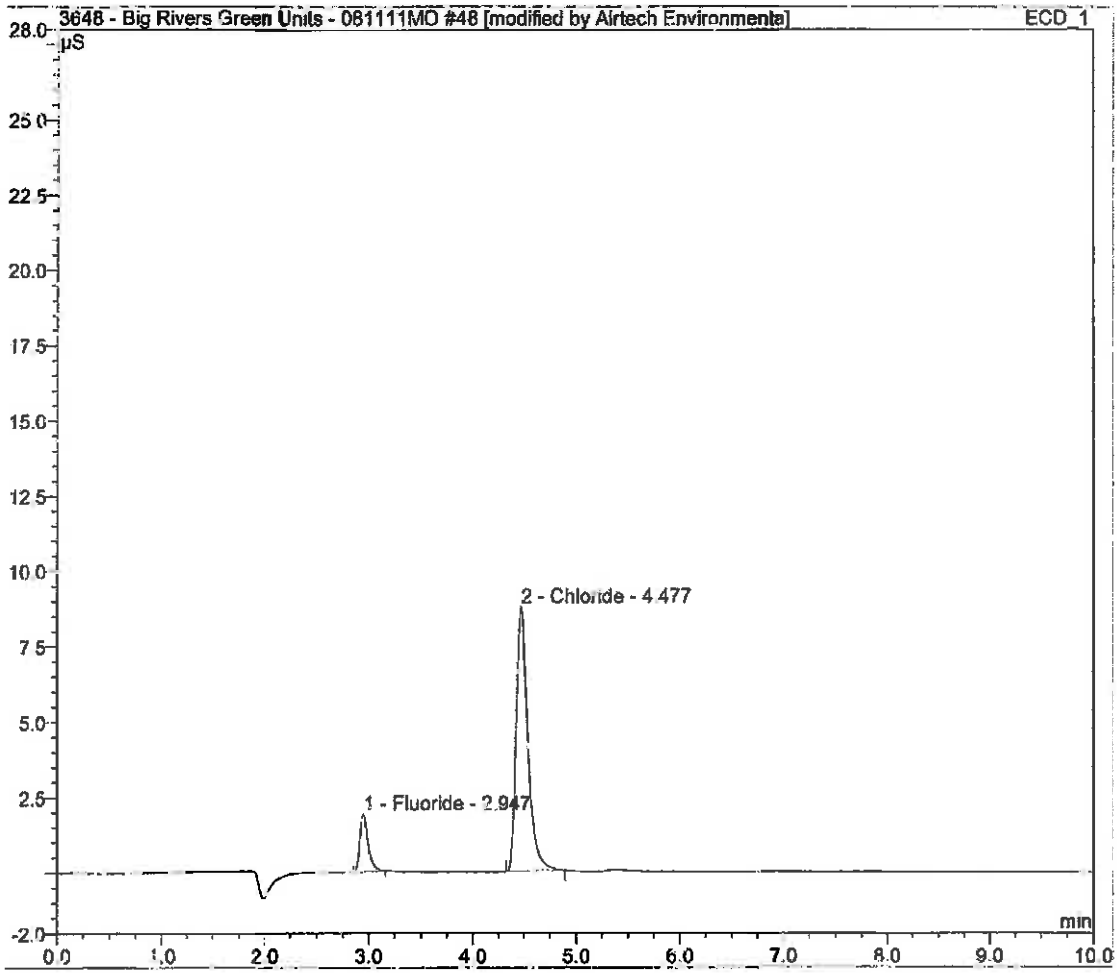
Sample Name:	**Unit 2 ESP Inlet 2 Run 1 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 11:02**	*Run Time:*	**7.92**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.95	Fluoride	BMB*	0.238	2.466	0.2410
2	4.48	Chloride	BMB*	1.111	8.455	1.6012
		TOTAL:		1.35	10.92	1.84



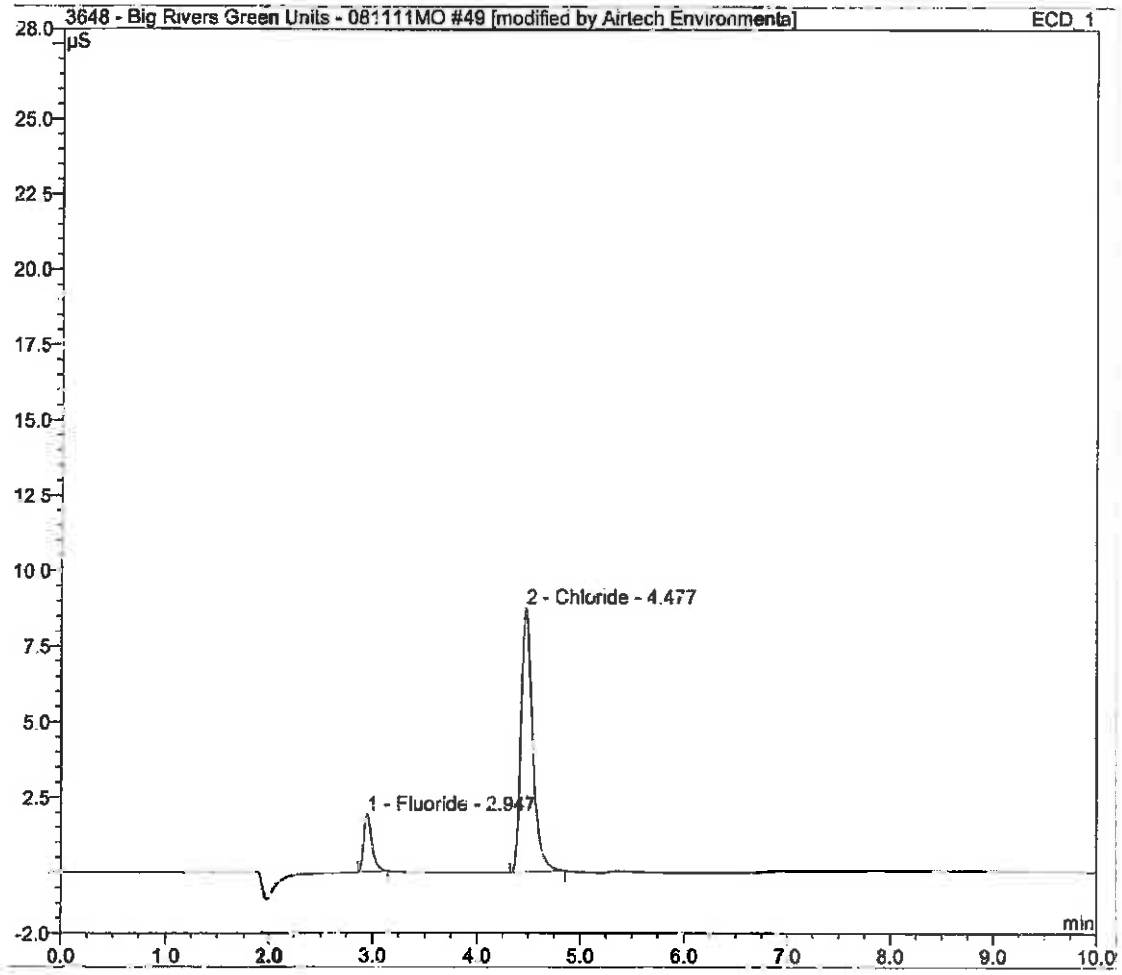
Sample Name:	**Unit 2 ESP Inlet 2 Run 2 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 11:18**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.95	Fluoride	BMB*	0.179	1.924	0.1810
2	4.48	Chloride	BMB*	1.146	8.757	1.6521
TOTAL:				1.32	10.68	1.83



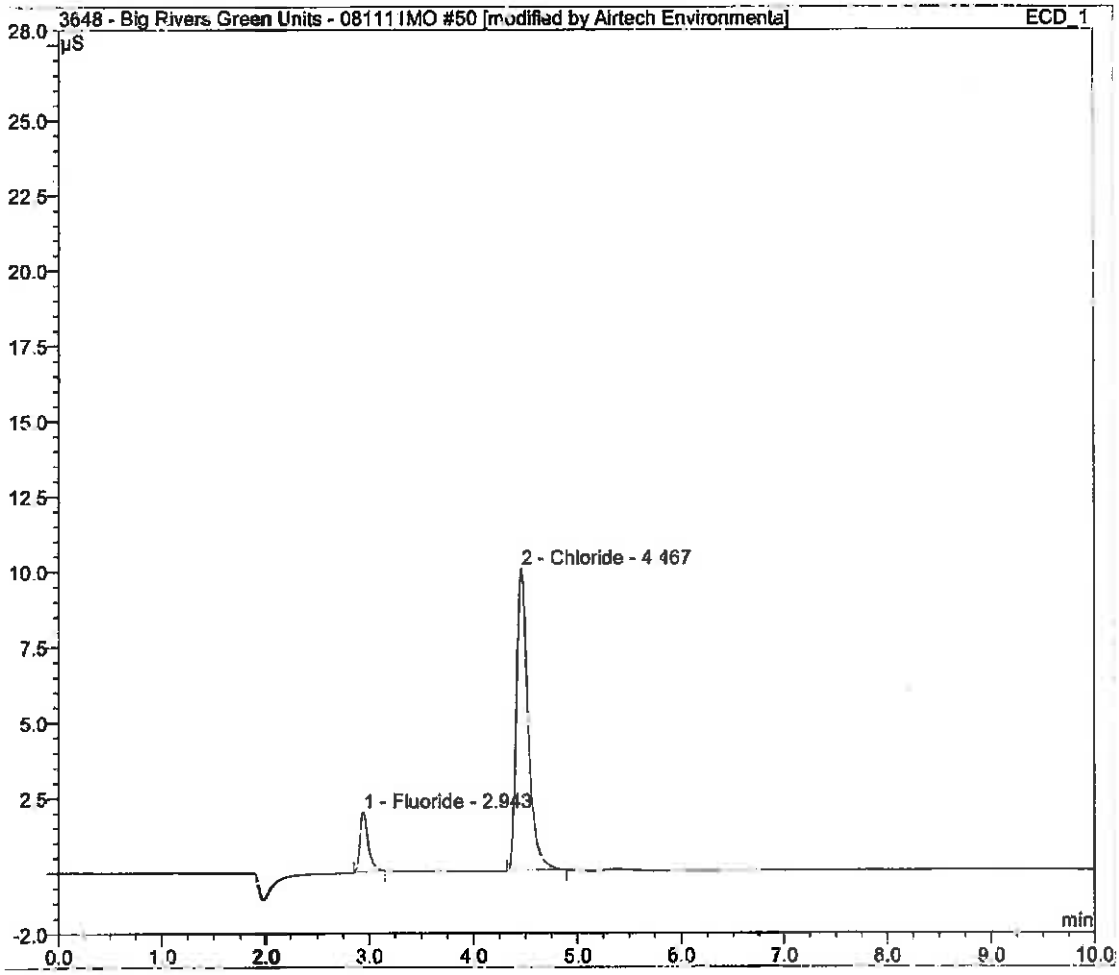
Sample Name:	**Unit 2 ESP Inlet 2 Run 2 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 11:33**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.95	Fluoride	BMB*	0.177	1.922	0.1795
2	4.48	Chloride	BMB*	1.144	8.774	1.6489
TOTAL:				1.32	10.70	1.83



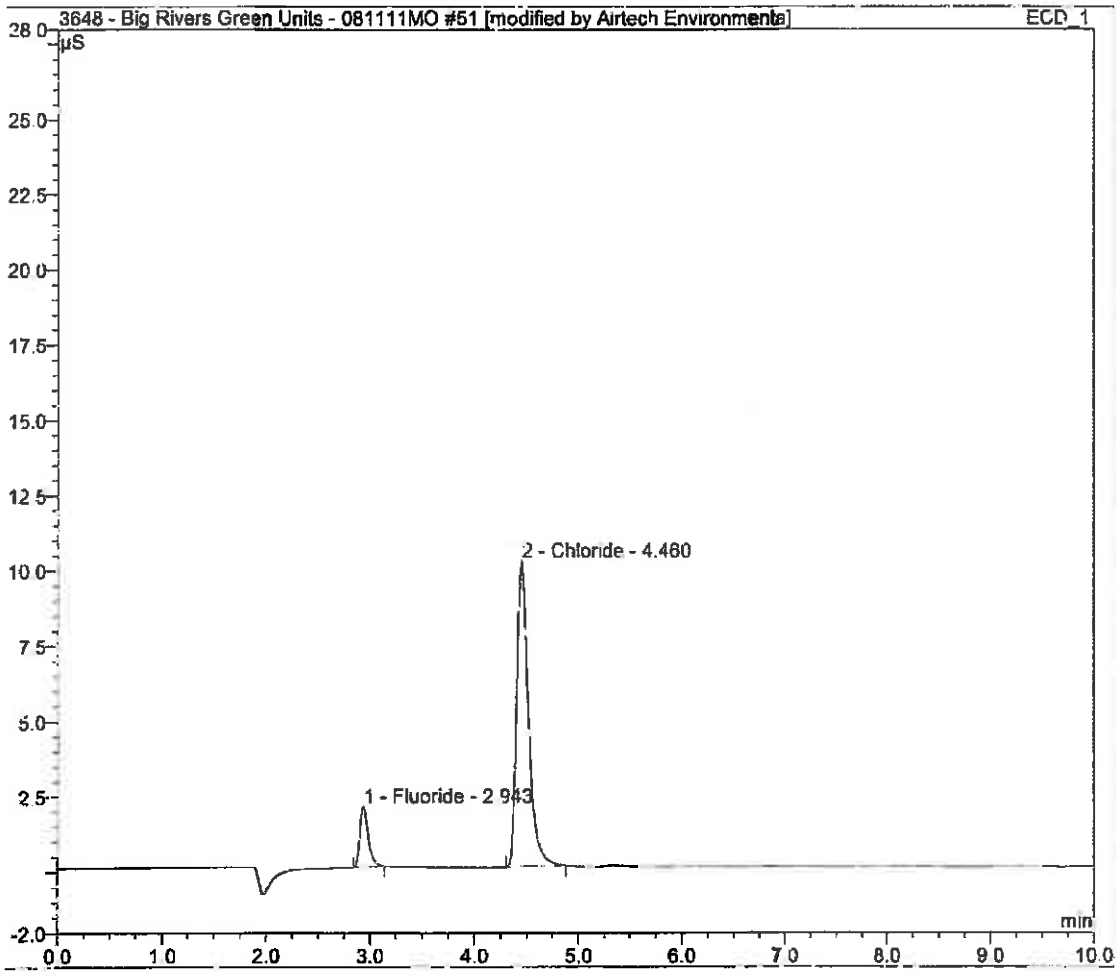
Sample Name:	**Unit 2 ESP Inlet 2 Run 3 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 11:50**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.94	Fluoride	BMB*	0.186	1.995	0.1879
2	4.47	Chloride	BMB*	1.303	10.010	1.8774
TOTAL:				1.49	12.00	2.07



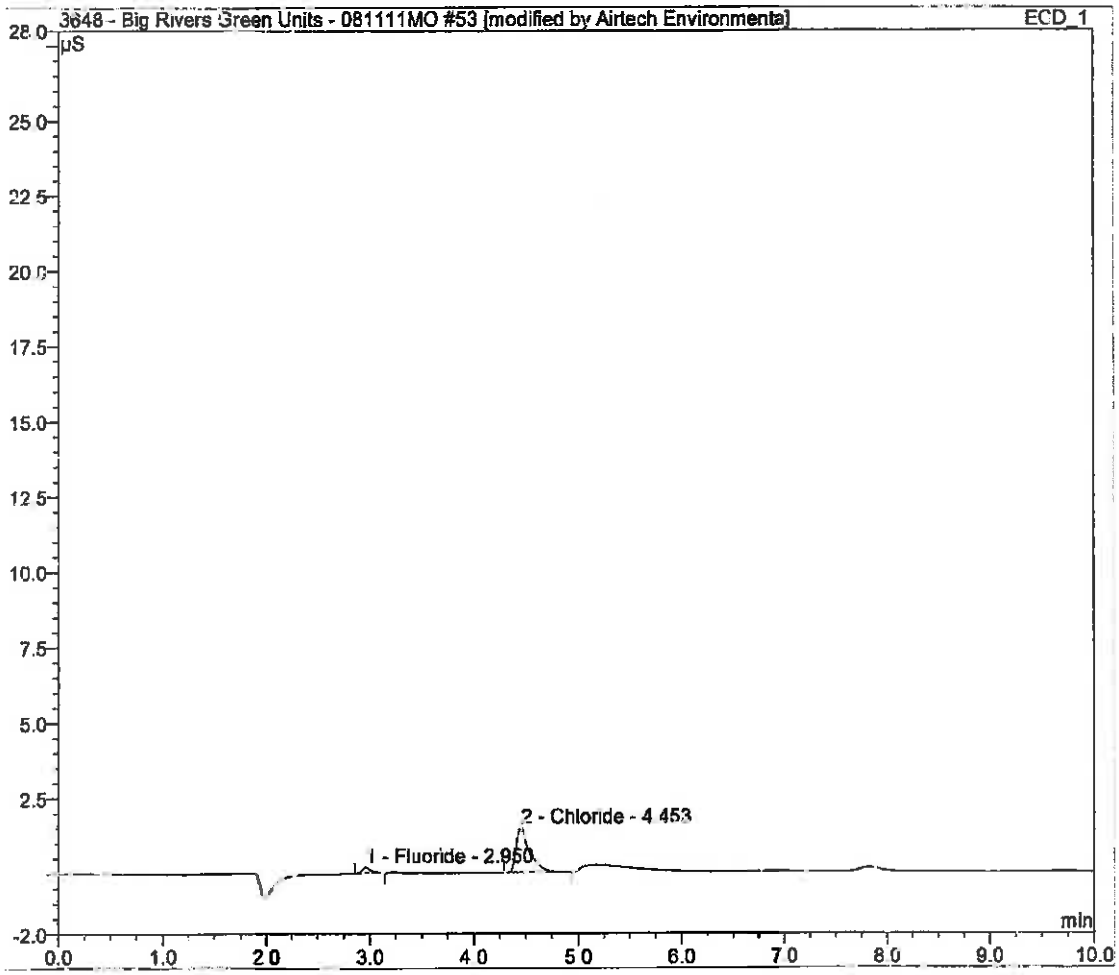
Sample Name:	**Unit 2 ESP Inlet 2 Run 3 - 10x dilution**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 12:25**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.94	Fluoride	BMB*	0.186	2.011	0.1886
2	4.46	Chloride	BMB*	1.317	10.126	1.8977
TOTAL:				1.50	12.14	2.09



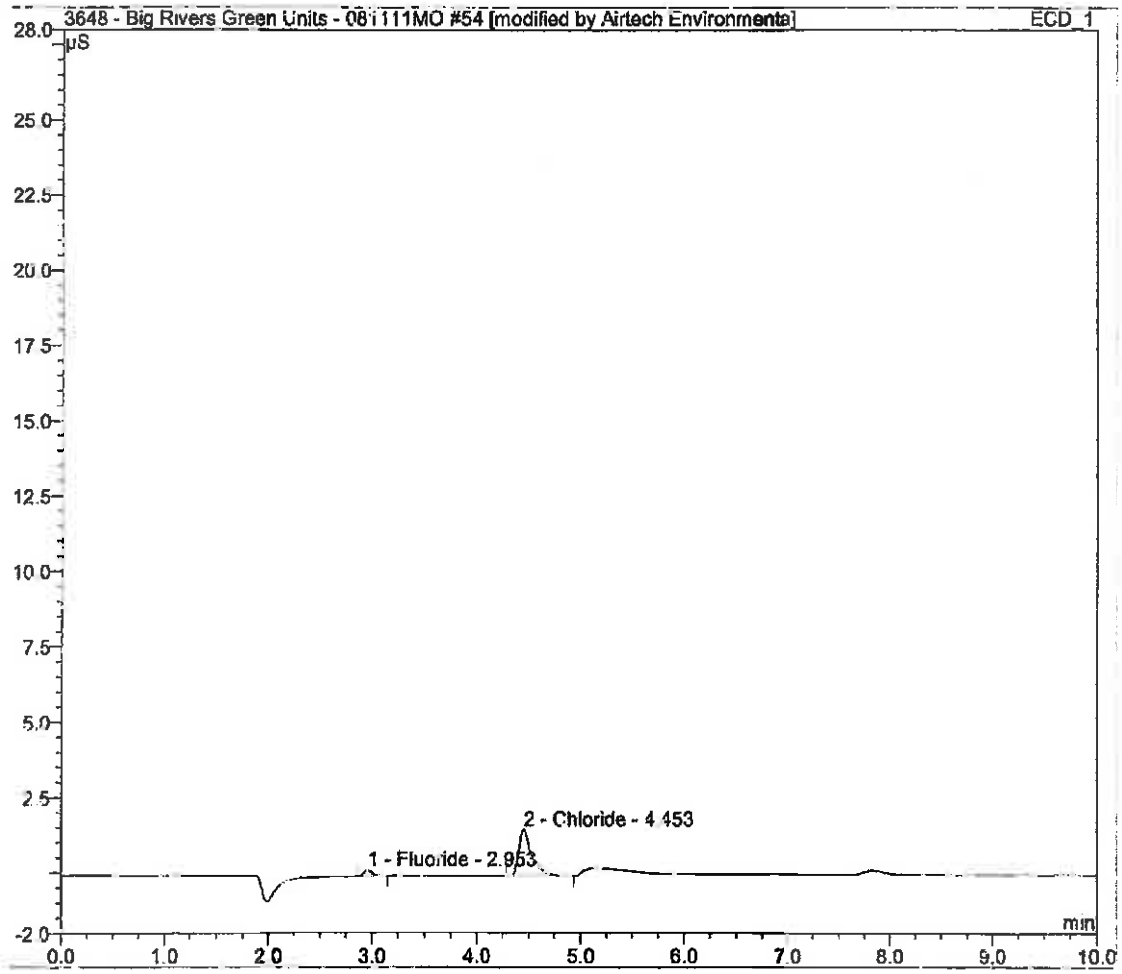
Sample Name:	**Unit 2 Stack Run 1**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 13:36**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.95	Fluoride	BMB	0.020	0.207	0.0205
2	4.45	Chloride	BMB	0.222	1.502	0.3198
		TOTAL:		0.24	1.71	0.34



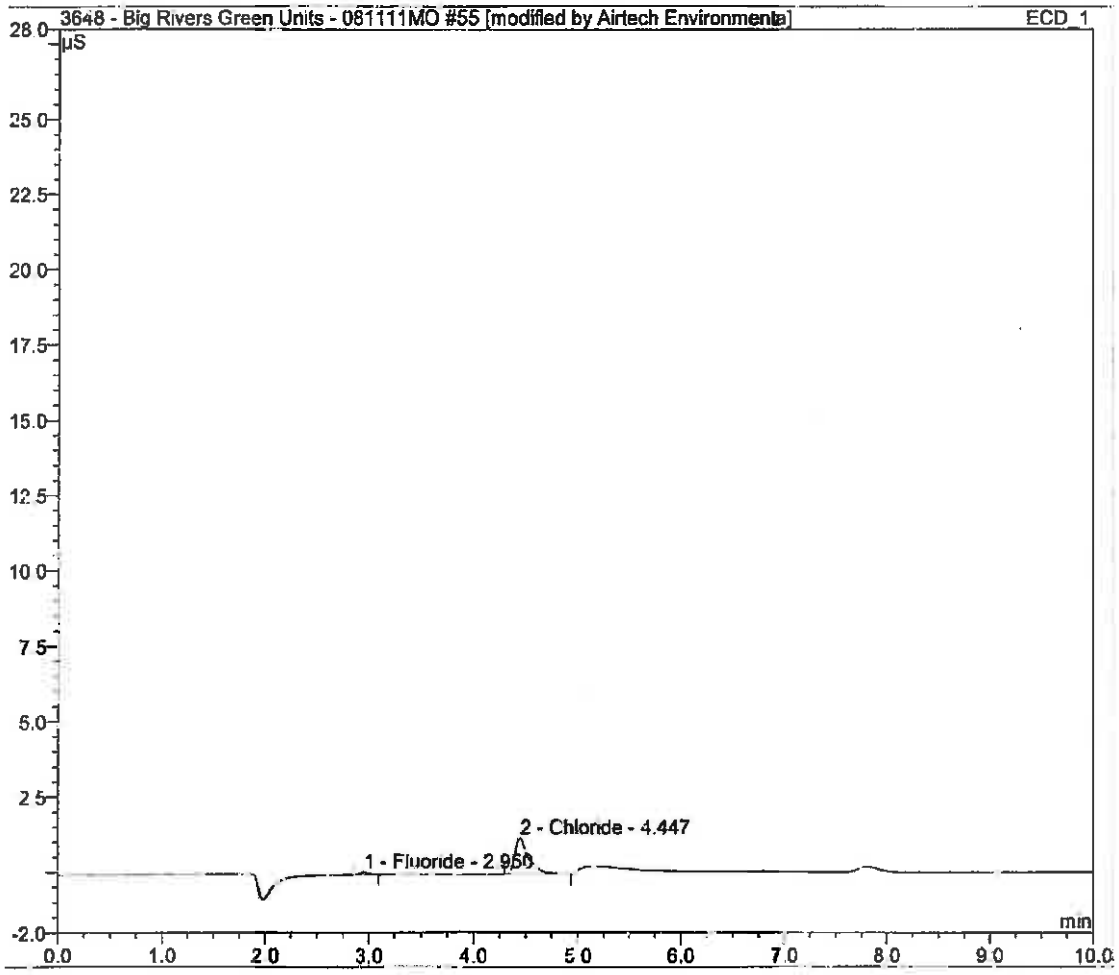
Sample Name:	**Unit 2 Stack Run 1**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 13:52**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.95	Fluoride	BMB	0.021	0.208	0.0209
2	4.45	Chloride	BMB	0.223	1.515	0.3220
		TOTAL:		0.24	1.72	0.34



