SDG COVER PAGE

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

SOW No.: ISM02.3

EPA Sample No.	Lab Sample ID	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MH1J05	6100170-01	X			
MH1J05D	QJ14016-DUP1	X			
MH1J05D	QJ14016-DUP2	X			
MH1J05S	QJ14016-MS1	X			
MH1J06	6100170-02	X			
MH1J07	6100170-03	X			
MH1J08	6100170-04	X			
MH1J09	6100170-05	X			
MH1J10	6100170-06	X			
MH1J11	6100170-07	X			
MH1J12	6100170-08	X			
MH1J13	6100170-09	X			
MH1J14	6100170-10	X			
MH1J15	6100170-11	X			
MH1J16	6100170-12	X			
MH1J17	6100170-13	X			
MH1J18	6100170-14	X			
MH1J19	6100170-15	X			
MH1J20	6100170-16	X			
MH1J21	6100170-17	X			
MH1J22	6100170-18	X			

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG narrative. Release of the data contained in this hardcopy data package and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: Maxwell S. Bonner For Chris Bonr

Date: 10/31/16 Title: CEO/QAO

SDG COVER PAGE

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

SOW No.: ISM02.3

EPA Sample No.	Lab Sample ID	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MH1J05	6100170-01		X		
MH1J05D	QJ14036-DUP1		X		
MH1J05S	QJ14036-MS1		X		
MH1J06	6100170-02		X		
MH1J07	6100170-03		X		
MH1J08	6100170-04		X		
MH1J09	6100170-05		X		
MH1J10	6100170-06		X		
MH1J11	6100170-07		X		
MH1J12	6100170-08		X		
MH1J13	6100170-09		X		
MH1J14	6100170-10		X		
MH1J15	6100170-11		X		
MH1J16	6100170-12		X		
MH1J17	6100170-13		X		
MH1J18	6100170-14		X		
MH1J19	6100170-15		X		
MH1J20	6100170-16		X		
MH1J21	6100170-17		X		
MH1J22	6100170-18		X		

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG narrative. Release of the data contained in this hardcopy data package and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: Lauren Meadows For Chris Bonner

Date: 10/31/16 Title: CEO/QAO

SDG COVER PAGE

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

SOW No.: ISM02.3

EPA Sample No.	Lab Sample ID	Analysis Method ICP-AES	ICP-MS	Mercury	Cyanide
MH1J05	6100170-01			X	
MH1J05D	QJ14047-DUP1			X	
MH1J05S	QJ14047-MS1			X	
MH1J06	6100170-02			X	
MH1J07	6100170-03			X	
MH1J08	6100170-04			X	
MH1J09	6100170-05			X	
MH1J10	6100170-06			X	
MH1J11	6100170-07			X	
MH1J12	6100170-08			X	
MH1J13	6100170-09			X	
MH1J14	6100170-10			X	
MH1J15	6100170-11			X	
MH1J16	6100170-12			X	
MH1J17	6100170-13			X	
MH1J18	6100170-14			X	
MH1J19	6100170-15			X	
MH1J20	6100170-16			X	
MH1J21	6100170-17			X	
MH1J22	6100170-18			X	

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG narrative. Release of the data contained in this hardcopy data package and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: Maxwell S. Bonner For Chris Bonr

Date: 10/31/18 Title: CEO/QAO

TECHLAW

CHAIN OF CUSTODY RECORD

No: 2016_OCT_Sed&Soil_46282_CLP

COC #: 2016_OCT_Sed&Soil_46282_CLP
Lab Contact: Chris Bonner
Lab Phone: 601-264-2854

Site #: A8M5
Lab: Bonner Analytical Testing Company
Lab Address: 2703 Oak Grove Rd

EPW14029
MH1J05

Cooler #:
Lab_Address2:
Hattiesburg, MS 39402

Lab #	Sample #	Tag	Matrix	Sample Type	Analyses	Container	Collected	Sample Time	Sampler
	MH1J05	1509	Soil	Field Sample	TRM_Hg_Soil	4oz glass jar	9/27/2016	12:30	AA
	MH1J06	1510	Sediment	Field Sample	TRM_Hg_Soil	4oz glass jar	9/27/2016	11:25	KB
	MH1J07	1511	Soil	Field Sample	TRM_Hg_Soil	4oz glass jar	9/27/2016	11:25	KB
	MH1J08	1512	Sediment	Field Sample	TRM_Hg_Soil	4oz glass jar	9/27/2016	09:35	AA
	MH1J09	1513	Soil	Field Sample	TRM_Hg_Soil	4oz glass jar	9/27/2016	09:35	AA
	MH1J10	1514	Sediment	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/27/2016	18:00	AA
	MH1J11	1515	Soil	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/27/2016	18:00	AA
	MH1J12	1516	Sediment	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/27/2016	16:30	BS
	MH1J13	1517	Soil	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/27/2016	16:30	BS
	MH1J14	1518	Sediment	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/28/2016	13:00	KB
	MH1J15	1519	Soil	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/28/2016	13:00	KB
	MH1J16	1520	Sediment	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/28/2016	17:50	BCS
	MH1J17	1521	Soil	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/28/2016	17:50	BCS
	MH1J18	1522	Sediment	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/29/2016	14:40	AA
	MH1J19	1523	Soil	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/29/2016	14:40	AA
	MH1J20	1524	Sediment	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/29/2016	16:00	KB
	MH1J21	1525	Soil	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/29/2016	16:00	KB
	MH1J22	1526	Sediment	Field Duplicate	TRM_Hg_Soil	4oz glass jar	9/29/2016	17:30	BCS

Special Instructions: CASE# 46382
Total Recoverable Metals and Mercury
QC to be determined by Lab

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	Johnson ESAT	10/12/16	P. Aiken Bonner	0855 10-13-16	good

4

SAMPLE DELIVERY GROUP (SDG)
Definition Sheet

SDG ID: MH1J05

Laboratory Name: Bonner Analytical Testing Co.

Laboratory Code: BON

Contract No.: EPW14029

Case No.: 46282

Solicitation No.:

SDG Turnaround: 21-Day

Modified Analysis No(s).: 2658.0

Analysis Required: ICPAES ~~(1-4)~~ 5-10, ~~ICPMS~~ ICPMS 11+ (2658.0), Mercury

---

EPA Sample Nmbers in SDG (Listed in Numerical Order)

1) MH1J05	7) MH1J11	13) MH1J17	19) ZZZZZZ
2) MH1J06	8) MH1J12	14) MH1J18	20) ZZZZZZ
3) MH1J07	9) MH1J13	15) MH1J19	21) ZZZZZZ
4) MH1J08	10) MH1J14	16) MH1J20	22) ZZZZZZ
5) MH1J09	11) MH1J15	17) MH1J21	23) ZZZZZZ
6) MH1J10	12) MH1J16	18) MH1J22	24) ZZZZZZ

MH1J05	MH1J22
First Sample in SDG	**Last Sample in SDG**
10/13/2016	10/13/2016
First Sample Receipt Date	**Last Sample Receipt Date**

Note: There are a maximum of 20 samples (excluding PE Sample) in SDG. Attach TRs to this form in alphanumeric order (the order listed above on this form).

P. Ail

Signature

10-14-16

Date

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name Bonner Analytical Testing Company		Page 1 of 1
Received By (Print Name) Trisha Aiken		Log-in Date 10/13/2016
Received By (Signature)		
Case Number 46282	SDG No. MH1J05	MA No. 2658.0

Remarks:	
1. Custody Seal(s)	**Present**/~~Absent*~~ **Intact**/~~Broken~~
2. Custody Seal NOs.	NA NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	**Present**/~~Absent*~~
4. Airbill	**Airbill**/~~Sticker~~ **Present**/~~Absent*~~
5. Airbill No.	777455697187 ZZZZZZ
6. Sample Tags Sample Tag Numbers	~~Present~~/**Absent*** ~~Listed~~/**Not** Listed On Traffic Report/Chain of Custody Record
7. Sample Condition	**Intact**/~~Broken*~~/~~Leaking~~
8. Shipping Container Temperature Indicator Bottle	**Present**/~~Absent*~~
9. Shipping Container Temperature	0.0°C
10. Does information on Traffic Reports/Chain of Custody Records and sample tags agree?	**Yes**/~~No*~~
11. Date Received at Lab	10/13/2016
12. Time Received	08:55

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
2	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
3	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
4	MH1J08	ZZZZZZ	ZZZZZZ	6100170-04	Good\OnIce
5	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
6	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
7	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
8	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
9	MH1J13	ZZZZZZ	ZZZZZZ	6100170-09	Good\OnIce
10	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
11	MH1J15	ZZZZZZ	ZZZZZZ	6100170-11	Good\OnIce
12	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
13	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
14	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
15	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
16	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
17	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
18	MH1J22	ZZZZZZ	ZZZZZZ	6100170-18	Good\OnIce
19	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
20	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
21	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
22	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ

* Contact SMO and attach record of resolution

Reviewed By	Logbook No. ZZZZZZ
Date 10-14-16	Logbook Page No. ZZZZZZ

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name Bonner Analytical Testing Company		Page 1 of 1
Received By (Print Name) Trisha Aiken		Log-in Date 10/13/2016
Received By (Signature) T. Aiken		
Case Number 46282	SDG No. MH1J05	MA No. 2658.0

Remarks:	
1. Custody Seal(s)	**Present**/~~Absent*~~ **Intact**/~~Broken~~
2. Custody Seal NOs.	NA / NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	**Present**/~~Absent*~~
4. Airbill	**Airbill**/~~Sticker~~ **Present**/~~Absent*~~
5. Airbill No.	777455697132 / ZZZZZZ
6. Sample Tags Sample Tag Numbers	~~Present~~/**Absent*** ~~Listed~~/**Not** Listed On Traffic Report/Chain of Custody Record
7. Sample Condition	**Intact**/~~Broken*~~/ ~~Leaking~~
8. Shipping Container Temperature Indicator Bottle	**Present**/~~Absent*~~
9. Shipping Container Temperature	0.0°C
10. Does information on Traffic Reports/Chain of Custody Records and sample tags agree?	**Yes**/~~No*~~
11. Date Received at Lab	10/13/2016
12. Time Received	08:55

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
2	MH1J06	ZZZZZZ	ZZZZZZ	6100170-02	Good\OnIce
3	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
4	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
5	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
6	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
7	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
8	MH1J12	ZZZZZZ	ZZZZZZ	6100170-08	Good\OnIce
9	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
10	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
11	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
12	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
13	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
14	MH1J18	ZZZZZZ	ZZZZZZ	6100170-14	Good\OnIce
15	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
16	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
17	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
18	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
19	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
20	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
21	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
22	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ

* Contact SMO and attach record of resolution

Reviewed By T. Aiken	Logbook No. ZZZZZZ
Date 10-14-16	Logbook Page No. ZZZZZZ

FORM DC-1
SAMPLE LOG-IN SHEET

8

Lab Name Bonner Analytical Testing Company		Page 1 of 1
Received By (Print Name) Trisha Aiken		Log-in Date 10/13/2016
Received By (Signature) T. Aik		
Case Number 46282	SDG No. MH1J05	MA No. 2658.0

Remarks:	
1. Custody Seal(s)	**Present**/~~Absent*~~ **Intact**/~~Broken~~
2. Custody Seal NOs.	NA / NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	**Present**/~~Absent*~~
4. Airbill	**Airbill**/~~Sticker~~ **Present**/~~Absent*~~
5. Airbill No.	777455697235 / ZZZZZZ
6. Sample Tags Sample Tag Numbers	~~Present~~/**Absent*** ~~Listed~~/**Not** Listed On Traffic Report/Chain of Custody Record
7. Sample Condition	**Intact**/~~Broken*~~/ ~~Leaking~~
8. Shipping Container Temperature Indicator Bottle	**Present**/~~Absent*~~
9. Shipping Container Temperature	0.0°C
10. Does information on Traffic Reports/Chain of Custody Records and sample tags agree?	**Yes**/~~No*~~
11. Date Received at Lab	10/13/2016
12. Time Received	08:55

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
2	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
3	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
4	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
5	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
6	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
7	MH1J11	ZZZZZZ	ZZZZZZ	6100170-07	Good\OnIce
8	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
9	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
10	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
11	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
12	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
13	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
14	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
15	MH1J19	ZZZZZZ	ZZZZZZ	6100170-15	Good\OnIce
16	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
17	MH1J21	ZZZZZZ	ZZZZZZ	6100170-17	Good\OnIce
18	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
19	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
20	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
21	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
22	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ

* Contact SMO and attach record of resolution

Reviewed By T. Aik	Logbook No. ZZZZZZ
Date 10-14-16	Logbook Page No. ZZZZZZ

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name Bonner Analytical Testing Company		Page 1 of 1
Received By (Print Name) Trisha Aiken		Log-in Date 10/13/2016
Received By (Signature)		
Case Number 46282	SDG No. MH1J05	MA No. 2658.0

Remarks:	
1. Custody Seal(s)	**Present**/~~Absent*~~ **Intact**/~~Broken~~
2. Custody Seal NOs.	NA / NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	**Present**/~~Absent*~~
4. Airbill	**Airbill**/~~Sticker~~ **Present**/~~Absent*~~
5. Airbill No.	777455697740 / ZZZZZZ
6. Sample Tags Sample Tag Numbers	~~Present~~/**Absent*** ~~Listed~~/**Not** Listed On Traffic Report/Chain of Custody Record
7. Sample Condition	**Intact**/~~Broken*~~/ ~~Leaking~~
8. Shipping Container Temperature Indicator Bottle	**Present**/~~Absent*~~
9. Shipping Container Temperature	0.0°C
10. Does information on Traffic Reports/Chain of Custody Records and sample tags agree?	**Yes**/~~No*~~
11. Date Received at Lab	10/13/2016
12. Time Received	08:55

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
2	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
3	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
4	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
5	MH1J09	ZZZZZZ	ZZZZZZ	6100170-05	Good\OnIce
6	MH1J10	ZZZZZZ	ZZZZZZ	6100170-06	Good\OnIce
7	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
8	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
9	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
10	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
11	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
12	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
13	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
14	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
15	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
16	MH1J20	ZZZZZZ	ZZZZZZ	6100170-16	Good\OnIce
17	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
18	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
19	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
20	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
21	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
22	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ

* Contact SMO and attach record of resolution

Reviewed By	Logbook No. ZZZZZZ
Date 10-14-16	Logbook Page No. ZZZZZZ

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name Bonner Analytical Testing Company		Page 1 of 1
Received By (Print Name) Trisha Aiken		Log-in Date 10/13/2016
Received By (Signature) P. Aiken		
Case Number 46282	SDG No. MH1J05	MA No. 2658.0

Remarks:	
1. Custody Seal(s)	**Present**/~~Absent*~~ **Intact**/~~Broken~~
2. Custody Seal NOs.	NA / NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	**Present**/~~Absent*~~
4. Airbill	**Airbill**/~~Sticker~~ **Present**/~~Absent*~~
5. Airbill No.	777455697739 / ZZZZZZ
6. Sample Tags Sample Tag Numbers	~~Present~~/**Absent*** ~~Listed~~/**Not** Listed On Traffic Report/Chain of Custody Record
7. Sample Condition	**Intact**/~~Broken*~~/ ~~Leaking~~
8. Shipping Container Temperature Indicator Bottle	**Present**/~~Absent*~~
9. Shipping Container Temperature	0.0°C
10. Does information on Traffic Reports/Chain of Custody Records and sample tags agree?	**Yes**/~~No*~~
11. Date Received at Lab	10/13/2016
12. Time Received	08:55

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
2	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
3	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
4	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
5	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
6	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
7	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
8	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
9	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
10	MH1J14	ZZZZZZ	ZZZZZZ	6100170-10	Good\OnIce
11	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
12	MH1J16	ZZZZZZ	ZZZZZZ	6100170-12	Good\OnIce
13	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
14	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
15	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
16	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
17	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
18	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
19	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
20	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
21	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
22	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ

* Contact SMO and attach record of resolution

Reviewed By P. Aiken	Logbook No. ZZZZZZ
Date 10-14-16	Logbook Page No. ZZZZZZ

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name Bonner Analytical Testing Company		Page 1 of 1
Received By (Print Name) Trisha Aiken		Log-in Date 10/13/2016
Received By (Signature)		
Case Number 46282	SDG No. MH1J05	MA No. 2658.0

Remarks:	
1. Custody Seal(s)	**Present**/~~Absent*~~ **Intact**/~~Broken~~
2. Custody Seal NOs.	NA NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	**Present**/~~Absent*~~
4. Airbill	**Airbill**/~~Sticker~~ **Present**/~~Absent*~~
5. Airbill No.	777455697522 ZZZZZZ
6. Sample Tags Sample Tag Numbers	~~Present~~/**Absent*** ~~Listed~~/**Not** Listed On Traffic Report/Chain of Custody Record
7. Sample Condition	**Intact**/~~Broken*~~/~~Leaking~~
8. Shipping Container Temperature Indicator Bottle	**Present**/~~Absent*~~
9. Shipping Container Temperature	0.0°C
10. Does information on Traffic Reports/Chain of Custody Records and sample tags agree?	**Yes**/~~No*~~
11. Date Received at Lab	10/13/2016
12. Time Received	08:55

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
2	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
3	MH1J07	ZZZZZZ	ZZZZZZ	6100170-03	Good\OnIce
4	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
5	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
6	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
7	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
8	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
9	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
10	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
11	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
12	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
13	MH1J17	ZZZZZZ	ZZZZZZ	6100170-13	Good\OnIce
14	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
15	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
16	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
17	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
18	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
19	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
20	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
21	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
22	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ

* Contact SMO and attach record of resolution

Reviewed By	Logbook No. ZZZZZZ
Date 10-14-16	Logbook Page No. ZZZZZZ

FORM DC-1
SAMPLE LOG-IN SHEET

Lab Name Bonner Analytical Testing Company		Page 1 of 1
Received By (Print Name) Trisha Aiken		Log-in Date 10/13/2016
Received By (Signature) P. Aiken		
Case Number 46282	SDG No. MH1J05	MA No. 2658.0

Remarks:	
1. Custody Seal(s)	**Present**/~~Absent*~~ **Intact**/~~Broken~~
2. Custody Seal NOs.	NA / NA
3. Traffic Reports/Chain of Custody Records or Packing Lists	**Present**/~~Absent*~~
4. Airbill	**Airbill**/~~Sticker~~ **Present**/~~Absent*~~
5. Airbill No.	777455697522 / ZZZZZZ
6. Sample Tags Sample Tag Numbers	~~Present~~/**Absent*** ~~Listed~~/**Not** Listed On Traffic Report/Chain of Custody Record
7. Sample Condition	**Intact**/~~Broken*~~/ ~~Leaking~~
8. Shipping Container Temperature Indicator Bottle	**Present**/~~Absent*~~
9. Shipping Container Temperature	0.0°C
10. Does information on Traffic Reports/Chain of Custody Records and sample tags agree?	**Yes**/~~No*~~
11. Date Received at Lab	10/13/2016
12. Time Received	08:55

	EPA Sample #	Aqueous/ Water Sample pH	Corresponding Sample Tag #	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
1	MH1J05	ZZZZZZ	ZZZZZZ	6100170-01	Good\OnIce
2	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
3	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
4	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
5	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
6	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
7	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
8	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
9	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
10	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
11	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
12	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
13	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
14	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
15	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
16	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
17	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
18	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
19	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
20	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
21	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ
22	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZ	ZZZZZZZ

* Contact SMO and attach record of resolution

Reviewed By P. Aiken	Logbook No. ZZZZZZ
Date 10-14-16	Logbook Page No. ZZZZZZ

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

LAB NAME Bonner Analytical Testing Company

LAB CODE Bonner

CONTRACT NO. EPW14029

CASE NO. 46282 SDG NO. MH1J05

MA NO. 2658.0

SOW NO. ISM02.3

All documents delivered in the Complete SDG File must be original documents where possible. (Reference - Exhibit B Section 2.4)

		PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
1.	SDG Cover Page	1	3	✓	
2.	Traffic Report/Chain of Custody Record(s)	4	5	✓	
3.	Sample Log-In Sheet (DC-1)	6	12	✓	
4.	CSF Inventory Sheet (DC-2)	13	16	✓	
5.	SDG Narrative	17	21	✓	
Inorganic Analysis					
ICP-AES					
6.	Inorganic Analysis Data Sheet (Form 1-IN)	22	39	✓	
7.	Initial and Continuing Calibration Verification (Form 2-IN)	40	48	✓	
8.	Blanks (Form 3-IN)	49	54	✓	
9.	ICP Interference Check Sample (Form 4-IN)	55	57	✓	
10.	Matrix Spike Sample Recovery (Form 5A-IN)	58	58	✓	
11.	Post-Digestion/Distillation Spike Sample Recovery (Form 5B-IN)	59	59	✓	
12.	Duplicates (Form 6-IN)	60	60	✓	
13.	Laboratory Control Sample (Form 7-IN)	61	61	✓	
14.	ICP-AES and ICP-MS Serial Dilutions (Form 8-IN)	62	62	✓	
15.	Method Detection Limit (Form 9-IN)	63	63	✓	
16.	ICP-AES Interelement Correction Factors (Form 10A-IN)	64	65	✓	
17.	ICP-AES Interelement Correction Factors (Form 10B-IN)	65	65	✓	
18.	Analysis Log (Form 12-IN)	66	70	✓	
19.	Initial Calibration (Form 15-IN)	71	78	✓	