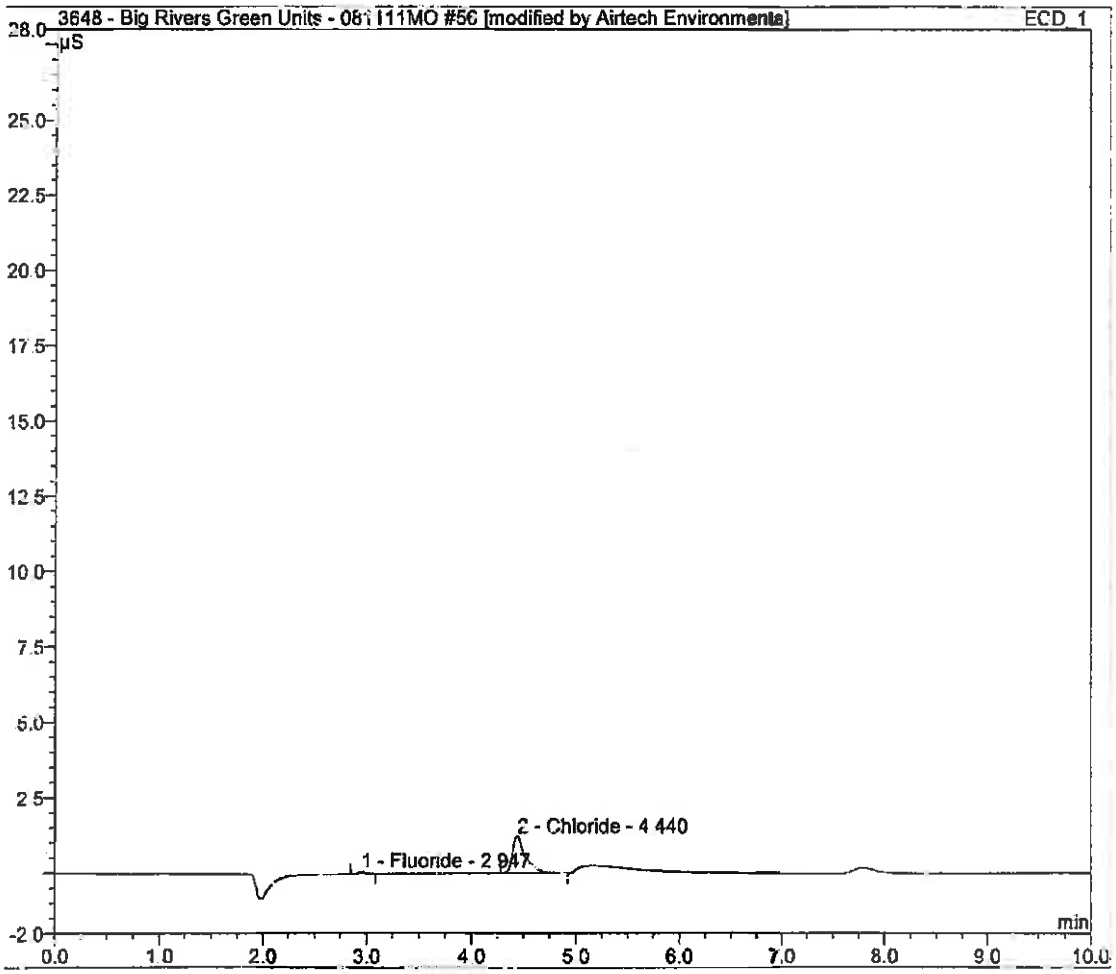
Sample Name:	**Unit 2 Stack Run 2**	*Inj Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 14:11**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.95	Fluoride	BMB*	0.008	0.085	0.0081
2	4.45	Chloride	BMB	0.178	1.200	0.2559
		TOTAL:		0.19	1.28	0.26



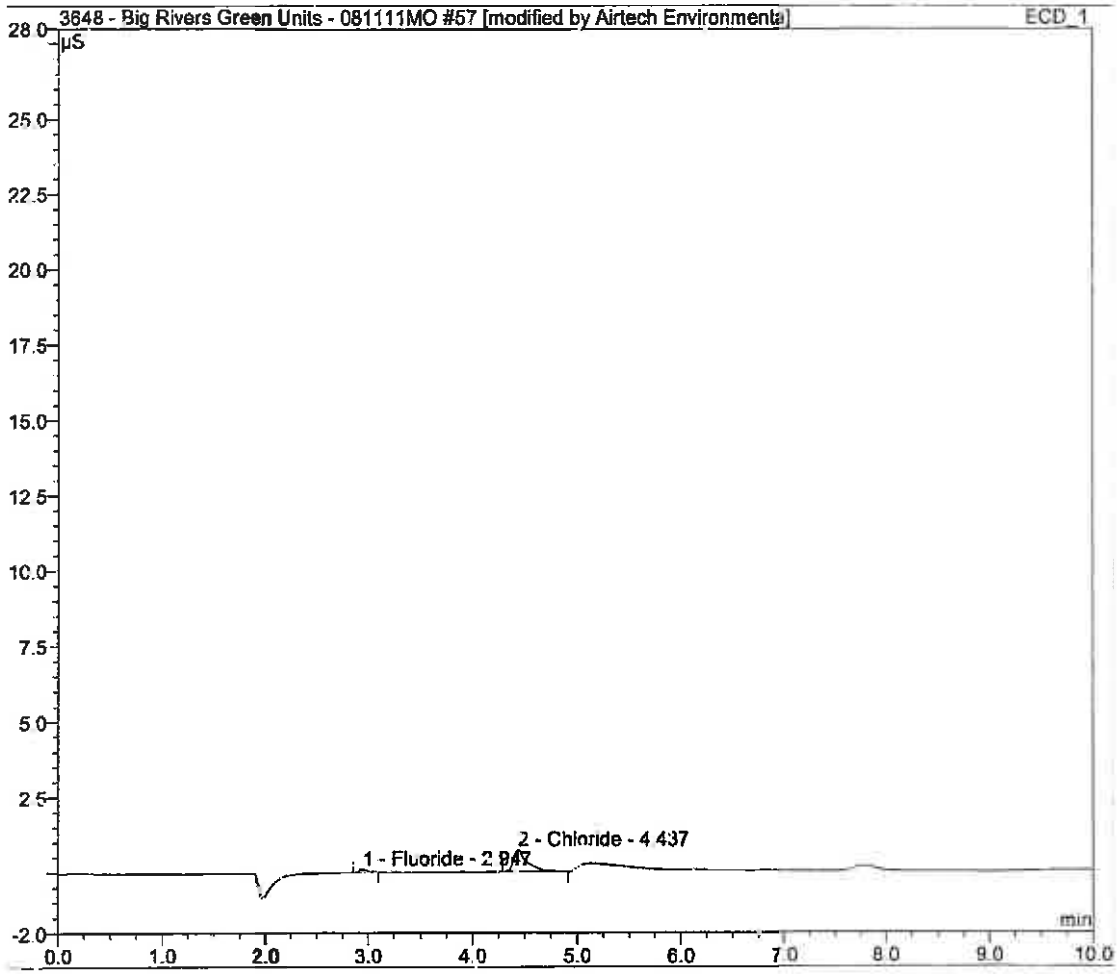
Sample Name:	**Unit 2 Stack Run 2**	*Inj. Vol.:*	**10.0**
Sample Type.	**unknown**	*Dilution Factor*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 14:38**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.95	Fluoride	BMB*	0.008	0.084	0.0079
2	4.44	Chloride	BMB	0.179	1.215	0.2583
		TOTAL:		0.19	1.30	0.27



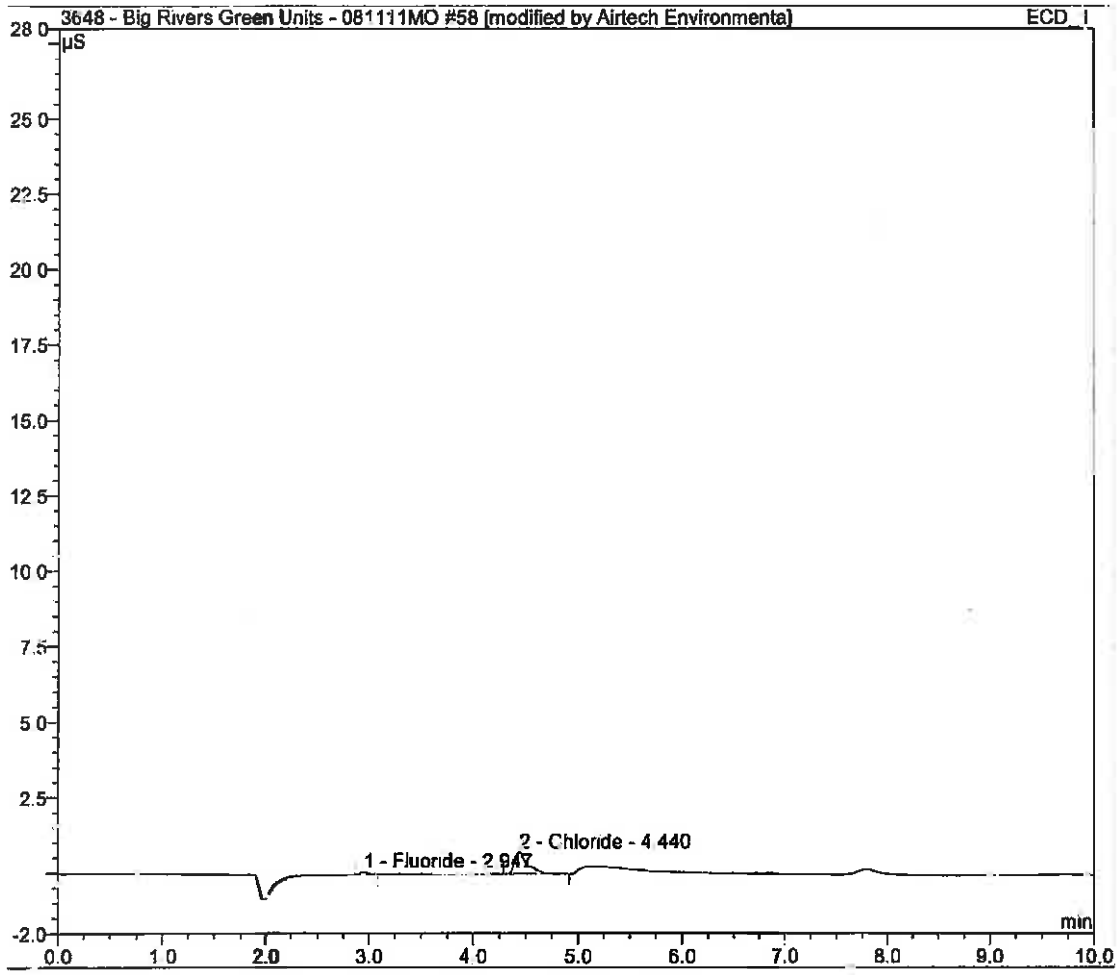
Sample Name:	**Unit 2 Stack Run 3**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time.	**17.08.11 14:54**	*Run Time.*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.95	Fluoride	BMB*	0.009	0.096	0.0092
2	4.44	Chloride	BMB	0.109	0.717	0.1565
		TOTAL:		0.12	0.81	0.17



Sample Name:	**Unit 2 Stack Run 3**	*Inj. Vol.:*	**10.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**ChlorideCal**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.08.11 15:23**	*Run Time:*	**15.00**

No.	Time min	Peak Name	Type	Area µS*min	Height µS	Amount ug/ml
1	2.95	Fluoride	BMB*	0.009	0.094	0.0087
2	4.44	Chloride	BMB	0.109	0.720	0.1569
		TOTAL:		0.12	0.81	0.17



AIRTECH Environmental Services Inc www.airtechenv.com 800 • 941 • 6230

Big Rivers

Green Unit 2 (MW)

	ID		0.1 (ml)
ESP Inlet 1		Run 1	414
		Run 2	438
		Run 3	503
ESP Inlet 2		Run 1	426
		Run 2	461
		Run 3	413
Stack		Run 1	515
		Run 2	521
		Run 3	545
Reagent Blank			490

dilution / 1 mL Sample / 9 mL DI

Chain of Custody

Includes the following:

- **Field Chain of Custody**

AIRTECH ENVIRONMENTAL SERVICES INC.

Chain of Custody

Project Number	3648	Location	Common Stack
Client	Big Rivers Energy	Date	8/2/2011
Plant	Green Unit 2	Completed By	ML

The following samples consist of the impinger contents and a 0.1N H_2SO_4 rinse.

Use RB From Unit 1, Same reyent used on Both Units

Analysis Requested

Page 1 of 1

ID No.	Run No.	Date	Sample Description	HCl	HF						Number of Containers	Notes
R1-26A-IMP	1		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26A-IMP	2		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26A-IMP	3		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	

Relinquished By (signature)		Relinquished By (signature)		Carrier	FedEx
(printed)	Matt Libman	(printed)		Laboratory	Airtech Env.
Date/Time	8-2-11 1005	Date/Time		Contact	Michael Olgetree
Accepted By (signature)		Accepted By (signature)		Address	Denver, CO
(printed)	Michael Olgetree	(printed)		Phone	
Date/Time	8/2/11	Date/Time		Fax	
				Date/Time	

AIRTECH Environmental Services Inc.

Airtech Environmental Services Inc.
601A Country Club Drive
Bensenville, IL 60106
Phone: (630) 860-4740, Fax: (630) 860 4745

AIRTECH ENVIRONMENTAL SERVICES INC.

Chain of Custody

Project Number	3648	Location	Inlet Unit 1A
Client	Big Rivers Energy	Date	8/2/2011
Plant	Green Unit 2	Completed By	ML

The following samples consist of the impinger contents and a 0.1N H_2SO_4 rinse.

Analysis Requested

Page 1 of 1

ID No.	Run No.	Date	Sample Description	HCl	HF						Number of Containers	Notes
R1-26-IMP	1		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26-IMP	2		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26-IMP	3		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	

Relinquished By (signature)		Relinquished By (signature)		Carrier	FedEx
(printed)	Matt Libman	(printed)		Laboratory	Airtech Env.
Date/Time	8-2-11 10 00	Date/Time		Contact	Michael Olgetree
Accepted By (signature)		Accepted By (signature)		Address	Denver, CO
(printed)	Michael Olgetree	(printed)		Phone	
Date/Time	8/9/11	Date/Time		Fax	
				Date/Time	

AIRTECH Environmental Services Inc.

Airtech Environmental Services Inc
601A Country Club Drive
Bensenville, IL 60106
Phone: (630) 860-4740, Fax: (630) 860 4745

AIRTECH ENVIRONMENTAL SERVICES INC.
Chain of Custody

Project Number	3648	Location	Inlet Unit 1B	Page	1 of 1
Client	Big Rivers Energy	Date	8/2/2011		
Plant	Green Unit 2	Completed By	ML		

The following samples consist of the impinger contents and a 0.1N H_2SO_4 rinse.

ID No.	Run No.	Date	Sample Description	HCl	HF						Number of Containers	Notes
R1-26-IMP	1		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26-IMP	2		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26-IMP	3		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	

Relinquished By (signature)		Relinquished By (signature)		Carrier	FedEx
(printed)	Matt Libman	(printed)		Laboratory	Airtech Env.
Date/Time	8-2-11 1006	Date/Time		Contact	Michael Olgetree
Accepted By (signature)		Accepted By (signature)		Address	Denver, CO
(printed)	Michael Olgetree	(printed)		Phone	
Date/Time	8/2/11	Date/Time		Fax	
				Date/Time	

AIRTECH Environmental Services Inc.

Airtech Environmental Services Inc.
601A Country Club Drive
Bensenville, IL 60106
Phone: (630) 860-4740, Fax: (630) 860 4745

AIRTECH ENVIRONMENTAL SERVICES INC.
Chain of Custody

Project Number	3648	Location	Common Stack	Page	1 of 1
Client	Big Rivers Energy	Date	8/2/2011		
Plant	Green Unit 1	Completed By	ML		

The following samples consist of the Impinger contents and a 0.1N H_2SO_4 rinse. There is also a reagent blank for the entire project included.

ID No.	Run No.	Date	Sample Description	HCl	HF						Number of Containers	Notes
~~R1-26A-IMP~~	1		~~Impinger Contents and 0.1N H_2SO_4 Rinse~~	x	x						1	
~~R1-26A-IMP~~	2		~~Impinger Contents and 0.1N H_2SO_4 Rinse~~	x	x						1	
~~R1-26A-IMP~~	3		~~Impinger Contents and 0.1N H_2SO_4 Rinse~~	x	x						1	
RB-0.1N H_2SO_4	RB		0.1N H_2SO_4 Reagent Blank	x	x						1	

Relinquished By (signature)		Relinquished By (signature)		Carrier	FedEx
(printed)	Matt Libman	(printed)		Laboratory	Airtech Env.
Date/Time	8-2-11 1004	Date/Time		Contact	Michael Olgetree
Accepted By (signature)		Accepted By (signature)		Address	Denver, CO
(printed)	Michael Olgetree	(printed)		Phone	
Date/Time	8/9/11	Date/Time		Fax	
				Date/Time	

AIRTECH Environmental Services Inc.

Airtech Environmental Services Inc.
601A Country Club Drive
Bensenville, IL 60106
Phone: (630) 860-4740 Fax: (630) 860 4745

Airtech Environmental Services, Inc.

601A Country Club Drive
Bensenville, IL 60106

Project Number: 3648

Antimony, Arsenic, Beryllium, Cadmium,
Chromium, Cobalt, Lead, Manganese,
Nickel and Selenium

EPA Method 29 Analysis

Analytical Report
17133

el1

Element One, Inc.
5022-C Wrightsville Av., Wilmington, NC 28403
910-793-0128 FAX: 910-792-6853 e1lab@e1lab.com

The following data for Analytical Report 17133
has been reviewed for completeness, accuracy,
adherence to method protocol,
and compliance with quality assurance guidelines.

Review by:

Dolores Bradshaw
August 19, 2011

Report Reviewed and Finalized By:

Ken Smith, Laboratory Director
August 19, 2011

SUMMARY OF RESULTS

Summary of Analysis

Front Half – Common Stack - Summary of Method 29 Metals Analysis

Element	Common Stack-R1 e17133-1 FH Total µg	Common Stack-R2 e17133-2 FH Total µg	Common Stack-R2 e17133-2 FH dup Total µg	Common Stack-R3 e17133-3 FH Total µg	Reagent Blank e17133-4 FH Total µg
Antimony	0.316	0.281	0.289	1.32	< 0.1
Arsenic	6.67	4.57	4.18	3.10	< 0.1
Beryllium	0.085	0.052	0.053	0.044	< 0.025
Cadmium	0.256	0.139	0.141	0.141	< 0.1
Chromium	3.68	2.46	2.59	5.73	2.17
Cobalt	0.293	0.165	0.171	0.169	< 0.1
Lead	4.33	2.37	2.39	1.81	0.197
Manganese	12.1	4.10	4.30	4.56	4.97
Nickel	4.39	3.31	3.40	5.90	1.17
Selenium	91.2	76.3	77.6	53.3	< 0.1

Back Half – Common Stack - Summary of Method 29 Metals Analysis

Element	Common Stack-R1 e17133-1 BH Total µg	Common Stack-R2 e17133-2 BH Total µg	Common Stack-R2 e17133-2 BH dup Total µg	Common Stack-R3 e17133-3 BH Total µg	Reagent Blank e17133-4 BH Total µg
Antimony	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Arsenic	0.587	0.877	0.854	0.960	< 0.1
Beryllium	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
Cadmium	< 0.1	1.161	1.099	< 0.1	< 0.1
Chromium	0.810	2.07	1.98	1.33	0.559
Cobalt	< 0.1	< 0.1	< 0.1	< 0.1	0.177
Lead	0.459	0.988	0.971	0.818	0.372
Manganese	1.95	3.50	3.42	2.75	1.41
Nickel	0.887	1.74	1.69	1.95	0.313
Selenium	19.5	26.9	25.6	26.2	< 0.1

ANALYTICAL NARRATIVE

Element One Analytical Narrative

Client:	Airtech Environmental Services, Inc.	Element One #:	17133
Client ID:	3648/Big Rivers Energy – Green Unit 2	Analyst:	DBW
Method:	Method 29	Dates Received:	08/05/11
Analytes:	Sb, As, Be, Cd, Cr, Co, Pb, Mn, Ni & Se	Dates Analyzed:	08/08-11/11

Summary of Analysis

The Method 29 samples were digested, prepared, and analyzed according to Method 29 protocol. Samples were analyzed for metals using a PerkinElmer ELAN 6100 ICP-MS.

Detection Limits

The ICP-MS instrument reporting limits were 0.25µg/L for beryllium and 1.0µg/L for the other metals.

Analysis QA/QC

Duplicate analyses relative percent difference (RPD), spike sample recovery, and second source calibration verification data are summarized in the Quality Control Section.
*Ref page 8: The beryllium spike recovery for the back half fraction of Common Stack-Run 3 was outside of the ±25% laboratory guidelines with a 74% recovery. The sample was analyzed at a two-fold dilution resulting in a spike recovery of 87%; indicating matrix interference. The sample was non-detect, therefore this should have no significant impact on the results.
All other QA/QC data was within the criteria of the method.

Additional Comments

The reported results have not been corrected for any blank values or spike recovery values. The ICP analysis of the Reagent Blank samples revealed detectable concentrations of metals, subsequent analyses produced equivalent results.

QUALITY CONTROL SUMMARY

Summary of Quality Control Data

Metals Duplicate Analysis RPD

(Method 29 QC limits: < 20% for RPD)

Element	Common Stack-R2 Front Half RPD	Common Stack-R2 Back Half RPD
Antimony	2.6%	NA
Arsenic	8.9%	2.8%
Beryllium	0.9%	NA
Cadmium	1.6%	5.5%
Chromium	5.4%	4.7%
Cobalt	3.4%	NA
Lead	1.0%	1.6%
Manganese	4.8%	2.5%
Nickel	2.5%	2.9%
Selenium	1.6%	5.1%

Metals Analysis Spike Recoveries

(Method 29 QC limits: ±25% for Spike Recoveries)

Element	Common Stack-R3 Front Half Recovery	Common Stack-R3 Back Half Recovery
Antimony	92%	91%
Arsenic	81%	75%
Beryllium	82%	*74%
Cadmium	81%	77%
Chromium	100%	122%
Cobalt	104%	104%
Lead	91%	98%
Manganese	104%	109%
Nickel	99%	103%
Selenium	87%	102%

*See Analytical Narrative, page 6.

Summary of Quality Control Data

Second Source Calibration Check Recoveries

(Method 29 QC limits: ±10% for Second Source Continuing Check Standard)*

Element	0.25 ppb	1 ppb	50 ppb	100 ppb*	250 ppb
Antimony		113%	101%	104%	100%
Arsenic		105%	96%	105%	97%
Beryllium	122%	113%	98%	106%	99%
Cadmium		113%	101%	106%	100%
Chromium		114%	100%	104%	98%
Cobalt		112%	101%	106%	99%
Lead		107%	103%	103%	100%
Manganese		105%	100%	103%	97%
Nickel		62%	102%	107%	99%
Selenium		109%	96%	109%	97%

SAMPLE CUSTODY

AIRTECH ENVIRONMENTAL SERVICES INC.
Chain of Custody

17133

Project Number	3648	Location	Common Stack
Client	Big Rivers Energy	Date	8/2/2011
Plant	Green Unit 2	Completed By	ML

The following samples consist of a front half 0.1N HNO3 rinse, a quartz filter and the impinger catch and DI rinse

Analysis Requested: Metallic HAPs

Page 1 of 1

ID No.	Run No.	Date	Sample Description	Metallic HAPs	Number of Containers	Notes
29-R1-HNO	1		FH Rinse of 0.1N HNO_3	x	1	
29-R2-HNO	2		FH Rinse of 0.1N HNO_3	x	1	
29-R3-HNO	3		FH Rinse of 0.1N HNO_3	x	1	
29-R1-FIL	1		Quartz Filter	x	1	
29-R2-FIL	2		Quartz Filter	x	1	
29-R3-FIL	3		Quartz Filter	x	1	
29-R1-5%/10%	1		Imp catches and rinses	x	1	
29-R2-5%/10%	2		Imp catches and rinses	x	1	
29-R3-5%/10%	3		Imp catches and rinses	x	1	

Relinquished By (signature)		Relinquished By (signature)	David DeVries	Carrier	
(printed)	Matt Libman	(printed)	David DeVries	Laboratory	
Date/Time		Date/Time	8-5-11 4:09	Contact	
Accepted By (signature)		Accepted By (signature)	Lisa Barton	Address	
(printed)		(printed)	Lisa Barton	Phone	
Date/Time		Date/Time	8-5-11 1609	Fax	
				Date/Time	

Samples received in good condition. No empty containers.

AIRTECH Environmental Services Inc.

Airtech Environmental Services Inc.
501A Country Club Drive
Bensenville, IL 60106
Phone: (630) 860-4740, Fax: (630) 860 4746

ANALYTICAL DATA

Analytical Calculations

Metals-

Element Results (µg) =ICP Results (µg/L)*Dilution*Final Volume (L)

Where-

ICP Results= Raw sample concentration (ppb)--*ICP-Data Sheet*

Dilution= Diluted Volume--*ICP-MS Run Sheet*
Aliquot

Final Volume=FH=Final Volume (FV)--*Sample Submission*
BH=Received Volume (BV).*Final Volume (FV)--*Sample Submission*
Aliquot (Used)
Combined Results=FH+BH

Analytical Calculations

Spike Recovery-

$$\textbf{Spike (\%)} = \frac{\textbf{(Spiked Result (µg/L) – Sample Result (µg/L))}}{\textbf{Spike Amount (µg/L)}} \quad \textbf{X100}$$

Where-

Spike Result = Raw sample concentration (ppb)--*ICP-Data Sheet*

Sample Result = Raw sample concentration (ppb)--*ICP-Data Sheet*

Spike Amount--*ICP-MS Spike Table*

Duplicate Analysis RPD-

$$\textbf{RPD (\%)} = \frac{\textbf{(Duplicate Result (µg/L) - Sample Result (µg/L))}}{\textbf{Average (µg/L)}} \quad \textbf{X100}$$

Where-

Sample Result and Duplicate Results=Raw sample concentration (ppb)--*ICP-Data Sheet*

$$\text{Average} = \frac{\textit{(Duplicate + Sample Results)}}{2}$$

elementOne **AIR TESTING SAMPLE SUBMISSION FORM** **Lab ID 17133**

FH / BH Separate Analysis

Analysis Due Date 08.15.11
QA/QC/Report Due Date 08.17.11

Client	Airtech Environmental Services, Inc.
Project No	3648
Project ID	Big Rivers Energy – Green Unit 2

Date Rec	08.05.11
Time Rec	1609
Rec by	LLB

HNO_3 Lot: 50322	HF Lot: 511c490	HCl Lot: 51035	**Ref. Method: 29**
Volume Marked (Y) N	Volume Loss Y / (N) / ?		

Sample Identification

1	Common Stack-M29-R1	4	Reagent Blank		
2	Common Stack-M29-R2				
	Common Stack-M29-R2 Duplicate				
3	Common Stack-M29-R3				
	Common Stack-M29-R3 Spike				

Analyses Requested: Samples 1-4 (Sb) As, Be, Cd, Cr, Co, Pb, Mn, Ni, Se

Runs / FB	Fil / Ace (FH) pH <2.0 Y / N		HNO_3 (FH) pH <2.0 (Y) N		5% HNO_3/10% H_2O_2 (BH) pH <2.0 (Y) N			HNO_3 (A) pH <2.0 Y / N		$KMnO_4$ (B) pH <2.0 Y / N		HCl © pH <2.0 Y / N	
Lab ID	Fil ID	BV ml	BV ml	FV ml	BV ml	Used	FV ml	BV ml	FV ml	BV ml	FV ml	BV ml	FV ml
1			100	100	476	235	50						
2.D			75	↓	500	250	↓						
3.S			75	↓	500	250	↓						

M-29 Reagent Blank

Lab ID	Fraction			BV, ml	FV, ml	Comments
4	C-7	FH	Acetone Blank			
	C-8A	FH	0.1N HNO_3	250	100	used 100
	C-8A	A	0.1N HNO_3			
	C-8B	B	DI H_2O			
	C-9	BH	5% HNO_3/10% H_2O_2	240	50	used 120
	C-10	B	4% $KMnO_4$/10%H_2SO_4			
	C-11	C	8N HCl DI H_2O			
	C-12-1	FH	Filter			

Lab Communications

LLB+: spiked FH w/ 240 µL of 25 ppm standard A,B (lot 32141 - A,B); BM 100 µL

Did not receive RB Filter. Per Jim via phone 08.05.11, he will ship on 08.08.11—LLB Rec 8-8-11@ 1145 via fedex PDS

NOTE—Run RB from job e17130

Fractions Received: C1, C3, C4—RB, C12, C8a, C9—LLB 08.05.11

SS Page1 of 1
8/5/2011 4:36:40 PM
SS By JMB
Labeled By/Date JMH 8/8/11

FH Prep By/Date JMH 8/8/11 A Prep By/Date ——
BH Prep By/Date JMH 8/8/11 B Prep By/Date ——
BH/FH Prep By/Date JMH 8/8/11 C Prep By/Date ——
PM Prep By/Date —— ID Verification By / Date VLS 8.8.11

Sample/Batch Report

User Name: icp
Computer Name: ICP-MS
Sample File: C:\elandata_icp\Sample\x18.sam
Report Date/Time: Wednesday, August 10, 2011 09:23:44

A/S Loc.	Batch ID	Sample ID	Description	Sample Type	Init. Quant.	Prep. Vol.	Aliquot Vol.	Diluted Vol.	Solids Ratio
5		QC STD 2		Sample					
203		17129-1		Sample					
204		17129-2		Sample					
205	d	17129-2		Duplicate of 3					
206		17129-3		Sample					
207	s	17129-3		Spike - 1 of 5					
208		17129-4		Sample					
209		17129-5		Sample					
210	d	17129-5		Duplicate of 8					
211		17129-6		Sample					
212	s	17129-6		Spike - 1 of 10					
213		17129-7		Sample					
401		QC Std 1		Sample					
402		QC Std 4		Sample					
5		QC STD 2	Airtech	Sample					
216		17130-1fh	Airtech	Sample					
217		17130-2fh	Airtech	Sample					
218	d	17130-2fh	Airtech	Duplicate of 17					
219		17130-3fh	Airtech	Sample					
220	s	17130-3fh	Airtech	Spike - 1 of 19					
221		17130-4fh	Airtech	Sample					
222		17130-5fh	Airtech	Sample					
223	d	17130-5fh	Airtech	Duplicate of 22					
224		17130-6fh	Airtech	Sample					
225	s	17130-6fh	Airtech	Spike - 1 of 24					
226		17130-7fh	Airtech	Sample					
227	x50	17130-1fh	Airtech	Sample					
228	x50	17130-2fh	Airtech	Sample					
229	x50d	17130-2fh	Airtech	Duplicate of 28					
230	x50	17130-3fh	Airtech	Sample					
231	x50s	17130-3fh	Airtech	Spike - 1 of 30					
232	x50	17130-4fh	Airtech	Sample					
233	x50	17130-5fh	Airtech	Sample					
234	x50d	17130-5fh	Airtech	Duplicate of 33					
235	x50	17130-6fh	Airtech	Sample					
236	x50s	17130-6fh	Airtech	Spike - 1 of 35					
237		LRB	Airtech	Sample					
238	s	LRB	Airtech	Spike - 1 of 37					
239		17130-1bh	Airtech	Sample					
240		17130-2bh	Airtech	Sample					
241	d	17130-2bh	Airtech	Duplicate of 40					
242		17130-3bh	Airtech	Sample					
243	s	17130-3bh	Airtech	Spike - 1 of 42					
244		17130-4bh	Airtech	Sample					
245		17130-5bh	Airtech	Sample					
246	d	17130-5bh	Airtech	Duplicate of 45					
247		17130-6bh	Airtech	Sample					
248	s	17130-6bh	Airtech	Spike - 1 of 47					
249		17130-7bh	Airtech	Sample					

401		QC Std 1	Airtech	Sample
402		QC Std 4	Airtech	Sample
5		QC STD 2	Airtech	Sample
303		17131-1fh	Airtech	Sample
304		17131-2fh	Airtech	Sample
305	d	17131-2fh	Airtech	Duplicate of 54
306		17131-3fh	Airtech	Sample
307	s	17131-3fh	Airtech	Spike - 1 of 56
308		17131-4fh	Airtech	Sample
309		17131-5fh	Airtech	Sample
310	d	17131-5fh	Airtech	Duplicate of 59
311		17131-6fh	Airtech	Sample
312	s	17131-6fh	Airtech	Spike - 1 of 61
313		17131-7fh	Airtech	Sample
314	x50	17131-1fh	Airtech	Sample
315	x50	17131-2fh	Airtech	Sample
316	x50d	17131-2fh	Airtech	Duplicate of 65
317	x50	17131-3fh	Airtech	Sample
318	x50s	17131-3fh	Airtech	Spike - 1 of 67
319	x50	17131-4fh	Airtech	Sample
320	x50	17131-5fh	Airtech	Sample
321	x50d	17131-5fh	Airtech	Duplicate of 70
322	x50	17131-6fh	Airtech	Sample
323	x50s	17131-6fh	Airtech	Spike - 1 of 72
324		LRB	Airtech	Sample
325	s	LRB	Airtech	Spike - 1 of 74
326		17131-1bh	Airtech	Sample
327		17131-2bh	Airtech	Sample
328	d	17131-2bh	Airtech	Duplicate of 77
329		17131-3bh	Airtech	Sample
330	s	17131-3bh	Airtech	Spike - 1 of 79
331		17131-4bh	Airtech	Sample
332		17131-5bh	Airtech	Sample
333	d	17131-5bh	Airtech	Duplicate of 82
334		17131-6bh	Airtech	Sample
335	s	17131-6bh	Airtech	Spike - 1 of 84
336		17131-7bh	Airtech	Sample
403		QC Std 1	Airtech	Sample
404		QC Std 4	Airtech	Sample
5		QC STD 2	Airtech	Sample
339		17132-1fh	Airtech	Sample
340		17132-2fh	Airtech	Sample
341	d	17132-2fh	Airtech	Duplicate of 91
342		17132-3fh	Airtech	Sample
343	s	17132-3fh	Airtech	Spike - 1 of 93
344		17132-4fh	Airtech	Sample
345		LRB	Airtech	Sample
346	s	LRB	Airtech	Spike - 1 of 96
347		17132-1bh	Airtech	Sample
348		17132-2bh	Airtech	Sample
348	d	17132-2bh	Airtech	Duplicate of 99
350		17132-3bh	Airtech	Sample
351	s	17132-3bh	Airtech	Spike - 1 of 101
352		17132-4bh	Airtech	Sample
403		QC Std 1	Airtech	Sample
404		QC Std 4	Airtech	Sample
5		QC STD 2	Airtech	Sample
413		17133-1	Airtech	Sample
414		17133-2	Airtech	Sample
415	d	17133-2	Airtech	Duplicate of 108

416		17133-3	Airtech	Sample
417	s	17133-3	Airtech	Spike - 1 of 110
418		17133-4	Airtech	Sample
345		LRB	Airtech	Sample
346	s	LRB	Airtech	Spike - 1 of 113
419		17133-1	Airtech	Sample
420		17133-2	Airtech	Sample
421	d	17133-2	Airtech	Duplicate of 116
422		17133-3	Airtech	Sample
423	s	17133-3	Airtech	Spike - 1 of 118
424		17133-4	Airtech	Sample
237		LRB	Airtech	Sample
238	s	LRB	Airtech	Spike - 1 of 121
239		17130-1bh	Airtech	Sample
240		17130-2bh	Airtech	Sample
241	d	17130-2bh	Airtech	Duplicate of 124
242		17130-3bh	Airtech	Sample
243	s	17130-3bh	Airtech	Spike - 1 of 126
244		17130-4bh	Airtech	Sample
245		17130-5bh	Airtech	Sample
246	d	17130-5bh	Airtech	Duplicate of 129
247		17130-6bh	Airtech	Sample
248	s	17130-6bh	Airtech	Spike - 1 of 131
249		17130-7bh	Airtech	Sample

> empty tube

Dataset Report

User Name: icp
Computer Name: ICP-MS
Dataset File Path: C:\elandata_icp\DataSet\080911-1\
Report Date/Time: Wednesday, August 10, 2011 09:23:36

Autosampler Position: 249

The Dataset

Time	Sample ID	Batch ID	Read Type	Description	Init. Quant	Prep. Vol.	Aliquot. Vol.	Diluted V
07:44:38 Tue 09-Aug-11	Blank		Blank					
07:46:48 Tue 09-Aug-11	Standard 1		Standard #1					
07:48:57 Tue 09-Aug-11	Standard 2		Standard #2					
07:51:06 Tue 09-Aug-11	Standard 3		Standard #3					
07:53:16 Tue 09-Aug-11	QC Std 1		QC Std #1					
07:55:25 Tue 09-Aug-11	QC Std 2		QC Std #2					
07:57:35 Tue 09-Aug-11	QC Std 3		QC Std #3					
07:59:45 Tue 09-Aug-11	QC Std 4		QC Std #4					
08:01:55 Tue 09-Aug-11	QC Std 5		QC Std #5					
08:04:05 Tue 09-Aug-11	QC Std 7		QC Std #7					
08:06:15 Tue 09-Aug-11	QC Std 8		QC Std #8					
08:08:25 Tue 09-Aug-11	QC Std 9		QC Std #9					
08:10:35 Tue 09-Aug-11	QC Std 10		QC Std #10					
08:12:45 Tue 09-Aug-11	QC STD 2		Sample	Airtech				
08:14:55 Tue 09-Aug-11	17131-1fh		Sample	Airtech				
08:17:04 Tue 09-Aug-11	17131-2fh		Sample	Airtech				
08:19:14 Tue 09-Aug-11	17131-2fh	d	Duplicate of 16	Airtech				
08:21:23 Tue 09-Aug-11	17131-3fh		Sample	Airtech				
08:23:32 Tue 09-Aug-11	17131-3fh	s	Spike - 1 of 18	Airtech				
08:25:41 Tue 09-Aug-11	17131-4fh		Sample	Airtech				
08:27:51 Tue 09-Aug-11	17131-5fh		Sample	Airtech				
08:30:00 Tue 09-Aug-11	17131-5fh	d	Duplicate of 21	Airtech				
08:32:09 Tue 09-Aug-11	17131-6fh		Sample	Airtech				
08:34:19 Tue 09-Aug-11	17131-6fh	s	Spike - 1 of 23	Airtech				
08:36:29 Tue 09-Aug-11	QC Std 1		QC Std #1					
08:38:39 Tue 09-Aug-11	QC Std 4		QC Std #4					
08:40:49 Tue 09-Aug-11	17131-7fh		Sample	Airtech				
08:42:58 Tue 09-Aug-11	17131-1fh	x50	Sample	Airtech				
08:45:08 Tue 09-Aug-11	17131-2fh	x50	Sample	Airtech				
08:47:17 Tue 09-Aug-11	17131-2fh	x50d	Duplicate of 29	Airtech				
08:49:26 Tue 09-Aug-11	17131-3fh	x50	Sample	Airtech				
08:51:36 Tue 09-Aug-11	17131-3fh	x50s	Spike - 1 of 31	Airtech				
08:53:45 Tue 09-Aug-11	17131-4fh	x50	Sample	Airtech				
08:55:54 Tue 09-Aug-11	17131-5fh	x50	Sample	Airtech				
08:58:04 Tue 09-Aug-11	17131-5fh	x50d	Duplicate of 34	Airtech				
09:00:13 Tue 09-Aug-11	17131-6fh	x50	Sample	Airtech				
09:02:22 Tue 09-Aug-11	17131-6fh	x50s	Spike - 1 of 36	Airtech				
09:04:34 Tue 09-Aug-11	QC Std 1		QC Std #1					
09:06:44 Tue 09-Aug-11	QC Std 4		QC Std #4					
09:08:55 Tue 09-Aug-11	LRB		Sample	Airtech				
09:11:05 Tue 09-Aug-11	LRB	s	Spike - 1 of 40	Airtech				
09:13:14 Tue 09-Aug-11	17131-1bh		Sample	Airtech				
09:15:23 Tue 09-Aug-11	17131-2bh		Sample	Airtech				

09:17:33 Tue 09-Aug-11	17131-2bh	d	Duplicate of 43	Airtech
09:19:42 Tue 09-Aug-11	17131-3bh		Sample	Airtech
09:21:52 Tue 09-Aug-11	17131-3bh	s	Spike - 1 of 45	Airtech
09:24:01 Tue 09-Aug-11	17131-4bh		Sample	Airtech
09:26:10 Tue 09-Aug-11	17131-5bh		Sample	Airtech
09:28:20 Tue 09-Aug-11	17131-5bh	d	Duplicate of 48	Airtech
09:30:31 Tue 09-Aug-11	QC Std 1		QC Std #1	
09:32:41 Tue 09-Aug-11	QC Std 4		QC Std #4	
09:34:53 Tue 09-Aug-11	17131-6bh		Sample	Airtech
09:37:02 Tue 09-Aug-11	17131-6bh	s	Spike - 1 of 52	Airtech
09:39:11 Tue 09-Aug-11	17131-7bh		Sample	Airtech
09:41:23 Tue 09-Aug-11	QC Std 1		Sample	Airtech
09:43:32 Tue 09-Aug-11	QC Std 4		Sample	Airtech
09:45:44 Tue 09-Aug-11	Blank		Blank	
09:47:54 Tue 09-Aug-11	Standard 1		Standard #1	
09:50:03 Tue 09-Aug-11	Standard 2		Standard #2	
09:52:12 Tue 09-Aug-11	Standard 3		Standard #3	
09:54:22 Tue 09-Aug-11	QC Std 1		QC Std #1	
09:56:31 Tue 09-Aug-11	QC Std 2		QC Std #2	
09:58:41 Tue 09-Aug-11	QC Std 3		QC Std #3	
10:00:51 Tue 09-Aug-11	QC Std 4		QC Std #4	
10:03:02 Tue 09-Aug-11	QC Std 5		QC Std #5	
10:05:11 Tue 09-Aug-11	QC Std 7		QC Std #7	
10:07:21 Tue 09-Aug-11	QC Std 8		QC Std #8	
10:09:30 Tue 09-Aug-11	QC Std 9		QC Std #9	
10:11:40 Tue 09-Aug-11	QC Std 10		QC Std #10	
10:13:51 Tue 09-Aug-11	QC STD 2		Sample	Airtech
10:16:02 Tue 09-Aug-11	17132-1fh		Sample	Airtech
10:18:11 Tue 09-Aug-11	17132-2fh		Sample	Airtech
10:20:21 Tue 09-Aug-11	17132-2fh	d	Duplicate of 72	Airtech
10:22:30 Tue 09-Aug-11	17132-3fh		Sample	Airtech
10:24:40 Tue 09-Aug-11	17132-3fh	s	Spike - 1 of 74	Airtech
10:26:51 Tue 09-Aug-11	QC Std 1		QC Std #1	
10:29:01 Tue 09-Aug-11	QC Std 4		QC Std #4	
10:31:12 Tue 09-Aug-11	17132-4fh		Sample	Airtech
10:33:22 Tue 09-Aug-11	LRB		Sample	Airtech
10:35:31 Tue 09-Aug-11	LRB	s	Spike - 1 of 79	Airtech
10:37:40 Tue 09-Aug-11	17132-1bh		Sample	Airtech
10:39:50 Tue 09-Aug-11	17132-2bh		Sample	Airtech
10:42:02 Tue 09-Aug-11	17132-2bh	d	Duplicate of 82	Airtech
10:44:12 Tue 09-Aug-11	17132-3bh		Sample	Airtech
10:46:21 Tue 09-Aug-11	17132-3bh	s	Spike - 1 of 84	Airtech
10:48:31 Tue 09-Aug-11	17132-4bh		Sample	Airtech
10:50:42 Tue 09-Aug-11	QC Std 1		Sample	Airtech
10:52:54 Tue 09-Aug-11	QC Std 1		QC Std #1	
10:55:03 Tue 09-Aug-11	QC Std 4		QC Std #4	
10:57:15 Tue 09-Aug-11	QC Std 4		Sample	Airtech
10:59:27 Tue 09-Aug-11	Blank		Blank	
11:01:38 Tue 09-Aug-11	Standard 1		Standard #1	
11:03:46 Tue 09-Aug-11	Standard 2		Standard #2	
11:05:55 Tue 09-Aug-11	Standard 3		Standard #3	
11:08:05 Tue 09-Aug-11	QC Std 1		QC Std #1	
11:10:15 Tue 09-Aug-11	QC Std 2		QC Std #2	
11:12:24 Tue 09-Aug-11	QC Std 3		QC Std #3	
11:14:34 Tue 09-Aug-11	QC Std 4		QC Std #4	
11:16:45 Tue 09-Aug-11	QC Std 5		QC Std #5	

11:18:55 Tue 09-Aug-11	QC Std 7		QC Std #7	
11:21:04 Tue 09-Aug-11	QC Std 8		QC Std #8	
11:23:14 Tue 09-Aug-11	QC Std 9		QC Std #9	
11:25:23 Tue 09-Aug-11	QC Std 10		QC Std #10	
11:27:34 Tue 09-Aug-11	QC STD 2		Sample	Airtech
11:29:45 Tue 09-Aug-11	17133-1		Sample	Airtech
11:31:55 Tue 09-Aug-11	17133-2		Sample	Airtech
11:34:05 Tue 09-Aug-11	17133-2	d	Duplicate of 10	Airtech
11:36:14 Tue 09-Aug-11	17133-3		Sample	Airtech
16:00:34 Tue 09-Aug-11	Blank		Blank	
16:02:43 Tue 09-Aug-11	Standard 1		Standard #1	
16:04:53 Tue 09-Aug-11	Standard 2		Standard #2	
16:07:02 Tue 09-Aug-11	Standard 3		Standard #3	
16:09:12 Tue 09-Aug-11	QC Std 1		QC Std #1	
16:11:21 Tue 09-Aug-11	QC Std 2		QC Std #2	
16:13:30 Tue 09-Aug-11	QC Std 3		QC Std #3	
16:15:41 Tue 09-Aug-11	QC Std 4		QC Std #4	
16:17:51 Tue 09-Aug-11	QC Std 5		QC Std #5	
16:20:01 Tue 09-Aug-11	QC Std 7		QC Std #7	
16:22:10 Tue 09-Aug-11	QC Std 8		QC Std #8	
16:24:20 Tue 09-Aug-11	QC Std 9		QC Std #9	
16:26:29 Tue 09-Aug-11	QC Std 10		QC Std #10	
16:28:40 Tue 09-Aug-11	QC STD 2		Sample	Airtech
16:30:52 Tue 09-Aug-11	17133-1		Sample	Airtech
16:33:01 Tue 09-Aug-11	17133-2		Sample	Airtech
16:35:10 Tue 09-Aug-11	17133-2	d	Duplicate of 12	Airtech
16:37:19 Tue 09-Aug-11	17133-3		Sample	Airtech
16:39:28 Tue 09-Aug-11	17133-3	s	Spike - 1 of 126	Airtech
16:41:38 Tue 09-Aug-11	17133-4		Sample	Airtech
16:43:49 Tue 09-Aug-11	LRB		Sample	Airtech
16:45:58 Tue 09-Aug-11	LRB	s	Spike - 1 of 128	Airtech
16:48:08 Tue 09-Aug-11	17133-1		Sample	Airtech
16:50:20 Tue 09-Aug-11	QC Std 1		QC Std #1	
16:52:30 Tue 09-Aug-11	QC Std 4		QC Std #4	
16:54:42 Tue 09-Aug-11	17133-2		Sample	Airtech
16:56:51 Tue 09-Aug-11	17133-2	d	Duplicate of 13	Airtech
16:59:00 Tue 09-Aug-11	17133-3		Sample	Airtech
17:01:10 Tue 09-Aug-11	17133-3	s	Spike - 1 of 136	Airtech
17:03:19 Tue 09-Aug-11	17133-4		Sample	Airtech
17:05:29 Tue 09-Aug-11	LRB		Sample	Airtech
17:07:39 Tue 09-Aug-11	LRB	s	Spike - 1 of 138	Airtech
17:09:48 Tue 09-Aug-11	17130-1bh		Sample	Airtech
17:11:57 Tue 09-Aug-11	17130-2bh		Sample	Airtech
17:14:07 Tue 09-Aug-11	17130-2bh	d	Duplicate of 14	Airtech
17:16:18 Tue 09-Aug-11	QC Std 1		QC Std #1	
17:18:28 Tue 09-Aug-11	QC Std 4		QC Std #4	
17:20:40 Tue 09-Aug-11	17130-3bh		Sample	Airtech
17:22:49 Tue 09-Aug-11	17130-3bh	s	Spike - 1 of 148	Airtech
17:24:59 Tue 09-Aug-11	17130-4bh		Sample	Airtech
17:27:08 Tue 09-Aug-11	17130-5bh		Sample	Airtech
17:29:17 Tue 09-Aug-11	17130-5bh	d	Duplicate of 14	Airtech
17:31:27 Tue 09-Aug-11	17130-6bh		Sample	Airtech
17:33:36 Tue 09-Aug-11	17130-6bh	s	Spike - 1 of 151	Airtech
17:35:45 Tue 09-Aug-11	17130-7bh		Sample	Airtech
17:37:57 Tue 09-Aug-11	QC Std 1		QC Std #1	
17:40:06 Tue 09-Aug-11	QC Std 4		QC Std #4	

Front Half

Back Half

elementOne
Analyst:--KMS--

ICP-MS RUN SHEET
8/10/2011

Job Number:

A/S Loc.	Dilution	Sample ID	Client	Type	Weight (g)	Prep Vol (ml)
5		QC STD 2	Airtech	Sample		
413		17133-1	Airtech	Sample		100
414		17133-2	Airtech	Sample		100
415	d	17133-2	Airtech	Duplicate of 108		100
416		17133-3	Airtech	Sample		100
417	s	17133-3	Airtech	Spike - 1 of 110		100
418		17133-4	Airtech	Sample		100
345		LRB	Airtech	Sample		50
346	s	LRB	Airtech	Spike - 1 of 113		50
419		17133-1	Airtech	Sample		50x2
420		17133-2	Airtech	Sample		50x2
421	d	17133-2	Airtech	Duplicate of 116		50x2
422		17133-3	Airtech	Sample		50x2
423	s	17133-3	Airtech	Spike - 1 of 118		50x2
424		17133-4	Airtech	Sample		50x2
237		LRB	Airtech	Sample		50
238	s	LRB	Airtech	Spike - 1 of 121		50
239		17130-1bh	Airtech	Sample		50x2
240		17130-2bh	Airtech	Sample		50x2
241	d	17130-2bh	Airtech	Duplicate of 124		50x2
242		17130-3bh	Airtech	Sample		50x2
243	s	17130-3bh	Airtech	Spike - 1 of 126		50x2
244		17130-4bh	Airtech	Sample		50x2
245		17130-5bh	Airtech	Sample		50x2
246	d	17130-5bh	Airtech	Duplicate of 129		50x2
247		17130-6bh	Airtech	Sample		50x2
248	s	17130-6bh	Airtech	Spike - 1 of 131		50x2
249		17130-7bh	Airtech	Sample		50x2

Spikes are post at 0.02mL of 25ppm spiking solutions lot 021410-ABCD & F in a final volume of 10mL

Submitted for QC by:	Date/Time:		QC Review By:	Date/Time:	
KMS	8/10/11 9:26		DBL	8/16/11 1100	
Re-Test Required:	No: ✓	Yes:	Comments:		
Resubmitted for QC by:	Date/Time:		QC Review:	By:	Date/Time:

Sample/Batch Report

User Name: icp
Computer Name: ICP-MS
Sample File: C:\elandata_icp\Sample\x.sam
Report Date/Time: Thursday, August 11, 2011 09:39:20

A/S Loc.	Batch ID	Sample ID	Description	Sample Type	Init. Quant.	Prep. Vol.	Aliquot Vol.	Diluted Vol.	Solids Ratio
5		QC STD 2	Airtech	Sample					
201	x5	17130-3fh	Airtech	Sample					
202	x5s	17130-3fh	Airtech	Spike - 1 of 2					
203	x5	17130-6fh	Airtech	Sample					
204	x5s	17130-6fh	Airtech	Spike - 1 of 4					
205	x10	17130-6fh	Airtech	Sample					
206	x10s	17130-6fh	Airtech	Spike - 1 of 6					
207	x2	17130-3bh	Airtech	Sample					
208	x2s	17130-3bh	Airtech	Spike - 1 of 8					
209	x5	17130-4bh	Airtech	Sample					
210	x10	17130-5bh	Airtech	Sample					
211	x10d	17130-5bh	Airtech	Duplicate of 11					
212	x5	17130-6bh	Airtech	Sample					
213	x5s	17130-6bh	Airtech	Spike - 1 of 13					
214	x5	17131-1fh	Airtech	Sample					
215		17131-2fh	Airtech	Sample					
216	d	17131-2fh	Airtech	Duplicate of 16					
217	x2	17131-3fh	Airtech	Sample					
218	x2s	17131-3fh	Airtech	Spike - 1 of 18					
219		17131-5fh	Airtech	Sample					
220	d	17131-5fh	Airtech	Duplicate of 20					
221	x2	17131-6fh	Airtech	Sample					
222	x2s	17131-6fh	Airtech	Spike - 1 of 22					
223	x2	17131-3bh	Airtech	Sample					
224	x2s	17131-3bh	Airtech	Spike - 1 of 24					
225	x10	17131-4bh	Airtech	Sample					
226	x10	17131-5bh	Airtech	Sample					
227	x10d	17131-5bh	Airtech	Duplicate of 27					
228	x2	17131-6bh	Airtech	Sample					
229	x2s	17131-6bh	Airtech	Spike - 1 of 29					
230	x5	17131-6bh	Airtech	Sample					
231	x5s	17131-6bh	Airtech	Spike - 1 of 31					
232	x10	17132-2fh	Airtech	Sample					
233	x10d	17132-2fh	Airtech	Duplicate of 33					
234	x2	17132-3fh	Airtech	Sample					
235	x2s	17132-3fh	Airtech	Spike - 1 of 35					
236		17132-2bh	Airtech	Sample					
237	d	17132-2bh	Airtech	Duplicate of 37					
238	x2	17132-3bh	Airtech	Sample					
239	x2s	17132-3bh	Airtech	Spike - 1 of 39					
240	x10	17133-1FH	Airtech	Sample					
241	x5	17133-2FH	Airtech	Sample					
242	x5d	17133-2FH	Airtech	Duplicate of 42					
243	x5	17133-3FH	Airtech	Sample					
244	x5s	17133-3FH	Airtech	Spike - 1 of 44					
245	x2	17133-3BH	Airtech	Sample					
246	x2s	17133-3BH	Airtech	Spike - 1 of 46					
247	x10	17130-6bh	Airtech	Sample					
248	x10s	17130-6bh	Airtech	Spike - 1 of 48					

249	x5	17131-2fh	Airtech	Sample
250	x5d	17131-2fh	Airtech	Duplicate of 50
251	x10	17131-5fh	Airtech	Sample
252	x10d	17131-5fh	Airtech	Duplicate of 52
253	x5	17131-6fh	Airtech	Sample
254	x5s	17131-6fh	Airtech	Spike - 1 of 54
255	x10	17131-6bh	Airtech	Sample
256	x10s	17131-6bh	Airtech	Spike - 1 of 56
257	x5	17133-3FH	Airtech	Sample
258	x5s	17133-3FH	Airtech	Spike - 1 of 58
259	x20	17130-6bh	Airtech	Sample
260	x20s	17130-6bh	Airtech	Spike - 1 of 60
411	x20	17131-6bh	Airtech	Sample
412	x20s	17131-6bh	Airtech	Spike - 1 of 62

Dataset Report

User Name: icp
Computer Name: ICP-MS
Dataset File Path: C:\elandata_icp\DataSet\081011-2\
Report Date/Time: Thursday, August 11, 2011 09:39:16