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

		PAGE NOs. FROM	PAGE NOs. TO	CHECK LAB	CHECK REGION
20.	Initial Calibration Summary (Form 16-IN)	79	81	✓	
21.	ICP-AES Raw Data	82	204	✓	
22.	ICP-AES Preparation Log Books, Preparation records, Analysis records, and PE Instructions	205	217	✓	
ICP-MS					
23.	Inorganic Analysis Data Sheet (Form 1-IN)	218	235	✓	
24.	Initial and Continuing Calibration Verification (Form 2-IN)	236	237	✓	
25.	Blanks (Form 3-IN)	238	238	✓	
26.	ICP Interference Check Sample (Form 4-IN)	239	239	✓	
27.	Matrix Spike Sample Recovery (Form 5A-IN)	240	240	✓	
28.	Post-Digestion/Distillation Spike Sample Recovery (Form 5B-IN)	241	241	✓	
29.	Duplicates (Form 6-IN)	242	242	✓	
30.	Laboratory Control Sample (Form 7-IN)	243	243	✓	
31.	ICP-AES and ICP-MS Serial Dilutions (Form 8-IN)	244	244	✓	
32.	Method Detection Limit (Form 9-IN)	245	245	✓	
33.	ICP-MS Internal Standard Association (Form 11-IN)	246	246	✓	
34.	Analysis Log (Form 12-IN)	247	250	✓	
35.	ICP-MS Tune (Form 13-IN)	251	251	✓	
36.	ICP-MS Internal Standards Relative Intensity Summary (Form 14-IN)	252	255	✓	
37.	Initial Calibration (Form 15-IN)	256	258	✓	
38.	Initial Calibration Summary (Form 16-IN)	259	259	✓	
39.	ICP-MS Raw Data	260	293	✓	
40.	ICP-MS Preparation Log Books, Preparation records, Analysis records, and PE Instructions	294	302	✓	
Mercury		N/A	N/A		
41.	Inorganic Analysis Data Sheet (Form 1-IN)	P.A. 303 ~~320~~	320	✓	
42.	Initial and Continuing Calibration Verification (Form 2-IN)	321	323	✓	
43.	Blanks (Form 3-IN)	324	325	✓	
44.	Matrix Spike Sample Recovery (Form 5A-IN)	326	326	✓	
45.	Duplicates (Form 6-IN)	327	327	✓	
46.	Method Detection Limit (Form 9-IN)	328	328	✓	
47.	Analysis Log (Form 12-IN)	329	330	✓	
48.	Initial Calibration (Form 15-IN)	331	333	✓	

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

49.	Initial Calibration Summary (Form 16-IN)	334	334	✓	
50.	Mercury Raw Data	335	339	✓	
51.	Mercury Preparation Log Books, Preparation records, Analysis records, and PE Instructions	340	347	✓	
Cyanide		~~N/A~~	~~N/A~~		
52.	Inorganic Analysis Data Sheet (Form 1-IN)				
53.	Initial and Continuing Calibration Verification (Form 2-IN)				
54.	Blanks (Form 3-IN)				
55.	Matrix Spike Sample Recovery (Form 5A-IN)				
56.	Post-Digestion/Distillation Spike Sample Recovery (Form 5B-IN)				
57.	Duplicates (Form 6-IN)				
58.	Method Detection Limit (Form 9-IN)				
59.	Analysis Log (Form 12-IN)				
60.	Initial Calibration (Form 15-IN)				
61.	Initial Calibration Summary (Form 16-IN)				
62.	Cyanide Raw Data				
63.	Cyanide Preparation Log Books, Preparation records, Analysis records, and PE Instructions				
Additional		N/A	N/A	✓	
64.	Percent Solids Determination Log	348	348	✓	
65.	EPA Shipping/Receiving Documents	N/A	N/A	✓	
	Airbill (No. of Shipments 7)	349	355	✓	
	Sample Tags	N/A	N/A	✓	
	Sample Log-In Sheet (Lab)	356	359	✓	
66.	Misc. Shipping/Receiving Records (list all individual records) Communication Logs	N/A	N/A	✓	
		N/A	N/A	✓	
67.	Internal Lab Sample Transfer Records & Tracking Sheets (describe or list) In-House Chains and Digestates	360	363	✓	
		N/A	N/A	✓	
68.	Other Records (describe or list)	N/A	N/A	✓	
	Communication Logs	364	376	✓	
	e-mails	377	378	✓	
	Corrective Actions				

FORM DC-2
FULL INORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

69. Comments:

Completed by:
(CLP Lab) Patricia Aiken (Signature) Patricia Aiken / Sample Custodian (Print Name & Title) 10-31-16 (Date)

Audited by:
(EPA) (Signature) (Print Name & Title) (Date)

BONNER Analytical
2703 Oak Grove Road
Hattiesburg, MS 39402
601-264-2854 Phone
601-268-7084 Fax

SDG NARRATIVE:

SDG Number: MH1J05
Case Number: 46282
Contract Number: EPW14029
Contract SOW: ISM02.3

Sample Receipt:
On October 13, 2016 we received 419 soils in 10 coolers via FedEx air bills listed below

- 7774 5569 7187
- 7774 5569 6905
- 7774 5569 7132
- 7774 5569 7235
- 7774 5569 7740
- 7774 5569 7739
- 7774 5569 7522
- 7774 5569 7420
- 7774 5569 6548
- 7774 5569 7338

Custody seals were present and intact, Samples were in good condition except for the following discrepancies.

Discrepancies with tags, jars, and/or COC

Issue 1: There is no relinquished time on any of the 24 pages of the COC.

Resolution 1: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Issue 2: The COC lists the Case as 46382 in the instruction box; however, these samples are for Case 46282.

Resolution 2: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Insufficient/inappropriate designation of laboratory QC

Issue 3: The COC states "QC to be determined by lab." The laboratory has provided the list below of SDGs and the sample selected for QC.

SDG	QC
MH1F86	MH1F87
MH1G05	MH1G06
MH1G23	MH1G28
MH1G77	MH1G80

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MH1G59	MH1G59
MH1H14	MH1H17
MH1G95	MH1G96
MH1H50	MH1H52
MH1H32	MH1H35
MH1H68	MH1H71
MH1H86	MH1H86
MH1J05	MH1J05
MH1J23	MH1J23
MH1J41	MH1J51
MH1J59	MH1J59
MH1J77	MH1J77
MH1J95	MH1J95
MH1K14	MH1K16
MH1K32	MH1K35
MH1K50	MH1K51
MH1K68	MH1K71
MH1K86	MH1K97
MH1L05	MH1L08

Resolution 3: Per Region 8, the samples selected for QC are acceptable to the Region. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Missing temperature blank

Issue 4: There were no temperature blanks in any of the coolers. A thermometer was inserted directly into the cooler, allowed to stabilize, and the temperature was then recorded. All coolers were received at 0°C.

Resolution 4: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

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Hattiesburg, MS 39402
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601-268-7084 Fax

Non-standard matrix

Issue 5: The laboratory is asking if they should decant or homogenize the sediment samples.

Resolution 5: Per Region 8, the laboratory shall decant the sediment samples. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Laboratory problems

Issue 6: Three of the 10 airbills were not removable. The laboratory took pictures of those labels and removed what parts of the label were possible.

Resolution 6: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Issue 7: The laboratory received 419 samples of the 500 that were scheduled and the shipping end date is tomorrow, 10/14/16. Please advise if this Case is complete.

Resolution 7: Per Region 8, shipping for this Case is complete. . The laboratory will note the issue in the SDG Narrative and proceed with analysis

ISSUE: The lab requests to move the following analytes from ICP-MS to ICP-AES due to elevated concentrations, As, Pb, Cu, Mn, & Zn. Bonner will keep the original MA prices for 1-4 and 11+.

REGION: what concentration levels are the labs finding for the metals in question? Is the lab seeing the elevated levels in all samples?

LAB: "All analytes are above the AES CRQL. If we identify a sample that's below CRQL we will analyze by ICP-MS. In terms of concentrations all analytes were chosen to protect the ICP-MS. For example, a large portion of the samples are over 10ppm for pb, zn & mn. They're actually high enough that we are having to do dilutions on the ICP-AES

REGION: the Region approves reporting the metals in question from the ICP-AES as described below.

Issue: The COC received with the samples for Case 46282 does not list a station location.

Resolution: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Analysis = Al, Ca, Fe, Mg, As, Pb, Cu, Mn, Zn BY ICP-AES Ag, Ba, Be, Cd, Cr, Co, Mo, Ni, Sb, Se, Tl, V, BY ICP-MS MA 2658.0 Hg

Laboratory Instrumentation Disclosure

Interelement corrections are applied to ICP-AES & ICP-MS. Background correction(s) are applied to ICP-AES, HG & CN data. Raw data ppb/ppm concentrations reflect any and all correction(s) applied. ICP-MS evaluates the following analyte masses by collision cell: 51V, 52Cr, 53ClO, 55Mn, 75-77As, 77-82Se & 103Rh.

BONNER Analytical
2703 Oak Grove Road
Hattiesburg, MS 39402
601-264-2854 Phone
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ICP-AES
The analytical run began on 10/17/2016 @ 15:22 hrs. MH1J05, 06, 07, 08, 09, 10, 11, 14, 15, 16, 17, 19 and 22 were over the linear range for Fe, MH1J13 was over the linear range for Mn; they were all reanalyzed at appropriate dilutions.

ICP-MS
The analytical run began on 10/19/2016 @ 07:39 hrs. MH1J16 was outside the acceptable range for Sc; Be, Co, Ni, Mo, Ag, Cd, Sb and Ba were reported from a 2X dilution. The matrix spike failed for Sb and Cd; a post spike was analyzed at 2X the indigenous level for both.

Mercury
No discrepancies.

Sample Equation:

Lab ID 6100170-09 EPA Sample # MH1J13

Date & Time 10/26/2016 @ 15:43

ICP-AES: (Analyte Mn) µg/L * (0.100 L) * 100 % * 1000 g * 1 mg
16522 * (1.00 g) * 76.4 % * 1 kg * 1000 µg x 5 = 10800 mg/Kg

Date & Time 10/19/2016 @ 10:14

ICP-MS: (Analyte V) µg/L * ~~(0.100 L)~~ (0.500 L) VCT 10-28-16 * 100 % * 1000 g * 1 mg
30.8300 * (1.00 g) * 76.4 % * 1 kg * 1000 µg = 20.2 mg/Kg

Date & Time 10/18/2016 @ 11:13

Hg: µg/L * (0.100 L) * 100 % * 1000 g * 1 mg
0.2148 * (0.50 g) * 76.4 % * 1 kg * 1000 µg = 0.056 mg/Kg

Authorized by _____
Data Package Reviewer

Date: 09/21/2016	**MA:** 2658.0	**Title:** ICP-MS Analysis Plus Molybdenum
Method Source: ISM02.3	**Method:** ICP-MS	
Matrix: Soil/Sediment		

Summary of Modification

The purpose of this modified analysis is to analyze soil/sediment samples by ICP-MS with the addition of the non-routine analyte Molybdenum (Mo). Unless specifically modified by this modification, all analyses, Quality Control (QC), and reporting requirements specified in the SOW listed in your current EPA agreement remain unchanged and in full force and effect.

I. Analyte Modifications **Not applicable** ☐

Analyte	CAS Number	CRQL (mg/kg)	Spike Added (mg/kg)
Molybdenum (Mo)	7439-98-7	2.0	100

II. Calibration and QC Requirements **Not applicable** ☐

The Laboratory shall:

- Perform the Initial Calibration with at least one non-blank standard at or below the modified CRQL, converted to µg/L.
- Add Mo to the ICV and CCV at appropriate mid-range concentrations.
- Evaluate the ICB and CCB against the modified CRQL converted to µg/L.
- Evaluate the Preparation Blanks using the modified CRQL.
- Perform the Matrix Spike at the level specified above. Post-digestion spike requirements are per the SOW.
- Flag the Duplicates based on the modified CRQL.
- Prepare the LCS at 2 times the modified CRQL.

III. Preparation and Method Modifications **Not applicable** ☒

IV. Special Reporting Requirements **Not applicable** ☐

The Laboratory shall:

- Add Molybdenum to Forms 1, 2, 3, 4, 5A (5B), 6, 7, 8, 9, 11, 12, 15, and 16.
- Report the "J" and "U" qualifiers in accordance with the requirements in Exhibit B, Section 3.4.2.2.5.2, using the modified CRQL.

EPA SAMPLE NO.

MH1J05

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-01

% Solids: 86.6 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	9870		10/17/2016	1914
7440-38-2	Arsenic	36.2	*	10/17/2016	1914
7440-70-2	Calcium	1140	*	10/17/2016	1914
7440-50-8	Copper	90.0		10/17/2016	1914
7439-89-6	Iron	58800	D	10/17/2016	2059
7439-92-1	Lead	438		10/17/2016	1914
7439-95-4	Magnesium	4710	*	10/17/2016	1914
7439-96-5	Manganese	703	*	10/17/2016	1914
7440-66-6	Zinc	841	*	10/17/2016	1914

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J06

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-02

% Solids: 65.7 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	9180		10/17/2016	1930
7440-38-2	Arsenic	58.2	*	10/17/2016	1930
7440-70-2	Calcium	1170	*	10/17/2016	1930
7440-50-8	Copper	43.7		10/17/2016	1930
7439-89-6	Iron	71100	D	10/17/2016	2112
7439-92-1	Lead	351		10/17/2016	1930
7439-95-4	Magnesium	3520	*	10/17/2016	1930
7439-96-5	Manganese	394	*	10/17/2016	1930
7440-66-6	Zinc	314	*	10/17/2016	1930

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J07

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-03

% Solids: 83.9 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	9420		10/17/2016	1939
7440-38-2	Arsenic	43.7	*	10/17/2016	1939
7440-70-2	Calcium	1360	*	10/17/2016	1939
7440-50-8	Copper	48.2		10/17/2016	1939
7439-89-6	Iron	58800	D	10/17/2016	2116
7439-92-1	Lead	279		10/17/2016	1939
7439-95-4	Magnesium	4960	*	10/17/2016	1939
7439-96-5	Manganese	597	*	10/17/2016	1939
7440-66-6	Zinc	282	*	10/17/2016	1939

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J08

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-04

% Solids: 81.9 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	6760		10/17/2016	1943
7440-38-2	Arsenic	28.1	*	10/17/2016	1943
7440-70-2	Calcium	938	*	10/17/2016	1943
7440-50-8	Copper	46.4		10/17/2016	1943
7439-89-6	Iron	45300	D	10/17/2016	2120
7439-92-1	Lead	203		10/17/2016	1943
7439-95-4	Magnesium	3260	*	10/17/2016	1943
7439-96-5	Manganese	372	*	10/17/2016	1943
7440-66-6	Zinc	191	*	10/17/2016	1943

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J09

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-05

% Solids: 89.7 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	13200		10/17/2016	1948
7440-38-2	Arsenic	41.9	*	10/17/2016	1948
7440-70-2	Calcium	2580	*	10/17/2016	1948
7440-50-8	Copper	163		10/17/2016	1948
7439-89-6	Iron	43400	D	10/17/2016	2124
7439-92-1	Lead	392		10/17/2016	1948
7439-95-4	Magnesium	6280	*	10/17/2016	1948
7439-96-5	Manganese	778	*	10/17/2016	1948
7440-66-6	Zinc	286	*	10/17/2016	1948

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J10

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Matrix: Soil
Lab Sample ID: 6100170-06
% Solids: 57.0
Date Received: 10/13/2016
Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	10500		10/17/2016	1952
7440-38-2	Arsenic	29.9	*	10/17/2016	1952
7440-70-2	Calcium	1070	*	10/17/2016	1952
7440-50-8	Copper	45.4		10/17/2016	1952
7439-89-6	Iron	85700	D	10/17/2016	2128
7439-92-1	Lead	371		10/17/2016	1952
7439-95-4	Magnesium	5490	*	10/17/2016	1952
7439-96-5	Manganese	884	*	10/17/2016	1952
7440-66-6	Zinc	278	*	10/17/2016	1952

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J11

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-07

% Solids: 95.6 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	9180		10/17/2016	1956
7440-38-2	Arsenic	27.7	*	10/17/2016	1956
7440-70-2	Calcium	964	*	10/17/2016	1956
7440-50-8	Copper	53.4		10/17/2016	1956
7439-89-6	Iron	43600	D	10/17/2016	2133
7439-92-1	Lead	337		10/17/2016	1956
7439-95-4	Magnesium	4720	*	10/17/2016	1956
7439-96-5	Manganese	607	*	10/17/2016	1956
7440-66-6	Zinc	700	*	10/17/2016	1956

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J12

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-08

% Solids: 85.2 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	10200		10/17/2016	2000
7440-38-2	Arsenic	41.7	*	10/17/2016	2000
7440-70-2	Calcium	1420	*	10/17/2016	2000
7440-50-8	Copper	120		10/17/2016	2000
7439-89-6	Iron	22700		10/17/2016	2000
7439-92-1	Lead	238		10/17/2016	2000
7439-95-4	Magnesium	4860	*	10/17/2016	2000
7439-96-5	Manganese	1800	*	10/17/2016	2000
7440-66-6	Zinc	355	*	10/17/2016	2000

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J13

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Matrix: Soil
Lab Sample ID: 6100170-09
% Solids: 76.4
Date Received: 10/13/2016
Analytical method: ICP-AES
Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	19800		10/17/2016	2004
7440-38-2	Arsenic	31.3	*	10/17/2016	2004
7440-70-2	Calcium	2370	*	10/17/2016	2004
7440-50-8	Copper	218		10/17/2016	2004
7439-89-6	Iron	30100		10/17/2016	2004
7439-92-1	Lead	584		10/17/2016	2004
7439-95-4	Magnesium	4880	*	10/17/2016	2004
7439-96-5	Manganese	10800	D*	10/26/2016	1543
7440-66-6	Zinc	863	*	10/17/2016	2004

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J14

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-10

% Solids: 71.3 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	9150		10/17/2016	2008
7440-38-2	Arsenic	42.2	*	10/17/2016	2008
7440-70-2	Calcium	1500	*	10/17/2016	2008
7440-50-8	Copper	82.4		10/17/2016	2008
7439-89-6	Iron	72900	D	10/17/2016	2137
7439-92-1	Lead	469		10/17/2016	2008
7439-95-4	Magnesium	4640	*	10/17/2016	2008
7439-96-5	Manganese	642	*	10/17/2016	2008
7440-66-6	Zinc	1180	*	10/17/2016	2008

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J15

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-11

% Solids: 82.6 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	9550		10/17/2016	2013
7440-38-2	Arsenic	52.1	*	10/17/2016	2013
7440-70-2	Calcium	1040	*	10/17/2016	2013
7440-50-8	Copper	113		10/17/2016	2013
7439-89-6	Iron	62200	D	10/17/2016	2141
7439-92-1	Lead	467		10/17/2016	2013
7439-95-4	Magnesium	4570	*	10/17/2016	2013
7439-96-5	Manganese	857	*	10/17/2016	2013
7440-66-6	Zinc	555	*	10/17/2016	2013

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J16

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-12

% Solids: 61.6 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	13800		10/17/2016	2017
7440-38-2	Arsenic	14.5	*	10/17/2016	2017
7440-70-2	Calcium	2460	*	10/17/2016	2017
7440-50-8	Copper	127		10/17/2016	2017
7439-89-6	Iron	62700	D	10/17/2016	2145
7439-92-1	Lead	216		10/17/2016	2017
7439-95-4	Magnesium	6150	*	10/17/2016	2017
7439-96-5	Manganese	1670	*	10/17/2016	2017
7440-66-6	Zinc	374	*	10/17/2016	2017

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J17

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-13

% Solids: 89.5 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	12600		10/17/2016	2030
7440-38-2	Arsenic	13.4	*	10/17/2016	2030
7440-70-2	Calcium	1950	*	10/17/2016	2030
7440-50-8	Copper	75.1		10/17/2016	2030
7439-89-6	Iron	53900	D	10/17/2016	2150
7439-92-1	Lead	212		10/17/2016	2030
7439-95-4	Magnesium	7770	*	10/17/2016	2030
7439-96-5	Manganese	987	*	10/17/2016	2030
7440-66-6	Zinc	249	*	10/17/2016	2030

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J18

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-14

% Solids: 60.0 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	10600		10/17/2016	2034
7440-38-2	Arsenic	68.8	*	10/17/2016	2034
7440-70-2	Calcium	924	*	10/17/2016	2034
7440-50-8	Copper	139		10/17/2016	2034
7439-89-6	Iron	40500		10/17/2016	2034
7439-92-1	Lead	693		10/17/2016	2034
7439-95-4	Magnesium	2010	*	10/17/2016	2034
7439-96-5	Manganese	332	*	10/17/2016	2034
7440-66-6	Zinc	703	*	10/17/2016	2034

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J19

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-15

% Solids: 90.2 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	7140		10/17/2016	2038
7440-38-2	Arsenic	94.5	*	10/17/2016	2038
7440-70-2	Calcium	226	J*	10/17/2016	2038
7440-50-8	Copper	61.0		10/17/2016	2038
7439-89-6	Iron	41100	D	10/17/2016	2154
7439-92-1	Lead	946		10/17/2016	2038
7439-95-4	Magnesium	2040	*	10/17/2016	2038
7439-96-5	Manganese	163	*	10/17/2016	2038
7440-66-6	Zinc	232	*	10/17/2016	2038