8/11/11

Autosampler Position: 3

The Dataset

Time	Sample ID	Batch ID	Read Type	Description	Init. Quant	Prep. Vol.	Aliquot. Vol.	Diluted V
13:47:40 Wed 10-Aug-11	Blank		Blank					
13:49:48 Wed 10-Aug-11	Standard 1		Standard #1					
13:51:59 Wed 10-Aug-11	Standard 2		Standard #2					
13:54:08 Wed 10-Aug-11	Standard 3		Standard #3					
13:56:18 Wed 10-Aug-11	QC Std 1		QC Std #1					
13:58:27 Wed 10-Aug-11	QC Std 2		QC Std #2					
14:00:37 Wed 10-Aug-11	QC Std 3		QC Std #3					
14:02:47 Wed 10-Aug-11	QC Std 4		QC Std #4					
14:04:57 Wed 10-Aug-11	QC Std 5		QC Std #5					
14:07:07 Wed 10-Aug-11	QC Std 7		QC Std #7					
14:09:16 Wed 10-Aug-11	QC Std 8		QC Std #8					
14:11:27 Wed 10-Aug-11	QC STD 2		Sample	Airtech				
14:13:38 Wed 10-Aug-11	17130-3fh	x5	Sample	Airtech				
14:15:48 Wed 10-Aug-11	17130-3fh	x5s	Spike - 1 of 13	Airtech				
14:17:57 Wed 10-Aug-11	17130-6fh	x5	Sample	Airtech				
14:20:06 Wed 10-Aug-11	17130-6fh	x5s	Spike - 1 of 15	Airtech				
14:22:15 Wed 10-Aug-11	17130-6fh	x10	Sample	Airtech				
14:24:25 Wed 10-Aug-11	17130-6fh	x10s	Spike - 1 of 17	Airtech				
14:26:34 Wed 10-Aug-11	17130-3bh	x2	Sample	Airtech				
14:28:43 Wed 10-Aug-11	17130-3bh	x2s	Spike - 1 of 19	Airtech				
14:30:53 Wed 10-Aug-11	17130-4bh	x5	Sample	Airtech				
14:33:05 Wed 10-Aug-11	QC Std 1		QC Std #1					
14:35:14 Wed 10-Aug-11	QC Std 4		QC Std #4					
14:37:26 Wed 10-Aug-11	17130-5bh	x10	Sample	Airtech				
14:39:36 Wed 10-Aug-11	17130-5bh	x10d	Duplicate of 24	Airtech				
14:41:45 Wed 10-Aug-11	17130-6bh	x5	Sample	Airtech				
14:43:54 Wed 10-Aug-11	17130-6bh	x5s	Spike - 1 of 26	Airtech				
14:46:03 Wed 10-Aug-11	17131-1fh	x5	Sample	Airtech				
14:48:13 Wed 10-Aug-11	17131-2fh		Sample	Airtech				
14:50:22 Wed 10-Aug-11	17131-2fh	d	Duplicate of 29	Airtech				
14:52:31 Wed 10-Aug-11	17131-3fh	x2	Sample	Airtech				
14:54:41 Wed 10-Aug-11	17131-3fh	x2s	Spike - 1 of 31	Airtech				
14:56:50 Wed 10-Aug-11	17131-5fh		Sample	Airtech				
14:59:00 Wed 10-Aug-11	17131-5fh	d	Duplicate of 33	Airtech				
15:01:12 Wed 10-Aug-11	QC Std 1		QC Std #1					
15:03:21 Wed 10-Aug-11	QC Std 4		QC Std #4					
15:05:33 Wed 10-Aug-11	17131-6fh	x2	Sample	Airtech				
15:07:42 Wed 10-Aug-11	17131-6fh	x2s	Spike - 1 of 37	Airtech				
15:09:52 Wed 10-Aug-11	17131-3bh	x2	Sample	Airtech				
15:12:01 Wed 10-Aug-11	17131-3bh	x2s	Spike - 1 of 39	Airtech				
15:14:10 Wed 10-Aug-11	17131-4bh	x10	Sample	Airtech				
15:16:20 Wed 10-Aug-11	17131-5bh	x10	Sample	Airtech				
15:18:29 Wed 10-Aug-11	17131-5bh	x10d	Duplicate of 42	Airtech				

15:20:39 Wed 10-Aug-11	17131-6bh	x2	Sample	Airtech
15:22:48 Wed 10-Aug-11	17131-6bh	x2s	Spike - 1 of 44	Airtech
15:24:57 Wed 10-Aug-11	17131-6bh	x5	Sample	Airtech
15:27:07 Wed 10-Aug-11	17131-6bh	x5s	Spike - 1 of 46	Airtech
15:29:19 Wed 10-Aug-11	QC Std 1		QC Std #1	
15:31:28 Wed 10-Aug-11	QC Std 4		QC Std #4	
15:33:40 Wed 10-Aug-11	17132-2fh	x10	Sample	Airtech
15:35:50 Wed 10-Aug-11	17132-2fh	x10d	Duplicate of 50	Airtech
15:37:59 Wed 10-Aug-11	17132-3fh	x2	Sample	Airtech
15:40:09 Wed 10-Aug-11	17132-3fh	x2s	Spike - 1 of 52	Airtech
15:42:18 Wed 10-Aug-11	17132-2bh		Sample	Airtech
15:44:28 Wed 10-Aug-11	17132-2bh	d	Duplicate of 54	Airtech
15:46:37 Wed 10-Aug-11	17132-3bh	x2	Sample	Airtech
15:48:46 Wed 10-Aug-11	17132-3bh	x2s	Spike - 1 of 56	Airtech
15:50:56 Wed 10-Aug-11	17133-1FH	x10	Sample	Airtech
15:53:05 Wed 10-Aug-11	17133-2FH	x5	Sample	Airtech
15:55:15 Wed 10-Aug-11	17133-2FH	x5d	Duplicate of 59	Airtech
15:57:27 Wed 10-Aug-11	QC Std 1		QC Std #1	
15:59:36 Wed 10-Aug-11	QC Std 4		QC Std #4	
16:01:48 Wed 10-Aug-11	17133-3FH	x5	Sample	Airtech
16:03:58 Wed 10-Aug-11	17133-3FH	x5s	Spike - 1 of 63	Airtech
16:06:07 Wed 10-Aug-11	17133-3BH	x2	Sample	Airtech
16:08:17 Wed 10-Aug-11	17133-3BH	x2s	Spike - 1 of 65	Airtech
16:10:29 Wed 10-Aug-11	QC Std 1		QC Std #1	
16:12:39 Wed 10-Aug-11	QC Std 4		QC Std #4	
08:51:03 Thu 11-Aug-11	17130-6bh	x10	Sample	Airtech
08:53:12 Thu 11-Aug-11	17130-6bh	x10s	Spike - 1 of 69	Airtech
08:55:21 Thu 11-Aug-11	17131-2fh	x5	Sample	Airtech
08:57:31 Thu 11-Aug-11	17131-2fh	x5d	Duplicate of 71	Airtech
08:59:40 Thu 11-Aug-11	17131-5fh	x10	Sample	Airtech
09:01:49 Thu 11-Aug-11	17131-5fh	x10d	Duplicate of 73	Airtech
09:03:59 Thu 11-Aug-11	17131-6fh	x5	Sample	Airtech
09:06:08 Thu 11-Aug-11	17131-6fh	x5s	Spike - 1 of 75	Airtech
09:08:17 Thu 11-Aug-11	17131-6bh	x10	Sample	Airtech
09:10:27 Thu 11-Aug-11	17131-6bh	x10s	Spike - 1 of 77	Airtech
09:12:39 Thu 11-Aug-11	QC Std 1		QC Std #1	
09:14:48 Thu 11-Aug-11	QC Std 4		QC Std #4	
09:17:01 Thu 11-Aug-11	17133-3FH	x5	Sample	Airtech
09:19:10 Thu 11-Aug-11	17133-3FH	x5s	Spike - 1 of 81	Airtech
09:21:23 Thu 11-Aug-11	QC Std 1		QC Std #1	
09:23:32 Thu 11-Aug-11	QC Std 4		QC Std #4	
09:26:46 Thu 11-Aug-11	17130-6bh	x20	Sample	Airtech
09:28:56 Thu 11-Aug-11	17130-6bh	x20s	Spike - 1 of 85	Airtech
09:31:08 Thu 11-Aug-11	17131-6bh	x20	Sample	Airtech
09:33:17 Thu 11-Aug-11	17131-6bh	x20s	Spike - 1 of 87	Airtech
09:35:29 Thu 11-Aug-11	QC Std 1		QC Std #1	
09:37:38 Thu 11-Aug-11	QC Std 4		QC Std #4	

3 samples are extremely high in Sulfates causing enhanced spike recoveries for As + Se.

elementOne
Analyst:--dbw--

ICP-MS RUN SHEET
8/11/2011

Job Number:

A/S Loc.	Dilution	Sample ID	Client	Type	Weight (g)	Prep Vol (ml)
5		QC STD 2	Airtech	Sample		
201	x5	17130-3fh	Airtech	Sample		100
202	x5s	17130-3fh	Airtech	Spike - 1 of 2		100
203	x5	17130-6fh	Airtech	Sample		100
204	x5s	17130-6fh	Airtech	Spike - 1 of 4		100
205	x10	17130-6fh	Airtech	Sample		100
206	x10s	17130-6fh	Airtech	Spike - 1 of 6		100
207	x2	17130-3bh	Airtech	Sample		50x2
208	x2s	17130-3bh	Airtech	Spike - 1 of 8		50x2
209	x5	17130-4bh	Airtech	Sample		50x2
210	x10	17130-5bh	Airtech	Sample		50x2
211	x10d	17130-5bh	Airtech	Duplicate of 11		50x2
212	x5	17130-6bh	Airtech	Sample		50x2
213	x5s	17130-6bh	Airtech	Spike - 1 of 13		50x2
214	x5	17131-1fh	Airtech	Sample		100
215		17131-2fh	Airtech	Sample		100
216	d	17131-2fh	Airtech	Duplicate of 16		100
217	x2	17131-3fh	Airtech	Sample		100
218	x2s	17131-3fh	Airtech	Spike - 1 of 18		100
219		17131-5fh	Airtech	Sample		100
220	d	17131-5fh	Airtech	Duplicate of 20		100
221	x2	17131-6fh	Airtech	Sample		100
222	x2s	17131-6fh	Airtech	Spike - 1 of 22		100
223	x2	17131-3bh	Airtech	Sample		50x2
224	x2s	17131-3bh	Airtech	Spike - 1 of 24		50x2
225	x10	17131-4bh	Airtech	Sample		50x2
226	x10	17131-5bh	Airtech	Sample		50x2
227	x10d	17131-5bh	Airtech	Duplicate of 27		50x2
228	x2	17131-6bh	Airtech	Sample		50x2
229	x2s	17131-6bh	Airtech	Spike - 1 of 29		50x2
230	x5	17131-6bh	Airtech	Sample		50x2
231	x5s	17131-6bh	Airtech	Spike - 1 of 31		50x2
232	x10	17132-2fh	Airtech	Sample		100
233	x10d	17132-2fh	Airtech	Duplicate of 33		100
234	x2	17132-3fh	Airtech	Sample		100
235	x2s	17132-3fh	Airtech	Spike - 1 of 35		100
236		17132-2bh	Airtech	Sample		50x2
237	d	17132-2bh	Airtech	Duplicate of 37		50x2
238	x2	17132-3bh	Airtech	Sample		50x2
239	x2s	17132-3bh	Airtech	Spike - 1 of 39		50x2
240	x10	17133-1FH	Airtech	Sample		100
241	x5	17133-2FH	Airtech	Sample		100
242	x5d	17133-2FH	Airtech	Duplicate of 42		100
243	x5	17133-3FH	Airtech	Sample		100
244	x5s	17133-3FH	Airtech	Spike - 1 of 44		100
245	x2	17133-3BH	Airtech	Sample		50x2
246	x2s	17133-3BH	Airtech	Spike - 1 of 46		50x2
247	x10	17130-6bh	Airtech	Sample		50x2
248	x10s	17130-6bh	Airtech	Spike - 1 of 48		50x2
249	x5	17131-2fh	Airtech	Sample		100
250	x5d	17131-2fh	Airtech	Duplicate of 50		100
251	x10	17131-5fh	Airtech	Sample		100
252	x10d	17131-5fh	Airtech	Duplicate of 52		100

elementOne
Analyst:--dbw--

ICP-MS RUN SHEET
8/11/2011

Job Number:

A/S Loc.	Dilution	Sample ID	Client	Type	Weight (g)	Prep Vol (ml)
253	x5	17131-6fh	Airtech	Sample		100
254	x5s	17131-6fh	Airtech	Spike - 1 of 54		100
255	x10	17131-6bh	Airtech	Sample		50x2
256	x10s	17131-6bh	Airtech	Spike - 1 of 56		50x2
257	x5	17133-3FH	Airtech	Sample		100
258	x5s	17133-3FH	Airtech	Spike - 1 of 58		100
259	x20	17130-6bh	Airtech	Sample		50x2
260	x20s	17130-6bh	Airtech	Spike - 1 of 60		50x2
411	x20	17131-6bh	Airtech	Sample		50x2
412	x20s	17131-6bh	Airtech	Spike - 1 of 62		50x2

Spikes are post at 0.02mL of 25ppm spiking solutions lot 021410-ABCD & F in a final volume of 10mL

Submitted for QC by:	Date/Time:		QC Review By:	Date/Time:	
dbw	8/11/11 9:44		DBW	8/19/11	1340
Re-Test Required:	No: ✓	Yes:	Comments:		
Resubmitted for QC by:	Date/Time:		QC Review:	By:	Date/Time:

Sample/Batch Report

User Name: icp
Computer Name: ICP-MS
Sample File: C:\elandata_icp\Sample\x18.sam
Report Date/Time: Wednesday, August 10, 2011 09:03:41

A/S Loc.	Batch ID	Sample ID	Description	Sample Type	Init. Quant.	Prep. Vol.	Aliquot Vol.	Diluted Vol.	Solids Ratio
5		QC STD 2		Sample					
203		17129-1		Sample					
204		17129-2		Sample					
205	d	17129-2		Duplicate of 3					
206		17129-3		Sample					
207	s	17129-3		Spike - 1 of 5					
208		17129-4		Sample					
209		17129-5		Sample					
210	d	17129-5		Duplicate of 8					
211		17129-6		Sample					
212	s	17129-6		Spike - 1 of 10					
213		17129-7		Sample					
401		QC Std 1		Sample					
402		QC Std 4		Sample					
5		QC STD 2	Airtech	Sample					
216		17130-1fh	Airtech	Sample					
217		17130-2fh	Airtech	Sample					
218	d	17130-2fh	Airtech	Duplicate of 17					
219		17130-3fh	Airtech	Sample					
220	s	17130-3fh	Airtech	Spike - 1 of 19					
221		17130-4fh	Airtech	Sample					
222		17130-5fh	Airtech	Sample					
223	d	17130-5fh	Airtech	Duplicate of 22					
224		17130-6fh	Airtech	Sample					
225	s	17130-6fh	Airtech	Spike - 1 of 24					
226		17130-7fh	Airtech	Sample					
227	x50	17130-1fh	Airtech	Sample					
228	x50	17130-2fh	Airtech	Sample					
229	x50d	17130-2fh	Airtech	Duplicate of 28					
230	x50	17130-3fh	Airtech	Sample					
231	x50s	17130-3fh	Airtech	Spike - 1 of 30					
232	x50	17130-4fh	Airtech	Sample					
233	x50	17130-5fh	Airtech	Sample					
234	x50d	17130-5fh	Airtech	Duplicate of 33					
235	x50	17130-6fh	Airtech	Sample					
236	x50s	17130-6fh	Airtech	Spike - 1 of 35					
237		LRB	Airtech	Sample					
238	s	LRB	Airtech	Spike - 1 of 37					
239		17130-1bh	Airtech	Sample					
240		17130-2bh	Airtech	Sample					
241	d	17130-2bh	Airtech	Duplicate of 40					
242		17130-3bh	Airtech	Sample					
243	s	17130-3bh	Airtech	Spike - 1 of 42					
244		17130-4bh	Airtech	Sample					
245		17130-5bh	Airtech	Sample					
246	d	17130-5bh	Airtech	Duplicate of 45					
247		17130-6bh	Airtech	Sample					
248	s	17130-6bh	Airtech	Spike - 1 of 47					
249		17130-7bh	Airtech	Sample					

401		QC Std 1	Airtech	Sample
402		QC Std 4	Airtech	Sample
5		QC STD 2	Airtech	Sample
303		17131-1fh	Airtech	Sample
304		17131-2fh	Airtech	Sample
305	d	17131-2fh	Airtech	Duplicate of 54
306		17131-3fh	Airtech	Sample
307	s	17131-3fh	Airtech	Spike - 1 of 56
308		17131-4fh	Airtech	Sample
309		17131-5fh	Airtech	Sample
310	d	17131-5fh	Airtech	Duplicate of 59
311		17131-6fh	Airtech	Sample
312	s	17131-6fh	Airtech	Spike - 1 of 61
313		17131-7fh	Airtech	Sample
314	x50	17131-1fh	Airtech	Sample
315	x50	17131-2fh	Airtech	Sample
316	x50d	17131-2fh	Airtech	Duplicate of 65
317	x50	17131-3fh	Airtech	Sample
318	x50s	17131-3fh	Airtech	Spike - 1 of 67
319	x50	17131-4fh	Airtech	Sample
320	x50	17131-5fh	Airtech	Sample
321	x50d	17131-5fh	Airtech	Duplicate of 70
322	x50	17131-6fh	Airtech	Sample
323	x50s	17131-6fh	Airtech	Spike - 1 of 72
324		LRB	Airtech	Sample
325	s	LRB	Airtech	Spike - 1 of 74
326		17131-1bh	Airtech	Sample
327		17131-2bh	Airtech	Sample
328	d	17131-2bh	Airtech	Duplicate of 77
329		17131-3bh	Airtech	Sample
330	s	17131-3bh	Airtech	Spike - 1 of 79
331		17131-4bh	Airtech	Sample
332		17131-5bh	Airtech	Sample
333	d	17131-5bh	Airtech	Duplicate of 82
334		17131-6bh	Airtech	Sample
335	s	17131-6bh	Airtech	Spike - 1 of 84
336		17131-7bh	Airtech	Sample
403		QC Std 1	Airtech	Sample
404		QC Std 4	Airtech	Sample
5		QC STD 2	Airtech	Sample
339		17132-1fh	Airtech	Sample
340		17132-2fh	Airtech	Sample
341	d	17132-2fh	Airtech	Duplicate of 91
342		17132-3fh	Airtech	Sample
343	s	17132-3fh	Airtech	Spike - 1 of 93
344		17132-4fh	Airtech	Sample
345		LRB	Airtech	Sample
346	s	LRB	Airtech	Spike - 1 of 96
347		17132-1bh	Airtech	Sample
348		17132-2bh	Airtech	Sample
348	d	17132-2bh	Airtech	Duplicate of 99
350		17132-3bh	Airtech	Sample
351	s	17132-3bh	Airtech	Spike - 1 of 101
352		17132-4bh	Airtech	Sample
403		QC Std 1	Airtech	Sample
404		QC Std 4	Airtech	Sample
5		QC STD 2	Airtech	Sample
413		17133-1	Airtech	Sample
414		17133-2	Airtech	Sample
415	d	17133-2	Airtech	Duplicate of 108

416		17133-3	Airtech	Sample
417	s	17133-3	Airtech	Spike - 1 of 110
418		17133-4	Airtech	Sample
345		LRB	Airtech	Sample
346	s	LRB	Airtech	Spike - 1 of 113
419		17133-1	Airtech	Sample
420		17133-2	Airtech	Sample
421	d	17133-2	Airtech	Duplicate of 116
422		17133-3	Airtech	Sample
423	s	17133-3	Airtech	Spike - 1 of 118
424		17133-4	Airtech	Sample
237		LRB	Airtech	Sample
238	s	LRB	Airtech	Spike - 1 of 121
239		17130-1bh	Airtech	Sample
240		17130-2bh	Airtech	Sample
241	d	17130-2bh	Airtech	Duplicate of 124
242		17130-3bh	Airtech	Sample
243	s	17130-3bh	Airtech	Spike - 1 of 126
244		17130-4bh	Airtech	Sample
245		17130-5bh	Airtech	Sample
246	d	17130-5bh	Airtech	Duplicate of 129
247		17130-6bh	Airtech	Sample
248	s	17130-8bh	Airtech	Spike - 1 of 131
249		17130-7bh	Airtech	Sample

Dataset Report

User Name: icp
Computer Name: ICP-MS
Dataset File Path: C:\elandata_icp\DataSet\080911-1\
Report Date/Time: Wednesday, August 10, 2011 09:03:29

Autosampler Position: 4

The Dataset

Time	Sample ID	Batch ID	Read Type	Description	Init. Quant	Prep. Vol.	Aliquot. Vol.	Diluted V
07:44:38 Tue 09-Aug-11	Blank		Blank					
07:46:48 Tue 09-Aug-11	Standard 1		Standard #1					
07:48:57 Tue 09-Aug-11	Standard 2		Standard #2					
07:51:06 Tue 09-Aug-11	Standard 3		Standard #3					
07:53:16 Tue 09-Aug-11	QC Std 1		QC Std #1					
07:55:25 Tue 09-Aug-11	QC Std 2		QC Std #2					
07:57:35 Tue 09-Aug-11	QC Std 3		QC Std #3					
07:59:45 Tue 09-Aug-11	QC Std 4		QC Std #4					
08:01:55 Tue 09-Aug-11	QC Std 5		QC Std #5					
08:04:05 Tue 09-Aug-11	QC Std 7		QC Std #7					
08:06:15 Tue 09-Aug-11	QC Std 8		QC Std #8					
08:08:25 Tue 09-Aug-11	QC Std 9		QC Std #9					
08:10:35 Tue 09-Aug-11	QC Std 10		QC Std #10					
08:12:45 Tue 09-Aug-11	QC STD 2		Sample	Airtech				
08:14:55 Tue 09-Aug-11	17131-1fh		Sample	Airtech				
08:17:04 Tue 09-Aug-11	17131-2fh		Sample	Airtech				
08:19:14 Tue 09-Aug-11	17131-2fh	d	Duplicate of 16	Airtech				
08:21:23 Tue 09-Aug-11	17131-3fh		Sample	Airtech				
08:23:32 Tue 09-Aug-11	17131-3fh	s	Spike - 1 of 18	Airtech				
08:25:41 Tue 09-Aug-11	17131-4fh		Sample	Airtech				
08:27:51 Tue 09-Aug-11	17131-5fh		Sample	Airtech				
08:30:00 Tue 09-Aug-11	17131-5fh	d	Duplicate of 21	Airtech				
08:32:09 Tue 09-Aug-11	17131-6fh		Sample	Airtech				
08:34:19 Tue 09-Aug-11	17131-6fh	s	Spike - 1 of 23	Airtech				
08:36:29 Tue 09-Aug-11	QC Std 1		QC Std #1					
08:38:39 Tue 09-Aug-11	QC Std 4		QC Std #4					
08:40:49 Tue 09-Aug-11	17131-7fh		Sample	Airtech				
08:42:58 Tue 09-Aug-11	17131-1fh	x50	Sample	Airtech				
08:45:08 Tue 09-Aug-11	17131-2fh	x50	Sample	Airtech				
08:47:17 Tue 09-Aug-11	17131-2fh	x50d	Duplicate of 29	Airtech				
08:49:26 Tue 09-Aug-11	17131-3fh	x50	Sample	Airtech				
08:51:36 Tue 09-Aug-11	17131-3fh	x50s	Spike - 1 of 31	Airtech				
08:53:45 Tue 09-Aug-11	17131-4fh	x50	Sample	Airtech				
08:55:54 Tue 09-Aug-11	17131-5fh	x50	Sample	Airtech				
08:58:04 Tue 09-Aug-11	17131-5fh	x50d	Duplicate of 34	Airtech				
09:00:13 Tue 09-Aug-11	17131-6fh	x50	Sample	Airtech				
09:02:22 Tue 09-Aug-11	17131-6fh	x50s	Spike - 1 of 36	Airtech				
09:04:34 Tue 09-Aug-11	QC Std 1		QC Std #1					
09:06:44 Tue 09-Aug-11	QC Std 4		QC Std #4					
09:08:55 Tue 09-Aug-11	LRB		Sample	Airtech				
09:11:05 Tue 09-Aug-11	LRB	s	Spike - 1 of 40	Airtech				
09:13:14 Tue 09-Aug-11	17131-1bh		Sample	Airtech				
09:15:23 Tue 09-Aug-11	17131-2bh		Sample	Airtech				

Dataset Report

User Name: icp
Computer Name: ICP-MS
Dataset File Path: C:\elandata_icp\DataSet\080911-1\
Report Date/Time: Wednesday, August 10, 2011 09:03:29

Autosampler Position: 4

The Dataset

Time	Sample ID	Batch ID	Read Type	Description	Init. Quant	Prep. Vol.	Aliquot. Vol.	Diluted V
07:44:38 Tue 09-Aug-11	Blank		Blank					
07:46:48 Tue 09-Aug-11	Standard 1		Standard #1					
07:48:57 Tue 09-Aug-11	Standard 2		Standard #2					
07:51:06 Tue 09-Aug-11	Standard 3		Standard #3					
07:53:16 Tue 09-Aug-11	QC Std 1		QC Std #1					
07:55:25 Tue 09-Aug-11	QC Std 2		QC Std #2					
07:57:35 Tue 09-Aug-11	QC Std 3		QC Std #3					
07:59:45 Tue 09-Aug-11	QC Std 4		QC Std #4					
08:01:55 Tue 09-Aug-11	QC Std 5		QC Std #5					
08:04:05 Tue 09-Aug-11	QC Std 7		QC Std #7					
08:06:15 Tue 09-Aug-11	QC Std 8		QC Std #8					
08:08:25 Tue 09-Aug-11	QC Std 9		QC Std #9					
08:10:35 Tue 09-Aug-11	QC Std 10		QC Std #10					
08:12:45 Tue 09-Aug-11	QC STD 2		Sample	Airtech				
08:14:55 Tue 09-Aug-11	17131-1fh		Sample	Airtech				
08:17:04 Tue 09-Aug-11	17131-2fh		Sample	Airtech				
08:19:14 Tue 09-Aug-11	17131-2fh	d	Duplicate of 16	Airtech				
08:21:23 Tue 09-Aug-11	17131-3fh		Sample	Airtech				
08:23:32 Tue 09-Aug-11	17131-3fh	s	Spike - 1 of 18	Airtech				
08:25:41 Tue 09-Aug-11	17131-4fh		Sample	Airtech				
08:27:51 Tue 09-Aug-11	17131-5fh		Sample	Airtech				
08:30:00 Tue 09-Aug-11	17131-5fh	d	Duplicate of 21	Airtech				
08:32:09 Tue 09-Aug-11	17131-6fh		Sample	Airtech				
08:34:19 Tue 09-Aug-11	17131-6fh	s	Spike - 1 of 23	Airtech				
08:36:29 Tue 09-Aug-11	QC Std 1		QC Std #1					
08:38:39 Tue 09-Aug-11	QC Std 4		QC Std #4					
08:40:49 Tue 09-Aug-11	17131-7fh		Sample	Airtech				
08:42:58 Tue 09-Aug-11	17131-1fh	x50	Sample	Airtech				
08:45:08 Tue 09-Aug-11	17131-2fh	x50	Sample	Airtech				
08:47:17 Tue 09-Aug-11	17131-2fh	x50d	Duplicate of 29	Airtech				
08:49:26 Tue 09-Aug-11	17131-3fh	x50	Sample	Airtech				
08:51:36 Tue 09-Aug-11	17131-3fh	x50s	Spike - 1 of 31	Airtech				
08:53:45 Tue 09-Aug-11	17131-4fh	x50	Sample	Airtech				
08:55:54 Tue 09-Aug-11	17131-5fh	x50	Sample	Airtech				
08:58:04 Tue 09-Aug-11	17131-5fh	x50d	Duplicate of 34	Airtech				
09:00:13 Tue 09-Aug-11	17131-6fh	x50	Sample	Airtech				
09:02:22 Tue 09-Aug-11	17131-6fh	x50s	Spike - 1 of 36	Airtech				
09:04:34 Tue 09-Aug-11	QC Std 1		QC Std #1					
09:06:44 Tue 09-Aug-11	QC Std 4		QC Std #4					
09:08:55 Tue 09-Aug-11	LRB		Sample	Airtech				
09:11:05 Tue 09-Aug-11	LRB	s	Spike - 1 of 40	Airtech				
09:13:14 Tue 09-Aug-11	17131-1bh		Sample	Airtech				
09:15:23 Tue 09-Aug-11	17131-2bh		Sample	Airtech				

09:17:33 Tue 09-Aug-11	17131-2bh	d	Duplicate of 43	Airtech
09:19:42 Tue 09-Aug-11	17131-3bh		Sample	Airtech
09:21:52 Tue 09-Aug-11	17131-3bh	s	Spike - 1 of 45	Airtech
09:24:01 Tue 09-Aug-11	17131-4bh		Sample	Airtech
09:26:10 Tue 09-Aug-11	17131-5bh		Sample	Airtech
09:28:20 Tue 09-Aug-11	17131-5bh	d	Duplicate of 48	Airtech
09:30:31 Tue 09-Aug-11	QC Std 1		QC Std #1	
09:32:41 Tue 09-Aug-11	QC Std 4		QC Std #4	
09:34:53 Tue 09-Aug-11	17131-6bh		Sample	Airtech
09:37:02 Tue 09-Aug-11	17131-6bh	s	Spike - 1 of 52	Airtech
09:39:11 Tue 09-Aug-11	17131-7bh		Sample	Airtech
09:41:23 Tue 09-Aug-11	QC Std 1		Sample	Airtech
09:43:32 Tue 09-Aug-11	QC Std 4		Sample	Airtech
09:45:44 Tue 09-Aug-11	Blank		Blank	
09:47:54 Tue 09-Aug-11	Standard 1		Standard #1	
09:50:03 Tue 09-Aug-11	Standard 2		Standard #2	
09:52:12 Tue 09-Aug-11	Standard 3		Standard #3	
09:54:22 Tue 09-Aug-11	QC Std 1		QC Std #1	
09:56:31 Tue 09-Aug-11	QC Std 2		QC Std #2	
09:58:41 Tue 09-Aug-11	QC Std 3		QC Std #3	
10:00:51 Tue 09-Aug-11	QC Std 4		QC Std #4	
10:03:02 Tue 09-Aug-11	QC Std 5		QC Std #5	
10:05:11 Tue 09-Aug-11	QC Std 7		QC Std #7	
10:07:21 Tue 09-Aug-11	QC Std 8		QC Std #8	
10:09:30 Tue 09-Aug-11	QC Std 9		QC Std #9	
10:11:40 Tue 09-Aug-11	QC Std 10		QC Std #10	
10:13:51 Tue 09-Aug-11	QC STD 2		Sample	Airtech
10:16:02 Tue 09-Aug-11	17132-1fh		Sample	Airtech
10:18:11 Tue 09-Aug-11	17132-2fh		Sample	Airtech
10:20:21 Tue 09-Aug-11	17132-2fh	d	Duplicate of 72	Airtech
10:22:30 Tue 09-Aug-11	17132-3fh		Sample	Airtech
10:24:40 Tue 09-Aug-11	17132-3fh	s	Spike - 1 of 74	Airtech
10:26:51 Tue 09-Aug-11	QC Std 1		QC Std #1	
10:29:01 Tue 09-Aug-11	QC Std 4		QC Std #4	
10:31:12 Tue 09-Aug-11	17132-4fh		Sample	Airtech
10:33:22 Tue 09-Aug-11	LRB		Sample	Airtech
10:35:31 Tue 09-Aug-11	LRB	s	Spike - 1 of 79	Airtech
10:37:40 Tue 09-Aug-11	17132-1bh		Sample	Airtech
10:39:50 Tue 09-Aug-11	17132-2bh		Sample	Airtech
10:42:02 Tue 09-Aug-11	17132-2bh	d	Duplicate of 82	Airtech
10:44:12 Tue 09-Aug-11	17132-3bh		Sample	Airtech
10:46:21 Tue 09-Aug-11	17132-3bh	s	Spike - 1 of 84	Airtech
10:48:31 Tue 09-Aug-11	17132-4bh		Sample	Airtech
10:50:42 Tue 09-Aug-11	QC Std 1		Sample	Airtech
10:52:54 Tue 09-Aug-11	QC Std 1		QC Std #1	
10:55:03 Tue 09-Aug-11	QC Std 4		QC Std #4	
10:57:15 Tue 09-Aug-11	QC Std 4		Sample	Airtech
10:59:27 Tue 09-Aug-11	Blank		Blank	
11:01:36 Tue 09-Aug-11	Standard 1		Standard #1	
11:03:46 Tue 09-Aug-11	Standard 2		Standard #2	
11:05:55 Tue 09-Aug-11	Standard 3		Standard #3	
11:08:05 Tue 09-Aug-11	QC Std 1		QC Std #1	
11:10:15 Tue 09-Aug-11	QC Std 2		QC Std #2	
11:12:24 Tue 09-Aug-11	QC Std 3		QC Std #3	
11:14:34 Tue 09-Aug-11	QC Std 4		QC Std #4	
11:16:45 Tue 09-Aug-11	QC Std 5		QC Std #5	

use first curve

use first curve

11:18:55 Tue 09-Aug-11	QC Std 7		QC Std #7	
11:21:04 Tue 09-Aug-11	QC Std 8		QC Std #8	
11:23:14 Tue 09-Aug-11	QC Std 9		QC Std #9	
11:25:23 Tue 09-Aug-11	QC Std 10		QC Std #10	
11:27:34 Tue 09-Aug-11	QC STD 2		Sample	Airtech
11:29:45 Tue 09-Aug-11	17133-1	FH	Sample	Airtech
11:31:55 Tue 09-Aug-11	17133-2		Sample	Airtech
11:34:05 Tue 09-Aug-11	17133-2	d	Duplicate of 10	Airtech
11:36:14 Tue 09-Aug-11	17133-3		Sample	Airtech
16:00:34 Tue 09-Aug-11	Blank		Blank	
16:02:43 Tue 09-Aug-11	Standard 1		Standard #1	
16:04:53 Tue 09-Aug-11	Standard 2		Standard #2	
16:07:02 Tue 09-Aug-11	Standard 3		Standard #3	
16:09:12 Tue 09-Aug-11	QC Std 1		QC Std #1	
16:11:21 Tue 09-Aug-11	QC Std 2		QC Std #2	
16:13:30 Tue 09-Aug-11	QC Std 3		QC Std #3	
16:15:41 Tue 09-Aug-11	QC Std 4		QC Std #4	
16:17:51 Tue 09-Aug-11	QC Std 5		QC Std #5	
16:20:01 Tue 09-Aug-11	QC Std 7		QC Std #7	
16:22:10 Tue 09-Aug-11	QC Std 8		QC Std #8	
16:24:20 Tue 09-Aug-11	QC Std 9		QC Std #9	
16:26:29 Tue 09-Aug-11	QC Std 10		QC Std #10	
16:28:40 Tue 09-Aug-11	QC STD 2		Sample	Airtech
16:30:52 Tue 09-Aug-11	17133-1	FH	Sample	Airtech
16:33:01 Tue 09-Aug-11	17133-2		Sample	Airtech
16:35:10 Tue 09-Aug-11	17133-2	d	Duplicate of 12	Airtech
16:37:19 Tue 09-Aug-11	17133-3		Sample	Airtech
16:39:29 Tue 09-Aug-11	17133-3	s	Spike - 1 of 126	Airtech
16:41:38 Tue 09-Aug-11	17133-4		Sample	Airtech
16:43:49 Tue 09-Aug-11	LRB		Sample	Airtech
16:45:58 Tue 09-Aug-11	LRB	s	Spike - 1 of 129	Airtech
16:48:08 Tue 09-Aug-11	17133-1		Sample	Airtech
16:50:20 Tue 09-Aug-11	QC Std 1		QC Std #1	
16:52:30 Tue 09-Aug-11	QC Std 4		QC Std #4	
16:54:42 Tue 09-Aug-11	17133-2	BH	Sample	Airtech
16:56:51 Tue 09-Aug-11	17133-2	d	Duplicate of 13	Airtech
16:59:00 Tue 09-Aug-11	17133-3		Sample	Airtech
17:01:10 Tue 09-Aug-11	17133-3	s	Spike - 1 of 136	Airtech
17:03:19 Tue 09-Aug-11	17133-4		Sample	Airtech
17:05:29 Tue 09-Aug-11	LRB		Sample	Airtech
17:07:39 Tue 09-Aug-11	LRB	s	Spike - 1 of 139	Airtech
17:09:48 Tue 09-Aug-11	17130-1bh		Sample	Airtech
17:11:57 Tue 09-Aug-11	17130-2bh		Sample	Airtech
17:14:07 Tue 09-Aug-11	17130-2bh	d	Duplicate of 14	Airtech
17:16:18 Tue 09-Aug-11	QC Std 1		QC Std #1	
17:18:28 Tue 09-Aug-11	QC Std 4		QC Std #4	
17:20:40 Tue 09-Aug-11	17130-3bh		Sample	Airtech
17:22:49 Tue 09-Aug-11	17130-3bh	s	Spike - 1 of 146	Airtech
17:24:59 Tue 09-Aug-11	17130-4bh		Sample	Airtech
17:27:08 Tue 09-Aug-11	17130-5bh		Sample	Airtech
17:29:17 Tue 09-Aug-11	17130-5bh	d	Duplicate of 14	Airtech
17:31:27 Tue 09-Aug-11	17130-6bh		Sample	Airtech
17:33:36 Tue 09-Aug-11	17130-6bh	s	Spike - 1 of 151	Airtech
17:35:45 Tue 09-Aug-11	17130-7bh		Sample	Airtech
17:37:57 Tue 09-Aug-11	QC Std 1		QC Std #1	
17:40:06 Tue 09-Aug-11	QC Std 4		QC Std #4	

elementOne
Analyst:--KMS--

ICP-MS RUN SHEET
8/10/2011

Job Number:

A/S Loc.	Dilution	Sample ID	Client	Type	Weight (g)	Prep Vol (ml)
5		QC STD 2	Airtech	Sample		
303		17131-1fh	Airtech	Sample		100
304		17131-2fh	Airtech	Sample		100
305	d	17131-2fh	Airtech	Duplicate of 54		100
306		17131-3fh	Airtech	Sample		100
307	s	17131-3fh	Airtech	Spike - 1 of 56		100
308		17131-4fh	Airtech	Sample		100
309		17131-5fh	Airtech	Sample		100
310	d	17131-5fh	Airtech	Duplicate of 59		100
311		17131-6fh	Airtech	Sample		100
312	s	17131-6fh	Airtech	Spike - 1 of 61		100
313		17131-7fh	Airtech	Sample		100
314	x50	17131-1fh	Airtech	Sample		100
315	x50	17131-2fh	Airtech	Sample		100
316	x50d	17131-2fh	Airtech	Duplicate of 65		100
317	x50	17131-3fh	Airtech	Sample		100
318	x50s	17131-3fh	Airtech	Spike - 1 of 67		100
319	x50	17131-4fh	Airtech	Sample		100
320	x50	17131-5fh	Airtech	Sample		100
321	x50d	17131-5fh	Airtech	Duplicate of 70		100
322	x50	17131-6fh	Airtech	Sample		100
323	x50s	17131-6fh	Airtech	Spike - 1 of 72		100
324		LRB	Airtech	Sample		50
325	s	LRB	Airtech	Spike - 1 of 74		50
326		17131-1bh	Airtech	Sample		50x2
327		17131-2bh	Airtech	Sample		50x2
328	d	17131-2bh	Airtech	Duplicate of 77		50x2
329		17131-3bh	Airtech	Sample		50x2
330	s	17131-3bh	Airtech	Spike - 1 of 79		50x2
331		17131-4bh	Airtech	Sample		50x2
332		17131-5bh	Airtech	Sample		50x2
333	d	17131-5bh	Airtech	Duplicate of 82		50x2
334		17131-6bh	Airtech	Sample		50x2
335	s	17131-6bh	Airtech	Spike - 1 of 84		50x2
336		17131-7bh	Airtech	Sample		50x2
403		QC Std 1	Airtech	Sample		
404		QC Std 4	Airtech	Sample		
5		QC STD 2	Airtech	Sample		
339		17132-1fh	Airtech	Sample		100
340		17132-2fh	Airtech	Sample		100
341	d	17132-2fh	Airtech	Duplicate of 91		100
342		17132-3fh	Airtech	Sample		100
343	s	17132-3fh	Airtech	Spike - 1 of 93		100
344		17132-4fh	Airtech	Sample		100
345		LRB	Airtech	Sample		50
346	s	LRB	Airtech	Spike - 1 of 96		50
347		17132-1bh	Airtech	Sample		50x2
348		17132-2bh	Airtech	Sample		50x2
348	d	17132-2bh	Airtech	Duplicate of 99		50x2
350		17132-3bh	Airtech	Sample		50x2
351	s	17132-3bh	Airtech	Spike - 1 of 101		50x2
352		17132-4bh	Airtech	Sample		50x2
403		QC Std 1	Airtech	Sample		

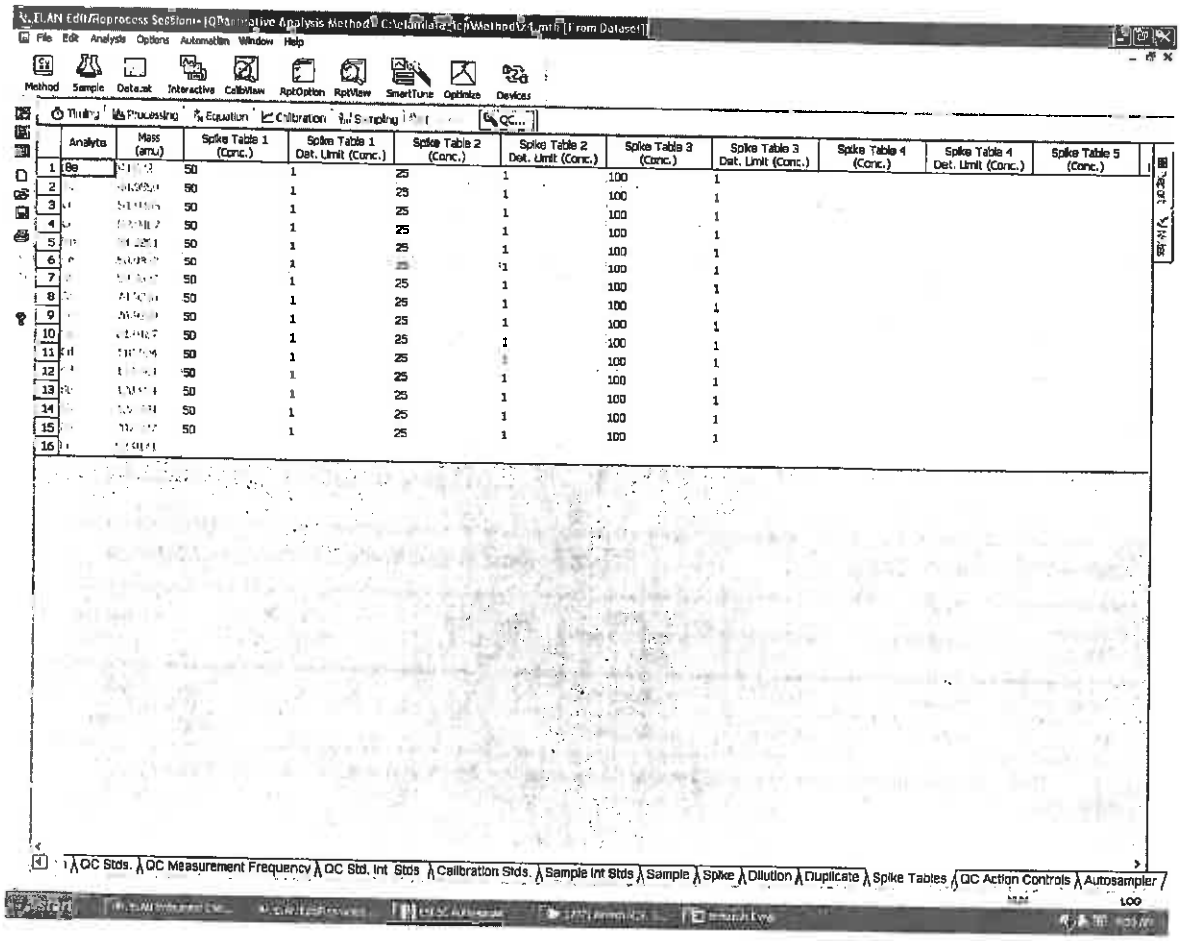
elementOne
Analyst:--KMS--

ICP-MS RUN SHEET
8/10/2011

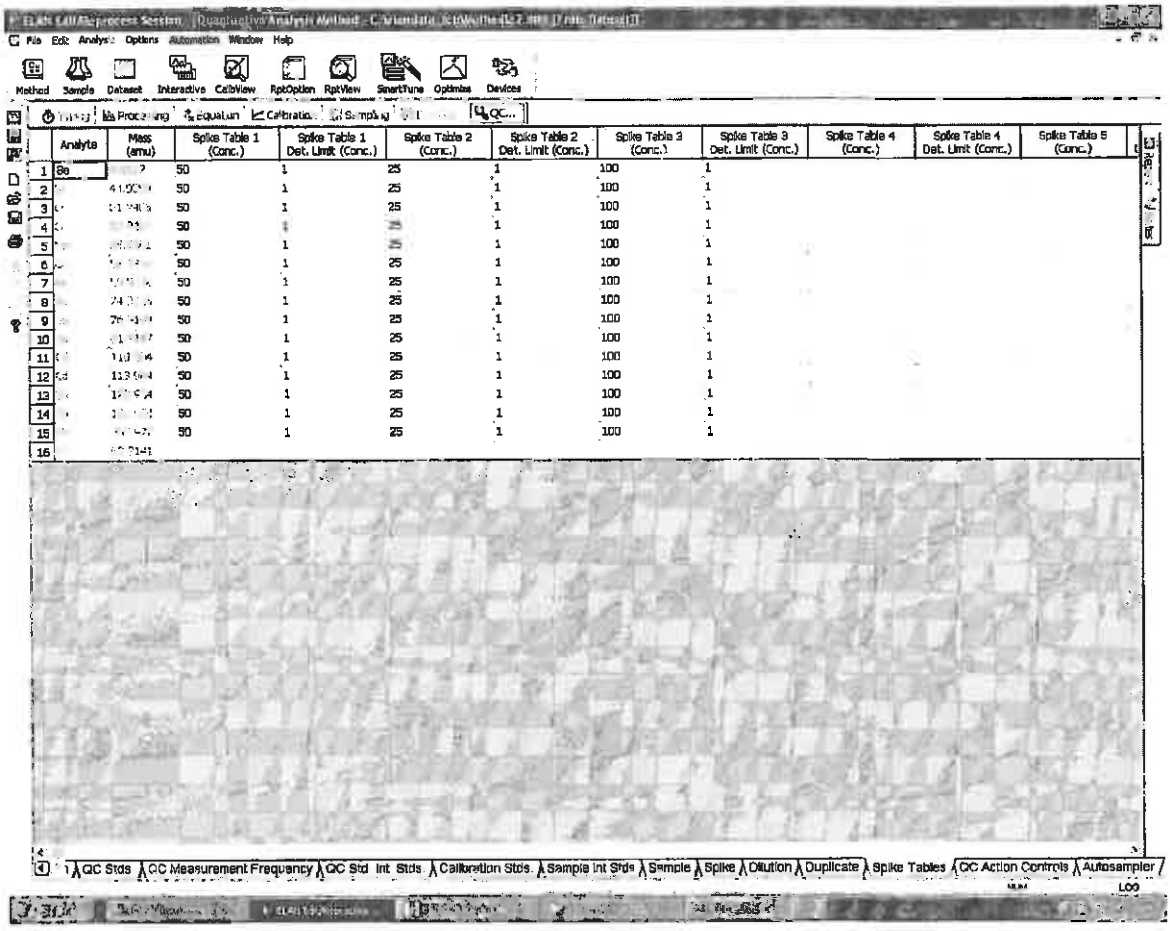
Job Number:

A/S Loc.	Dilution	Sample ID	Client	Type	Weight (g)	Prep Vol (ml)
404		QC Std 4	Airtech	Sample		
5		QC STD 2	Airtech	Sample		
413		17133-1	Airtech	Sample		100
414		17133-2	Airtech	Sample		100
415	d	17133-2	Airtech	Duplicate of 108		100
416		17133-3	Airtech	Sample		100
417	s	17133-3	Airtech	Spike - 1 of 110		100

Spikes are post at 0.02mL of 25ppm spiking solutions lot 021410-ABCD & F in a final volume of 10mL					
Submitted for QC by:	**Date/Time:**		**QC Review By:**	**Date/Time:**	
KMS	8/10/11 9:11		DBL	8/19/11 1500	
Re-Test Required:	**No:** ✓	**Yes:**	**Comments:**		
Resubmitted for QC by:	**Date/Time:**		**QC Review:**	**By:**	**Date/Time:**



Wednesday, Aug 10, 2011 09:03 AM



Wednesday, Aug 10, 2011 09:23 AM

ICP Standards and QC Standards Values Table

Element or Test	Mass	Symbol	Std.#1 ppb	Std.#2 ppb	Std.#3 ppb	QC #1	QC #2	QC #3	QC #4	QC #6 A	QC #7 AB	QC #8 .25	QC #9 LRB	QC #10 LRB+	QC #11 LRB+
Lithium	6	*Li*													
Lithium	7	Li	1	100	500	0	1	250	100				0	50	100
Beryllium	9	Be	1	100	500	0	1	250	100			0.25	0	50	100
Boron	10	*B*	1	50	100	0	1	250	100				0	50	100
Boron	11	B	1	50	100	0	1	250	100				0	50	100
Sodium	23	Na	20	1100	5500	0	21	2500	1100				0	718	
Magnesium	24	Mg	20	1100	5500	0	21	2500	1100				0	550	
Magnesium	25	*Mg*	20	1100	5500	0	21	2500	1100				0	550	
Aluminum	27	Al	1	100	500	0	1	250	100				0	50	100
Phosphorus	31	P	20	1000	5000	0	20	2500	1000				0	200	
Potassium	39	K	20	1100	5500	0	21	2500	1100				0	500	
Calcium	44	Ca	50	1100	5500	0	21	2500	1100				0	550	
Scandium	45														
Titanium	47	Ti	1	100	500	0	1	250	100				0	50	100
Titanium	49	Ti	1	100	500	0	1	250	100				0	50	100
Vanadium	51	V	1	100	500	0	1	250	100	0	20		0	50	100
Vanadium	51	V	1	100	500	0	1	250	100	0	20		0	50	100
Chromium	52	Cr	1	100	500	0	1	250	100		10		0	50	100
Chromium	53	*Cr*	1	100	500	0	1	250	100		10		0	50	100
Iron	54	*Fe*	20	1100	5500	0	21	2500	1100	0			0		
Manganese	55	Mn	1	100	500	0	1	250	100	0	10		0	50	100
Iron	57	Fe	20	1100	5500	0	21	2500	1100	0			0		
Cobalt	59	Co	1	100	500	0	1	250	100	0	20		0	50	100
Nickel	60	Ni	1	100	500	0	1	250	100	0	20		0	50	100
Copper	63	Cu	1	100	500	0	1	250	100	0	10		0	50	100
Copper	65	Cu	1	100	500	0	1	250	100	0	10		0	50	100
Zinc	66	Zn	1	100	500	0	1	250	100	0	10		0	50	100
Zinc	67	*Zn*	1	100	500	0	1	250	100	0	10		0	50	100
Zinc	68	*Zn*	1	100	500	0	1	250	100	0	10		0	50	100
Germanium	72	Ge	1	100	500	0	1	250	100				0	50	100
Arsenic	75	As	1	100	500	0	1	250	100	0	10		0	50	100
Selenium	77	*Se*	1	100	500	0	1	250	100	0	10		0	50	100
Selenium	82	Se	1	100	500	0	1	250	100	0	10		0	50	100
Strontium	88	Sr	1	100	500	0	1	250	100	0			0	50	100
Molybdenum	95	*Mo*	1	100	500	0	1	250	100				0	50	100
Molybdenum	97	*Mo*	1	100	500	0	1	250	100				0	50	100
Molybdenum	98	Mo	1	100	500	0	1	200	100				0	50	100
Rhodium	103														
Silver	107	Ag	1	100	500	0	1	250	100	0	10		0	50	100
Silver	109	*Ag*	1	100	500	0	1	250	100	0	10		0	50	100
Cadmium	111	Cd	1	100	500	0	1	250	100	0	5		0	50	100
Cadmium	114	*Cd*	1	100	500	0	1	250	100	0	5		0	50	100
Tin	118	Sn	1	100	500	0	1	250	100	0			0	50	100
Antimony	121	*Sb*	1	100	500	0	1	250	100	0			0	50	100
Antimony	123	Sb	1	100	500	0	1	250	100	0			0	50	100
Tellurium	128	Te	1	100	500	0	1	250	100				0	50	100
Cesium	133														
Barium	135	*Ba*	1	100	500	0	1	250	100	0			0	50	100
Barium	137	Ba	1	100	500	0	1	250	100	0			0	50	100
Lanthanum	139	La	1	100	500	0	1	250	100				0	50	100
Tantalum	159	Ta	1	100	500	0	1	250	100				0	50	100
Platinum	195	Pt	1	100	500	0	1	250	100				0	50	100
Gold	181	Au	1	100	500	0	1	250	100				0	50	100
Thallium	205	Tl	1	100	500	0	1	250	100	0			0	50	100
Lead	208	Pb	1	100	500	0	1	250	100	0			0	50	100
Bismuth	209	Bi	1	100	500	0	1	250	100				0	50	100
Thorium	232	Th	1	100	500	0	1	250	100				0	50	100
Uranium	238	U	1	100	500	0	1	250	100				0	50	100
Krypton	83														