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J20

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-16

% Solids: 59.2 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	11100		10/17/2016	2042
7440-38-2	Arsenic	58.9	*	10/17/2016	2042
7440-70-2	Calcium	1300	*	10/17/2016	2042
7440-50-8	Copper	154		10/17/2016	2042
7439-89-6	Iron	45700		10/17/2016	2042
7439-92-1	Lead	651		10/17/2016	2042
7439-95-4	Magnesium	2290	*	10/17/2016	2042
7439-96-5	Manganese	651	*	10/17/2016	2042
7440-66-6	Zinc	756	*	10/17/2016	2042

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J21

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-17

% Solids: 93.6 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	6980		10/17/2016	2046
7440-38-2	Arsenic	115	*	10/17/2016	2046
7440-70-2	Calcium	453	J*	10/17/2016	2046
7440-50-8	Copper	36.3		10/17/2016	2046
7439-89-6	Iron	32200		10/17/2016	2046
7439-92-1	Lead	862		10/17/2016	2046
7439-95-4	Magnesium	2010	*	10/17/2016	2046
7439-96-5	Manganese	203	*	10/17/2016	2046
7440-66-6	Zinc	717	*	10/17/2016	2046

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J22

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-18

% Solids: 56.1 Date Received: 10/13/2016

Analytical method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	10400		10/17/2016	2050
7440-38-2	Arsenic	7.0	*	10/17/2016	2050
7440-70-2	Calcium	1040	*	10/17/2016	2050
7440-50-8	Copper	108		10/17/2016	2050
7439-89-6	Iron	79200	D	10/17/2016	2158
7439-92-1	Lead	575		10/17/2016	2050
7439-95-4	Magnesium	2680	*	10/17/2016	2050
7439-96-5	Manganese	463	*	10/17/2016	2050
7440-66-6	Zinc	249	*	10/17/2016	2050

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: In House, Lot: USEPA(0307) + ICV-3

Continuing Calibration Verification Source: In-House, Lot: B6G0037

Run Batch: BJ62619MH1J05 Analytical method: ICP-AES

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID: ICV01				ID: CCV01				ID: CCV02		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Aluminum	2521.0	2630	104	0	140000	145000	103	0	147000	105	1
Arsenic	999.00	1010	101	0	2000.0	2170	108	0	2200	110	0
Calcium	10026	10600	106	0	200000	204000	102	0	202000	101	0
Copper	492.00	495	101	0	5000.0	5290	106	0	5410	108	0
Iron	5082.0	5350	105	0	125000	131000	105	0	132000	105	1
Lead	1002.0	1030	103	0	5750.0	5730	100	0	5760	100	0
Magnesium	6074.0	6310	104	0	200000	206000	103	0	208000	104	1
Manganese	499.00	535	107	0	9000.0	9280	103	0	9370	104	1
Zinc	1025.0	1070	105	0	8000.0	8340	104	0	8380	105	0

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: In House, Lot: USEPA(0307) + ICV-3

Continuing Calibration Verification Source: In-House, Lot: B6G0037

Run Batch: BJ62619MH1J05 Analytical method: ICP-AES

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID:				ID: CCV03				ID: CCV04		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Aluminum					140000	145000	104	0	145000	103	0
Arsenic					2000.0	2180	109	0	2160	108	0
Calcium					200000	199000	100	0	199000	100	0
Copper					5000.0	5300	106	0	5270	105	0
Iron					125000	127000	102	0	127000	102	0
Lead					5750.0	5730	100	0	5690	99	0
Magnesium					200000	202000	101	0	203000	101	0
Manganese					9000.0	9170	102	0	9150	102	0
Zinc					8000.0	8340	104	0	8300	104	0

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: In House, Lot: USEPA(0307) + ICV-3

Continuing Calibration Verification Source: In-House, Lot: B6G0037

Run Batch: BJ62619MH1J05 Analytical method: ICP-AES

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID:				ID:CCV05				ID:		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Aluminum					140000	154000	110	1			
Arsenic					2000.0	2170	109	0			
Calcium					200000	210000	105	1			
Copper					5000.0	5280	106	0			
Iron					125000	134000	107	1			
Lead					5750.0	5780	101	1			
Magnesium					200000	213000	106	1			
Manganese					9000.0	9580	106	1			
Zinc					8000.0	8320	104	0			

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: In House, Lot: USEPA(0307) + ICV-3

Continuing Calibration Verification Source: In-House, Lot: B6G0037

Run Batch: BJ62621101816 CLP A Analytical method: ICP-AES

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID: ICV01				ID: CCV01				ID: CCV02		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Arsenic	999.00	1000	100	0	2000.0	2120	106	0	2140	107	0

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: In House, Lot: USEPA(0307) + ICV-3

Continuing Calibration Verification Source: In-House, Lot: B6G0037

Run Batch: BJ62621101816 CLP A Analytical method: ICP-AES

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID:				ID: CCV03				ID:		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Arsenic					2000.0	2130	107	0			

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: In House, Lot: USEPA(0307) + ICV-3

Continuing Calibration Verification Source: In-House, Lot: B6G0037

Run Batch: BJ62709CLP 10262016 Analytical method: ICP-AES

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID: ICV01				ID: CCV01				ID: CCV02		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Manganese	499.00	535	107	1	9000.0	9130	101	0	9140	102	0

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: In House, Lot: USEPA(0307) + ICV-3

Continuing Calibration Verification Source: In-House, Lot: B6G0037

Run Batch: BJ62709CLP 10262016 Analytical method: ICP-AES

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID:				ID: CCV03				ID: CCV04		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Manganese					9000.0	9040	100	0	8950	99	0

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: In House, Lot: USEPA(0307) + ICV-3

Continuing Calibration Verification Source: In-House, Lot: B6G0037

Run Batch: BJ62709CLP 10262016 Analytical method: ICP-AES

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID:				ID:CCV05				ID:CCV06		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Manganese					9000.0	8730	97	1	8690	97	0

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: In House, Lot: USEPA(0307) + ICV-3

Continuing Calibration Verification Source: In-House, Lot: B6G0037

Run Batch: BJ62709CLP 10262016 Analytical method: ICP-AES

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID:				ID: CCV07				ID:		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Manganese					9000.0	8800	98	0			

FORM 3-IN
BLANKS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Preparation Blank Matrix: Soil

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/kg

Analytical method: ICP-AES Preparation Batch: QJ14016

Run Batch: BJ62619MH1J05 Preparation Method: 3050B

	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction Blank	
Analyte	ID: ICB01	Q	ID: CCB01	Q	ID: CCB02	Q	ID: CCB03	Q	ID: PBS01	Q
Aluminum	200	U	200	U	200	U	22.2	J	20.0	U
Arsenic	10	U	10	U	10	U	10	U	1.0	U
Calcium	5000	U	5000	U	5000	U	5000	U	500	U
Copper	25.0	U	1.8	J	1.5	J	1.7	J	0.10	J
Iron	100	U	23.5	J	15.1	J	28.0	J	10	U
Lead	2.5	J	10	U	10	U	10	U	1.0	U
Magnesium	5000	U	34.5	J	13.5	J	36.9	J	500	U
Manganese	15.0	U	1.3	J	0.99	J	1.7	J	1.5	U
Zinc	60.0	U	60.0	U	60.0	U	60.0	U	6.0	U

NOTE: Hardness (total) is reported in mg/L

FORM 3-IN
BLANKS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Preparation Blank Matrix: Soil

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/kg

Analytical method: ICP-AES Preparation Batch: QJ14016

Run Batch: BJ62619MH1J05 Preparation Method: 3050B

	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction Blank	
Analyte	ID:	Q	ID: CCB04	Q	ID: CCB05	Q	ID:	Q	ID:	Q
Aluminum			200	U	25.1	J				
Arsenic			10	U	10	U				
Calcium			5000	U	5000	U				
Copper			1.4	J	1.8	J				
Iron			17.9	J	32.3	J				
Lead			10	U	10	U				
Magnesium			21.1	J	55.8	J				
Manganese			0.80	J	2.4	J				
Zinc			60.0	U	60.0	U				

NOTE: Hardness (total) is reported in mg/L

FORM 3-IN
BLANKS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Preparation Blank Matrix: Soil

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/kg

Analytical method: ICP-AES Preparation Batch:

Run Batch: BJ62621101816_CLP_A Preparation Method:

	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction Blank	
Analyte	ID: ICB01	Q	ID: CCB01	Q	ID: CCB02	Q	ID: CCB03	Q	ID:	Q
Arsenic	10	U	10	U	10	U	10	U		

NOTE: Hardness (total) is reported in mg/L

FORM 3-IN
BLANKS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Preparation Blank Matrix: Soil

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/kg

Analytical method: ICP-AES Preparation Batch:

Run Batch: BJ62709CLP_10262016 Preparation Method:

	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction Blank	
Analyte	ID: ICB01	Q	ID: CCB01	Q	ID: CCB02	Q	ID: CCB03	Q	ID:	Q
Manganese	15.0	U	1.2	J	1.1	J	1.6	J		

NOTE: Hardness (total) is reported in mg/L

FORM 3-IN
BLANKS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Preparation Blank Matrix: Soil

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/kg

Analytical method: ICP-AES Preparation Batch:

Run Batch: BJ62709CLP_10262016 Preparation Method:

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction Blank	
	ID:	Q	ID: CCB04	Q	ID: CCB05	Q	ID: CCB06	Q	ID:	Q
Manganese			2.3	J	1.8	J	1.9	J		

NOTE: Hardness (total) is reported in mg/L

FORM 3-IN
BLANKS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Preparation Blank Matrix: Soil

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/kg

Analytical method: ICP-AES Preparation Batch:

Run Batch: BJ62709CLP 10262016 Preparation Method:

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction Blank	
	ID:	Q	ID: CCB07	Q	ID:	Q	ID:	Q	ID:	Q
Manganese			2.1	J						

NOTE: Hardness (total) is reported in mg/L

FORM 4-IN
ICP INTERFERENCE CHECK SAMPLE

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Analytical Method: ICP-AES
ICSA Source: USEPA, Lot:ICSA-1211
Instrument ID: ICAPP02
ICSB Source: USEPA, Lot:ICSA-1211 & ICSB-071C
Run Batch: BJ62619MH1J05

Concentration Units: ug/L

Analyte	True		Found			
	ICSA	ICSAB	ICSA	%R	ICSAB	%R
Aluminum	254900	246800	265000	104	262000	106
Arsenic	0	104	-9.4		99.4	96
Calcium	244500	234900	248000	101	245000	104
Copper	2	511	-10	-500	512	100
Iron	100700	99320	103000	102	102000	103
Lead	0	49	7.3		57.4	117
Magnesium	255400	248000	265000	104	263000	106
Manganese	7	507	13.2	189	533	105
Zinc	0	952	1.8		1090	114

FORM 4-IN
ICP INTERFERENCE CHECK SAMPLE

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Analytical Method: ICP-AES ICSA Source: USEPA, Lot:ICSA-1211

Instrument ID: ICAPP02 ICSB Source: USEPA, Lot:ICSA-1211 & ICSB-071C

Run Batch: BJ62621101816 CLP A

Concentration Units: ug/L

Analyte	True		Found			
	ICSA	ICSAB	ICSA	%R	ICSAB	%R
Aluminum	254900	246800	257000	101	257000	104
Arsenic	0	104	-8.5		98.5	95
Calcium	244500	234900	242000	99	243000	103
Iron	100700	99320	97800	97	97900	99
Magnesium	255400	248000	254000	99	254000	102

FORM 4-IN
ICP INTERFERENCE CHECK SAMPLE

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Analytical Method: ICP-AES
ICSA Source: USEPA, Lot:ICSA-1211
Instrument ID: ICAPP02
ICSB Source: USEPA, Lot:ICSA-1211 & ICSB-071C
Run Batch: BJ62709CLP 10262016

Concentration Units: ug/L

Analyte	True		Found			
	ICSA	ICSAB	ICSA	%R	ICSAB	%R
Aluminum	254900	246800	267000	105	274000	111
Calcium	244500	234900	249000	102	255000	109
Iron	100700	99320	103000	102	105000	106
Magnesium	255400	248000	267000	105	271000	109
Manganese	7	507	12.8	183	561	111

EPA SAMPLE NO.

MH1J05S

FORM 5A-IN
MATRIX SPIKE SAMPLE RECOVERY

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Analytical Method: ICP-AES

% Solids: 86.6

Concentration Units (µg/L, mg/L or mg/kg dry weight): mg/kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q
Arsenic	75-125	42.1		36.2		9.23	64	*
Copper	75-125	146		90.0		57.7	97	
Lead		395		438		4.62	-938	
Manganese		755		703		115	45	
Zinc		936		841		115	83	

EPA SAMPLE NO.

MH1J05A

FORM 5B-IN
POST-DIGESTION/DISTILLATION SPIKE
SAMPLE RECOVERY

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No. 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Analytical Method: ICP-AES

% Solids: 86.6

Concentration Units (µg/L, mg/L or mg/kg dry weight): mg/kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q
Arsenic	75-125	106		36.2		72.5	96	

EPA SAMPLE NO.

FORM 6-IN
DUPLICATES

MH1J05D

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Analytical Method: ICP-AES

% Solids: 86.6

Concentration Units (µg/L, mg/L, or mg/kg dry weight): mg/Kg

Analyte	Control Limit	Sample (S)	Q	Duplicate (D)	Q	RPD	Q
Aluminum		9870		8970		10	
Arsenic		36.2		34.2		6	
Calcium	577	1140		1010		12	
Copper		90.0		75.9		17	
Iron		58800		60500		3	
Lead		438		358		20	
Magnesium		4710		4060		15	
Manganese		703		664		6	
Zinc		841		634		28	*

NOTE: Hardness (total) is reported in mg/L

EPA SAMPLE NO.

LCS01

FORM 7-IN
LABORATORY CONTROL SAMPLE

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Preparation Method: 3050B

Analytical method: ICP-AES Preparation Batch: QJ14016

Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/Kg

Analyte	True	Found	%R
Aluminum	40.000	37.9	95
Arsenic	2.0000	1.8	90
Calcium	1000.0	959	96
Copper	5.0000	4.8	96
Iron	20.000	20.1	101
Lead	2.0000	2.1	105
Magnesium	1000.0	966	97
Manganese	3.0000	3.0	100
Zinc	12.000	12.1	101

EPA SAMPLE NO.

MH1J05L

FORM 8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Analytical method: ICP-AES

% Solids: 86.6

Concentration Units (µg/L, mg/L or mg/kg dry weight): mg/Kg

Analyte	Initial Sample Result (I)	Q	Serial Dilution Result (S)	Q	% Difference	Q
Aluminum	9870		10600		8	
Arsenic	36.2		36.5		1	
Calcium	1140		1270	J	12	*
Copper	90.0		95.0		6	
Iron	58800		54500		7	
Lead	438		465		6	
Magnesium	4710		5270		12	*
Manganese	703		782		11	*
Zinc	841		884		5	

NOTE: Hardness (total) is reported in mg/L

FORM 9-IN
METHOD DETECTION LIMIT

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Analytical Method: ICP-AES Instrument ID: ICAPP02

Preparation Method: 3050B

Concentration Units (µg/L, µg, or mg/kg): mg/Kg

Analyte	Wavelength/Mass	MDL	Date Analyzed
Aluminum	396.10 nm	2.0	01/28/2016
Arsenic	189.00 nm	0.13	01/28/2016
Calcium	318.10 nm	5.8	01/28/2016
Copper	324.70 nm	0.051	01/28/2016
Iron	258.90 nm	0.83	01/28/2016
Lead	220.30 nm	0.11	02/03/2016
Magnesium	279.00 nm	2.2	01/28/2016
Manganese	257.60 nm	0.061	01/28/2016
Zinc	206.20 nm	0.26	01/28/2016

FORM 10A-IN
ICP-AES INTERELEMENT CORRECTION FACTORS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Instrument ID: ICAPP02 Date: 01/27/2016

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Al	Ca	Fe	Mg	Cr
Aluminum	396.1	0	0	0	0	0
Arsenic	189	0	0	0	0	-0.000524
Calcium	318.1	0	0	0	0	0
Copper	324.7	0	0	0	0	0
Iron	258.9	0	0	0	0	0
Lead	220.3	0.000141	0.000001	0.00002	0	0
Magnesium	279	0	0	0	0	0
Manganese	257.6	0	0	0	0	0
Zinc	206.2	0	0	0	0	0

FORM 10B-IN
ICP-AES INTERELEMENT CORRECTION FACTORS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Instrument ID: ICAPP02 Date: 01/27/2016

Analyte	Wave-length (nm)	Interelement Correction Factors for: Cu	Mo			
Aluminum	396.1	0	0.038865			
Arsenic	189	0	0			
Calcium	318.1	0	0			
Copper	324.7	0	0			
Iron	258.9	0	0			
Lead	220.3	0.00009	0			
Magnesium	279	0	0			
Manganese	257.6	0	0			
Zinc	206.2	0	0			

FORM 12-IN
ANALYSIS LOG

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: ICAPP02
Analytical Method: ICP-AES
Start Date: 10/17/2016
End Date: 10/17/2016
Run Batch: BJ62619MH1J05

EPA Sample NO.	D/F	Time	Analytes																								
			Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	CN	
S01	1.0	1522	X		X				X			X	X	X	X	X									X		
S02	1.0	1526	X		X				X			X	X	X	X	X									X		
S03	1.0	1530	X		X				X			X	X	X	X	X									X		
S04	1.0	1535	X		X				X			X	X	X	X	X									X		
S05	1.0	1539	X		X				X			X	X	X	X	X									X		
S06	1.0	1543	X		X				X			X	X	X	X	X									X		
S07	1.0	1547	X						X				X	X	X	X											
S08	1.0	1552	X										X	X													
ICV01	1.0	1556	X		X				X			X	X	X	X	X									X		
ICB01	1.0	1600	X		X				X			X	X	X	X	X									X		
ICSA01	1.0	1605	X		X				X			X	X	X	X	X									X		
ICSAB01	1.0	1609	X		X				X			X	X	X	X	X									X		
CCV01	1.0	1613	X		X				X			X	X	X	X	X									X		
CCB01	1.0	1617	X		X				X			X	X	X	X	X									X		
CCV02	1.0	1743	X		X				X			X	X	X	X	X									X		
CCB02	1.0	1747	X		X				X			X	X	X	X	X									X		
CCV03	1.0	1851	X		X				X			X	X	X	X	X									X		
CCB03	1.0	1855	X		X				X			X	X	X	X	X									X		
ZZZZZZ	1.0	1905																									
LCS01	1.0	1909	X		X				X			X	X	X	X	X									X		
MH1J05	1.0	1914	X		X				X			X		X	X	X									X		
MH1J05S	1.0	1918			X							X		X		X									X		
MH1J05D	1.0	1922	X		X				X			X		X	X	X									X		
MH1J05L	5.0	1926	X		X				X			X		X	X	X									X		
MH1J06	1.0	1930	X		X				X			X		X	X	X									X		
PBS01	1.0	1935	X		X				X			X	X	X	X	X									X		
MH1J07	1.0	1939	X		X				X			X		X	X	X									X		
MH1J08	1.0	1943	X		X				X			X		X	X	X									X		
MH1J09	1.0	1948	X		X				X			X		X	X	X									X		
MH1J10	1.0	1952	X		X				X			X		X	X	X									X		

FORM 12-IN
ANALYSIS LOG

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: ICAPP02
Analytical Method: ICP-AES
Start Date: 10/17/2016
End Date: 10/17/2016
Run Batch: BJ62619MH1J05

EPA Sample NO.	D/F	Time	Analytes																								
			Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	CN	
MH1J11	1.0	1956	X		X				X			X		X	X	X									X		
MH1J12	1.0	2000	X		X				X			X	X	X	X	X									X		
MH1J13	1.0	2004	X		X				X			X	X	X	X										X		
MH1J14	1.0	2008	X		X				X			X		X	X	X									X		
MH1J15	1.0	2013	X		X				X			X		X	X	X									X		
MH1J16	1.0	2017	X		X				X			X		X	X	X									X		
CCV04	1.0	2021	X		X				X			X	X	X	X	X									X		
CCB04	1.0	2025	X		X				X			X	X	X	X	X									X		
MH1J17	1.0	2030	X		X				X			X		X	X	X									X		
MH1J18	1.0	2034	X		X				X			X	X	X	X	X									X		
MH1J19	1.0	2038	X		X				X			X		X	X	X									X		
MH1J20	1.0	2042	X		X				X			X	X	X	X	X									X		
MH1J21	1.0	2046	X		X				X			X	X	X	X	X									X		
MH1J22	1.0	2050	X		X				X			X		X	X	X									X		
MH1J05	3.0	2059											X														
MH1J05D	3.0	2103											X														
MH1J05L	15.0	2107											X														
MH1J06	2.0	2112											X														
MH1J07	3.0	2116											X														
MH1J08	2.0	2120											X														
MH1J09	2.0	2124											X														
MH1J10	3.0	2128											X														
MH1J11	3.0	2133											X														
MH1J14	4.0	2137											X														
MH1J15	3.0	2141											X														
MH1J16	2.0	2145											X														
MH1J17	3.0	2150											X														
MH1J19	3.0	2154											X														
MH1J22	3.0	2158											X														
CCV05	1.0	2202	X		X				X			X	X	X	X	X									X		

FORM 12-IN
ANALYSIS LOG

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: ICAPP02
Analytical Method: ICP-AES
Start Date: 10/17/2016
End Date: 10/17/2016
Run Batch: BJ62619MH1J05

EPA Sample NO.	D/F	Time	Analytes																								
			Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	CN	
CCB05	1.0	2207	X		X				X			X	X	X	X	X									X		

FORM 12-IN
ANALYSIS LOG

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: ICAPP02
Analytical Method: ICP-AES
Start Date: 10/18/2016
End Date: 10/18/2016
Run Batch: BJ62621101816_CLP_A

EPA Sample NO.	D/F	Time	Analytes																								
			Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	CN	
S01	1.0	1038			X																						
S02	1.0	1043			X																						
S03	1.0	1047			X																						
S04	1.0	1051			X																						
S05	1.0	1055			X																						
S06	1.0	1059			X																						
ICV01	1.0	1117			X																						
ICB01	1.0	1121			X																						
ICSA01	1.0	1125	X		X				X				X		X												
ICSAB01	1.0	1130	X		X				X				X		X												
CCV01	1.0	1134			X																						
CCB01	1.0	1138			X																						
CCV02	1.0	1147			X																						
CCB02	1.0	1151			X																						
MH1J05A	1.0	1155			X																						
CCV03	1.0	1200			X																						
CCB03	1.0	1204			X																						

FORM 12-IN
ANALYSIS LOG

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: ICAPP02
Analytical Method: ICP-AES
Start Date: 10/26/2016
End Date: 10/26/2016
Run Batch: BJ62709CLP_10262016

EPA Sample NO.	D/F	Time	Analytes																							
			Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	CN
S01	1.0	1212														X										
S02	1.0	1217														X										
S03	1.0	1221														X										
S04	1.0	1225														X										
S05	1.0	1229														X										
S06	1.0	1233														X										
S07	1.0	1238														X										
S10	1.0	1246														X										
ICV01	1.0	1251														X										
ICB01	1.0	1255														X										
ICSA01	1.0	1259	X						X				X		X	X										
ICSAB01	1.0	1304	X						X				X		X	X										
CCV01	1.0	1308														X										
CCB01	1.0	1312														X										
CCV02	1.0	1329														X										
CCB02	1.0	1334														X										
CCV03	1.0	1400														X										
CCB03	1.0	1404														X										
CCV04	1.0	1421														X										
CCB04	1.0	1425														X										
CCV05	1.0	1502														X										
CCB05	1.0	1506														X										
CCV06	1.0	1534														X										
CCB06	1.0	1538														X										
MH1J13	5.0	1543														X										
CCV07	1.0	1547														X										
CCB07	1.0	1551														X										

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.