elementOne

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: Blank
Sample Da Tuesday, August 09, 2011 16:00:34
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	59692.7		ppb
|-	Be	9	3		ppb
|-	Sc	45	253475.4		ppb
|	Cr	52	8994.1		ppb
|	Cr	53	27523		ppb
|	Mn	55	7053.4		ppb
|	Co	59	121.3		ppb
|	Ni	60	1314.1		ppb
|	As	75	187		ppb
|	Se	77	2246.6		ppb
|	Se	82	11.3		ppb
|>	Rh	103	513670.4		ppb
|	Cd	111	70.8		ppb
|-	Cd	114	178.8		ppb
|-	Sb	121	149.3		ppb
|	Sb	123	124.1		ppb
|>	Ho	165	954727.3		ppb
|-	Pb	208	6827.7		ppb
	Kr	83	116.7		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 1
Sample Da Tuesday, August 09, 2011 16:02:43
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	63216		ppb
|-	Be	9	642.4	1.14482	ppb
|-	Sc	45	262971		ppb
|	Cr	52	19882.4	1.0027	ppb
|	Cr	53	29734.6	0.57643	ppb
|	Mn	55	23643.1	0.99231	ppb
|	Co	59	13272	1.07924	ppb
|	Ni	60	2935.8	0.60118	ppb
|	As	75	2088.9	0.88762	ppb
|	Se	77	2515.3	0.83749	ppb
|	Se	82	260	1.1358	ppb
|>	Rh	103	542015.7		ppb
|	Cd	111	2960.2	1.0612	ppb
|-	Cd	114	6989.6	1.07467	ppb
|-	Sb	121	9624.8	1.06761	ppb
|	Sb	123	7448.3	1.08487	ppb
|>	Ho	165	989985.1		ppb
|-	Pb	208	51246.1	1.02459	ppb
	Kr	83	-71.7		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 2
Sample Da Tuesday, August 09, 2011 16:04:53
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	59806.5		ppb
|-	Be	9	57152.8	108.08079	ppb
|-	Sc	45	245080.3		ppb
|	Cr	52	984832.5	102.52926	ppb
|	Cr	53	142631.7	102.06136	ppb
|	Mn	55	1531510.5	101.63604	ppb
|	Co	59	1157128.3	103.40294	ppb
|	Ni	60	248761.2	104.6496	ppb
|	As	75	201887.3	102.70458	ppb
|	Se	77	18794.4	106.38639	ppb
|	Se	82	21368.3	106.39603	ppb
|>	Rh	103	497974.2		ppb
|	Cd	111	257863	103.1982	ppb
|-	Cd	114	615446.1	105.81262	ppb
|-	Sb	121	865057.8	105.50359	ppb
|	Sb	123	654974.6	105.0605	ppb
|>	Ho	165	914747.4		ppb
|-	Pb	208	4185774.7	104.88641	ppb
	Kr	83	-16008.7		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 3
Sample Da Tuesday, August 09, 2011 16:07:02
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	63283.3		ppb
|-	Be	9	279029.5	498.38355	ppb
|-	Sc	45	255038.5		ppb
|	Cr	52	4909273.6	499.49414	ppb
|	Cr	53	612294.3	499.58858	ppb
|	Mn	55	7731224.4	499.67281	ppb
|	Co	59	5757768.2	499.31925	ppb
|	Ni	60	1217577.7	499.07088	ppb
|	As	75	1010966.5	499.45931	ppb
|	Se	77	82497.6	498.72305	ppb
|	Se	82	103173.4	498.72052	ppb
|>	Rh	103	513208.9		ppb
|	Cd	111	1285341	499.36024	ppb
|-	Cd	114	2989269.6	498.83733	ppb
|-	Sb	121	4399926.1	498.89915	ppb
|	Sb	123	3346108.5	498.98773	ppb
|>	Ho	165	983886		ppb
|-	Pb	208	21391266	499.02267	ppb
	Kr	83	-81941.5		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da Tuesday, August 09, 2011 16:09:12
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	59468.3		ppb
|-	Be	9	31	0.05323	ppb
|-	Sc	45	229524.9		ppb
|	Cr	52	8593.4	0.02874	ppb
|	Cr	53	27373.5	1.73189	ppb
|	Mn	55	7271.6	0.05139	ppb
|	Co	59	528.7	0.03869	ppb
|	Ni	60	1286.4	0.03055	ppb
|	As	75	67	-0.05672	ppb
|	Se	77	2126.2	0.30679	ppb
|	Se	82	22.7	0.06341	ppb
|>	Rh	103	475726.7		ppb
|	Cd	111	145.9	0.03344	ppb
|-	Cd	114	353.9	0.03364	ppb
|-	Sb	121	394.7	0.03275	ppb
|	Sb	123	290.9	0.02957	ppb
|>	Ho	165	878318.6		ppb
|-	Pb	208	8005.1	0.04511	ppb
	Kr	83	99.3		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 2
Sample Da Tuesday, August 09, 2011 16:11:21
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	63847.6		ppb
|-	Be	9	641	1.12908	ppb
|-	Sc	45	245340.2		ppb
|	Cr	52	19586.8	1.14436	ppb
|	Cr	53	31810.6	4.55455	ppb
|	Mn	55	22482.1	1.04504	ppb
|	Co	59	12618.4	1.11884	ppb
|	Ni	60	2729.1	0.61701	ppb
|	As	75	2231.2	1.04609	ppb
|	Se	77	2671.4	3.18389	ppb
|	Se	82	229.1	1.08804	ppb
|>	Rh	103	497247.8		ppb
|	Cd	111	2890.6	1.13119	ppb
|-	Cd	114	6609.9	1.10858	ppb
|-	Sb	121	9479.6	1.11413	ppb
|	Sb	123	7292.8	1.1258	ppb
|>	Ho	165	934657.3		ppb
|-	Pb	208	50158.6	1.06796	ppb
	Kr	83	-66.9		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 3
Sample Da Tuesday, August 09, 2011 16:13:30
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	57891.1		ppb
|-	Be	9	126995.2	247.86511	ppb
|-	Sc	45	214960.3		ppb
|	Cr	52	2123271.7	245.15932	ppb
|	Cr	53	280861.6	249.28165	ppb
|	Mn	55	3306302.9	242.72244	ppb
|	Co	59	2515235.4	248.02302	ppb
|	Ni	60	533875.8	248.55531	ppb
|	As	75	430587.6	241.81799	ppb
|	Se	77	36048	240.66863	ppb
|	Se	82	44284.5	243.35483	ppb
|>	Rh	103	451426.5		ppb
|	Cd	111	567303.1	250.50112	ppb
|-	Cd	114	1334317.3	253.1156	ppb
|-	Sb	121	1896084.9	249.37056	ppb
|	Sb	123	1445478.1	250.03213	ppb
|>	Ho	165	848812.8		ppb
|-	Pb	208	9215615.1	249.06746	ppb
	Kr	83	-36164		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da Tuesday, August 09, 2011 16:15:41
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	69400.9		ppb
|-	Be	9	65131	106.09684	ppb
|-	Sc	45	262243.9		ppb
|	Cr	52	1053547.2	104.34121	ppb
|	Cr	53	150597	102.62201	ppb
|	Mn	55	1635025.9	103.20219	ppb
|	Co	59	1251759.6	106.36292	ppb
|	Ni	60	266206	106.51924	ppb
|	As	75	217447.8	105.19142	ppb
|	Se	77	20250.6	109.35314	ppb
|	Se	82	23097.7	109.39001	ppb
|>	Rh	103	523450.9		ppb
|	Cd	111	277401.1	105.62169	ppb
|-	Cd	114	652331.8	106.68014	ppb
|-	Sb	121	912857.6	102.89056	ppb
|	Sb	123	700802.1	103.88972	ppb
|>	Ho	165	989511.4		ppb
|-	Pb	208	4453848.5	103.17602	ppb
	Kr	83	-17019.9		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 5
Sample Da Tuesday, August 09, 2011 16:17:51
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	63420.7		ppb
|-	Be	9	27572.1	49.13758	ppb
|-	Sc	45	222544		ppb
|	Cr	52	445540.5	49.96104	ppb
|	Cr	53	81260.6	54.27205	ppb
|	Mn	55	698419.9	50.15259	ppb
|	Co	59	520093	50.52128	ppb
|	Ni	60	112357.2	51.10713	ppb
|	As	75	87280.7	48.22265	ppb
|	Se	77	9307.1	50.83133	ppb
|	Se	82	8914.5	48.23142	ppb
|>	Rh	103	458108.1		ppb
|	Cd	111	116163.2	50.52421	ppb
|-	Cd	114	273598.8	51.12239	ppb
|-	Sb	121	394104.4	50.30542	ppb
|	Sb	123	300092	50.37521	ppb
|>	Ho	165	873771.5		ppb
|-	Pb	208	1957817.5	51.28185	ppb
	Kr	83	100.5		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 7
Sample Da Tuesday, August 09, 2011 16:20:01
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	60377.6		ppb
|-	Be	9	26	0.0427	ppb
|-	Sc	45	242190.1		ppb
|	Cr	52	106686.1	11.1747	ppb
|	Cr	53	48763.5	22.83281	ppb
|	Mn	55	165979.9	11.48468	ppb
|	Co	59	220679.4	21.27097	ppb
|	Ni	60	44791.4	19.89803	ppb
|	As	75	18240.2	9.93085	ppb
|	Se	77	5940.9	27.1064	ppb
|	Se	82	1781.3	9.52029	ppb
|>	Rh	103	461545.2		ppb
|	Cd	111	11556	4.9642	ppb
|-	Cd	114	30470.4	5.62534	ppb
|-	Sb	121	1186.1	0.12449	ppb
|	Sb	123	948.9	0.13008	ppb
|>	Ho	165	931059.3		ppb
|-	Pb	208	7779.7	0.02728	ppb
	Kr	83	48.3		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 8
Sample Da Tuesday, August 09, 2011 16:22:10
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	69173.8		ppb
|-	Be	9	190.3	0.30554	ppb
|-	Sc	45	243916.2		ppb
|	Cr	52	13920	0.54907	ppb
|	Cr	53	36932.2	9.11123	ppb
|	Mn	55	10414	0.24013	ppb
|	Co	59	3371	0.29185	ppb
|	Ni	60	856	-0.17557	ppb
|	As	75	480.7	0.15616	ppb
|	Se	77	3379.3	7.76225	ppb
|	Se	82	64.8	0.26808	ppb
|>	Rh	103	497025.5		ppb
|	Cd	111	712.5	0.25886	ppb
|-	Cd	114	1715.3	0.2662	ppb
|-	Sb	121	2659.4	0.30356	ppb
|	Sb	123	2034.7	0.3041	ppb
|>	Ho	165	926002.5		ppb
|-	Pb	208	15346.8	0.21716	ppb
	Kr	83	54.7		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC STD 2
Sample Da Tuesday, August 09, 2011 16:28:40
Sample De Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	70915.1		ppb
|-	Be	9	647.7	1.02628	ppb
|-	Sc	45	213310.6		ppb
|	Cr	52	17347.9	1.11714	ppb
|	Cr	53	29753	5.73194	ppb
|	Mn	55	19706.3	1.00986	ppb
|	Co	59	11073.1	1.09364	ppb
|	Ni	60	2584.7	0.68065	ppb
|	As	75	1916.3	0.99692	ppb
|	Se	77	2698.7	5.33185	ppb
|	Se	82	183.9	0.96763	ppb
|>	Rh	103	446367.3		ppb
|	Cd	111	2543.3	1.1084	ppb
|-	Cd	114	5990.1	1.11947	ppb
|-	Sb	121	8592.7	1.10512	ppb
|	Sb	123	6491.4	1.09611	ppb
|>	Ho	165	854084.7		ppb
|-	Pb	208	45221.1	1.05146	ppb
	Kr	83	-66.4		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-1
Sample Da: Tuesday, August 09, 2011 16:30:52
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	68797.6		ppb
|-	Be	9	521.3	0.8508	ppb
|-	Sc	45	344993.9		ppb
|	Cr	52	301570.3	36.83898	ppb
|	Cr	53	44300.4	23.02728	ppb
|	Mn	55	1531524.4	121.1849	ppb
|	Co	59	27549	2.92558	ppb
|	Ni	60	88037.4	43.85277	ppb
|	As	75	110022	66.72085	ppb
|	Se	77	95438.4	714.57189	ppb
|	Se	82	127240.4	755.74002	ppb
|>	Rh	103	417677		ppb
|	Cd	111	5420.8	2.55878	ppb
|-	Cd	114	9854.9	1.99143	ppb
|-	Sb	121	21876	3.13069	ppb
|	Sb	123	16827.8	3.16424	ppb
|>	Ho	165	775521		ppb
|-	Pb	208	1468997.5	43.33305	ppb
	Kr	83	-4373		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-2
Sample Da: Tuesday, August 09, 2011 16:33:01
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	72956.8		ppb
|-	Be	9	342.3	0.52467	ppb
|-	Sc	45	445850.7		ppb
|	Cr	52	248470.3	24.5708	ppb
|	Cr	53	36609.9	7.99596	ppb
|	Mn	55	637290.8	41.02088	ppb
|	Co	59	19055.3	1.65256	ppb
|	Ni	60	81589.9	33.14067	ppb
|	As	75	92095.6	45.68853	ppb
|	Se	77	88821	541.51073	ppb
|	Se	82	117101.4	569.70887	ppb
|>	Rh	103	509866.4		ppb
|	Cd	111	3617.2	1.38708	ppb
|-	Cd	114	5026.3	0.81465	ppb
|-	Sb	121	23447.2	2.79587	ppb
|	Sb	123	17946	2.81265	ppb
|>	Ho	165	929959.3		ppb
|-	Pb	208	967285	23.72105	ppb
	Kr	83	-3834.7		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-2
Sample Da: Tuesday, August 09, 2011 16:35:10
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	72640.2		ppb
|-	Be	9	343.7	0.5293	ppb
|-	Sc	45	463932.4		ppb
|	Cr	52	279687.3	25.93114	ppb
|	Cr	53	39443.8	8.23841	ppb
|	Mn	55	713919.3	43.04109	ppb
|	Co	59	21062.7	1.70993	ppb
|	Ni	60	89317	33.98007	ppb
|	As	75	90028.5	41.79629	ppb
|	Se	77	100871.5	576.3049	ppb
|	Se	82	126949.8	577.93998	ppb
|>	Rh	103	544921.7		ppb
|	Cd	111	3929.3	1.4098	ppb
|-	Cd	114	5457.2	0.828	ppb
|-	Sb	121	25558.2	2.86527	ppb
|	Sb	123	19596	2.88774	ppb
|>	Ho	165	989153.9		ppb
|-	Pb	208	1038887.5	23.94963	ppb
	Kr	83	-4114.4		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-3
Sample Da Tuesday, August 09, 2011 16:37:19
Sample De Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
A	Li	6	68166.2		ppb
-	Be	9	271.3	0.44408	ppb
-	Sc	45	272952.2		ppb
	Cr	52	575800.2	57.31052	ppb
	Cr	53	72620.3	38.05378	ppb
	Mn	55	717442.3	45.58874	ppb
	Co	59	19708	1.68535	ppb
	Ni	60	146309	59.02523	ppb
	As	75	63337.5	30.96369	ppb
	Se	77	68517.9	408.3982	ppb
	Se	82	87189.9	418.15441	ppb
A	Rh	103	517259.4		ppb
	Cd	111	3734.4	1.41104	ppb
-	Cd	114	5769.7	0.92556	ppb
-	Sb	121	114841.2	13.0961	ppb
	Sb	123	88057.2	13.20518	ppb
A	Ho	165	977041.7		ppb
-	Pb	208	779151.6	18.14555	ppb
	Kr	83	-3816.4		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-3
Sample Da Tuesday, August 09, 2011 16:39:29
Sample De Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
A	Li	6	67344.1		ppb
-	Be	9	24366	40.89863	ppb
-	Sc	45	276847.2		ppb
	Cr	52	1091978.6	107.41805	ppb
	Cr	53	137585.9	90.85151	ppb
	Mn	55	1560349.9	97.77279	ppb
	Co	59	634343.8	53.53703	ppb
	Ni	60	273587.2	108.69769	ppb
	As	75	149245.4	71.64185	ppb
	Se	77	75172.9	440.53243	ppb
	Se	82	97776.6	459.93025	ppb
A	Rh	103	527482.6		ppb
	Cd	111	111393	42.09004	ppb
-	Cd	114	260250.7	42.23526	ppb
-	Sb	121	506213.9	58.01401	ppb
	Sb	123	392517.8	59.15643	ppb
A	Ho	165	973409.1		ppb
-	Pb	208	2695652.7	63.41061	ppb
	Kr	83	-3906.9		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-4
Sample Da Tuesday, August 09, 2011 16:41:38
Sample De Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
A	Li	6	71804.9		ppb
-	Be	9	23.7	0.03153	ppb
-	Sc	45	283996.8		ppb
	Cr	52	239951.9	21.67795	ppb
	Cr	53	33809.2	3.17652	ppb
	Mn	55	839820.2	49.71539	ppb
	Co	59	3664.7	0.28302	ppb
	Ni	60	32306.7	11.70188	ppb
	As	75	584.4	0.17383	ppb
	Se	77	356	-11.90481	ppb
	Se	82	19	0.03036	ppb
A	Rh	103	555777.1		ppb
	Cd	111	806.9	0.26166	ppb
-	Cd	114	194.9	0.00032	ppb
-	Sb	121	5588.4	0.58063	ppb
	Sb	123	4220	0.57495	ppb
A	Ho	165	1042362.3		ppb
-	Pb	208	96983.5	1.97212	ppb
	Kr	83	-918.2		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-1
Sample Da: Tuesday, August 09, 2011 16:48:08
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	76402.4		ppb
|-	Be	9	12.3	0.01256	ppb
|-	Sc	45	268540.8		ppb
|	Cr	52	96469.9	8.09893	ppb
|	Cr	53	17657.6	-9.66577	ppb
|	Mn	55	336931.5	19.52057	ppb
|	Co	59	4811.9	0.37213	ppb
|	Ni	60	25020.4	8.87229	ppb
|	As	75	13166.6	5.86676	ppb
|	Se	77	34624.9	183.26115	ppb
|	Se	82	44003	194.94912	ppb
|>	Rh	103	559863.3		ppb
|	Cd	111	1159.2	0.38523	ppb
|-	Cd	114	1864	0.25528	ppb
|-	Sb	121	4712.9	0.50101	ppb
|	Sb	123	3611.8	0.50347	ppb
|>	Ho	165	1014141.9		ppb
|-	Pb	208	209927.3	4.5887	ppb
	Kr	83	-413.1		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da: Tuesday, August 09, 2011 16:50:20
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	70329.9		ppb
|-	Be	9	4	0.00081	ppb
|-	Sc	45	269496.6		ppb
|	Cr	52	10529.8	0.16644	ppb
|	Cr	53	37234.1	8.58794	ppb
|	Mn	55	7418.4	0.02801	ppb
|	Co	59	104.3	-0.00139	ppb
|	Ni	60	1357.8	0.02331	ppb
|	As	75	88.4	-0.04896	ppb
|	Se	77	3744.4	9.51348	ppb
|	Se	82	28.2	0.08398	ppb
|>	Rh	103	508965.8		ppb
|	Cd	111	69.4	-0.00032	ppb
|-	Cd	114	149.4	-0.00467	ppb
|-	Sb	121	142.3	-0.00057	ppb
|	Sb	123	100	-0.00346	ppb
|>	Ho	165	940792.9		ppb
|-	Pb	208	6732	0.00009	ppb
	Kr	83	82.6		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da: Tuesday, August 09, 2011 16:52:30
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	72266		ppb
|-	Be	9	65725	102.79354	ppb
|-	Sc	45	274029.1		ppb
|	Cr	52	1093170.1	104.94454	ppb
|	Cr	53	164547.5	110.05249	ppb
|	Mn	55	1727060.5	105.693	ppb
|	Co	59	1275535.2	105.10107	ppb
|	Ni	60	268080.9	103.98914	ppb
|	As	75	218877.2	102.65304	ppb
|	Se	77	21885.4	115.20474	ppb
|	Se	82	23541.5	108.07114	ppb
|>	Rh	103	540029.4		ppb
|	Cd	111	285063.9	105.19016	ppb
|-	Cd	114	669382.7	106.10458	ppb
|-	Sb	121	950597	104.66295	ppb
|	Sb	123	726991.4	105.25361	ppb
|>	Ho	165	1013151		ppb
|-	Pb	208	4493021.9	101.68181	ppb
	Kr	83	-17206.6		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-2
Sample Da: Tuesday, August 09, 2011 16:54:42
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	73497.1		ppb
|-	Be	9	15.7	0.01837	ppb
|-	Sc	45	252684.2		ppb
|	Cr	52	222010.1	20.705	ppb
|	Cr	53	33740	4.03926	ppb
|	Mn	55	574371.7	35.03713	ppb
|	Co	59	9806.3	0.80242	ppb
|	Ni	60	45648.7	17.36316	ppb
|	As	75	18739.5	8.77489	ppb
|	Se	77	45064.9	253.51084	ppb
|	Se	82	58348.5	269.45637	ppb
|>	Rh	103	537203.9		ppb
|	Cd	111	31364.8	11.6114	ppb
|-	Cd	114	73634.3	11.70899	ppb
|-	Sb	121	4083.9	0.4681	ppb
|	Sb	123	3154.1	0.47398	ppb
|>	Ho	165	938559.1		ppb
|-	Pb	208	410339.1	9.87502	ppb
	Kr	83	-495.3		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-2
Sample Da: Tuesday, August 09, 2011 16:56:51
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	77435.7		ppb
|-	Be	9	12.3	0.01235	ppb
|-	Sc	45	277667.6		ppb
|	Cr	52	217609.6	19.75854	ppb
|	Cr	53	31367.4	1.48592	ppb
|	Mn	55	574314	34.17406	ppb
|	Co	59	10074.3	0.80448	ppb
|	Ni	60	45501.9	16.86677	ppb
|	As	75	18754.6	8.53572	ppb
|	Se	77	45094.6	247.13606	ppb
|	Se	82	56848.1	255.9982	ppb
|>	Rh	103	550790.7		ppb
|	Cd	111	30432.1	10.98625	ppb
|-	Cd	114	71311.6	11.05531	ppb
|-	Sb	121	4063.9	0.46184	ppb
|	Sb	123	3012.7	0.44804	ppb
|>	Ho	165	946132.1		ppb
|-	Pb	208	406860.6	9.71359	ppb
	Kr	83	-477.9		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-3
Sample Da: Tuesday, August 09, 2011 16:59:00
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	79214.2		ppb
|-	Be	9	22	0.02569	ppb
|-	Sc	45	310775.5		ppb
|	Cr	52	158609.4	13.28552	ppb
|	Cr	53	22386.9	-6.68996	ppb
|	Mn	55	492740.1	27.54314	ppb
|	Co	59	9842	0.73928	ppb
|	Ni	60	55630.4	19.51349	ppb
|	As	75	22340.7	9.60268	ppb
|	Se	77	47717.3	246.47566	ppb
|	Se	82	61647.1	261.75204	ppb
|>	Rh	103	584189.2		ppb
|	Cd	111	2455.8	0.81049	ppb
|-	Cd	114	5182	0.72987	ppb
|-	Sb	121	3438.3	0.37821	ppb
|	Sb	123	2618.9	0.37736	ppb
|>	Ho	165	969475.3		ppb
|-	Pb	208	352117.7	8.17541	ppb
	Kr	83	-648.6		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-3
Sample Da: Tuesday, August 09, 2011 17:01:10
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	72502.8		ppb
|-	Be	9	23592.2	36.77392	ppb
|-	Sc	45	277976.4		ppb
|	Cr	52	748992.9	74.12818	ppb
|	Cr	53	90398.9	52.41159	ppb
|	Mn	55	1300896.5	82.25151	ppb
|	Co	59	611281.4	52.10064	ppb
|	Ni	60	177832.2	71.18265	ppb
|	As	75	97419.2	47.22162	ppb
|	Se	77	50626.6	295.16045	ppb
|	Se	82	65792.1	312.57404	ppb
|>	Rh	103	522187.7		ppb
|	Cd	111	101043.2	38.55595	ppb
|-	Cd	114	239281.7	39.2185	ppb
|-	Sb	121	362703.9	45.47925	ppb
|	Sb	123	277170.8	45.70539	ppb
|>	Ho	165	889547.2		ppb
|-	Pb	208	2218067	57.09002	ppb
	Kr	83	-603.5		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-4
Sample Da: Tuesday, August 09, 2011 17:03:19
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	70309		ppb
|-	Be	9	21.3	0.02867	ppb
|-	Sc	45	282645		ppb
|	Cr	52	69278	5.58981	ppb
|	Cr	53	11530	-14.40659	ppb
|	Mn	55	243490.8	14.05605	ppb
|	Co	59	22223.1	1.76544	ppb
|	Ni	60	9691.2	3.12644	ppb
|	As	75	424	0.10086	ppb
|	Se	77	325.7	-12.07608	ppb
|	Se	82	65.7	0.23847	ppb
|>	Rh	103	556981.3		ppb
|	Cd	111	453	0.13469	ppb
|-	Cd	114	-1152.5	-0.20779	ppb
|-	Sb	121	1466.8	0.15365	ppb
|	Sb	123	1132	0.15445	ppb
|>	Ho	165	958569.4		ppb
|-	Pb	208	162247.1	3.72452	ppb
	Kr	83	-628.9		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: LRB
Sample Da: Tuesday, August 09, 2011 17:05:29
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	69513.5		ppb
|-	Be	9	7.3	0.00636	ppb
|-	Sc	45	265789.7		ppb
|	Cr	52	139702.4	12.16453	ppb
|	Cr	53	22379.2	-5.92395	ppb
|	Mn	55	354579.4	20.61581	ppb
|	Co	59	2038.6	0.15189	ppb
|	Ni	60	25836	9.20141	ppb
|	As	75	78.7	-0.05689	ppb
|	Se	77	415	-11.57534	ppb
|	Se	82	3.5	-0.03879	ppb
|>	Rh	103	558641.1		ppb
|	Cd	111	884.8	0.28821	ppb
|-	Cd	114	1963.7	0.27123	ppb
|-	Sb	121	227603.9	25.33855	ppb
|	Sb	123	173785.2	25.44919	ppb
|>	Ho	165	1001381		ppb
|-	Pb	208	415722.5	9.36843	ppb
	Kr	83	-1.9		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: LRB
Sample Da Tuesday, August 09, 2011 17:07:39
Sample De Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	70543		ppb
|-	Be	9	25618.1	41.03977	ppb
|-	Sc	45	278514.2		ppb
|	Cr	52	632145.4	55.71286	ppb
|	Cr	53	79632.7	36.29307	ppb
|	Mn	55	1056790.5	59.62738	ppb
|	Co	59	675927.9	51.51258	ppb
|	Ni	60	145044.6	51.76924	ppb
|	As	75	84733.9	36.70618	ppb
|	Se	77	5967	18.63744	ppb
|	Se	82	7255.8	30.77781	ppb
|>	Rh	103	583875.3		ppb
|	Cd	111	116770.8	39.8413	ppb
|-	Cd	114	277205.2	40.63064	ppb
|-	Sb	121	479570.4	49.82422	ppb
|	Sb	123	365182.8	49.8881	ppb
|>	Ho	165	1073572.1		ppb
|-	Pb	208	2267839.9	48.34054	ppb
	Kr	83	71.9		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da Tuesday, August 09, 2011 17:16:18
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	70465.9		ppb
|-	Be	9	7.3	0.00635	ppb
|-	Sc	45	276861		ppb
|	Cr	52	11283.4	0.24494	ppb
|	Cr	53	29327.2	1.7534	ppb
|	Mn	55	7806.4	0.05337	ppb
|	Co	59	235.3	0.00901	ppb
|	Ni	60	1372.1	0.02764	ppb
|	As	75	-273.7	-0.22564	ppb
|	Se	77	3437	7.56057	ppb
|	Se	82	46.4	0.16636	ppb
|>	Rh	103	510078.2		ppb
|	Cd	111	87.1	0.00582	ppb
|-	Cd	114	185	0.00033	ppb
|-	Sb	121	660.7	0.06091	ppb
|	Sb	123	546	0.06615	ppb
|>	Ho	165	939052.9		ppb
|-	Pb	208	7137.1	0.0103	ppb
	Kr	83	94.7		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da Tuesday, August 09, 2011 17:18:28
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	70250.9		ppb
|-	Be	9	61492.7	99.03828	ppb
|-	Sc	45	263598.3		ppb
|	Cr	52	1030925.7	106.41259	ppb
|	Cr	53	149110	106.59322	ppb
|	Mn	55	1633980.3	107.52045	ppb
|	Co	59	1178439.9	104.39553	ppb
|	Ni	60	251365.5	104.82438	ppb
|	As	75	205700	103.75615	ppb
|	Se	77	20049.5	113.30391	ppb
|	Se	82	21390.3	105.54356	ppb
|>	Rh	103	502724.4		ppb
|	Cd	111	265687	105.3752	ppb
|-	Cd	114	622545.9	106.05546	ppb
|-	Sb	121	904283.5	104.54811	ppb
|	Sb	123	695490	105.75511	ppb
|>	Ho	165	964977.9		ppb
|-	Pb	208	4325498.6	102.75713	ppb
	Kr	83	-16171.2		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: Blank
Sample Da Wednesday, August 10, 2011 13:47:40
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	65965.2		ppb
|-	Be	9	62.3		ppb
|-	Sc	45	201848		ppb
|	Cr	52	11245		ppb
|	Cr	53	25679.9		ppb
|	Mn	55	9627.9		ppb
|	Co	59	1337.8		ppb
|	Ni	60	1012.1		ppb
|	As	75	119.1		ppb
|	Se	77	3332.6		ppb
|	Se	82	18.1		ppb
|>	Rh	103	436904.7		ppb
|	Cd	111	153.7		ppb
|-	Cd	114	366.9		ppb
|-	Sb	121	195.3		ppb
|	Sb	123	137.4		ppb
|>	Ho	165	821622.6		ppb
|-	Pb	208	6381.6		ppb
	Kr	83	58.9		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 1
Sample Da Wednesday, August 10, 2011 13:49:49
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	68368.1		ppb
|-	Be	9	553	0.96854	ppb
|-	Sc	45	202460.3		ppb
|	Cr	52	19295.1	0.94341	ppb
|	Cr	53	28805.7	2.38237	ppb
|	Mn	55	18887.9	0.71077	ppb
|	Co	59	10777.7	0.98114	ppb
|	Ni	60	2424.3	0.67361	ppb
|	As	75	1780.9	1.02753	ppb
|	Se	77	3487.7	0.44273	ppb
|	Se	82	174.7	0.9693	ppb
|>	Rh	103	450058.1		ppb
|	Cd	111	2331	0.98875	ppb
|-	Cd	114	5465.5	0.99558	ppb
|-	Sb	121	8102.6	1.13395	ppb
|	Sb	123	6173	1.124	ppb
|>	Ho	165	824032.2		ppb
|-	Pb	208	42399.9	1.0423	ppb
	Kr	83	-78.7		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 2
Sample Da Wednesday, August 10, 2011 13:51:59
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	63783.6		ppb
|-	Be	9	48998.4	104.13388	ppb
|-	Sc	45	191695.1		ppb
|	Cr	52	816315.9	106.88	ppb
|	Cr	53	120664.8	105.9409	ppb
|	Mn	55	1222928.1	104.33081	ppb
|	Co	59	938215.4	106.09964	ppb
|	Ni	60	200486.6	105.55721	ppb
|	As	75	154143.6	103.65683	ppb
|	Se	77	14699.2	103.61405	ppb
|	Se	82	15201.1	102.35569	ppb
|>	Rh	103	414483.2		ppb
|	Cd	111	204658.4	101.04336	ppb
|-	Cd	114	490577.6	104.12432	ppb
|-	Sb	121	712889	106.37799	ppb
|	Sb	123	552169.8	106.99021	ppb
|>	Ho	165	791190		ppb
|-	Pb	208	3588724.7	108.00459	ppb
	Kr	83	-12892.7		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: Standard 3
Sample Da Wednesday, August 10, 2011 13:54:08
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	61175.4		ppb
|-	Be	9	225595.9	499.17329	ppb
|-	Sc	45	186095.5		ppb
|	Cr	52	3688697.8	498.62411	ppb
|	Cr	53	467274.2	498.80906	ppb
|	Mn	55	5686808.4	499.13442	ppb
|	Co	59	4308645.7	498.78011	ppb
|	Ni	60	923828.1	498.88921	ppb
|	As	75	726863.7	499.26858	ppb
|	Se	77	57629	499.2783	ppb
|	Se	82	72480.3	499.52892	ppb
|>	Rh	103	404464.2		ppb
|	Cd	111	988147.7	499.79135	ppb
|-	Cd	114	2294452.5	499.17514	ppb
|-	Sb	121	3435284.9	498.72413	ppb
|	Sb	123	2646688.4	498.60171	ppb
|>	Ho	165	813316.3		ppb
|-	Pb	208	17010366	498.399	ppb
	Kr	83	-62073.8		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da Wednesday, August 10, 2011 13:56:18
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	60892		ppb
|-	Be	9	29.7	-0.06333	ppb
|-	Sc	45	185020		ppb
|	Cr	52	9561.4	-0.1635	ppb
|	Cr	53	22731.2	-2.12176	ppb
|	Mn	55	5998.7	-0.27822	ppb
|	Co	59	614.7	-0.07603	ppb
|	Ni	60	833.7	-0.07526	ppb
|	As	75	266	0.10205	ppb
|	Se	77	2570.7	-5.60114	ppb
|	Se	82	-1.9	-0.1279	ppb
|>	Rh	103	420241.6		ppb
|	Cd	111	132.9	-0.00784	ppb
|-	Cd	114	318.4	-0.00764	ppb
|-	Sb	121	364.3	0.02773	ppb
|	Sb	123	280.5	0.03057	ppb
|>	Ho	165	774389.3		ppb
|-	Pb	208	6474.9	0.01369	ppb
	Kr	83	87.5		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 2
Sample Da Wednesday, August 10, 2011 13:58:27
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	64677.7		ppb
|-	Be	9	538.3	1.00275	ppb
|-	Sc	45	195093.4		ppb
|	Cr	52	18839.5	1.00544	ppb
|	Cr	53	25064.9	-0.06916	ppb
|	Mn	55	19375	0.82776	ppb
|	Co	59	10937.6	1.05579	ppb
|	Ni	60	2457.7	0.75156	ppb
|	As	75	1797.3	1.09694	ppb
|	Se	77	2793.4	-4.09283	ppb
|	Se	82	181.6	1.06751	ppb
|>	Rh	103	428602.2		ppb
|	Cd	111	2412.1	1.08179	ppb
|-	Cd	114	5618.7	1.0804	ppb
|-	Sb	121	8070.9	1.13889	ppb
|	Sb	123	6270.4	1.15159	ppb
|>	Ho	165	816906.4		ppb
|-	Pb	208	44475.4	1.11328	ppb
	Kr	83	-71.7		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 3
Sample Da Wednesday, August 10, 2011 14:00:37
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	61380.8		ppb
|-	Be	9	114927.7	254.02601	ppb
|-	Sc	45	185077.7		ppb
|	Cr	52	1937432.9	265.47756	ppb
|	Cr	53	249423.2	258.09693	ppb
|	Mn	55	2872047.5	255.56078	ppb
|	Co	59	2205574	259.22109	ppb
|	Ni	60	473249.4	259.4042	ppb
|	As	75	371986	259.78135	ppb
|	Se	77	30456.3	255.43091	ppb
|	Se	82	35800.2	250.35919	ppb
|>	Rh	103	399311.6		ppb
|	Cd	111	492838.8	252.70695	ppb
|-	Cd	114	1154200.5	254.36768	ppb
|-	Sb	121	1701131	256.6941	ppb
|	Sb	123	1312119.7	257.12557	ppb
|>	Ho	165	782589.8		ppb
|-	Pb	208	8410436.7	256.11575	ppb
	Kr	83	-30709.2		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da Wednesday, August 10, 2011 14:02:47
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	62261.7		ppb
|-	Be	9	48509.8	105.6242	ppb
|-	Sc	45	188000.8		ppb
|	Cr	52	823799.1	108.49433	ppb
|	Cr	53	117834.2	103.55564	ppb
|	Mn	55	1229685.7	105.5212	ppb
|	Co	59	935584.7	106.41439	ppb
|	Ni	60	201114.3	106.48381	ppb
|	As	75	156308.8	105.71572	ppb
|	Se	77	14317.9	100.89394	ppb
|	Se	82	15221.1	103.09149	ppb
|>	Rh	103	412148.7		ppb
|	Cd	111	209727.4	104.17808	ppb
|-	Cd	114	500960.8	106.97021	ppb
|-	Sb	121	723426.2	106.60351	ppb
|	Sb	123	554499.5	106.10111	ppb
|>	Ho	165	801380.7		ppb
|-	Pb	208	3634999	107.98069	ppb
	Kr	83	-13019.4		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 5
Sample Da Wednesday, August 10, 2011 14:04:57
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	64602.6		ppb
|-	Be	9	24592.2	51.53813	ppb
|-	Sc	45	192499.3		ppb
|	Cr	52	411211.2	52.67253	ppb
|	Cr	53	69651	49.17924	ppb
|	Mn	55	619327.7	52.00865	ppb
|	Co	59	466118.8	52.18823	ppb
|	Ni	60	99947.6	51.88551	ppb
|	As	75	77108.8	51.35928	ppb
|	Se	77	8090.9	43.66127	ppb
|	Se	82	7319.2	48.80101	ppb
|>	Rh	103	418105		ppb
|	Cd	111	104848.1	51.31221	ppb
|-	Cd	114	252260.3	53.06782	ppb
|-	Sb	121	371772.7	54.41748	ppb
|	Sb	123	283914.2	53.96436	ppb
|>	Ho	165	806574.7		ppb
|-	Pb	208	1855353.5	54.67205	ppb
	Kr	83	82.7		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 7
Sample Da Wednesday, August 10, 2011 14:07:07
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	52762.6		ppb
|-	Be	9	14.7	-0.07785	ppb
|-	Sc	45	180617.6		ppb
|	Cr	52	82327.4	10.91955	ppb
|	Cr	53	35962.5	22.32998	ppb
|	Mn	55	125596.1	11.40181	ppb
|	Co	59	171519.4	21.79842	ppb
|	Ni	60	33956.2	19.73692	ppb
|	As	75	13482.1	9.9942	ppb
|	Se	77	4374.8	16.59766	ppb
|	Se	82	1327.5	9.92061	ppb
|>	Rh	103	367015.7		ppb
|	Cd	111	9209	5.09729	ppb
|-	Cd	114	24139.4	5.74794	ppb
|-	Sb	121	815.7	0.1068	ppb
|	Sb	123	616.4	0.10699	ppb
|>	Ho	165	762610.6		ppb
|-	Pb	208	6273.2	0.0215	ppb
	Kr	83	84.7		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 8
Sample Da Wednesday, August 10, 2011 14:09:16
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	63952.6		ppb
|-	Be	9	155.3	0.20073	ppb
|-	Sc	45	196456.1		ppb
|	Cr	52	12163.8	0.1637	ppb
|	Cr	53	24330.5	-0.59034	ppb
|	Mn	55	8588.4	-0.06246	ppb
|	Co	59	3079.2	0.19712	ppb
|	Ni	60	662.7	-0.16541	ppb
|	As	75	187.2	0.04483	ppb
|	Se	77	2691.1	-4.72804	ppb
|	Se	82	33.6	0.10408	ppb
|>	Rh	103	423685.5		ppb
|	Cd	111	651.3	0.24227	ppb
|-	Cd	114	1616.4	0.261	ppb
|-	Sb	121	2095.2	0.27751	ppb
|	Sb	123	1551.4	0.26778	ppb
|>	Ho	165	811010.1		ppb
|-	Pb	208	14226.4	0.23226	ppb
	Kr	83	41.7		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC STD 2
Sample Da Wednesday, August 10, 2011 14:11:27
Sample De Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	64726.4		ppb
|-	Be	9	528.3	0.97943	ppb
|-	Sc	45	191815.1		ppb
|	Cr	52	19577.4	1.10766	ppb
|	Cr	53	27370.2	2.45634	ppb
|	Mn	55	18232.9	0.73721	ppb
|	Co	59	10419.6	1.00214	ppb
|	Ni	60	2348.3	0.69879	ppb
|	As	75	1595	0.96801	ppb
|	Se	77	3173.9	-0.69721	ppb
|	Se	82	164.3	0.96083	ppb
|>	Rh	103	426810.8		ppb
|	Cd	111	2399.4	1.07932	ppb
|-	Cd	114	5660.9	1.09397	ppb
|-	Sb	121	7890.8	1.13619	ppb
|	Sb	123	6257.1	1.17273	ppb
|>	Ho	165	800834.5		ppb
|-	Pb	208	43450.6	1.10905	ppb
	Kr	83	-64.8		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da Wednesday, August 10, 2011 15:29:19
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	62790.7		ppb
|-	Be	9	5.7	-0.11593	ppb
|-	Sc	45	181158.1		ppb
|	Cr	52	6840.9	-0.38929	ppb
|	Cr	53	11131.8	-12.95626	ppb
|	Mn	55	5147.1	-0.28497	ppb
|	Co	59	157.7	-0.12353	ppb
|	Ni	60	699	-0.08987	ppb
|	As	75	-107	-0.15669	ppb
|	Se	77	1906.5	-9.03506	ppb
|	Se	82	-11.6	-0.20395	ppb
|>	Rh	103	366652.5		ppb
|	Cd	111	62.5	-0.03715	ppb
|-	Cd	114	93.8	-0.05141	ppb
|-	Sb	121	128	-0.00676	ppb
|	Sb	123	84.3	-0.00741	ppb
|>	Ho	165	705052.5		ppb
|-	Pb	208	4755.1	-0.02448	ppb
	Kr	83	105.7		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da Wednesday, August 10, 2011 15:31:28
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	59421.4		ppb
|-	Be	9	44578	101.67778	ppb
|-	Sc	45	167785.9		ppb
|	Cr	52	664853.1	106.30126	ppb
|	Cr	53	87890.2	91.27325	ppb
|	Mn	55	1000482.5	104.25873	ppb
|	Co	59	780627.2	107.8223	ppb
|	Ni	60	170187.2	109.42818	ppb
|	As	75	124112.7	101.93245	ppb
|	Se	77	11010.3	92.35968	ppb
|	Se	82	12189.8	100.2641	ppb
|>	Rh	103	339423.3		ppb
|	Cd	111	174331.4	105.14595	ppb
|-	Cd	114	416685.4	108.02558	ppb
|-	Sb	121	611085.3	110.74107	ppb
|	Sb	123	466772.7	109.83826	ppb
|>	Ho	165	651676		ppb
|-	Pb	208	3076528.9	112.39702	ppb
	Kr	83	-10556.7		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-1FH
Sample Da Wednesday, August 10, 2011 15:50:56
Sample De Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	71182.2		ppb
|-	Be	9	64.3	-0.00568	ppb
|-	Sc	45	254572.5		ppb
|	Cr	52	44084.6	3.06656	ppb
|	Cr	53	21731.3	-8.47987	ppb
|	Mn	55	192983.7	11.9295	ppb
|	Co	59	3382.6	0.14989	ppb
|	Ni	60	10686.9	3.82493	ppb
|	As	75	14810.6	7.5606	ppb
|	Se	77	16072.5	82.2078	ppb
|	Se	82	17672.4	91.18931	ppb
|>	Rh	103	540895.3		ppb
|	Cd	111	739.4	0.20801	ppb
|-	Cd	114	1394.5	0.153	ppb
|-	Sb	121	3057.2	0.33495	ppb
|	Sb	123	2359.4	0.33813	ppb
|>	Ho	165	994758.9		ppb
|-	Pb	208	193414.4	4.45157	ppb
	Kr	83	-422.6		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-2FH
Sample Da Wednesday, August 10, 2011 15:53:05
Sample De Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	66786		ppb
|-	Be	9	67.7	0.00923	ppb
|-	Sc	45	261986.6		ppb
|	Cr	52	54560.9	4.4519	ppb
|	Cr	53	20456.3	-8.56092	ppb
|	Mn	55	130818.5	8.33053	ppb
|	Co	59	3862.5	0.21082	ppb
|	Ni	60	16526	6.57815	ppb
|	As	75	21608.3	11.71262	ppb
|	Se	77	23464.9	142.39891	ppb
|	Se	82	27957	152.67127	ppb
|>	Rh	103	511363.3		ppb
|	Cd	111	781.6	0.24104	ppb
|-	Cd	114	1246	0.14062	ppb
|-	Sb	121	5220.8	0.61286	ppb
|	Sb	123	4015.1	0.61439	ppb
|>	Ho	165	962208		ppb
|-	Pb	208	228301.3	5.47292	ppb
	Kr	83	-676.9		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-2FH
Sample Da Wednesday, August 10, 2011 15:55:15
Sample De Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	66735.7		ppb
|-	Be	9	74	0.02225	ppb
|-	Sc	45	260282.7		ppb
|	Cr	52	54816.8	4.50505	ppb
|	Cr	53	20471.7	-8.46724	ppb
|	Mn	55	131810.4	8.43946	ppb
|	Co	59	3943.5	0.21983	ppb
|	Ni	60	16910.7	6.77472	ppb
|	As	75	21804.3	11.86908	ppb
|	Se	77	23702.5	144.8822	ppb
|	Se	82	28279	155.10267	ppb
|>	Rh	103	509140.5		ppb
|	Cd	111	739	0.2253	ppb
|-	Cd	114	1214.3	0.13606	ppb
|-	Sb	121	5245.5	0.60916	ppb
|	Sb	123	4037.3	0.61125	ppb
|>	Ho	165	972349.3		ppb
|-	Pb	208	226512.5	5.37019	ppb
	Kr	83	-723.3		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da Wednesday, August 10, 2011 15:57:27
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	62258		ppb
|-	Be	9	4	-0.11942	ppb
|-	Sc	45	213358.9		ppb
|	Cr	52	9180.3	-0.36348	ppb
|	Cr	53	18950.1	-8.74561	ppb
|	Mn	55	7019.1	-0.26759	ppb
|	Co	59	125.7	-0.13159	ppb
|	Ni	60	860.4	-0.11601	ppb
|	As	75	-15.5	-0.0893	ppb
|	Se	77	2683.1	-7.59192	ppb
|	Se	82	1.4	-0.11729	ppb
|>	Rh	103	483450.4		ppb
|	Cd	111	56.7	-0.04835	ppb
|-	Cd	114	98.4	-0.05608	ppb
|-	Sb	121	118	-0.01222	ppb
|	Sb	123	83.4	-0.01104	ppb
|>	Ho	165	881640.3		ppb
|-	Pb	208	5403.6	-0.03863	ppb
	Kr	83	102.9		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da: Wednesday, August 10, 2011 15:59:36
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mean	Report Unit
|>	Li	6	63972.2		ppb
|-	Be	9	51410	108.94088	ppb
|-	Sc	45	220303.6		ppb
|	Cr	52	957547.9	105.71489	ppb
|	Cr	53	133338.4	96.90385	ppb
|	Mn	55	1535185.3	110.52586	ppb
|	Co	59	1143300.3	109.02495	ppb
|	Ni	60	236516.7	104.974	ppb
|	As	75	184036.2	104.3025	ppb
|	Se	77	17204.6	101.73117	ppb
|	Se	82	18613.8	105.54945	ppb
|>	Rh	103	491968.9		ppb
|	Cd	111	248029.9	103.23626	ppb
|-	Cd	114	588250.1	105.27808	ppb
|-	Sb	121	862174.2	108.32964	ppb
|	Sb	123	669745.7	109.27376	ppb
|>	Ho	165	939929.9		ppb
|-	Pb	208	4041983.8	102.38523	ppb
	Kr	83	-15362.8		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-3FH
Sample Da: Wednesday, August 10, 2011 16:01:48
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mean	Report Unit
|>	Li	6	68030		ppb
|-	Be	9	61	-0.00647	ppb
|-	Sc	45	233671.5		ppb
|	Cr	52	112930.5	10.30337	ppb
|	Cr	53	29271.7	-1.61237	ppb
|	Mn	55	138764.6	8.54483	ppb
|	Co	59	4293.4	0.23709	ppb
|	Ni	60	28307.7	11.20506	ppb
|	As	75	15144.1	7.89808	ppb
|	Se	77	17655.5	95.61654	ppb
|	Se	82	20239.4	106.60714	ppb
|>	Rh	103	529932.7		ppb
|	Cd	111	808.8	0.24057	ppb
|-	Cd	114	1378.2	0.15519	ppb
|-	Sb	121	24806.5	2.90978	ppb
|	Sb	123	18837.4	2.87181	ppb
|>	Ho	165	997530		ppb
|-	Pb	208	169042.9	3.85664	ppb
	Kr	83	-648		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-3FH
Sample Da: Wednesday, August 10, 2011 16:03:58
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mean	Report Unit
|>	Li	6	66991.8		ppb
|-	Be	9	25553.9	51.63429	ppb
|-	Sc	45	232007.5		ppb
|	Cr	52	598527.7	60.62346	ppb
|	Cr	53	87015.1	47.99844	ppb
|	Mn	55	908960	60.25813	ppb
|	Co	59	574392.9	50.66603	ppb
|	Ni	60	145728.3	59.70107	ppb
|	As	75	104050.7	54.64328	ppb
|	Se	77	23853.3	138.94694	ppb
|	Se	82	28505.5	150.08436	ppb
|>	Rh	103	530446.2		ppb
|	Cd	111	121388	46.81709	ppb
|-	Cd	114	288517.3	47.83025	ppb
|-	Sb	121	460310.4	54.87353	ppb
|	Sb	123	353116.6	54.66319	ppb
|>	Ho	165	990403.6		ppb
|-	Pb	208	2217667.7	53.21111	ppb
	Kr	83	-628.9		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-3BH
Sample Da: Wednesday, August 10, 2011 16:06:07
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	60710		ppb
|-	Be	9	12	-0.1014	ppb
|-	Sc	45	215226.6		ppb
|	Cr	52	69778.6	6.10695	ppb
|	Cr	53	18004.5	-10.70003	ppb
|	Mn	55	204226.4	13.47941	ppb
|	Co	59	4188.6	0.24172	ppb
|	Ni	60	23161.8	9.44858	ppb
|	As	75	11711.1	6.3258	ppb
|	Se	77	23305.5	141.68617	ppb
|	Se	82	28600.7	156.58816	ppb
|>	Rh	103	510005		ppb
|	Cd	111	1293	0.44735	ppb
|-	Cd	114	2789.2	0.40758	ppb
|-	Sb	121	1936.9	0.20988	ppb
|	Sb	123	1461.5	0.2075	ppb
|>	Ho	165	961320.1		ppb
|-	Pb	208	188224.9	4.48427	ppb
	Kr	83	-214.1		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: 17133-3BH
Sample Da: Wednesday, August 10, 2011 16:08:17
Sample De: Airtech
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	61763.1		ppb
|-	Be	9	19852	43.48686	ppb
|-	Sc	45	223869.7		ppb
|	Cr	52	561423.2	58.7712	ppb
|	Cr	53	75606.4	40.41627	ppb
|	Mn	55	951541.9	65.3198	ppb
|	Co	59	566971.4	51.74321	ppb
|	Ni	60	139585.2	59.16348	ppb
|	As	75	83087.5	45.10964	ppb
|	Se	77	29224.9	183.66122	ppb
|	Se	82	35941.7	195.69951	ppb
|>	Rh	103	512911.9		ppb
|	Cd	111	98919	39.43674	ppb
|-	Cd	114	234125.5	40.12369	ppb
|-	Sb	121	364638.5	44.74907	ppb
|	Sb	123	282369.5	44.99859	ppb
|>	Ho	165	961935.5		ppb
|-	Pb	208	2161153.3	53.39108	ppb
	Kr	83	-236.9		mg/L

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 1
Sample Da: Wednesday, August 10, 2011 16:10:29
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	69995.2		ppb
|-	Be	9	7.7	-0.11349	ppb
|-	Sc	45	247811.9		ppb
|	Cr	52	11140.2	-0.30329	ppb
|	Cr	53	25307.5	-5.85323	ppb
|	Mn	55	8055.9	-0.2642	ppb
|	Co	59	174	-0.12893	ppb
|	Ni	60	988.1	-0.11468	ppb
|	As	75	-338.6	-0.24765	ppb
|	Se	77	3552.4	-4.38859	ppb
|	Se	82	10.1	-0.06379	ppb
|>	Rh	103	550908.8		ppb
|	Cd	111	63.7	-0.0484	ppb
|-	Cd	114	111	-0.05624	ppb
|-	Sb	121	123	-0.01351	ppb
|	Sb	123	100.2	-0.01024	ppb
|>	Ho	165	998488.7		ppb
|-	Pb	208	6092.1	-0.03969	ppb
	Kr	83	95.1		mg/L

PerkinElmer ELAN 6100 ICP-MS

Method 6020 & 200.8 Metals Summary Report
Sample ID: QC Std 4
Sample Da: Wednesday, August 10, 2011 16:12:39
Sample Description:
Concentration Results

	Analyte	Mass	Meas. Intens	Conc. Mear	Report Unit
|>	Li	6	61050.2		ppb
|-	Be	9	48247.4	106.94102	ppb
|-	Sc	45	215061.7		ppb
|	Cr	52	948341.7	102.72512	ppb
|	Cr	53	134846.3	96.16875	ppb
|	Mn	55	1528046.7	108.11135	ppb
|	Co	59	1144681.5	107.32364	ppb
|	Ni	60	238736.5	104.15349	ppb
|	As	75	186837.2	104.0802	ppb
|	Se	77	17687.3	103.25695	ppb
|	Se	82	19079.5	106.45373	ppb
|>	Rh	103	499620.2		ppb
|	Cd	111	247028.1	101.05412	ppb
|-	Cd	114	581995.9	102.4775	ppb
|-	Sb	121	844079.8	110.75214	ppb
|	Sb	123	649850.9	110.76036	ppb
|>	Ho	165	899989.4		ppb
|-	Pb	208	3891984.5	102.89309	ppb
	Kr	83	-15569.1		mg/L

AIRTECH
Environmental
Services Inc.

Ohio Lumex Spectrometer (Mercury) Analytical Report

Performed for
Big Rivers Electric Corporation
Green Station
Unit 2
Project No. 3648
August 29, 2011

Analyst: _____
Michael Ogletree

Reviewer: _____
Patrick Clark P.E.

702 WEST 48TH AVENUE, UNIT J - DENVER, COLORADO - TEL: 303.670.0530 - FAX: 303.670.4130

Table of Contents

Project Summary

General

Project Information	
Date Received	8/10/2011
Analytical Protocol	EPA Method 30B
Total Number of Samples Received	18
Total Number of Blanks Received	NA

Analytical Equipment

Equipment Information	Manufacturer	Model	Serial
Zeeman Mercury	Ohio Lumex	RA-915+	1283

Parameters	Conditions
Oven Temperature	585° Celsius
Flow Rate	2.0 LPM

Condition of Samples When Received

Samples were received for analysis in good condition without any noticeable contamination or breakage of samples tubes.

Methodology

All samples were analyzed according to the EPA Method 30B procedures found in 40 CFR Part 60 Appendix A.

QA/QC

The mercury calibration curve was generated using seven calibration standards. The standards were prepared by using a micro pipette to transfer a known amount of NIST traceable mercury standards to a bed of activated carbon and covered with potassium chloride.

The preparation of the mercury standards used for this project is detailed in the table below. All standards where supplied by Ohio Lumex, Twinsburg, Ohio 44087.

Concentration (µg/ml)	Volume (µl)	Final Hg (ng)
0.1	20	2
0.1	50	5
0.1	100	10
1	25	25
1	50	50
1	100	100
10	25	250
10	50	500

An independent calibration standard was analyzed along with the mercury calibration standards; results can be found in the calibration standards spreadsheet. A continuing calibration standard of 250 ng/ml was analyzed along with samples at least once every ten runs.