Contract: EPW14029

Lab Code: BON

Case No.: 46282

MA No.:

SDG No.: MH1J05

Instrument ID: ICAPP02

Start Date: 10/17/2016

Analytical method: ICP-AES

Run Batch: BJ62619MH1J05

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Aluminum	0.0	4.7		100	100	0	800	795	1
Arsenic	0.0	1.2		10.0	10.8	-8	80.0	76.6	4
Calcium	0.0	-34		250	230	8	2000	2010	-1
Copper	0.0	4.1		25.0	27.7	-11	200	189	5
Iron	0.0	-4.7		100	98.4	2	800	792	1
Lead	0.0	0.67		10.0	11.0	-10	80.0	79.0	1
Magnesium	0.0	-9.9		250	251	0	2000	1980	1
Manganese	0.0	-2.3		15.0	13.9	7	120	122	-1
Zinc	0.0	-3.9		40.0	39.1	2	320	321	0

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: ICAPP02
Start Date: 10/17/2016
Analytical method: ICP-AES
Run Batch: BJ62619MH1J05
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Aluminum	4000	4000	0	20000	19900	0	40000	40200	-1
Arsenic	400	383	4	2000	1980	1	4000	4040	-1
Calcium	10000	10300	-3	50000	51700	-3	100000	102000	-2
Copper	1000	942	6	5000	4960	1	10000	10100	-1
Iron	4000	4040	-1	20000	20200	-1	40000	40300	-1
Lead	400	393	2	2000	1940	3	4000	3840	4
Magnesium	10000	10000	0	50000	50100	0	100000	100000	0
Manganese	600	619	-3	3000	3070	-2	6000	6090	-2
Zinc	1600	1630	-2	8000	8090	-1	16000	15900	1

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: ICAPP02
Start Date: 10/17/2016
Analytical method: ICP-AES
Run Batch: BJ62619MH1J05
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Aluminum	320000	327000	-2	400000	393000	2			
Arsenic									
Calcium	400000	396000	1						
Copper									
Iron	280000	277000	1	350000	352000	-1			
Lead	10000	9900	1	25000	25300	-1			
Magnesium	400000	400000	0						
Manganese	16000	15800	1						
Zinc									

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: ICAPP02
Start Date: 10/18/2016
Analytical method: ICP-AES
Run Batch: BJ62621101816 CLP A

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Arsenic	0.0	0.27		10.0	10.6	-6	80.0	77.5	3

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.

Contract: EPW14029

Lab Code: BON

Case No.: 46282

MA No.:

SDG No.: MH1J05

Instrument ID: ICAPP02

Start Date: 10/18/2016

Analytical method: ICP-AES

Run Batch: BJ62621101816 CLP A

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Arsenic	400	390	2	2000	1990	1	4000	4030	-1

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.

Contract: EPW14029

Lab Code: BON

Case No.: 46282

MA No.:

SDG No.: MH1J05

Instrument ID: ICAPP02

Start Date: 10/26/2016

Analytical method: ICP-AES

Run Batch: BJ62709CLP 10262016

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Manganese	0.0	-3.2		15.0	12.7	15	120	124	-3

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.

Contract: EPW14029

Lab Code: BON

Case No.: 46282

MA No.:

SDG No.: MH1J05

Instrument ID: ICAPP02

Start Date: 10/26/2016

Analytical method: ICP-AES

Run Batch: BJ62709CLP 10262016

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Manganese	600	634	-6	3000	3100	-3	6000	6220	-4

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.

Contract: EPW14029

Lab Code: BON

Case No.: 46282

MA No.:

SDG No.: MH1J05

Instrument ID: ICAPP02

Start Date: 10/26/2016

Analytical method: ICP-AES

Run Batch: BJ62709CLP 10262016

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Manganese	16000	16300	-2	25700	25000	3			

FORM 16-IN
INITIAL CALIBRATION SUMMARY

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: ICAPP02
Start Date: 10/17/2016
Analytical method: ICP-AES
Run Batch: BJ62619MH1J05

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Aluminum	0.9994247	0.00005850193	-38.2474732	WLR	Inverse Conc
Arsenic	0.9998528	0.0001659432	-1.9782739	WLR	Inverse Conc
Calcium	0.999838	0.00001323741	26.1685103	WLR	Inverse Conc
Copper	0.9998122	0.0003998036	1.0189733	WLR	Inverse Conc
Iron	0.9999108	0.00003607558	-1.9359115	WLR	Inverse Conc
Lead	0.9997331	0.0005068309	0.9232495	WLR	Inverse Conc
Magnesium	0.9999994	0.00001388666	11.3176459	WLR	Inverse Conc
Manganese	0.9997511	0.0006601244	2.1633816	WLR	Inverse Conc
Zinc	0.9998949	0.001897371	4.7938911	WLR	Inverse Conc

FORM 16-IN
INITIAL CALIBRATION SUMMARY

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: ICAPP02
Start Date: 10/18/2016
Analytical method: ICP-AES
Run Batch: BJ62621101816 CLP A

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Arsenic	0.9999266	0.0001787987	-1.5588078	WLR	Inverse Conc

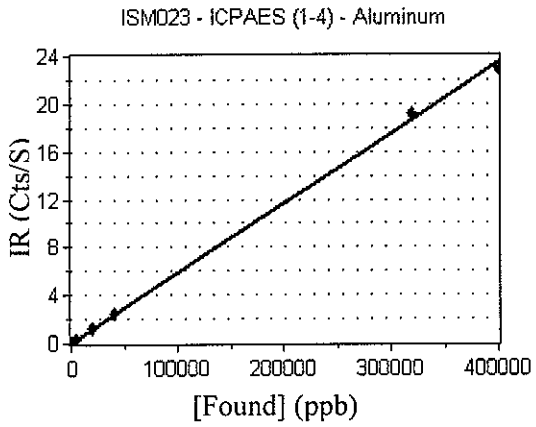
FORM 16-IN
INITIAL CALIBRATION SUMMARY

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: ICAPP02
Start Date: 10/26/2016
Analytical method: ICP-AES
Run Batch: BJ62709CLP 10262016

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Manganese	0.9989697	0.0006058804	3.1141196	WLR	Inverse Conc

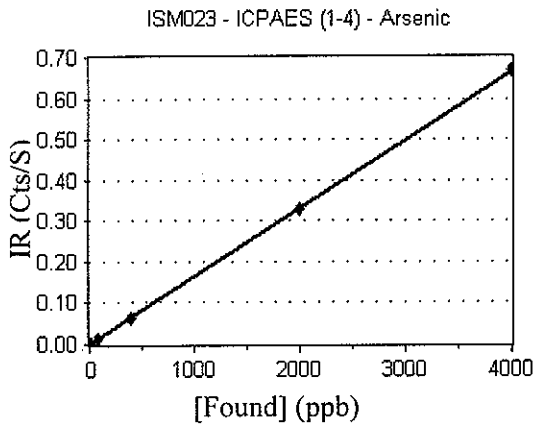
Bonner Analytical Testing Company

Instrument ID: ICAPP02 Calibration ID: B644054 Calibration Date: 10/17/2016



Calibration Plot: Aluminum
Calibration Type: Linear Regression Weighted 1/X
Corr. Coeff.: 0.9994247
Fit: [Y] = 5.850193E-05 * [X] + -2.237551E-03
[y-intercept] = 38.25

Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62619-CAL1	B6I0028	0	4.74	-0.00196	0
BJ62619-CAL2	B6G0026	100	99.95	0.00361	0
BJ62619-CAL3	B6G0027	800	795.49	0.0443	1
BJ62619-CAL4	B6G0028	4000	3,996.92	0.23159	0
BJ62619-CAL5	B6G0029	20000	19,948.70	1.1648	0
BJ62619-CAL6	B6G0030	40000	40,211.28	2.3502	-1
BJ62619-CAL7	B6G0031	320000	327,241.13	19.142	-2
BJ62619-CAL8	B6G0032	400000	392,606.49	22.966	2

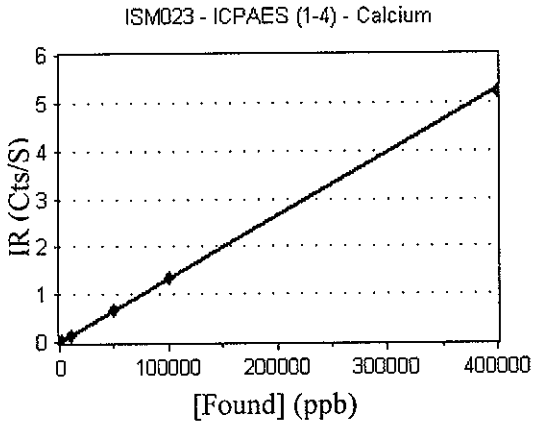


Calibration Plot: Arsenic
Calibration Type: Linear Regression Weighted 1/X
Corr. Coeff.: 0.9998528
Fit: [Y] = 1.659432E-04 * [X] + -3.282811E-04
[y-intercept] = 1.98

Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62619-CAL1	B6I0028	0	1.19	-0.00013	0
BJ62619-CAL2	B6G0026	10	10.84	0.00147	-8
BJ62619-CAL3	B6G0027	80	76.58	0.01238	4
BJ62619-CAL4	B6G0028	400	383.49	0.06331	4
BJ62619-CAL5	B6G0029	2000	1,982.17	0.3286	1
BJ62619-CAL6	B6G0030	4000	4,036.91	0.66957	-1

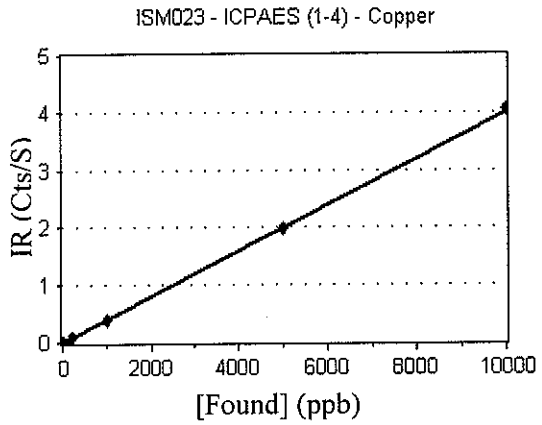
Bonner Analytical Testing Company

Instrument ID: ICAPP02 Calibration ID: B644054 Calibration Date: 10/17/2016



Calibration Plot: Calcium
Calibration Type: Linear Regression Weighted 1/X
Corr. Coeff.: 0.999838
Fit: [Y] = 1.323741E-05 * [X] + 3.464033E-04
[y-intercept] = -26.17

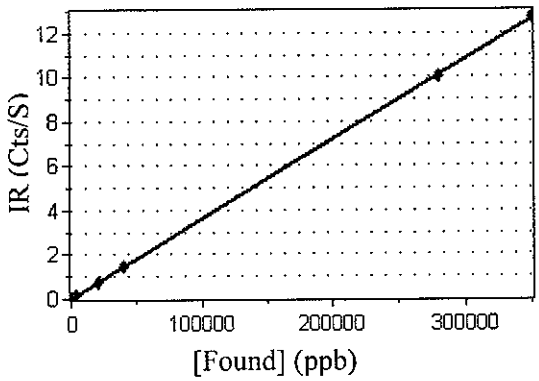
Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62619-CAL1	B6I0028	0	-34.48	-0.00011	0
BJ62619-CAL2	B6G0026	250	229.92	0.00339	8
BJ62619-CAL3	B6G0027	2000	2,014.26	0.02701	-1
BJ62619-CAL4	B6G0028	10000	10,307.42	0.13679	-3
BJ62619-CAL5	B6G0029	50000	51,722.63	0.68502	-3
BJ62619-CAL6	B6G0030	100000	101,738.45	1.3471	-2
BJ62619-CAL7	B6G0031	400000	396,237.15	5.2455	1



Calibration Plot: Copper
Calibration Type: Linear Regression Weighted 1/X
Corr. Coeff.: 0.9998122
Fit: [Y] = 3.998036E-04 * [X] + 4.073892E-04
[y-intercept] = -1.02

Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62619-CAL1	B6I0028	0	4.13	0.00206	0
BJ62619-CAL2	B6G0026	25	27.72	0.01149	-11
BJ62619-CAL3	B6G0027	200	189.20	0.07605	5
BJ62619-CAL4	B6G0028	1000	942.47	0.37721	6
BJ62619-CAL5	B6G0029	5000	4,961.67	1.9841	1
BJ62619-CAL6	B6G0030	10000	10,103.94	4.04	-1

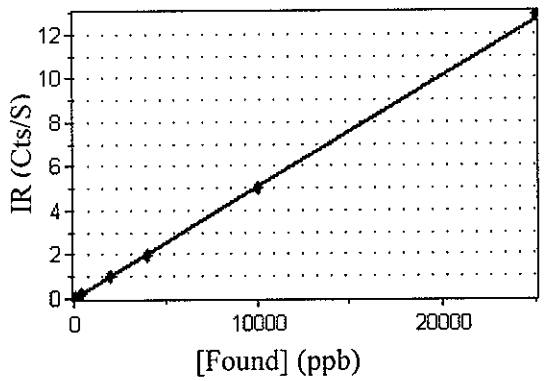
ISM023 - ICPAES (1-4) - Iron



Calibration Plot: Iron
Calibration Type: Linear Regression Weighted 1/X
Corr. Coeff.: 0.9999108
Fit: [Y] = 3.607558E-05 * [X] + -6.983913E-05
[y-intercept] = 1.94

Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62619-CAL1	B6I0028	0	-4.72	-0.00024	0
BJ62619-CAL2	B6G0026	100	98.40	0.00348	2
BJ62619-CAL3	B6G0027	800	792.50	0.02852	1
BJ62619-CAL4	B6G0028	4000	4,040.40	0.14569	-1
BJ62619-CAL5	B6G0029	20000	20,218.94	0.72934	-1
BJ62619-CAL6	B6G0030	40000	40,317.30	1.4544	-1
BJ62619-CAL7	B6G0031	280000	277,225.48	10.001	1
BJ62619-CAL8	B6G0032	350000	352,206.95	12.706	-1

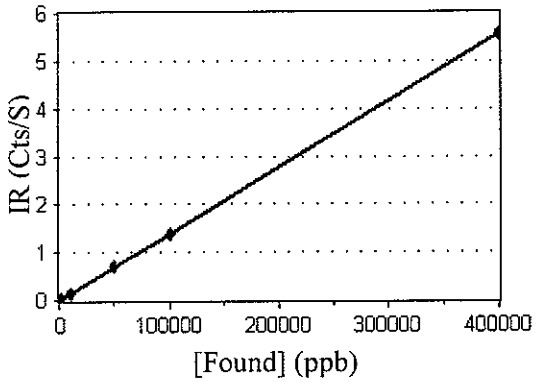
ISM023 - ICPAES (1-4) - Lead



Calibration Plot: Lead
Calibration Type: Linear Regression Weighted 1/X
Corr. Coeff.: 0.9997331
Fit: [Y] = 5.068309E-04 * [X] + 4.679314E-04
[y-intercept] = -0.92

Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62619-CAL1	B6I0028	0	0.67	0.00081	0
BJ62619-CAL2	B6G0026	10	10.97	0.00603	-10
BJ62619-CAL3	B6G0027	80	78.99	0.0405	1
BJ62619-CAL4	B6G0028	400	392.58	0.19944	2
BJ62619-CAL5	B6G0029	2000	1,942.17	0.98482	3
BJ62619-CAL6	B6G0030	4000	3,838.03	1.9457	4
BJ62619-CAL7	B6G0031	10000	9,902.18	5.0192	1
BJ62619-CAL8	B6G0032	25000	25,325.08	12.836	-1

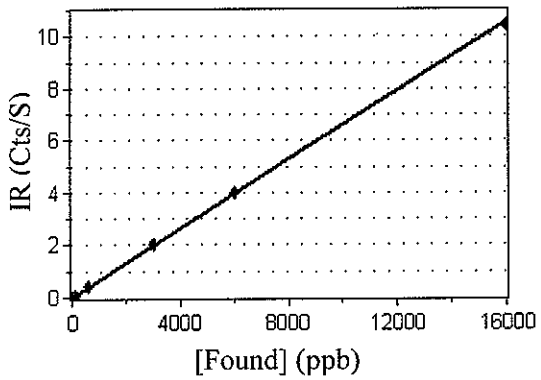
ISM023 - ICPAES (1-4) - Magnesium



Calibration Plot: Magnesium
Calibration Type: Linear Regression Weighted 1/X
Corr. Coeff.: 0.9999994
Fit: [Y] = 1.388666E-05 * [X] + 1.571643E-04
[y-intercept] = -11.32

Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62619-CAL1	B6I0028	0	-9.88	0.00002	0
BJ62619-CAL2	B6G0026	250	250.80	0.00364	0
BJ62619-CAL3	B6G0027	2000	1,984.84	0.02772	1
BJ62619-CAL4	B6G0028	10000	10,014.13	0.13922	0
BJ62619-CAL5	B6G0029	50000	50,126.01	0.69624	0
BJ62619-CAL6	B6G0030	100000	100,099.15	1.3902	0
BJ62619-CAL7	B6G0031	400000	399,775.24	5.5517	0

ISM023 - ICPAES (1-4) - Manganese

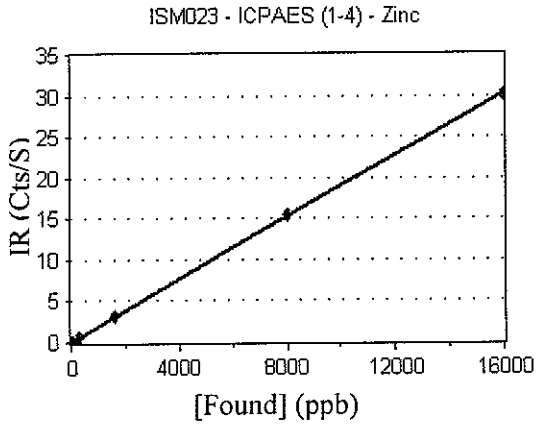


Calibration Plot: Manganese
Calibration Type: Linear Regression Weighted 1/X
Corr. Coeff.: 0.9997511
Fit: [Y] = 6.601244E-04 * [X] + 1.428101E-03
[y-intercept] = -2.16

Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62619-CAL1	B6I0028	0	-2.35	-0.00012	0
BJ62619-CAL2	B6G0026	15	13.88	0.01059	7
BJ62619-CAL3	B6G0027	120	121.75	0.0818	-1
BJ62619-CAL4	B6G0028	600	618.75	0.40988	-3
BJ62619-CAL5	B6G0029	3000	3,074.83	2.0312	-2
BJ62619-CAL6	B6G0030	6000	6,094.26	4.0244	-2
BJ62619-CAL7	B6G0031	16000	15,811.52	10.439	1

Bonner Analytical Testing Company

Instrument ID: ICAPP02 Calibration ID: B644054 Calibration Date: 10/17/2016 **86**



Calibration Plot: Zinc
Calibration Type: Linear Regression Weighted 1/X
Corr. Coeff.: 0.9998949
Fit: [Y] = 1.897371E-03 * [X] + 9.09579E-03
[y-intercept] = -4.79

Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62619-CAL1	B6I0028	0	-3.88	0.00173	0
BJ62619-CAL2	B6G0026	40	39.09	0.08326	2
BJ62619-CAL3	B6G0027	320	320.95	0.61806	0
BJ62619-CAL4	B6G0028	1600	1,625.30	3.0929	-2
BJ62619-CAL5	B6G0029	8000	8,089.56	15.358	-1
BJ62619-CAL6	B6G0030	16000	15,885.09	30.149	1

Sample Name: SEQ-CAL1@S01 Acquired: 10/17/2016 15:22:10 Type: Cal
Method: ISM023_New_TotalMetals(v19) Mode: IR Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00196	-.00013	-.00011	.00206	-.00024	.00011	.00002	-.00012	.00019	-.00103
#1	-.00158	-.00023	-.00017	.00210	-.00018	-.00074	-.00006	-.00021	.00035	-.00079
#2	-.00268	.00010	.00000	.00196	-.00025	.00002	-.00003	-.00016	.00007	-.00057
#3	-.00160	-.00027	-.00016	.00211	-.00027	.00105	.00016	.00002	.00015	-.00174

Elem	Pb2203	Ti3234	Zn2062
Units	Cts/S	Cts/S	Cts/S
Avg	.00081	.00270	.00173
#1	.00065	.00270	.00146
#2	.00104	.00268	.00202
#3	.00074	.00273	.00171

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4173.0	2338.6	26329.	123510.	3899.0	55831.	11464.
#1	4179.7	2340.9	26202.	123570.	3900.4	55970.	11453.
#2	4166.1	2340.2	26265.	123590.	3895.0	55890.	11481.
#3	4173.1	2334.9	26520.	123360.	3901.6	55633.	11459.

Sample Name: SEQ-CAL2@S02 Acquired: 10/17/2016 15:26:34 Type: Cal
Method: ISM023_New_TotalMetals(v19) Mode: IR Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00361**	**.00147**	**.00339**	**.01149**	**.00348**	**.01172**	**.00364**	**.01059**	**.00583**	**.03648**	**.00603**
#1	.00354	.00159	.00335	.01140	.00341	.01313	.00344	.01050	.00581	.03632	.00602
#2	.00352	.00135	.00343	.01164	.00362	.01083	.00398	.01058	.00575	.03610	.00610
#3	.00378	.00147	.00338	.01143	.00340	.01119	.00352	.01068	.00595	.03703	.00598

Elem	Ti3234	Zn2062
Units	Cts/S	Cts/S
Avg	**.00400**	**.08326**
#1	.00398	.08319
#2	.00393	.08318
#3	.00408	.08341

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4140.5**	**2324.7**	**26120.**	**123050.**	**3870.0**	**54979.**	**11289.**
#1	4147.2	2326.2	26074.	122890.	3874.7	55059.	11258.
#2	4143.3	2328.6	26124.	123250.	3872.1	54962.	11302.
#3	4130.8	2319.3	26160.	123000.	3863.3	54915.	11308.

Sample Name: SEQ-CAL3@S03 Acquired: 10/17/2016 15:30:58 Type: Cal
Method: ISM023_New_TotalMetals(v19) Mode: IR Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.04430**	**.01238**	**.02701**	**.07605**	**.02852**	**.08702**	**.02772**	**.08180**	**.04510**	**.28210**	**.04050**
#1	.04400	.01238	.02718	.07602	.02843	.08807	.02779	.08141	.04522	.28264	.04042
#2	.04441	.01224	.02674	.07590	.02861	.08657	.02741	.08182	.04463	.28115	.04031
#3	.04450	.01252	.02710	.07624	.02851	.08642	.02795	.08218	.04546	.28252	.04078

Elem	Ti3234	Zn2062
Units	Cts/S	Cts/S
Avg	**.01257**	**.61806**
#1	.01267	.61924
#2	.01256	.61561
#3	.01248	.61935

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4090.0**	**2332.0**	**26535.**	**125090.**	**3860.2**	**55049.**	**11310.**
#1	4093.9	2335.2	26475.	125170.	3866.7	55039.	11299.
#2	4082.4	2329.8	26679.	125450.	3857.3	55260.	11367.
#3	4093.8	2331.0	26453.	124660.	3856.7	54849.	11264.

Sample Name: SEQ-CAL4@S04 Acquired: 10/17/2016 15:35:14 Type: Cal
Method: ISM023_New_TotalMetals(v19) Mode: IR Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.23159**	**.06331**	**.13679**	**.37721**	**.14569**	**.43673**	**.13922**	**.40988**	**.22901**	**1.4124**	**.19944**
#1	.23216	.06310	.13682	.37808	.14595	.43758	.13952	.41069	.22940	1.4149	.19900
#2	.23112	.06320	.13627	.37729	.14509	.43629	.13900	.40838	.22842	1.4106	.19895
#3	.23150	.06363	.13728	.37625	.14604	.43632	.13915	.41058	.22922	1.4118	.20035

Elem	Ti3234	Zn2062
Units	Cts/S	Cts/S
Avg	**.05223**	**3.0929**
#1	.05229	3.0880
#2	.05216	3.0868
#3	.05223	3.1039

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3931.4**	**2282.9**	**26508.**	**124410.**	**3796.1**	**53920.**	**11203.**
#1	3935.8	2284.1	26405.	124160.	3792.6	53747.	11152.
#2	3929.3	2285.2	26615.	124360.	3801.2	53975.	11263.
#3	3929.1	2279.6	26504.	124720.	3794.4	54037.	11194.

Sample Name: SEQ-CAL5@S05 Acquired: 10/17/2016 15:39:20 Type: Cal
Method: ISM023_New_TotalMetals(v19) Mode: IR Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.1648**	**.32860**	**.68502**	**1.9841**	**.72934**	**2.1944**	**.69624**	**2.0312**	**1.1453**	**7.1567**	**.98482**
#1	1.1658	.32731	.68538	1.9851	.72973	2.1989	.69745	2.0246	1.1425	7.1721	.98285
#2	1.1625	.32866	.68465	1.9838	.72658	2.1893	.69463	2.0315	1.1443	7.1385	.98355
#3	1.1662	.32982	.68501	1.9834	.73172	2.1951	.69663	2.0374	1.1492	7.1595	.98805

Elem	Ti3234	Zn2062
Units	Cts/S	Cts/S
Avg	**.24704**	**15.358**
#1	.24705	15.330
#2	.24694	15.336
#3	.24714	15.407

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3566.0**	**2129.8**	**26433.**	**121660.**	**3627.2**	**51819.**	**11000.**
#1	3567.6	2133.6	26372.	121220.	3632.9	51628.	10983.
#2	3569.0	2131.8	26553.	121920.	3632.1	51893.	11052.
#3	3561.5	2124.1	26375.	121850.	3616.7	51936.	10966.

Sample Name: SEQ-CAL6@S06 Acquired: 10/17/2016 15:43:32 Type: Cal
Method: ISM023_New_TotalMetals(v19) Mode: IR Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.3502**	**.66957**	**1.3471**	**4.0400**	**1.4544**	**4.3978**	**1.3902**	**4.0244**	**2.2905**	**14.258**	**1.9457**
#1	2.3448	.66666	1.3512	4.0306	1.4564	4.4000	1.3894	4.0246	2.2884	14.334	1.9394
#2	2.3516	.66931	1.3437	4.0467	1.4512	4.3985	1.3897	4.0227	2.2870	14.204	1.9442
#3	2.3541	.67274	1.3463	4.0426	1.4556	4.3950	1.3916	4.0260	2.2959	14.236	1.9537

Elem	Ti3234	Zn2062
Units	Cts/S	Cts/S
Avg	**.48562**	**30.149**
#1	.48441	30.006
#2	.48664	30.159
#3	.48580	30.283

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3346.6**	**2038.9**	**26288.**	**119930.**	**3488.2**	**50319.**	**10853.**
#1	3344.1	2045.4	26219.	119920.	3493.5	50441.	10815.
#2	3355.4	2042.8	26361.	119790.	3498.6	50163.	10900.
#3	3340.3	2028.5	26285.	120090.	3472.3	50353.	10843.

Sample Name: SEQ-CAL7@S07 Acquired: 10/17/2016 15:47:42 Type: Cal
Method: ISM023_New_TotalMetals(v19) Mode: IR Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	Ca3181	Fe2598	K_7664	Mg2790	Mn2576	Na5895	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**19.142**	**5.2455**	**10.001**	**10.720**	**5.5517**	**10.439**	**28.350**	**5.0192**
#1	19.130	5.2656	10.038	10.741	5.5664	10.450	28.533	5.0310
#2	19.144	5.2437	9.9808	10.714	5.5480	10.438	28.363	5.0123
#3	19.153	5.2273	9.9848	10.705	5.5408	10.430	28.155	5.0143

Int. Std.	Sc2273	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**1739.8**	**46567.**	**10486.**
#1	1732.0	46638.	10425.
#2	1748.3	46756.	10446.
#3	1739.1	46306.	10586.

Sample Name: SEQ-CAL8@S08 Acquired: 10/17/2016 15:52:05 Type: Cal
Method: ISM023_New_TotalMetals(v19) Mode: IR Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	Fe2598	Pb2203
Units	Cts/S	Cts/S	Cts/S
Avg	**22.966**	**12.706**	**12.836**
#1	22.745	12.689	12.844
#2	23.016	12.705	12.838
#3	23.137	12.725	12.826

Int. Std.	Sc2273	Y_3710
Units	Cts/S	Cts/S
Avg	**2076.1**	**11270.**
#1	2076.0	11238.
#2	2074.3	11259.
#3	2077.8	11312.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-ICV@ICV01 Acquired: 10/17/2016 15:56:32 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**2627.9**	**1012.3**	**10610.**	**495.34**	**5346.4**	**10146.**	**6306.3**	W **535.03**	**-.19369**
Stddev	3.1	2.2	5.	.72	7.2	40.	15.6	.42	.07972
%RSD	.11915	.22080	.04680	.14635	.13560	.39543	.24673	.07842	41.157
#1	2625.6	1010.4	10615.	495.07	5354.0	10136.	6300.1	534.67	-.27029
#2	2631.5	1014.8	10605.	494.79	5345.6	10191.	6294.8	534.94	-.19959
#3	2626.7	1011.8	10608.	496.16	5339.6	10112.	6324.0	535.49	-.11118

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**10221.**	**1032.1**	**1.3368**	**1073.3**
Stddev	28.	.5	.0657	.9
%RSD	.27746	.05086	4.9161	.08204
#1	10244.	1032.0	1.2610	1072.4
#2	10229.	1032.7	1.3783	1073.4
#3	10189.	1031.6	1.3710	1074.2

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-ICV@ICV01 Acquired: 10/17/2016 15:56:32 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3863.7**	**2206.7**	**26176.**	**123030.**	**3659.9**	**51742.**	**10906.**
Stddev	4.8	4.5	65.	203.	.7	21.	8.
%RSD	.12513	.20496	.24750	.16501	.01880	.04143	.07256
#1	3863.4	2203.0	26250.	122910.	3659.6	51767.	10913.
#2	3868.7	2211.7	26150.	122930.	3660.7	51733.	10898.
#3	3859.1	2205.2	26128.	123270.	3659.4	51727.	10908.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-ICB@ICB01 Acquired: 10/17/2016 16:00:41 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**-2.8909**	**.29131**	**9.7828**	**.61923**	**7.0489**	**56.158**	**2.7298**	**.19269**	**-.08157**	**27.776**	**2.5482**
Stddev	4.4512	.83016	27.975	.30530	1.3624	10.370	.3601	.20095	.18209	.410	.5706
%RSD	153.98	284.98	285.97	49.304	19.327	18.466	13.192	104.28	223.23	1.4771	22.394
#1	-7.8557	-.56219	-18.362	.73829	5.9382	47.044	2.7916	.15222	.11912	27.361	2.2835
#2	.74327	1.0960	10.124	.84706	8.5690	53.988	2.3427	.01506	-.12759	28.182	2.1579
#3	-1.5602	.34013	37.586	.27233	6.6393	67.441	3.0550	.41080	-.23623	27.786	3.2031

Elem	Ti3234	Zn2062
Units	ppb	ppb
Avg	**.72125**	**-.21951**
Stddev	.29405	.06601
%RSD	40.769	30.071
#1	.38906	-.14470
#2	.82655	-.24426
#3	.94815	-.26957

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-ICB@ICB01 Acquired: 10/17/2016 16:00:41 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4088.5**	**2275.2**	**26127.**	**124450.**	**3735.6**	**52902.**	**10998.**
Stddev	.5	2.2	110.	91.	5.5	109.	51.
%RSD	.01114	.09865	.42026	.07294	.14634	.20695	.46509
#1	4088.0	2273.7	26220.	124460.	3737.6	52799.	11052.
#2	4088.9	2277.8	26154.	124350.	3739.8	52891.	10991.
#3	4088.5	2274.1	26006.	124530.	3729.5	53017.	10950.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-IFA@ICSA01 Acquired: 10/17/2016 16:05:03 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**264660.**	**-9.4412**	**248470.**	**-10.409**	**102760.**	**78.747**	**265480.**	**13.201**	**.34463**	**54.516**
Stddev	876.	1.6466	49.	.137	329.	22.840	785.	.349	.24261	4.994
%RSD	.33081	17.441	.01976	1.3175	.31975	29.004	.29577	2.6412	70.397	9.1597
#1	265060.	-10.763	248410.	-10.301	102780.	55.665	265610.	13.428	.25926	59.948
#2	263660.	-7.5966	248490.	-10.563	102430.	79.239	264630.	12.799	.15624	50.125
#3	265260.	-9.9643	248500.	-10.362	103090.	101.34	266190.	13.375	.61838	53.476

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**7.2569**	**5.7519**	**1.8480**
Stddev	3.0665	1.3126	.1724
%RSD	42.257	22.821	9.3278
#1	9.1719	6.1778	2.0033
#2	8.8787	4.2792	1.8782
#3	3.7200	6.7987	1.6626

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-IFA@ICSA01 Acquired: 10/17/2016 16:05:03 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3229.8**	**1849.2**	**25895.**	**114410.**	**3358.1**	**47715.**	**10577.**
Stddev	4.9	6.2	66.	390.	7.5	214.	37.
%RSD	.15092	.33642	.25557	.34121	.22250	.44943	.35427
#1	3231.8	1852.0	25824.	113980.	3364.4	47534.	10535.
#2	3233.4	1853.5	25905.	114520.	3360.0	47658.	10608.
#3	3224.3	1842.0	25956.	114730.	3349.8	47952.	10588.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-IFB@ICSAB01 Acquired: 10/17/2016 16:09:19 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**262150.**	**99.420**	**245130.**	**512.09**	**101990.**	**168.67**	**263310.**	**532.86**	**.36188**	**61.087**
Stddev	1204.	2.387	584.	2.17	456.	5.91	831.	3.21	.04348	4.276
%RSD	.45940	2.4014	.23840	.42434	.44692	3.5011	.31544	.60234	12.016	7.0003
#1	261050.	97.096	245270.	513.89	101640.	165.98	262670.	530.43	.39093	57.381
#2	261970.	99.298	244490.	509.67	101810.	175.44	263000.	531.64	.31189	60.115
#3	263440.	101.87	245630.	512.71	102500.	164.59	264250.	536.50	.38282	65.766

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**57.384**	**5.1020**	**1086.1**
Stddev	1.141	.4247	2.9
%RSD	1.9875	8.3235	.26273
#1	56.307	4.8653	1089.4
#2	58.579	4.8485	1084.5
#3	57.265	5.5923	1084.5

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-IFB@ICSAB01 Acquired: 10/17/2016 16:09:19 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3272.1**	**1870.6**	**26196.**	**116180.**	**3387.8**	**48218.**	**10686.**
Stddev	3.7	1.5	104.	299.	5.1	155.	45.
%RSD	.11161	.07889	.39777	.25764	.15161	.32087	.41722
#1	3270.7	1869.1	26081.	116100.	3382.2	48042.	10635.
#2	3276.2	1872.0	26221.	115930.	3388.9	48282.	10713.
#3	3269.3	1870.9	26285.	116510.	3392.3	48331.	10711.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV01 Acquired: 10/17/2016 16:13:29 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**144790.**	**2167.9**	**203520.**	**5291.5**	**130860.**	**141180.**	**206450.**	**9281.8**	**1017.5**	**126970.**
Stddev	325.	3.8	443.	20.2	311.	248.	250.	18.8	2.2	199.
%RSD	.22441	.17354	.21748	.38177	.23783	.17558	.12109	.20247	.21844	.15660
#1	144430.	2169.5	203490.	5296.2	130640.	141040.	206410.	9267.4	1016.1	127050.
#2	144890.	2163.7	203090.	5269.3	130740.	141040.	206230.	9274.8	1016.4	126740.
#3	145050.	2170.7	203970.	5308.9	131220.	141470.	206720.	9303.0	1020.1	127110.

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**5725.9**	**1979.4**	**8337.2**
Stddev	17.6	5.0	19.3
%RSD	.30712	.25329	.23165
#1	5710.2	1974.1	8319.9
#2	5722.5	1980.0	8333.8
#3	5744.9	1984.1	8358.1

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV01 Acquired: 10/17/2016 16:13:29 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3149.3**	**1883.3**	**26040.**	**116210.**	**3317.6**	**47645.**	**10536.**
Stddev	3.8	3.5	32.	350.	5.5	314.	22.
%RSD	.12219	.18398	.12327	.30121	.16469	.65988	.20842
#1	3153.6	1887.3	26021.	116100.	3323.9	47548.	10539.
#2	3146.2	1881.1	26077.	116600.	3314.6	47997.	10556.
#3	3148.2	1881.6	26022.	115920.	3314.3	47391.	10513.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB01 Acquired: 10/17/2016 16:17:41 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**7.0962**	**-.07738**	**23.282**	**1.7676**	**23.541**	**190.45**	**34.507**	**1.3234**	**.10002**	**53.177**	**1.3551**
Stddev	5.5889	1.1252	10.776	.2813	.875	19.15	2.772	.0930	.23381	1.732	1.2289
%RSD	78.760	1454.1	46.286	15.914	3.7184	10.055	8.0322	7.0306	233.77	3.2561	90.685
#1	3.2844	1.1403	10.909	1.8619	24.397	211.86	32.666	1.2163	.17201	55.147	.87827
#2	13.512	-1.0788	30.611	1.9897	23.577	174.96	37.694	1.3693	.28936	51.897	2.7510
#3	4.4922	-.29366	28.326	1.4513	22.647	184.52	33.159	1.3846	-.16132	52.487	.43614

Elem	Ti3234	Zn2062
Units	ppb	ppb
Avg	**.89465**	**.56983**
Stddev	.42401	.18000
%RSD	47.394	31.588
#1	1.1346	.70935
#2	1.1442	.63349
#3	.40507	.36665

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB01 Acquired: 10/17/2016 16:17:41 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4056.1**	**2248.9**	**26148.**	**124160.**	**3677.1**	**51942.**	**10937.**
Stddev	5.9	6.3	101.	408.	11.5	79.	44.
%RSD	.14513	.27817	.38646	.32867	.31173	.15242	.40238
#1	4062.8	2256.0	26211.	124580.	3690.0	51892.	10976.
#2	4052.9	2246.4	26200.	124140.	3673.3	51900.	10944.
#3	4052.4	2244.2	26031.	123770.	3668.0	52033.	10889.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV02 Acquired: 10/17/2016 17:43:19 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**147410.**	**2195.1**	**202350.**	**5410.5**	**131650.**	**142830.**	**207880.**	**9368.4**	**1028.5**	**125420.**
Stddev	742.	5.0	649.	2.9	924.	408.	1344.	51.2	.8	498.
%RSD	.50368	.22854	.32092	.05361	.70185	.28588	.64660	.54679	.08119	.39692
#1	148090.	2191.8	202760.	5407.4	132430.	143220.	209050.	9415.4	1028.6	125790.
#2	147530.	2192.6	202700.	5413.1	131870.	142850.	208180.	9376.1	1027.7	125620.
#3	146620.	2200.9	201600.	5411.0	130630.	142410.	206410.	9313.8	1029.3	124860.