Appendix

Includes the following:

- Results
- Calibration Data

Results

Includes the following:

- Mercury Results

Analysis Date: 8/24/11
Analyst: MO

Sample Parameters	Green Unit 2 A Run 1	Green Unit 2 A Run 2	Green Unit 2 A Run 3
Particulate Coil	904	0	0
Oxidized Front Half (area)	1,800	13,500	53,800
Oxidized Back Half (area)	14,800	12,500	973
Elemental Front Half (area)	38,000	25,400	17,000
Elemental Back Half (area)	90	79	0
RESULTS			
Ash Bonded (ng)	4.34	0.00	0.00
Oxidized Front Half (ng)	8.30	62.3	248
Oxidized Back Half (ng)	71.0	60.0	4.67
Oxidized Breakthrough (%)	89.5	49.1	1.8
Total Oxidized (ng)	79.3	122	253
Elemental Front Half (ng)	175	117	78
Elemental Back Half (ng)	0.432	0.379	0.00
Elemental Breakthrough (%)	0.2	0.3	0.0
Total Elemental (ng)	176	118	78.4
Total Mercury (ng)	**259**	**240**	**331**

Sample Parameters	Green Unit 2 A Run 1 Spike	Green Unit 2 A Run 2 Spike	Green Unit 2 A Run 3 Spike
Particulate Coil	737	2,050	3,280
Front Half (area)	104,000	94,400	78,700
Back Half (area)	185	0	145.0
RESULTS			
Ash Bonded (ng)	3.53	9.45	15.1
Front Half (ng)	480	435	363
Back Half (ng)	0.887	0.000	0.695
Breakthrough (%)	0.2	0.0	0.2
Total Mercury (ng)	**484**	**445**	**379**
Spike Recovery	111%	107%	75%

Analysis Date: 8/24/11
Analyst: MO

Sample Parameters	Green Unit 2 B Run 1	Green Unit 2 B Run 2	Green Unit 2 B Run 3
Particulate Coil	9,380	15,700	6,140
Oxidized Front Half (area)	21,500	18,000	21,300
Oxidized Back Half (area)	1,300	890	127
Elemental Front Half (area)	27,100	23,200	31,500
Elemental Back Half (area)	117	28	61
RESULTS			
Ash Bonded (ng)	43.3	72.4	28.3
Oxidized Front Half (ng)	99.1	83.0	98.2
Oxidized Back Half (ng)	6.24	4.27	0.609
Oxidized Breakthrough (%)	5.9	4.9	0.6
Total Oxidized (ng)	105	87.3	98.8
Elemental Front Half (ng)	125	107	145
Elemental Back Half (ng)	0.561	0.134	0.293
Elemental Breakthrough (%)	0.4	0.1	0.2
Total Elemental (ng)	126	107	146
Total Mercury (ng)	**274**	**267**	**273**

Sample Parameters	Green Unit 2 B Run 1 Spike	Green Unit 2 B Run 2 Spike	Green Unit 2 B Run 3 Spike
Particulate Coil	16,100	10,700	9,620
Front Half (area)	78,300	86,400	89,700
Back Half (area)	230	344	24
RESULTS			
Ash Bonded (ng)	74.2	49.3	44.4
Front Half (ng)	361	398	414
Back Half (ng)	1.10	1.65	0.115
Breakthrough (%)	0.3	0.4	0.0
Total Mercury (ng)	**436**	**449**	**458**
Spike Recovery	97%	102%	102%

Analysis Date: 8/24/11
Analyst: MO

Sample Parameters	Green Unit 2 Stack Run 1	Green Unit 2 Stack Run 2	Green Unit 2 Stack Run 3
Particulate Coil	0	0	0
Oxidized Front Half (area)	886	722	1,200
Oxidized Back Half (area)	0	188	47
Elemental Front Half (area)	23,500	20,200	20,100
Elemental Back Half (area)	625	79	142

RESULTS			
Ash Bonded (ng)	0.00	0.00	0.00
Oxidized Front Half (ng)	4.09	3.33	5.53
Oxidized Back Half (ng)	0.00	0.902	0.225
Oxidized Breakthrough (%)	0.0	21.3	3.9
Total Oxidized (ng)	4.09	4.23	5.76
Elemental Front Half (ng)	108	93.2	92.7
Elemental Back Half (ng)	3.00	0.379	0.681
Elemental Breakthrough (%)	2.7	0.4	0.7
Total Elemental (ng)	111	93.5	93.4
Total Mercury (ng)	**115**	**97.8**	**99.1**

Sample Parameters	Green Unit 2 Stack Run 1 Spike	Green Unit 2 Stack Run 2 Spike	Green Unit 2 Stack Run 3 Spike
Particulate Coil	2,190	2,260	1,220
Front Half (area)	43,700	41,500	41,800
Back Half (area)	34	254	94

RESULTS			
Ash Bonded (ng)	10.1	10.4	5.63
Front Half (ng)	202	191	193
Back Half (ng)	0.163	1.22	0.451
Breakthrough (%)	0.1	0.6	0.2
Total Mercury (ng)	**212**	**203**	**199**
Spike Recovery	98%	103%	100%

Calibration Data

Includes the following:

- Mercury Standards
- Mercury Calibration Curves

Date: 8/23/11
Analyzer: Ohio Lumex
Analyst: MO

INITIAL CALIBRATION

Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
1	5	1,150	0.00435	5.30	6.1	Yes
2	10	2,110	0.00474	9.7	-2.7	Yes
3	25	5,760	0.00434	26.6	6.2	Yes
4	50	10,600	0.00472	48.9	-2.2	Yes
5	100	21,400	0.00467	98.7	-1.3	Yes
6	250	55,400	0.00451	255	2.2	Yes
7	500	101,000	0.00495	466	-6.8	Yes

Average Response Factor (ng/area) 0.00461
R-Squared 0.998

LOW LEVEL STANDARD - FOR QUANTIFICATION BELOW 5 NG

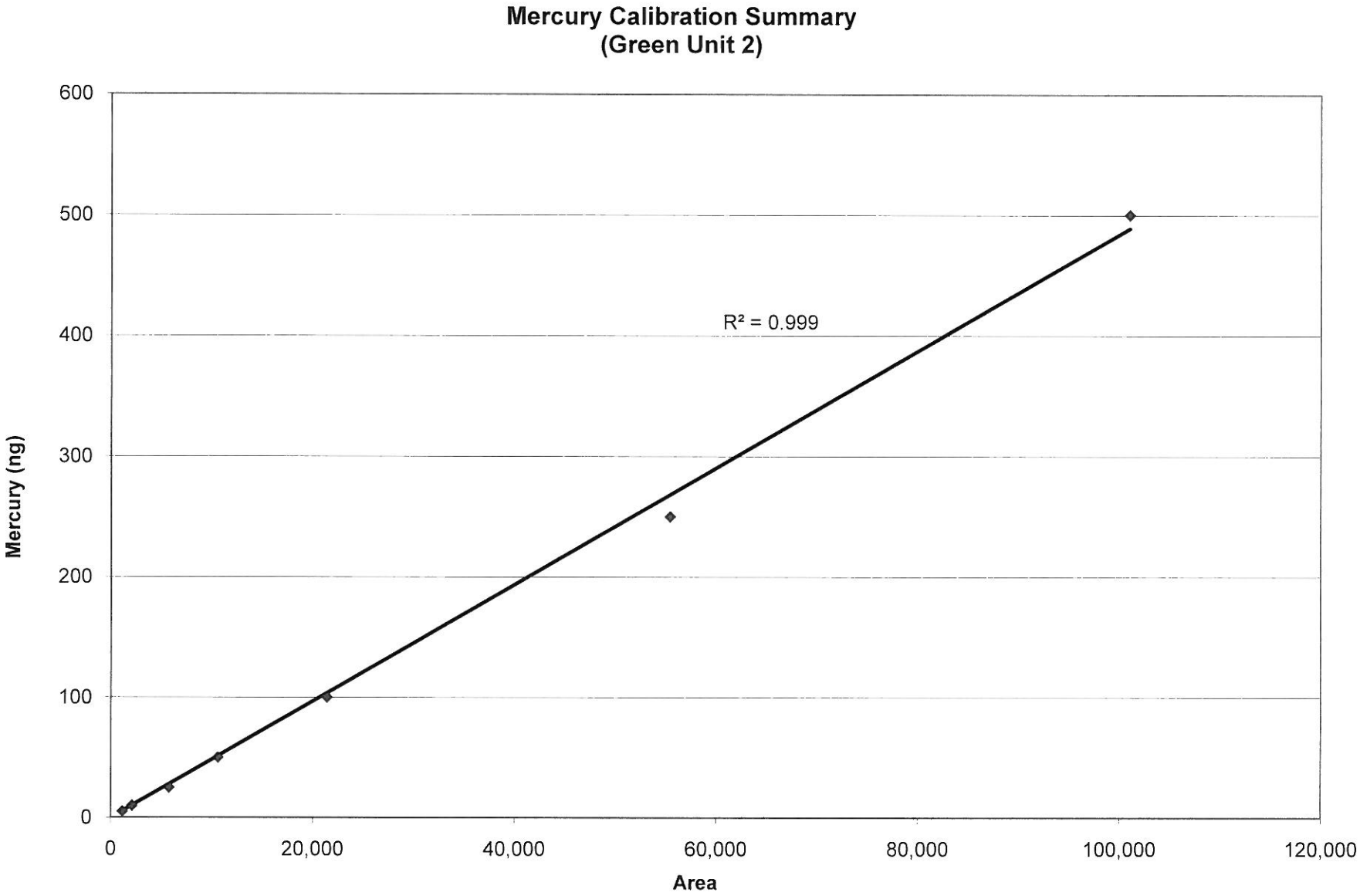
Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
NA	2	417	0.00480	2	-3.9	NA

SECOND SOURCE CHECK STANDARD ANALYSIS

Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
NA	250	54,000	0.00463	249	-0.4	Yes

CONTINUING CALIBRATION VERIFICATION STANDARDS

Standard Number	Amount (ng)	Response (area)	RF (ng/area)	Calculated Value (ng)	Error (%)	Valid?
NA	250	52,400	0.00477	241.64	-3.3	Yes
NA	250	53,800	0.00465	248.10	-0.8	Yes
NA	250	54,800	0.00456	252.71	1.1	Yes
NA	250	55,500	0.00450	255.94	2.4	Yes
NA	250	56,000	0.00446	258.24	3.3	Yes
NA	250	52,900	0.00473	243.95	-2.4	Yes
NA	250	55,500	0.00450	255.94	2.4	Yes
NA	250	53,000	0.00472	244.41	-2.2	Yes
NA	250	54,500	0.00459	251.33	0.5	Yes
NA	250	54,100	0.00462	249.48	-0.2	Yes
NA	250	56,700	0.00441	261.47	4.6	Yes
NA	250	54,400	0.00460	250.87	0.3	Yes


Mercury Calibration Summary
(Green Unit 2)
600
500
400
300
200
100
0
Mercury (ng)
R² = 0.999
0
20,000
40,000
60,000
80,000
100,000
120,000
Area

G and C COAL ANALYSIS LAB., INC.

1341 HOFFMAN HOLLOW RD.
SUMMERVILLE, PA 15864
(814) 849-2559
FAX (814) 849-8878

RECEIVED FROM:

Airtech Enviromental
601A Country Club Drive

Bensonville, IL 60106

LAB NO. 893888
SAMPLED 07/29/11
RECEIVED 08/05/11
REPORTED 08/22/11

SAMPLE MARKED:

PROJECT #3648
SAMPLE ID:0019
BIG RIVERS ELECTRIC
PETCOKE BLEND SAMPLE GREEN UNIT 2-RUN 1
CHLORINE 551 MG/KG DRY (USGS BULLETIN 1823)
MERCURY 0.095 MG/KG DRY OR PPM DRY (ASTM 6722)
FLUORINE 67 MG/KG DRY (ASTM 3761)

ANALYSIS REPORT

	AS RECEIVED	DRY BASIS
% Moisture	12.49	
% Ash	8.51	9.73
% Sulfur	3.14	3.59
B.T.U	11,446	13,080
BTU (Moisture-ash free)	14,490	
% Volatile Matter	30.64	35.01
% Fixed Carbon	48.36	55.26

2.74 Lbs. Sul./mil. BTU
7.43 Lbs. Ash./mil. BTU

THE ABOVE ANALYTICAL RESULTS WERE OBTAINED FOLLOWING ASTM PROCEDURES.

APPROVED BY G&C COAL ANALYSIS LAB., INC.

G and C Coal Analysis Lab., Inc.
1341 Hoffman Hollow Road
Summerville, Pa 15864
814-849-2559
Fax: 814-849-8878

Received From:

G&C Lab#: 893888

Airtech Enviromental
601A Country Club Drive

Date Sampled: 07/29/11

Date Received: 08/05/11

Bensonville, IL 60106

Date Reported: 08/22/11

Sample Marked:
PROJECT #3648 SAMPLE ID:0019
BIG RIVERS ELECTRIC
PETCOKE BLEND SAMPLE GREEN UNIT 2-RUN 1
CHLORINE 551 MG/KG DRY (USGS BULLETIN 1823)

Procedure used following ASTM Method D-5373-02

ULTIMATE ANALYSIS	As Received	Dry Basis
% CARBON	64.61	73.83
% HYDROGEN	4.23	4.83
% NITROGEN	1.32	1.51
% Oxygen (by Difference)	7.35	8.24
% Ash	8.51	9.73
% Sulfur	3.14	3.59
% Total Moisture	12.49	

**Hydrogen and Oxygen do not include the Hydrogen and Oxygen from the Moisture

The above analytical results were obtained following ASTM procedures.

G & C COAL ANALYSIS LAB., INC.

APPROVED BY

G and C Coal Analysis Lab., Inc.
1341 Hoffman Hollow Road
Summerville, Pa 15864
814-849-2559
Fax: 814-849-8878

Received From:

G&C Lab#: 893888

AIRTECH ENVIROMENTAL
601A COUNTRY CLUB DRIVE

Date Sampled: 07/29/11

Date Received: 08/05/11

BENSONVILLE, IL 60106

Date Reported: 08/22/11

Sample Marked:
PROJECT #3648 SAMPLE ID:0019
BIG RIVERS ELECTRIC
PETCOKE BLEND SAMPLE GREEN UNIT 2-RUN 1
CHLORINE 551 MG/KG DRY (USGS BULLETIN 1823)
MERCURY 0.095 MG/KG DRY OR PPM DRY (ASTM 6722)
FLUORINE 67 MG/KG DRY (ASTM 3761)

% Total Moisture 12.49

% Ash Dry 9.73
% Ash As Received 8.51

	OF ASH MG/KG	COAL(DRY) MG/KG	COAL(AS REC) MG/KG
Antimony	0.19	0.02	0.02
Arsenic	26.57	2.59	2.26
Beryllium	9.11	0.89	0.78
Cadmium	1.04	0.10	0.09
Chromium	36.98	3.60	3.15
Cobalt	13.12	1.28	1.12
Lead	116.17	11.30	9.89
Manganese	153.09	14.90	13.03
Nickel	61.29	5.96	5.22

Procedure followed using EPA-SW-846, ASTM Method 3030b,6010b.

The above analytical results were obtained following ASTM procedures.

G & C COAL ANALYSIS LAB., INC.

APPROVED BY

G and C COAL ANALYSIS LAB., INC.

1341 HOFFMAN HOLLOW RD.
SUMMERVILLE, PA 15864
(814) 849-2559
FAX (814) 849-8878

RECEIVED FROM:

Airtech Enviromental
601A Country Club Drive

Bensonville, IL 60106

LAB NO. 893891
SAMPLED 07/29/11
RECEIVED 08/05/11
REPORTED 08/22/11

SAMPLE MARKED:

PROJECT #3648
SAMPLE ID:0020
BIG RIVERS ELECTRIC
PETCOKE BLEND SAMPLE GREEN UNIT 2-RUN 2
CHLORINE 464 MG/KG DRY (USGS BULLETIN 1823)
MERCURY 0.120 MG/KG DRY OR PPM DRY (ASTM 6722)
FLUORINE 66 MG/KG DRY (ASTM 3761)

ANALYSIS REPORT

	AS RECEIVED	DRY BASIS
% Moisture	12.09	
% Ash	9.43	10.73
% Sulfur	2.93	3.33
B.T.U	11,311	12,867
BTU (Moisture-ash free)	14,414	
% Volatile Matter	32.33	36.78
% Fixed Carbon	46.15	52.49

2.59 Lbs. Sul./mil. BTU
8.34 Lbs. Ash./mil. BTU

THE ABOVE ANALYTICAL RESULTS WERE OBTAINED FOLLOWING ASTM PROCEDURES.

APPROVED BY G&C COAL ANALYSIS LAB., INC.

G and C Coal Analysis Lab., Inc.
1341 Hoffman Hollow Road
Summerville, Pa 15864
814-849-2559
Fax: 814-849-8878

Received From:

G&C Lab#: 893891

Airtech Enviromental
601A Country Club Drive

Date Sampled: 07/29/11

Date Received: 08/05/11

Bensonville, IL 60106

Date Reported: 08/22/11

Sample Marked:
PROJECT #3648 SAMPLE ID:0020
BIG RIVERS ELECTRIC
PETCOKE BLEND SAMPLE GREEN UNIT 2-RUN 2
CHLORINE 464 MG/KG DRY (USGS BULLETIN 1823)

Procedure used following ASTM Method D-5373-02

ULTIMATE ANALYSIS	As Received	Dry Basis
% CARBON	63.97	72.77
% HYDROGEN	4.42	5.03
% NITROGEN	1.30	1.48
% Oxygen (by Difference)	7.51	8.39
% Ash	9.43	10.73
% Sulfur	2.93	3.33
% Total Moisture	12.09	

**Hydrogen and Oxygen do not include the Hydrogen and Oxygen from the Moisture

The above analytical results were obtained following ASTM procedures.

G & C COAL ANALYSIS LAB., INC.

APPROVED BY

G and C Coal Analysis Lab., Inc.
1341 Hoffman Hollow Road
Summerville, Pa 15864
814-849-2559
Fax: 814-849-8878

Received From:

G&C Lab#: 893891

AIRTECH ENVIROMENTAL
601A COUNTRY CLUB DRIVE

Date Sampled: 07/29/11

Date Received: 08/05/11

BENSONVILLE, IL 60106

Date Reported: 08/22/11

Sample Marked:
PROJECT #3648 SAMPLE ID:0020
BIG RIVERS ELECTRIC
PETCOKE BLEND SAMPLE GREEN UNIT 2-RUN 2
CHLORINE 464 MG/KG DRY (USGS BULLETIN 1823)
MERCURY 0.120 MG/KG DRY OR PPM DRY (ASTM 6722)
FLUORINE 66 MG/KG DRY (ASTM 3761)

% Total Moisture 12.09

% Ash Dry 10.73
% Ash As Received 9.43

	OF ASH MG/KG	COAL(DRY) MG/KG	COAL(AS REC) MG/KG
Antimony	0.19	0.02	0.02
Arsenic	13.55	1.45	1.28
Beryllium	3.70	0.40	0.35
Cadmium	1.13	0.12	0.11
Chromium	31.57	3.39	2.98
Cobalt	8.93	0.96	0.84
Lead	70.48	7.56	6.65
Manganese	94.71	10.16	8.93
Nickel	89.96	9.65	8.48

Procedure followed using EPA-SW-846, ASTM Method 3030b,6010b.

The above analytical results were obtained following ASTM procedures.

G & C COAL ANALYSIS LAB., INC.

APPROVED BY

G and C COAL ANALYSIS LAB., INC.

1341 HOFFMAN HOLLOW RD.
SUMMERVILLE, PA 15864
(814) 849-2559
FAX (814) 849-8878

RECEIVED FROM:

Airtech Enviromental
601A Country Club Drive

Bensonville, IL 60106

LAB NO. 893892
SAMPLED 07/29/11
RECEIVED 08/05/11
REPORTED 08/22/11

SAMPLE MARKED:

PROJECT #3648
SAMPLE ID:0021
BIG RIVERS ELECTRIC
PETCOKE BLEND SAMPLE GREEN UNIT 2-RUN 3
CHLORINE 407 MG/KG DRY (USGS BULLETIN 1823)
MERCURY 0.199 MG/KG DRY OR PPM DRY (ASTM 6722)
FLUORINE 135 MG/KG DRY (ASTM 3761)

ANALYSIS REPORT

	AS RECEIVED	DRY BASIS
% Moisture	12.13	
% Ash	15.83	18.02
% Sulfur	2.85	3.24
B.T.U	10,316	11,740
BTU (Moisture-ash free)	14,321	
% Volatile Matter	31.67	36.04
% Fixed Carbon	40.37	45.94

2.76 Lbs. Sul./mil. BTU
15.35 Lbs. Ash./mil. BTU

THE ABOVE ANALYTICAL RESULTS WERE OBTAINED FOLLOWING ASTM PROCEDURES.

APPROVED BY G&C COAL ANALYSIS LAB., INC.

G and C Coal Analysis Lab., Inc.
1341 Hoffman Hollow Road
Summerville, Pa 15864
814-849-2559
Fax: 814-849-8878

Received From:

G&C Lab#: 893892

Airtech Enviromental
601A Country Club Drive

Date Sampled: 07/29/11

Date Received: 08/05/11

Bensonville, IL 60106

Date Reported: 08/22/11

Sample Marked:
PROJECT #3648 SAMPLE ID:0021
BIG RIVERS ELECTRIC
PETCOKE BLEND SAMPLE GREEN UNIT 2-RUN 3
CHLORINE 407 MG/KG DRY (USGS BULLETIN 1823)

Procedure used following ASTM Method D-5373-02

	ULTIMATE ANALYSIS As Received	Dry Basis
% CARBON	57.92	65.92
% HYDROGEN	4.10	4.67
% NITROGEN	1.25	1.42
% Oxygen (by Difference)	7.57	8.46
% Ash	15.83	18.02
% Sulfur	2.85	3.24
% Total Moisture	12.13	

**Hydrogen and Oxygen do not include the Hydrogen and Oxygen from the Moisture

The above analytical results were obtained following ASTM procedures.

G.& C COAL ANALYSIS LAB., INC.

APPROVED BY

G and C Coal Analysis Lab., Inc.
1341 Hoffman Hollow Road
Summerville, Pa 15864
814-849-2559
Fax: 814-849-8878

Received From:

G&C Lab#: 893892

AIRTECH ENVIROMENTAL
601A COUNTRY CLUB DRIVE

Date Sampled: 07/29/11

Date Received: 08/05/11

BENSONVILLE, IL 60106

Date Reported: 08/22/11

Sample Marked:
PROJECT #3648 SAMPLE ID:0021
BIG RIVERS ELECTRIC
PETCOKE BLEND SAMPLE GREEN UNIT 2-RUN 3
CHLORINE 407 MG/KG DRY (USGS BULLETIN 1823)
MERCURY 0.199 MG/KG DRY OR PPM DRY (ASTM 6722)
FLUORINE 135 MG/KG DRY (ASTM 3761)

% Total Moisture 12.13

% Ash Dry 18.02
% Ash As Received 15.83

	OF ASH MG/KG	COAL(DRY) MG/KG	COAL(AS REC) MG/KG
Antimony	0.31	0.06	0.05
Arsenic	18.00	3.24	2.85
Beryllium	2.92	0.53	0.46
Cadmium	0.50	0.09	0.08
Chromium	27.82	5.01	4.40
Cobalt	10.23	1.84	1.62
Lead	92.51	16.67	14.64
Manganese	130.39	23.50	20.64
Nickel	50.06	9.02	7.92

Procedure followed using EPA-SW-846, ASTM Method 3030b,6010b.

The above analytical results were obtained following ASTM procedures.

G & C COAL ANALYSIS LAB., INC.

APPROVED BY

BIG RIVERS ELECTRIC CORP.
CHAIN OF CUSTODY RECORD

No. _____

Sampling Location: Green

Plant ID. Sample Number	Date Time	Central Lab ID. Sample Number	Station Description	Sampling Method	Sample Size	Type of Preservation	Analysis Requested
016	7-27-11 1000		HAPS run one D A+B mills		3 bags		
017	7-27-11 1400		HAPS run two D. A+B mills		3 bags		
018	7-27-11 1600		HAPS run three D A+B mills		3 bags		
019	7-29-11 1000		HAPS Green Two-Run One D. A+B mills		3 bags		
020	7-29-11 1200		HAPS Green Two Run Two D. A+B mills		3 bags		
021	7-29-11 14:00		HAPS Green Two - Run Three D A + B mills		3 bags		

Samplers (Signatures)

Relinquished By (Signature)	Date	Time	Received By (Signature)	Date	Time
[signature]	7-29-11	1605			
Relinquished By (Signature)	**Date**	**Time**	**Received By (Signature)**	**Date**	**Time**
Relinquished By (Signature)	**Date**	**Time**	**Received By (Signature)**	**Date**	**Time**
Relinquished By (Signature)	**Date**	**Time**	**Received By (Signature)**	**Date**	**Time**

White Copy - Central Lab
Yellow Copy - Plant (Final Copy)
Pink Copy - Plant Env. Contact
Gold Copy - Plant Lab

Note: 3 bags from each mill of operation (D, A + B mills) - riffle as one sample

AIRTECH ENVIRONMENTAL SERVICES INC.

Chain of Custody

Project Number	3648	Location	Common Stack
Client	Big Rivers Energy	Date	8/2/2011
Plant	Green Unit 2	Completed By	ML

The following samples consist of the impinger contents and a 0.1N H_2SO_4 rinse.

Use RB From Unit 1. Same reagent used on Both Units

Analysis Requested

Page 1 of 1

ID No.	Run No.	Date	Sample Description	HCl	HF						Number of Containers	Notes
R1-26A-IMP	1		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26A-IMP	2		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26A-IMP	3		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	

Relinquished By (signature)		Relinquished By (signature)		Carrier	FedEx
(printed)	Matt Libman	(printed)		Laboratory	Airtech Env.
Date/Time	8-2-11 1006	Date/Time		Contact	Michael Olgetree
Accepted By (signature)		Accepted By (signature)		Address	Denver, CO
(printed)		(printed)		Phone	
Date/Time		Date/Time		Fax	
				Date/Time	

AIRTECH Environmental Services Inc.

Airtech Environmental Services Inc.
601A Country Club Drive
Bensenville, IL 60106
Phone: (630) 860-4740, Fax: (630) 860 4745

AIRTECH ENVIRONMENTAL SERVICES INC.

Chain of Custody

Project Number	3648	Location	Inlet Unit 1A
Client	Big Rivers Energy	Date	8/2/2011
Plant	Green Unit 2	Completed By	ML

The following samples consist of the impinger contents and a 0.1N H_2SO_4 rinse.

Page 1 of 1

ID No.	Run No.	Date	Sample Description	HCl	HF						Number of Containers	Notes
R1-26-IMP	1		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26-IMP	2		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26-IMP	3		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	

Relinquished By (signature)		Relinquished By (signature)		Carrier	FedEx
(printed)	Matt Libman	(printed)		Laboratory	Airtech Env.
Date/Time	8-2-11 1006	Date/Time		Contact	Michael Olgetree
Accepted By (signature)		Accepted By (signature)		Address	Denver, CO
(printed)		(printed)		Phone	
Date/Time		Date/Time		Fax	
				Date/Time	

AIRTECH Environmental Services Inc.

Airtech Environmental Services Inc.
601A Country Club Drive
Bensenville, IL 60106
Phone: (630) 860-4740, Fax: (630) 860 4745

AIRTECH ENVIRONMENTAL SERVICES INC.

Chain of Custody

Project Number	3648	Location	Inlet Unit 1B
Client	Big Rivers Energy	Date	8/2/2011
Plant	Green Unit 2	Completed By	ML

The following samples consist of the impinger contents and a 0.1N H_2SO_4 rinse.

Analysis Requested

Page 1 of 1

ID No.	Run No.	Date	Sample Description	HCl	HF						Number of Containers	Notes
R1-26-IMP	1		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26-IMP	2		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	
R1-26-IMP	3		Impinger Contents and 0.1N H_2SO_4 Rinse	x	x						1	

Relinquished By (signature)		Relinquished By (signature)		Carrier	FedEx
(printed)	Matt Libman	(printed)		Laboratory	Airtech Env.
Date/Time	8-2-11 1006	Date/Time		Contact	Michael Olgetree
Accepted By (signature)		Accepted By (signature)		Address	Denver, CO
(printed)		(printed)		Phone	
Date/Time		Date/Time		Fax	
				Date/Time	

AIRTECH Environmental Services Inc.

Airtech Environmental Services Inc.
601A Country Club Drive
Bensenville, IL 60106
Phone: (630) 860-4740, Fax: (630) 860 4745