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**5758.4**	**2019.3**	**8383.9**
Stddev	8.3	8.7	14.1
%RSD	.14346	.42972	.16791
#1	5756.7	2024.8	8379.6
#2	5751.1	2023.7	8372.5
#3	5767.4	2009.3	8399.6

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV02 Acquired: 10/17/2016 17:43:19 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3186.1**	**1897.0**	**26338.**	**117690.**	**3319.8**	**47452.**	**10687.**
Stddev	7.7	4.3	72.	159.	8.1	30.	48.
%RSD	.24140	.22599	.27501	.13508	.24270	.06312	.45331
#1	3190.1	1898.2	26254.	117520.	3325.7	47425.	10632.
#2	3191.0	1900.5	26384.	117830.	3323.1	47484.	10703.
#3	3177.2	1892.2	26374.	117730.	3310.6	47446.	10725.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB02 Acquired: 10/17/2016 17:47:33 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**5.1999**	**-.26933**	**2.7772**	**1.5170**	**15.148**	**70.058**	**13.504**	**.98806**	**.13959**	**42.267**	**1.2752**
Stddev	2.9439	.52335	21.140	.4226	3.011	23.484	10.636	.20432	.22846	5.448	.5550
%RSD	56.615	194.32	761.20	27.858	19.875	33.521	78.766	20.679	163.67	12.890	43.523
#1	8.2061	-.81823	15.898	1.5651	18.620	95.349	23.459	1.1949	.28984	47.217	1.8257
#2	2.3224	.22404	-21.609	1.0725	13.565	65.887	14.757	.98285	.25223	43.154	.71574
#3	5.0711	-.21379	14.043	1.9136	13.258	48.939	2.2965	.78640	-.12332	36.429	1.2843

Elem	Ti3234	Zn2062
Units	ppb	ppb
Avg	**.61511**	**.47486**
Stddev	1.1073	.28833
%RSD	180.01	60.719
#1	.53098	.79642
#2	-.44770	.38879
#3	1.7621	.23937

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB02 Acquired: 10/17/2016 17:47:33 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4096.9**	**2269.8**	**26422.**	**125320.**	**3689.8**	**52225.**	**11109.**
Stddev	2.1	3.7	136.	701.	4.8	204.	54.
%RSD	.05214	.16339	.51570	.55947	.12960	.39133	.48776
#1	4098.2	2272.6	26360.	125370.	3690.9	52244.	11085.
#2	4094.4	2265.6	26578.	126000.	3693.9	52419.	11171.
#3	4098.1	2271.1	26328.	124600.	3684.6	52011.	11070.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV03 Acquired: 10/17/2016 18:51:21 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**144970.**	**2184.6**	**199110.**	**5301.7**	**127370.**	**141220.**	**202370.**	**9169.5**	**1020.6**	**122550.**
Stddev	178.	4.6	355.	4.4	191.	58.	594.	9.7	1.2	283.
%RSD	.12289	.20860	.17830	.08384	.15009	.04085	.29355	.10614	.11307	.23061
#1	144820.	2179.3	199520.	5305.1	127530.	141290.	203060.	9176.4	1020.8	122780.
#2	145160.	2187.5	198850.	5303.4	127420.	141190.	201980.	9173.8	1019.3	122650.
#3	144910.	2186.9	198960.	5296.7	127160.	141190.	202080.	9158.4	1021.5	122240.

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**5729.4**	**2001.8**	**8341.3**
Stddev	13.5	5.7	16.4
%RSD	.23509	.28401	.19649
#1	5714.7	1995.9	8323.9
#2	5732.3	2007.2	8343.5
#3	5741.2	2002.2	8356.5

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV03 Acquired: 10/17/2016 18:51:21 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3188.6**	**1894.7**	**26302.**	**116880.**	**3341.3**	**47966.**	**10792.**
Stddev	3.0	1.8	229.	323.	2.2	167.	83.
%RSD	.09522	.09487	.87037	.27624	.06596	.34783	.77211
#1	3188.4	1896.4	26147.	116980.	3343.4	48002.	10721.
#2	3191.8	1894.9	26565.	116520.	3341.5	47784.	10884.
#3	3185.7	1892.9	26194.	117140.	3339.0	48112.	10771.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB03 Acquired: 10/17/2016 18:55:35 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**22.206**	**1.2603**	**30.517**	**1.7258**	**27.968**	**129.37**	**36.899**	**1.6804**	**.22930**	**48.273**	**1.1477**
Stddev	2.911	1.5627	5.460	.2431	4.379	24.16	.781	.2725	.04990	5.444	.7233
%RSD	13.109	124.00	17.890	14.085	15.656	18.677	2.1173	16.217	21.763	11.278	63.021
#1	19.389	3.0638	25.064	1.6924	23.810	157.24	36.003	1.4109	.28599	42.017	1.0651
#2	22.027	.41195	30.505	1.5012	27.554	114.44	37.436	1.6744	.20986	51.938	1.9087
#3	25.202	.30523	35.983	1.9839	32.538	116.42	37.259	1.9558	.19204	50.864	.46921

Elem	Ti3234	Zn2062
Units	ppb	ppb
Avg	**1.4389**	**.51091**
Stddev	1.0802	.08712
%RSD	75.072	17.052
#1	2.4799	.60797
#2	1.5135	.48527
#3	.32332	.43948

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB03 Acquired: 10/17/2016 18:55:35 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4104.2**	**2279.1**	**26271.**	**125190.**	**3722.8**	**52756.**	**11144.**
Stddev	9.2	3.8	151.	555.	7.5	89.	71.
%RSD	.22535	.16628	.57576	.44318	.20100	.16954	.63489
#1	4104.1	2276.3	26156.	125600.	3723.1	52823.	11083.
#2	4113.5	2283.5	26442.	124560.	3730.0	52654.	11221.
#3	4095.0	2277.6	26216.	125430.	3715.1	52789.	11127.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-IBL2 Acquired: 10/17/2016 19:05:32 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: ZZZZZZ SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**24.145**	**-1.0020**	**3.0577**	**1.4628**	**F 243.68**	**66.821**	**3.1017**	**F 16.026**	**.07496**	**13.934**
Stddev	8.722	.9077	2.9319	.0449	.90	12.902	5.2019	.187	.15371	.907
%RSD	36.123	90.593	95.883	3.0661	.37058	19.308	167.71	1.1668	205.07	6.5091
#1	19.350	-1.5446	-.32550	1.4728	242.93	53.717	8.8783	16.015	.18758	13.441
#2	18.873	.04595	4.6444	1.4138	244.68	67.235	-1.2125	16.218	.13745	14.980
#3	34.212	-1.5075	4.8544	1.5018	243.42	79.510	1.6394	15.845	-.10016	13.380

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**3.4920**	**1.8044**	**2.4284**
Stddev	.7105	.7549	.0268
%RSD	20.345	41.834	1.1030
#1	2.6738	.93541	2.4418
#2	3.8504	2.2979	2.3975
#3	3.9519	2.1798	2.4457

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-IBL2 Acquired: 10/17/2016 19:05:32 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: ZZZZZZ SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4026.4**	**2199.3**	**26239.**	**126990.**	**3685.5**	**52369.**	**10951.**
Stddev	3.5	5.1	140.	520.	6.6	217.	75.
%RSD	.08723	.23411	.53267	.40984	.17990	.41498	.68373
#1	4026.3	2203.3	26084.	127350.	3692.4	52350.	10867.
#2	4023.0	2193.5	26280.	127220.	3679.2	52595.	10976.
#3	4030.0	2201.1	26354.	126390.	3684.8	52162.	11011.

Bonner Analytical Testing Co. ICAPP02

Sample Name: QJ14016-BS1 Acquired: 10/17/2016 19:09:53 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: LCS01 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**378.85**	**17.869**	**9587.5**	**48.204**	**201.35**	**9360.9**	**9657.4**	**30.237**	**.05219**	**9147.7**	**20.870**
Stddev	9.59	.423	71.0	.407	3.39	31.2	93.6	.234	.16925	55.1	1.521
%RSD	2.5303	2.3647	.74099	.84472	1.6847	.33326	.96925	.77413	324.32	.60205	7.2855
#1	368.11	18.356	9515.9	48.073	203.42	9341.2	9549.3	30.259	.11136	9097.7	19.115
#2	381.89	17.648	9588.7	47.879	197.44	9396.9	9709.1	29.992	-.13871	9138.7	21.720
#3	386.54	17.603	9657.9	48.661	203.20	9344.7	9713.7	30.458	.18391	9206.7	21.776

Elem	Ti3234	Zn2062
Units	ppb	ppb
Avg	**1.2634**	**121.05**
Stddev	.4990	.39
%RSD	39.499	.32043
#1	1.3670	120.88
#2	.72074	120.79
#3	1.7026	121.50

Bonner Analytical Testing Co. ICAPP02

Sample Name: QJ14016-BS1 Acquired: 10/17/2016 19:09:53 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: LCS01 SDG: MH1J05 Case: 46282
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3872.0**	**2136.6**	**26268.**	**125510.**	**3613.9**	**51742.**	**10996.**
Stddev	2.1	1.3	64.	78.	1.6	62.	19.
%RSD	.05386	.06073	.24390	.06220	.04513	.12048	.16904
#1	3874.2	2138.1	26195.	125440.	3613.7	51810.	11007.
#2	3871.6	2135.8	26311.	125590.	3612.3	51687.	11007.
#3	3870.1	2135.8	26300.	125480.	3615.6	51729.	10975.

Sample Name: 6100170-01 Acquired: 10/17/2016 19:14:08 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J05 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**85509.**	**313.89**	**9846.3**	**779.34**	**F 492310.**	**13844.**	**40825.**	**6088.4**	**34.412**
#1	85415.	312.70	9785.2	780.75	491510.	13824.	40720.	6080.5	34.416
#2	85840.	313.76	9888.1	776.21	493770.	13865.	40972.	6106.1	34.231
#3	85271.	315.22	9865.5	781.08	491650.	13844.	40783.	6078.6	34.591

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**600.70**	**3797.3**	**2263.4**	**7283.6**
#1	600.89	3792.1	2253.4	7273.5
#2	595.91	3791.3	2283.6	7278.1
#3	605.30	3808.7	2253.3	7299.4

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3542.0**	**2012.0**	**26562.**	**124210.**	**3684.3**	**51856.**	**11397.**
#1	3537.3	2012.3	26508.	124570.	3684.8	51957.	11363.
#2	3544.9	2012.6	26520.	123950.	3680.7	51906.	11371.
#3	3543.8	2011.1	26659.	124120.	3687.3	51707.	11458.

Bonner Analytical Testing Co. ICAPP02

Sample Name: QJ14016-MS1 Acquired: 10/17/2016 19:18:19 Type: RQC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J05S SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	82812.	F 364.61	9347.5	1265.4	F 465140.	12878.	36423.	F 6539.8	34.779
Stddev	176.	.44	18.5	1.5	1020.	23.	184.	14.1	.151
%RSD	.21257	.12107	.19769	.12210	.21933	.17655	.50468	.21583	.43493
#1	82609.	364.16	9328.8	1267.1	463970.	12902.	36243.	6524.5	34.951
#2	82914.	364.63	9348.0	1265.3	465860.	12875.	36416.	6542.6	34.668
#3	82914.	365.05	9365.7	1264.0	465580.	12856.	36610.	6552.3	34.718
Check ?	None	Chk Fail	None	Chk Pass	Chk Fail	None	None	Chk Fail	None
Value		80.000			100.00			1000.0	
Range		-25.000%			-25.000%			-25.000%	
	None		None	486.10		None	None		None
Recovery		50.721		97.220%	-27175.			451.43	
% Recovery		63.401%			-27175.%			45.143%	

Bonner Analytical Testing Co. ICAPP02

Sample Name: QJ14016-MS1 Acquired: 10/17/2016 19:18:19 Type: RQC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J05S SDG: MH1J05 Case: 46282
Comment:

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	F 532.58	F 3421.1	F 2021.2	8106.0
Stddev	.62	4.3	7.9	10.6
%RSD	.11669	.12593	.38991	.13024
#1	533.25	3416.3	2013.2	8095.0
#2	532.03	3422.3	2021.3	8116.1
#3	532.44	3424.6	2029.0	8106.9
Check ?	Chk Fail	Chk Fail	Chk Fail	Chk Pass
Value	4000.0	40.000	100.00	
Range	-25.000%	-25.000%	-25.000%	
				822.34
Recovery	-68.122	-376.25	-242.21	82.234%
% Recovery	-1.7030%	-940.62%	-242.21%	

Sample Name: QJ14016-MS1 Acquired: 10/17/2016 19:18:19 Type: RQC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J05S SDG: MH1J05 Case: 46282
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3539.8**	**2018.7**	**26446.**	**124160.**	**3671.8**	**51990.**	**11328.**
Stddev	5.3	1.8	145.	158.	7.1	55.	55.
%RSD	.14922	.08956	.54812	.12701	.19363	.10637	.48309
#1	3533.9	2016.8	26442.	124340.	3664.2	52026.	11326.
#2	3541.6	2018.7	26592.	124040.	3673.0	51927.	11383.
#3	3544.0	2020.5	26302.	124100.	3678.2	52018.	11274.

Sample Name: QJ14016-DUP1 Acquired: 10/17/2016 19:22:29 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J05D SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**77679.**	**296.59**	**8727.0**	**657.71**	**F 461560.**	**12575.**	**35171.**	**5754.3**	**30.154**
#1	77621.	296.38	8750.6	658.81	461860.	12570.	35134.	5751.3	30.214
#2	77512.	295.80	8696.3	655.89	461200.	12575.	35190.	5746.8	30.180
#3	77906.	297.59	8734.0	658.42	461600.	12581.	35191.	5764.8	30.067

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**528.38**	**3100.8**	**2014.8**	**5493.2**
#1	522.24	3107.9	2013.7	5496.2
#2	537.27	3099.0	2007.2	5494.3
#3	525.64	3095.3	2023.6	5489.2

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3553.3**	**2023.1**	**26322.**	**124090.**	**3688.9**	**51947.**	**11278.**
#1	3548.0	2020.7	26129.	123960.	3687.0	51850.	11204.
#2	3556.3	2020.1	26230.	124280.	3688.9	52133.	11254.
#3	3555.7	2028.4	26608.	124030.	3690.6	51857.	11376.

Sample Name: SEQ-SRD1 Acquired: 10/17/2016 19:26:39 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J05L SDG: MH1J05 Case: 46282
Comment: 5X 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**18435.**	**63.314**	**2208.7**	**164.62**	**110300.**	**3032.1**	**9135.9**	**1355.6**	**7.3506**	**135.03**
#1	18408.	65.167	2211.2	163.85	110500.	3056.7	9165.9	1356.1	7.4175	133.47
#2	18514.	63.038	2200.5	164.63	109960.	3017.9	9141.4	1354.5	7.1633	130.20
#3	18383.	61.736	2214.6	165.39	110420.	3021.8	9100.3	1356.2	7.4709	141.41

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**806.54**	**484.95**	**1531.5**
#1	806.00	480.24	1533.7
#2	806.83	486.27	1531.6
#3	806.78	488.33	1529.2

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3931.4**	**2224.3**	**26738.**	**127000.**	**3753.2**	**52752.**	**11205.**
#1	3932.9	2223.3	26605.	126220.	3751.0	52536.	11147.
#2	3929.9	2225.4	26807.	127010.	3754.3	52716.	11239.
#3	3931.4	2224.0	26802.	127770.	3754.5	53005.	11231.

Sample Name: 6100170-02 Acquired: 10/17/2016 19:30:50 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J06 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**60299.**	**382.27**	**7655.5**	**287.13**	**F 450770.**	**14119.**	**23106.**	**2586.7**	**19.147**
#1	60529.	384.12	7708.9	285.07	452170.	14206.	23123.	2596.8	19.161
#2	59782.	382.60	7509.7	289.29	446230.	13983.	22899.	2561.8	19.237
#3	60585.	380.10	7747.9	287.04	453900.	14168.	23296.	2601.4	19.044

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**552.18**	**2303.6**	**681.86**	**2065.2**
#1	558.15	2310.9	699.74	2070.0
#2	550.29	2301.8	668.96	2066.4
#3	548.11	2298.3	676.89	2059.3

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3580.2**	**2027.2**	**26247.**	**123210.**	**3665.9**	**51752.**	**11195.**
#1	3572.2	2020.5	26022.	123130.	3663.9	51934.	11108.
#2	3576.9	2026.2	26516.	123120.	3657.2	51614.	11315.
#3	3591.6	2034.9	26203.	123370.	3676.6	51708.	11164.

Bonner Analytical Testing Co. ICAPP02

Sample Name: QJ14016-BLK1 Acquired: 10/17/2016 19:35:17 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: PBS01 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**-7.6629**	**-1.0168**	**8.9257**	**1.0159**	**6.4967**	**9.3501**	**-11.269**	**.29791**	**-.02923**	**1.7012**	**.86949**
Stddev	1.3654	1.0429	11.235	.1441	2.0931	5.5477	3.481	.22658	.14397	3.0806	.57619
%RSD	17.818	102.57	125.88	14.185	32.219	59.333	30.888	76.057	492.61	181.09	66.267
#1	-8.2488	-.21884	19.971	.90594	8.9066	7.4162	-10.566	.21944	.08505	-.78005	.69785
#2	-6.1024	-.63470	-2.4909	1.1790	5.4513	5.0283	-15.047	.12099	-.19093	.73432	1.5120
#3	-8.6377	-2.1968	9.2973	.96272	5.1322	15.606	-8.1933	.55329	.01820	5.1492	.39862

Elem	Ti3234	Zn2062
Units	ppb	ppb
Avg	**1.3537**	**1.6641**
Stddev	.3041	.0876
%RSD	22.462	5.2661
#1	1.6546	1.5733
#2	1.3600	1.7482
#3	1.0465	1.6709

Bonner Analytical Testing Co. ICAPP02

Sample Name: QJ14016-BLK1 Acquired: 10/17/2016 19:35:17 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: PBS01 SDG: MH1J05 Case: 46282
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4023.0**	**2179.8**	**26180.**	**126900.**	**3689.2**	**52885.**	**10947.**
Stddev	2.8	2.5	161.	226.	8.0	115.	59.
%RSD	.06837	.11295	.61490	.17845	.21769	.21698	.53501
#1	4022.9	2177.1	25998.	127160.	3680.4	53015.	10881.
#2	4020.3	2180.5	26237.	126760.	3690.8	52841.	10967.
#3	4025.8	2181.8	26304.	126790.	3696.2	52798.	10992.

Sample Name: 6100170-03 Acquired: 10/17/2016 19:39:38 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J07 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**79091.**	**366.48**	**11374.**	**404.41**	F **475190.**	**11596.**	**41600.**	**5010.3**	**31.145**
#1	78803.	363.96	11361.	404.52	475840.	11573.	41613.	4999.5	31.114
#2	79101.	365.83	11344.	405.01	473010.	11601.	41450.	4997.9	31.140
#3	79369.	369.66	11416.	403.70	476730.	11613.	41738.	5033.5	31.182

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**500.71**	**2338.3**	**2104.8**	**2367.8**
#1	494.70	2346.1	2092.7	2372.0
#2	503.24	2334.3	2113.8	2362.9
#3	504.20	2334.5	2107.8	2368.4

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3559.4**	**2019.9**	**26418.**	**124480.**	**3671.5**	**51711.**	**11205.**
#1	3553.2	2018.2	26393.	124400.	3666.7	51817.	11162.
#2	3563.0	2022.7	26349.	124400.	3672.5	51492.	11213.
#3	3562.2	2019.0	26511.	124660.	3675.2	51824.	11241.

Sample Name: 6100170-04 Acquired: 10/17/2016 19:43:49 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J08 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**55400.**	**230.44**	**7685.5**	**379.90**	F **382150.**	**12823.**	**26704.**	**3051.0**	**23.737**
#1	55289.	232.21	7661.9	379.87	381190.	12832.	26631.	3046.3	23.873
#2	55386.	229.31	7683.9	379.84	382870.	12814.	26752.	3051.0	23.675
#3	55526.	229.81	7710.6	380.00	382390.	12823.	26730.	3055.7	23.663

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**388.10**	**1660.5**	**937.62**	**1566.7**
#1	386.62	1661.1	937.38	1569.6
#2	385.54	1663.1	941.06	1565.0
#3	392.12	1657.4	934.42	1565.6

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3637.6**	**2054.8**	**26327.**	**123460.**	**3684.2**	**51710.**	**11176.**
#1	3639.9	2055.7	26317.	122980.	3683.8	51516.	11162.
#2	3641.5	2055.2	26252.	123820.	3685.1	51859.	11146.
#3	3631.2	2053.6	26413.	123570.	3683.7	51754.	11220.

Sample Name: 6100170-05 Acquired: 10/17/2016 19:48:01 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J09 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**118100.**	**375.66**	**23114.**	**1459.3**	F **402600.**	**18378.**	**56298.**	**6983.9**	**21.540**
#1	118000.	378.21	23026.	1460.2	400650.	18334.	56074.	6961.8	21.539
#2	118010.	372.63	23096.	1455.8	402720.	18391.	56236.	6978.2	21.698
#3	118290.	376.13	23219.	1461.8	404430.	18411.	56585.	7011.7	21.383

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**500.39**	**3520.6**	**1602.1**	**2565.7**
#1	494.47	3518.3	1604.3	2559.7
#2	506.72	3516.7	1601.8	2567.4
#3	499.97	3526.7	1600.1	2569.9

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3490.0**	**2000.5**	**26297.**	**123170.**	**3763.7**	**53270.**	**11494.**
#1	3489.9	2001.2	26215.	123420.	3764.9	53453.	11483.
#2	3495.8	2001.9	26439.	122400.	3766.9	52944.	11548.
#3	3484.2	1998.5	26238.	123700.	3759.2	53413.	11452.

Sample Name: 6100170-06 Acquired: 10/17/2016 19:52:10 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J10 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**59741.**	**170.61**	**6103.5**	**258.85**	**F 491190.**	**6479.7**	**31318.**	**5037.2**	**13.549**
#1	59640.	171.58	6027.9	259.46	487530.	6445.7	31133.	5017.6	13.599
#2	59784.	169.31	6106.2	258.74	492840.	6493.4	31402.	5045.2	13.587
#3	59797.	170.93	6176.3	258.36	493190.	6500.1	31420.	5048.7	13.461

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**200.26**	**2113.5**	**1039.1**	**1582.5**
#1	198.04	2114.6	1041.2	1583.9
#2	200.62	2116.6	1038.7	1583.5
#3	202.11	2109.1	1037.5	1580.2

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3617.9**	**2038.9**	**26352.**	**124200.**	**3675.8**	**51722.**	**11108.**
#1	3616.0	2038.0	26319.	124150.	3679.0	51553.	11146.
#2	3618.4	2036.9	26518.	124260.	3671.1	51774.	11149.
#3	3619.2	2041.8	26217.	124180.	3677.4	51838.	11028.

Sample Name: 6100170-07 Acquired: 10/17/2016 19:56:23 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J11 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**87819.**	**264.68**	**9219.5**	**510.45**	F **395140.**	**12360.**	**45091.**	**5803.4**	**22.520**
#1	87623.	263.44	9267.1	511.33	394920.	12353.	45118.	5795.7	22.625
#2	87965.	264.48	9181.5	509.78	393760.	12350.	44853.	5798.4	22.782
#3	87869.	266.13	9210.0	510.23	396750.	12377.	45302.	5816.2	22.154

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**495.03**	**3226.7**	**2156.9**	**6692.7**
#1	493.80	3219.8	2149.4	6690.0
#2	495.02	3224.3	2162.3	6680.1
#3	496.27	3236.1	2159.0	6707.8

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3590.6**	**2042.7**	**26533.**	**124250.**	**3730.6**	**52561.**	**11409.**
#1	3591.5	2042.0	26356.	124250.	3728.1	52554.	11331.
#2	3594.0	2045.1	26748.	123970.	3739.9	52442.	11511.
#3	3586.3	2041.1	26495.	124510.	3723.8	52688.	11385.

Sample Name: 6100170-08 Acquired: 10/17/2016 20:00:32 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J12 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**87282.**	**355.48**	**12078.**	**1024.6**	**193010.**	**14597.**	**41391.**	**15329.**	**17.677**	**346.73**
#1	87101.	355.66	12069.	1027.7	192550.	14586.	41366.	15322.	17.766	339.60
#2	87312.	358.06	12076.	1024.2	192610.	14576.	41284.	15288.	17.388	348.47
#3	87434.	352.73	12089.	1021.9	193870.	14630.	41524.	15378.	17.876	352.13

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**2026.6**	**795.70**	**3028.5**
#1	2023.9	796.17	3021.7
#2	2029.6	794.43	3029.4
#3	2026.2	796.49	3034.4

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3653.9**	**2067.1**	**26401.**	**124800.**	**3937.4**	**55768.**	**11870.**
#1	3654.4	2067.6	26291.	124660.	3934.2	55617.	11827.
#2	3658.5	2065.9	26395.	125080.	3946.7	55915.	11888.
#3	3648.8	2067.9	26516.	124660.	3931.2	55773.	11896.

Sample Name: 6100170-09 Acquired: 10/17/2016 20:04:42 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J13 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**151260.**	**239.12**	**18072.**	**1667.4**	**229820.**	**19125.**	**37259.**	**F 52795.**	**17.243**	**462.36**
#1	151350.	239.61	18040.	1669.2	230550.	19159.	37274.	52115.	17.240	464.15
#2	150790.	239.00	18150.	1668.5	229560.	19107.	37206.	52773.	17.161	467.10
#3	151630.	238.76	18025.	1664.4	229350.	19110.	37296.	53499.	17.329	455.84

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**4463.2**	**1723.7**	**6592.3**
#1	4461.4	1728.6	6581.8
#2	4462.9	1712.4	6599.2
#3	4465.4	1729.9	6595.7

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3569.1**	**2042.6**	**26774.**	**124420.**	**3922.1**	**54990.**	**12007.**
#1	3566.7	2041.1	26881.	124310.	3921.3	54905.	12027.
#2	3567.9	2042.7	26806.	124510.	3923.0	55005.	12021.
#3	3572.8	2043.9	26634.	124440.	3921.9	55061.	11972.

Sample Name: 6100170-10 Acquired: 10/17/2016 20:08:58 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J14 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**65200.**	**300.53**	**10721.**	**587.07**	F **537700.**	**9840.0**	**33074.**	**4577.3**	**29.124**
#1	64972.	300.54	10712.	587.48	536630.	9846.3	32989.	4569.5	29.208
#2	65190.	300.33	10761.	585.70	538860.	9828.5	33156.	4584.5	29.268
#3	65437.	300.72	10691.	588.02	537620.	9845.1	33075.	4578.0	28.895

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**442.84**	**3343.3**	**2492.9**	**8395.6**
#1	443.54	3347.8	2492.4	8391.2
#2	443.79	3347.8	2487.2	8408.8
#3	441.18	3334.3	2499.0	8386.6

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3561.7**	**2018.9**	**26146.**	**124560.**	**3673.9**	**51853.**	**11101.**
#1	3562.8	2017.9	26071.	124610.	3679.8	51885.	11090.
#2	3557.2	2017.8	26045.	124670.	3672.6	51992.	11051.
#3	3565.2	2021.0	26323.	124380.	3669.3	51683.	11163.

Sample Name: 6100170-11 Acquired: 10/17/2016 20:13:09 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J15 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**78844.**	**429.83**	**8623.0**	**929.57**	**F 500640.**	**12084.**	**37706.**	**7079.6**	**39.156**
#1	78787.	431.85	8598.1	932.85	499750.	12105.	37672.	7066.4	39.121
#2	78860.	430.41	8618.6	927.75	498990.	12088.	37524.	7064.9	39.376
#3	78885.	427.22	8652.4	928.10	503170.	12060.	37922.	7107.5	38.972

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**476.81**	**3858.9**	**2289.9**	**4585.4**
#1	479.04	3865.3	2290.0	4592.8
#2	477.60	3859.5	2293.0	4582.4
#3	473.79	3851.9	2286.5	4581.0

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3550.3**	**2021.3**	**26402.**	**123930.**	**3693.7**	**51972.**	**11302.**
#1	3544.1	2018.0	26176.	124150.	3685.8	51904.	11226.
#2	3553.1	2025.9	26445.	124160.	3698.0	52111.	11345.
#3	3553.6	2019.8	26585.	123490.	3697.3	51900.	11333.

Sample Name: 6100170-12 Acquired: 10/17/2016 20:17:17 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J16 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**84837.**	**89.350**	**15162.**	**780.72**	**F 383260.**	**10297.**	**37931.**	**10280.**	**26.207**
#1	84825.	89.472	15193.	783.81	383730.	10333.	37999.	10287.	25.926
#2	84803.	88.344	15204.	780.28	383720.	10272.	37887.	10274.	26.635
#3	84882.	90.235	15088.	778.07	382330.	10287.	37906.	10280.	26.061

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**474.76**	**1332.6**	**3097.4**	**2304.7**
#1	475.74	1334.4	3094.7	2305.6
#2	475.14	1336.3	3093.7	2305.5
#3	473.40	1327.0	3103.7	2303.0

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3588.5**	**2036.2**	**26444.**	**125070.**	**3786.1**	**53306.**	**11468.**
#1	3593.8	2038.4	26320.	125070.	3780.3	53076.	11410.
#2	3589.6	2039.0	26475.	124810.	3787.2	53158.	11474.
#3	3582.2	2031.2	26536.	125320.	3790.8	53685.	11520.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV04 Acquired: 10/17/2016 20:21:29 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**144620.**	**2163.8**	**199490.**	**5269.9**	**127220.**	**140950.**	**202820.**	**9151.0**	**1017.7**	**122180.**
Stddev	20.	6.5	481.	12.5	256.	165.	425.	9.0	2.1	191.
%RSD	.01386	.30096	.24104	.23796	.20110	.11725	.20963	.09809	.20354	.15652
#1	144620.	2165.2	199730.	5281.0	127500.	141010.	203300.	9160.5	1017.1	122400.
#2	144640.	2156.8	199810.	5256.3	127010.	141080.	202670.	9149.8	1016.1	122070.
#3	144600.	2169.6	198940.	5272.4	127140.	140760.	202490.	9142.6	1020.1	122070.

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**5692.6**	**1995.8**	**8299.7**
Stddev	10.1	3.7	21.3
%RSD	.17703	.18512	.25612
#1	5689.1	1999.6	8312.2
#2	5684.9	1995.5	8275.2
#3	5704.0	1992.2	8311.8

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV04 Acquired: 10/17/2016 20:21:29 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3224.6**	**1930.1**	**26244.**	**118300.**	**3394.7**	**48712.**	**10773.**
Stddev	6.1	3.5	.173.	408.	10.8	95.	58.
%RSD	.18843	.17963	.65924	.34488	.31830	.19533	.53605
#1	3226.0	1928.8	26193.	118590.	3392.3	48792.	10747.
#2	3229.9	1934.1	26102.	117830.	3406.5	48607.	10733.
#3	3218.0	1927.5	26437.	118470.	3385.2	48737.	10839.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB04 Acquired: 10/17/2016 20:25:43 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**7.1547**	**1.0570**	**7.7806**	**1.4078**	**17.931**	**62.983**	**21.115**	**.79561**	**-.01136**	**30.947**	**.89770**
Stddev	2.6792	1.0901	5.6051	.0619	6.009	13.393	6.298	.16812	.31502	2.015	1.4264
%RSD	37.447	103.13	72.040	4.3982	33.511	21.265	29.826	21.131	2772.8	6.5110	158.89
#1	4.1967	2.1412	9.0082	1.4792	20.891	48.694	14.318	.60206	.34233	31.018	.69409
#2	7.8489	1.0688	1.6635	1.3752	11.016	75.250	26.752	.90537	-.26180	28.897	2.4149
#3	9.4184	-.03894	12.670	1.3691	21.885	65.006	22.276	.87941	-.11461	32.926	-.41593

Elem	Ti3234	Zn2062
Units	ppb	ppb
Avg	**.91592**	**.27751**
Stddev	1.1874	.08943
%RSD	129.64	32.225
#1	2.0114	.28971
#2	-.34591	.18261
#3	1.0823	.36022

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB04 Acquired: 10/17/2016 20:25:43 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4151.3**	**2305.2**	**26345.**	**126470.**	**3764.7**	**53209.**	**11117.**
Stddev	10.8	5.5	42.	96.	12.2	53.	14.
%RSD	.25996	.23851	.16080	.07601	.32434	.10046	.13043
#1	4157.0	2307.7	26334.	126490.	3776.2	53151.	11119.
#2	4158.1	2308.9	26309.	126550.	3766.1	53220.	11102.
#3	4138.9	2298.9	26392.	126360.	3751.9	53257.	11131.

Sample Name: 6100170-13 Acquired: 10/17/2016 20:30:06 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J17 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**112680.**	**120.29**	**17501.**	**672.78**	F **451340.**	**11559.**	**69541.**	**8841.6**	**45.038**
#1	112170.	118.29	17405.	672.22	447630.	11550.	68952.	8784.9	44.834
#2	112830.	122.06	17485.	673.20	452290.	11565.	69664.	8849.3	45.031
#3	113030.	120.52	17615.	672.91	454110.	11562.	70007.	8890.5	45.248

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**763.89**	**1894.5**	F **4375.6**	**2228.7**
#1	765.22	1896.9	4375.5	2230.8
#2	765.33	1890.7	4378.7	2224.4
#3	761.12	1896.0	4372.5	2230.9

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3483.1**	**1995.3**	**26296.**	**124030.**	**3672.4**	**51967.**	**11267.**
#1	3481.6	1990.0	26296.	124150.	3672.2	52033.	11312.
#2	3487.0	1999.1	26329.	123280.	3674.0	51643.	11280.
#3	3480.6	1996.7	26262.	124670.	3671.2	52226.	11208.

Sample Name: 6100170-14 Acquired: 10/17/2016 20:34:16 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J18 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**63592.**	**413.06**	**5549.2**	**837.38**	**242960.**	**12726.**	**12050.**	**1993.0**	**5.9665**	**350.12**
#1	63490.	412.05	5540.6	837.95	242510.	12717.	12023.	1991.1	6.1296	353.81
#2	63680.	414.54	5567.6	837.39	243510.	12735.	12083.	1996.3	5.8231	350.57
#3	63606.	412.57	5539.4	836.79	242850.	12725.	12044.	1991.5	5.9470	345.98

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**4162.1**	**260.03**	**4217.3**
#1	4170.8	264.71	4225.6
#2	4148.4	259.43	4202.5
#3	4167.0	255.95	4224.0

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3721.6**	**2101.5**	**26516.**	**125620.**	**3778.3**	**53294.**	**11326.**
#1	3720.1	2098.5	26398.	125890.	3773.9	53417.	11272.
#2	3727.2	2104.9	26549.	125580.	3782.4	53265.	11332.
#3	3717.6	2101.0	26600.	125370.	3778.6	53199.	11373.

Sample Name: 6100170-15 Acquired: 10/17/2016 20:38:27 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J19 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**64406.**	**852.33**	**2036.3**	**549.95**	**F 359480.**	**16808.**	**18436.**	**1470.8**	**11.315**
#1	64427.	852.51	2050.2	552.54	361650.	16829.	18502.	1476.4	11.390
#2	64485.	850.57	2030.8	548.85	358440.	16814.	18386.	1466.0	11.266
#3	64307.	853.93	2027.7	548.45	358360.	16781.	18419.	1469.9	11.288

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**506.00**	**8528.0**	**305.58**	**2091.9**
#1	506.66	8537.9	306.75	2094.2
#2	503.37	8525.5	306.99	2090.2
#3	507.97	8520.7	303.01	2091.4

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3661.6**	**2073.8**	**26216.**	**124430.**	**3671.9**	**51595.**	**11034.**
#1	3657.2	2075.1	25973.	124370.	3671.0	51566.	10908.
#2	3659.4	2070.7	26385.	124050.	3670.5	51470.	11111.
#3	3668.3	2075.6	26290.	124870.	3674.2	51749.	11082.

Sample Name: 6100170-16 Acquired: 10/17/2016 20:42:38 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J20 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**65578.**	**348.68**	**7702.9**	**914.38**	**270590.**	**11504.**	**13570.**	**3854.2**	**6.2843**	**273.89**
#1	65399.	350.20	7718.1	914.70	269570.	11490.	13531.	3844.5	6.0857	270.60
#2	65541.	347.46	7686.9	916.34	270680.	11490.	13575.	3854.7	6.4534	277.45
#3	65795.	348.37	7703.7	912.10	271540.	11531.	13606.	3863.3	6.3138	273.63

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**3855.6**	**263.99**	**4477.2**
#1	3858.7	262.11	4478.3
#2	3849.9	265.77	4472.4
#3	3858.3	264.09	4480.9

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3717.9**	**2095.6**	**26442.**	**126030.**	**3833.3**	**54264.**	**11498.**
#1	3720.0	2095.2	26445.	126370.	3838.0	54415.	11494.
#2	3718.4	2098.3	26481.	126170.	3830.8	54334.	11524.
#3	3715.3	2093.2	26400.	125540.	3831.1	54043.	11475.

Sample Name: 6100170-17 Acquired: 10/17/2016 20:46:50 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J21 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**65369.**	**1079.9**	**4236.8**	**339.69**	**301790.**	**12391.**	**18853.**	**1901.4**	**8.9208**	**280.35**
#1	65416.	1079.8	4227.5	340.03	302390.	12396.	18836.	1904.3	8.9704	276.61
#2	65279.	1075.3	4260.7	339.35	301970.	12391.	18845.	1901.2	8.8362	285.19
#3	65413.	1084.6	4222.2	339.69	301010.	12385.	18877.	1898.5	8.9559	279.23

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**8068.8**	**289.38**	**6711.7**
#1	8068.6	290.09	6704.8
#2	8064.7	286.79	6707.6
#3	8073.1	291.25	6722.6

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3696.4**	**2084.0**	**26349.**	**125110.**	**3713.2**	**52387.**	**11154.**
#1	3698.6	2083.4	26334.	124610.	3718.2	52167.	11130.
#2	3697.9	2087.2	26346.	125290.	3710.0	52481.	11153.
#3	3692.8	2081.4	26367.	125440.	3711.4	52514.	11178.

Sample Name: 6100170-18 Acquired: 10/17/2016 20:50:59 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J22 SDG: MH1J05 Case: 46282
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**58477.**	**39.188**	**5825.9**	**604.55**	**F 426590.**	**10830.**	**15018.**	**2600.1**	**10.902**
#1	58391.	39.887	5783.5	605.24	426000.	10839.	14989.	2598.5	10.997
#2	58590.	38.153	5856.6	604.41	427560.	10817.	15059.	2606.9	11.062
#3	58451.	39.524	5837.7	604.00	426210.	10833.	15007.	2594.9	10.645

Elem	Na5895	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**409.59**	**3227.3**	**1532.4**	**1396.2**
#1	410.37	3223.9	1528.6	1394.9
#2	404.92	3231.8	1528.5	1398.2
#3	413.48	3226.3	1540.1	1395.5

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3656.4**	**2073.3**	**26642.**	**125360.**	**3762.5**	**52900.**	**11447.**
#1	3662.1	2072.0	26579.	125140.	3756.6	52861.	11413.
#2	3649.9	2072.9	26758.	125550.	3753.5	53007.	11476.
#3	3657.2	2074.9	26589.	125390.	3777.3	52832.	11450.

Sample Name: 6100170-01RE1 Acquired: 10/17/2016 20:59:25 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J05 SDG: MH1J05 Case: 46282
Comment: @ 3x LCS 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**28536.**	**97.702**	**3388.2**	**255.38**	**169830.**	**4683.1**	**14041.**	**2082.8**	**11.374**	**208.06**
#1	28532.	98.904	3378.0	254.76	169060.	4690.3	13980.	2077.8	11.350	208.53
#2	28497.	97.420	3397.2	256.43	169800.	4669.4	14055.	2084.6	11.476	208.44
#3	28581.	96.781	3389.4	254.96	170620.	4689.7	14087.	2086.1	11.298	207.20

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**1250.9**	**750.02**	**2380.7**
#1	1253.5	755.83	2380.4
#2	1246.9	749.97	2380.9
#3	1252.2	744.25	2380.9

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3855.5**	**2187.3**	**26607.**	**126740.**	**3759.0**	**52781.**	**11190.**
#1	3854.7	2185.7	26458.	126680.	3756.8	52837.	11146.
#2	3856.8	2191.1	26741.	126560.	3761.1	52670.	11249.
#3	3854.8	2185.2	26623.	126980.	3759.2	52835.	11176.

Sample Name: QJ14016-DUP2 Acquired: 10/17/2016 21:03:39 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J05D SDG: MH1J05 Case: 46282
Comment: @ 3x VOT 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**28490.**	**103.13**	**3282.1**	**238.50**	**174840.**	**4671.6**	**13267.**	**2161.0**	**11.061**	**195.91**
#1	28504.	101.55	3278.3	238.69	174670.	4662.5	13280.	2162.4	11.138	187.69
#2	28486.	104.23	3301.8	238.27	175210.	4691.5	13290.	2163.4	10.977	206.93
#3	28481.	103.62	3266.3	238.54	174640.	4660.7	13232.	2157.1	11.066	193.11

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**1124.5**	**731.61**	**1979.4**
#1	1126.1	730.04	1977.7
#2	1123.8	734.03	1980.1
#3	1123.7	730.75	1980.4

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3854.5**	**2186.5**	**26774.**	**126770.**	**3753.2**	**52669.**	**11233.**
#1	3856.9	2188.6	26679.	127060.	3753.8	52655.	11184.
#2	3849.8	2182.1	26666.	126520.	3757.0	52647.	11180.
#3	3856.7	2188.8	26977.	126740.	3748.7	52704.	11336.

Sample Name: SEQ-SRD2 Acquired: 10/17/2016 21:07:52 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J05L SDG: MH1J05 Case: 46282
Comment: @ 15X VCS 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**5333.5**	**17.314**	**633.42**	**46.959**	**31496.**	**881.78**	**2609.7**	**390.31**	**1.9290**	**34.449**	**229.34**
#1	5319.6	17.067	645.49	46.692	31542.	873.74	2606.4	390.47	1.5160	34.655	228.37
#2	5352.1	17.526	605.98	47.345	31490.	879.42	2613.4	390.02	2.1886	36.807	230.86
#3	5328.8	17.350	648.79	46.842	31457.	892.18	2609.3	390.43	2.0824	31.886	228.78

Elem	Ti3234	Zn2062
Units	ppb	ppb
Avg	**138.56**	**435.35**
#1	139.19	434.69
#2	138.48	435.90
#3	138.02	435.46

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4089.9**	**2313.2**	**26853.**	**128300.**	**3791.9**	**53571.**	**11282.**
#1	4089.4	2317.9	26866.	128080.	3799.2	53557.	11260.
#2	4093.2	2309.8	26784.	128720.	3795.2	53630.	11269.
#3	4087.1	2311.9	26910.	128090.	3781.2	53526.	11315.

Sample Name: 6100170-02RE1 Acquired: 10/17/2016 21:12:10 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J06 SDG: MH1J05 Case: 46282
Comment: @ 2x VCT 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**30375.**	**186.55**	**3952.9**	**145.53**	**233390.**	**7142.4**	**11951.**	**1330.9**	**9.5715**	**280.91**
#1	30355.	186.68	3957.3	146.43	233710.	7131.6	11969.	1331.5	9.5518	287.58
#2	30301.	187.63	3921.4	145.15	231910.	7119.9	11864.	1325.9	9.5168	279.76
#3	30468.	185.36	3980.0	145.01	234540.	7175.7	12021.	1335.4	9.6460	275.38

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**1153.9**	**338.25**	**1028.9**
#1	1154.8	337.14	1033.3
#2	1153.9	338.01	1028.6
#3	1153.1	339.60	1024.7

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3734.3**	**2116.4**	**26245.**	**123410.**	**3676.5**	**51444.**	**11064.**
#1	3719.0	2114.2	26136.	123730.	3661.9	51514.	10976.
#2	3740.6	2116.8	26370.	123300.	3676.7	51507.	11167.
#3	3743.3	2118.3	26231.	123200.	3691.0	51309.	11049.

Sample Name: 6100170-03RE1 Acquired: 10/17/2016 21:16:22 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J07 SDG: MH1J05 Case: 46282
Comment: @3+ JCT 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**26835.**	**120.89**	**3913.8**	**135.43**	**164400.**	**3973.4**	**14368.**	**1734.3**	**10.774**	**171.47**
#1	26795.	121.58	3907.3	135.63	164230.	3972.1	14319.	1732.3	10.631	169.04
#2	26961.	119.77	3901.9	136.10	165070.	3968.7	14464.	1740.7	10.858	174.91
#3	26748.	121.33	3932.0	134.55	163910.	3979.5	14322.	1729.9	10.832	170.46

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**784.70**	**712.55**	**790.48**
#1	784.64	709.89	789.77
#2	784.12	713.02	790.43
#3	785.34	714.75	791.24

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3864.3**	**2192.1**	**26782.**	**126800.**	**3756.9**	**52860.**	**11267.**
#1	3858.1	2188.8	26823.	126500.	3756.9	52658.	11277.
#2	3865.4	2194.4	26697.	127240.	3754.5	52999.	11206.
#3	3869.3	2193.1	26825.	126650.	3759.3	52924.	11319.

Sample Name: 6100170-04RE1 Acquired: 10/17/2016 21:20:34 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J08 SDG: MH1J05 Case: 46282
Comment: @2X VC 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**26454.**	**105.65**	**3769.9**	**180.86**	**185560.**	**6167.9**	**12944.**	**1481.8**	**11.368**	**183.32**
#1	26473.	105.46	3769.0	179.93	185440.	6178.3	12909.	1482.8	11.405	190.00
#2	26503.	106.94	3764.4	181.33	185590.	6163.6	12955.	1483.9	11.253	176.94
#3	26384.	104.53	3776.5	181.30	185660.	6161.7	12970.	1478.7	11.447	183.03

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**790.36**	**443.42**	**743.25**
#1	794.68	444.99	744.66
#2	788.17	442.95	743.68
#3	788.22	442.31	741.42

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3846.0**	**2177.1**	**26644.**	**126140.**	**3749.9**	**52941.**	**11250.**
#1	3856.4	2177.6	26488.	125860.	3756.9	52798.	11177.
#2	3846.3	2176.7	26535.	126320.	3744.2	53082.	11212.
#3	3835.3	2176.9	26907.	126250.	3748.5	52942.	11360.

Sample Name: 6100170-05RE1 Acquired: 10/17/2016 21:24:46 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J09 SDG: MH1J05 Case: 46282
Comment: 2X 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**56555.**	**171.22**	**11164.**	**681.69**	**194510.**	**8836.7**	**27176.**	**3388.6**	**10.358**	**236.45**
#1	56420.	171.95	11164.	680.24	194740.	8839.1	27168.	3386.2	10.314	233.01
#2	56614.	171.12	11152.	683.38	193960.	8824.2	27121.	3384.6	10.431	239.24
#3	56630.	170.60	11176.	681.46	194820.	8847.0	27240.	3394.8	10.330	237.09

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**1648.7**	**758.73**	**1196.1**
#1	1651.8	754.08	1198.8
#2	1650.1	761.75	1197.0
#3	1644.3	760.36	1192.6

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3750.1**	**2133.5**	**26699.**	**125400.**	**3781.4**	**53379.**	**11435.**
#1	3747.2	2126.0	26643.	125330.	3774.1	53413.	11394.
#2	3747.4	2135.7	26644.	125620.	3780.8	53409.	11437.
#3	3755.6	2138.9	26809.	125250.	3789.2	53315.	11473.

Sample Name: 6100170-06RE1 Acquired: 10/17/2016 21:28:59 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J10 SDG: MH1J05 Case: 46282
Comment: 3x ✓CT 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	19522.	51.892	2024.4	82.732	162940.	2134.7	10372.	1674.1	4.3392	60.903
#1	19518.	51.655	2045.8	82.940	162970.	2142.2	10360.	1675.0	4.4310	58.494
#2	19492.	53.716	2005.3	82.863	162680.	2131.9	10376.	1670.8	4.1447	62.684
#3	19558.	50.303	2022.1	82.392	163170.	2130.1	10379.	1676.4	4.4420	61.530

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	682.16	340.53	507.03
#1	682.23	340.82	507.39
#2	682.80	341.31	507.72
#3	681.45	339.47	505.97

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3917.4	2211.3	26750.	126850.	3776.4	53203.	11239.
#1	3912.5	2211.4	26604.	126400.	3775.4	53033.	11170.
#2	3917.7	2210.4	26787.	127430.	3773.3	53270.	11269.
#3	3921.9	2212.1	26860.	126710.	3780.6	53306.	11278.

Sample Name: 6100170-07RE1 Acquired: 10/17/2016 21:33:13 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J11 SDG: MH1J05 Case: 46282
Comment: @3X VOT 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**29710.**	**85.919**	**3240.1**	**171.83**	**138890.**	**4210.1**	**15782.**	**2022.4**	**7.4898**	**174.52**
#1	29554.	85.258	3232.5	172.75	139110.	4186.0	15775.	2018.8	7.2748	179.14
#2	29804.	87.543	3243.5	171.04	138920.	4230.4	15864.	2028.2	7.5726	176.84
#3	29773.	84.954	3244.4	171.71	138640.	4214.0	15707.	2020.1	7.6221	167.57

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**1085.0**	**717.51**	**2249.7**
#1	1084.7	711.27	2249.2
#2	1084.8	720.92	2249.7
#3	1085.5	720.36	2250.1

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3849.2**	**2183.3**	**26555.**	**126120.**	**3744.1**	**52863.**	**11164.**
#1	3847.6	2183.6	26526.	126060.	3746.5	52750.	11119.
#2	3844.8	2182.8	26333.	126330.	3740.4	53027.	11075.
#3	3855.4	2183.5	26807.	125980.	3745.2	52811.	11299.

Sample Name: 6100170-10RE1 Acquired: 10/17/2016 21:37:29 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J14 SDG: MH1J05 Case: 46282
Comment: @4x VT 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**15569.**	**66.916**	**2570.8**	**137.53**	**129960.**	**2368.9**	**8012.2**	**1110.5**	**6.7912**	**108.91**
#1	15483.	67.198	2599.1	137.77	130050.	2345.5	8022.8	1107.2	6.7246	110.90
#2	15577.	66.114	2554.2	137.67	129640.	2386.3	7968.5	1111.7	6.8299	112.87
#3	15647.	67.435	2559.2	137.14	130180.	2375.0	8045.4	1112.6	6.8192	102.94

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**793.59**	**593.26**	**1985.1**
#1	791.19	591.11	1983.8
#2	793.90	594.47	1988.0
#3	795.68	594.20	1983.6

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3916.4**	**2217.1**	**26759.**	**126710.**	**3754.1**	**53088.**	**11283.**
#1	3919.6	2220.1	26699.	126750.	3762.3	52983.	11256.
#2	3917.6	2217.9	26875.	126900.	3751.4	53080.	11352.
#3	3912.2	2213.4	26705.	126490.	3748.6	53202.	11243.

Sample Name: 6100170-11RE1 Acquired: 10/17/2016 21:41:43 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J15 SDG: MH1J05 Case: 46282
Comment: @ 3X VCT 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**26432.**	**141.84**	**2923.3**	**306.90**	**171230.**	**4084.4**	**12881.**	**2421.7**	**13.246**	**158.51**
#1	26346.	143.66	2920.3	306.06	170690.	4077.2	12833.	2413.2	13.197	157.36
#2	26478.	142.48	2934.3	307.29	172030.	4084.7	12955.	2428.1	13.201	162.03
#3	26474.	139.36	2915.4	307.33	170970.	4091.4	12855.	2423.7	13.339	156.15

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**1289.3**	**769.09**	**1520.2**
#1	1291.2	766.29	1522.0
#2	1289.2	771.21	1517.9
#3	1287.5	769.77	1520.6

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3856.9**	**2185.1**	**26771.**	**126410.**	**3760.3**	**53024.**	**11340.**
#1	3867.0	2183.6	26890.	126770.	3763.7	53228.	11401.
#2	3848.8	2185.0	26714.	126140.	3763.1	52875.	11293.
#3	3854.9	2186.8	26711.	126330.	3754.1	52968.	11327.

Sample Name: 6100170-12RE1 Acquired: 10/17/2016 21:45:58 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J16 SDG: MH1J05 Case: 46282
Comment: @ 2x VCT 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**42337.**	**42.612**	**7645.8**	**385.82**	**193280.**	**5157.6**	**19087.**	**5176.9**	**13.073**	**236.87**
#1	42151.	41.655	7647.5	386.84	192580.	5138.3	19108.	5155.5	13.329	232.36
#2	42424.	45.269	7694.4	385.17	194170.	5149.2	19120.	5194.5	13.187	240.21
#3	42435.	40.912	7595.5	385.45	193080.	5185.2	19032.	5180.7	12.703	238.04

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**653.25**	**1530.7**	**1125.1**
#1	653.40	1519.3	1125.0
#2	650.40	1532.7	1124.8
#3	655.93	1540.0	1125.6

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3785.2**	**2144.3**	**26609.**	**126170.**	**3782.2**	**53238.**	**11349.**
#1	3785.4	2142.7	26556.	126160.	3780.5	53104.	11323.
#2	3784.7	2143.8	26625.	126280.	3781.2	53295.	11336.
#3	3785.5	2146.4	26646.	126080.	3785.0	53315.	11388.

Sample Name: 6100170-13RE1 Acquired: 10/17/2016 21:50:11 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J17 SDG: MH1J05 Case: 46282
Comment: @ 3x VCT 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**39003.**	**40.298**	**6243.4**	**229.77**	**160920.**	**4018.4**	**24751.**	**3140.0**	**15.630**	**259.81**
#1	38913.	39.478	6277.1	230.18	160920.	4006.2	24802.	3138.8	15.604	257.80
#2	39094.	42.139	6234.1	228.94	160870.	4011.4	24766.	3143.1	15.620	258.88
#3	39003.	39.278	6219.0	230.17	160950.	4037.8	24683.	3138.2	15.667	262.76

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**645.53**	**1506.1**	**757.76**
#1	645.91	1501.4	757.64
#2	644.89	1507.7	759.66
#3	645.80	1509.2	755.97

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3823.9**	**2177.0**	**26720.**	**126830.**	**3759.3**	**52958.**	**11255.**
#1	3826.3	2179.0	26609.	126970.	3766.9	52962.	11190.
#2	3824.5	2172.6	26778.	126580.	3756.5	53014.	11282.
#3	3820.8	2179.4	26774.	126940.	3754.4	52900.	11294.

Sample Name: 6100170-15RE1 Acquired: 10/17/2016 21:54:25 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J19 SDG: MH1J05 Case: 46282
Comment: 93% VG 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**21612.**	**280.41**	**710.93**	**184.16**	**123450.**	**5725.8**	**6362.3**	**505.85**	**3.6715**	**167.27**
#1	21657.	282.46	699.92	183.95	123870.	5732.0	6402.7	508.67	3.6960	166.31
#2	21611.	282.27	726.35	184.03	123560.	5728.0	6351.3	505.28	3.7585	167.24
#3	21569.	276.48	706.51	184.49	122930.	5717.5	6332.7	503.62	3.5600	168.26

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**2863.1**	**100.89**	**699.95**
#1	2875.5	101.18	700.81
#2	2854.4	101.45	699.46
#3	2859.4	100.03	699.59

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3914.2**	**2218.3**	**26684.**	**127170.**	**3754.4**	**52803.**	**11176.**
#1	3908.0	2218.6	26684.	127480.	3752.3	52941.	11164.
#2	3917.9	2218.1	26610.	127190.	3760.7	52769.	11155.
#3	3916.7	2218.1	26759.	126830.	3750.1	52699.	11210.

Sample Name: 6100170-18RE1 Acquired: 10/17/2016 21:58:40 Type: Unk
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: MH1J22 SDG: MH1J05 Case: 46282
Comment: @ 3x JCT 10/28/16

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**19710.**	**12.288**	**2001.0**	**200.65**	**148040.**	**3688.4**	**5206.6**	**895.05**	**3.4876**	**141.45**
#1	19623.	12.347	1997.4	199.54	147620.	3676.1	5188.0	891.95	3.3644	140.00
#2	19777.	13.708	2010.8	201.22	148650.	3711.8	5221.7	898.43	3.6148	145.14
#3	19729.	10.809	1994.9	201.18	147850.	3677.3	5210.1	894.75	3.4836	139.20

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**1062.2**	**509.51**	**455.29**
#1	1062.0	507.24	455.31
#2	1061.9	512.63	454.41
#3	1062.7	508.65	456.15

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3891.4**	**2200.5**	**26595.**	**126600.**	**3755.7**	**52884.**	**11160.**
#1	3892.5	2201.1	26441.	126650.	3755.4	52982.	11089.
#2	3891.8	2200.1	26648.	126160.	3766.2	52682.	11180.
#3	3889.8	2200.3	26696.	126980.	3745.4	52990.	11211.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV05 Acquired: 10/17/2016 22:02:56 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**153560.**	**2171.4**	**210160.**	**5283.1**	**134020.**	**146560.**	**212720.**	**9577.6**	**1018.0**	**126880.**
Stddev	1222.	9.4	1646.	16.6	1142.	675.	1602.	54.0	3.7	974.
%RSD	.79594	.43382	.78320	.31429	.85177	.46030	.75303	.56403	.36089	.76777
#1	154670.	2182.3	211800.	5301.5	135120.	147150.	214410.	9631.9	1022.2	127760.
#2	153740.	2165.8	210170.	5278.4	134100.	146710.	212550.	9577.1	1015.5	127050.
#3	152250.	2166.1	208510.	5269.4	132840.	145830.	211220.	9523.9	1016.3	125830.

Elem	Pb2203	Ti3234	Zn2062
Units	ppb	ppb	ppb
Avg	**5781.7**	**2023.8**	**8321.6**
Stddev	38.6	6.7	35.7
%RSD	.66835	.32891	.42871
#1	5826.3	2024.0	8362.7
#2	5759.4	2030.3	8298.4
#3	5759.4	2017.0	8303.7

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV05 Acquired: 10/17/2016 22:02:56 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3205.1**	**1913.4**	**26042.**	**117070.**	**3379.9**	**48481.**	**10736.**
Stddev	.9	4.4	93.	59.	4.4	140.	35.
%RSD	.02848	.22958	.35777	.05009	.12891	.28841	.32849
#1	3204.0	1910.7	25988.	117040.	3375.2	48355.	10709.
#2	3205.6	1918.5	25989.	117140.	3383.8	48631.	10724.
#3	3205.6	1911.1	26150.	117040.	3380.7	48458.	10776.

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB05 Acquired: 10/17/2016 22:07:10 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Elem	Al3961	As1890	Ca3181	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**25.076**	**1.3028**	**49.561**	**1.7636**	**32.262**	**114.85**	**55.791**	**2.3812**	**.02218**	**56.335**	**1.7017**
Stddev	3.377	.8939	19.239	.1112	3.445	15.85	3.428	.2887	.13452	8.618	.4268
%RSD	13.465	68.615	38.820	6.3063	10.677	13.802	6.1453	12.124	606.46	15.297	25.081
#1	22.112	1.9628	30.172	1.6358	28.435	119.93	51.861	2.0538	.16493	47.084	1.3111
#2	28.751	.28551	49.864	1.8157	33.236	127.54	57.350	2.5994	.00383	64.136	1.6366
#3	24.364	1.6602	68.647	1.8391	35.114	97.085	58.164	2.4904	-.10222	57.784	2.1572

Elem	Ti3234	Zn2062
Units	ppb	ppb
Avg	**1.1412**	**1.2943**
Stddev	.1873	.2015
%RSD	16.412	15.567
#1	1.3494	1.4718
#2	.98646	1.3359
#3	1.0877	1.0753

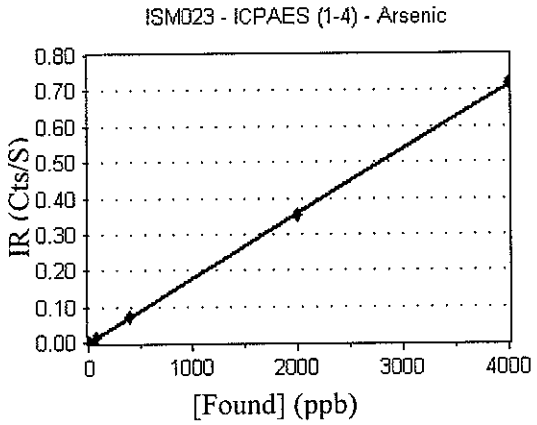
Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB05 Acquired: 10/17/2016 22:07:10 Type: QC
Method: ISM023_New_TotalMetals(v19) Mode: CONC Corr. Factor: 1.000000
User: LEM EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4107.3**	**2285.4**	**25805.**	**124010.**	**3745.7**	**52720.**	**10982.**
Stddev	8.9	4.7	34.	357.	4.2	41.	36.
%RSD	.21547	.20470	.13168	.28756	.11215	.07809	.32635
#1	4102.5	2280.7	25814.	123980.	3741.2	52728.	11023.
#2	4117.5	2290.0	25768.	123670.	3749.5	52675.	10956.
#3	4101.9	2285.6	25834.	124380.	3746.5	52756.	10969.

Bonner Analytical Testing Company

Instrument ID: ICAPP02 Calibration ID: B644055 Calibration Date: 10/18/2016



Calibration Plot: Arsenic
Calibration Type: Linear Regression Weighted 1/X
Corr. Coeff.: 0.9999266
Fit: [Y] = 1.787987E-04 * [X] + -2.787128E-04
[y-intercept] = 1.56

Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62621-CAL1	B6I0028	0	0.27	-0.00023	0
BJ62621-CAL2	B6G0026	10	10.56	0.00161	-6
BJ62621-CAL3	B6G0027	80	77.51	0.01358	3
BJ62621-CAL4	B6G0028	400	390.15	0.06948	2
BJ62621-CAL5	B6G0029	2000	1,985.86	0.35479	1
BJ62621-CAL6	B6G0030	4000	4,025.92	0.71955	-1

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CAL1@S01 Acquired: 10/18/2016 10:38:39 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00081**	**-.00282**	**-.00023**	**.01212**	**-.00161**	**.00012**	**.00067**	**-.00023**	**.00004**	**.00267**
#1	-.00077	-.00302	-.00033	.01243	-.00156	.00008	.00059	-.00023	.00003	.00270
#2	-.00082	-.00298	-.00034	.01222	-.00165	-.00000	.00062	-.00037	.00003	.00272
#3	-.00084	-.00246	-.00003	.01172	-.00162	.00029	.00079	-.00008	.00005	.00260

Elem	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00010**	**.00258**	**.00001**	**-.00003**	**.00013**	**.01908**	**.00468**	**.00082**	**-.00088**	**.00052**
#1	-.00022	.00286	-.00003	.00015	.00012	.01944	.00464	.00135	-.00109	.00059
#2	-.00012	.00344	.00012	-.00028	.00005	.01931	.00481	.00070	-.00090	.00063
#3	.00003	.00143	-.00006	.00003	.00021	.01850	.00458	.00042	-.00066	.00033

Elem	Ti3234	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00310**	**-.00005**	**-.00004**	**.01218**
#1	.00305	-.00006	-.00009	.01222
#2	.00309	.00004	-.00005	.01231
#3	.00317	-.00012	.00003	.01200

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CAL1@S01 Acquired: 10/18/2016 10:38:39 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3756.7**	**2162.8**	**21871.**	**119600.**	**3675.1**	**54375.**	**9339.5**
#1	3765.6	2165.9	21844.	119470.	3692.4	54223.	9330.3
#2	3749.2	2161.3	21856.	119180.	3674.4	54218.	9329.9
#3	3755.2	2161.3	21914.	120140.	3658.6	54685.	9358.2

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CAL2@S02 Acquired: 10/18/2016 10:43:04 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247	Fe2598
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00140**	**.00359**	**.00161**	**.46379**	**.00157**	**.00354**	**.02556**	**.01244**	**.00170**	**.01150**	**.00315**
#1	.00144	.00305	.00171	.46351	.00154	.00346	.02554	.01221	.00174	.01161	.00322
#2	.00133	.00383	.00178	.46372	.00157	.00370	.02557	.01248	.00168	.01147	.00304
#3	.00144	.00390	.00135	.46414	.00159	.00346	.02556	.01263	.00167	.01143	.00317

Elem	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.01297**	**.00348**	**.00913**	**.00622**	**.04315**	**.01914**	**.00704**	**.00263**	**.00256**	**.00428**	**.00424**
#1	.01300	.00358	.00907	.00623	.04330	.01922	.00682	.00236	.00273	.00437	.00416
#2	.01329	.00349	.00922	.00610	.04269	.01893	.00714	.00257	.00248	.00427	.00435
#3	.01262	.00337	.00910	.00632	.04346	.01928	.00717	.00297	.00248	.00420	.00423

Elem	V_2924	Zn2062
Units	Cts/S	Cts/S
Avg	**.00382**	**.09627**
#1	.00380	.09589
#2	.00388	.09648
#3	.00378	.09644

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CAL2@S02 Acquired: 10/18/2016 10:43:04 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3760.5**	**2168.5**	**22126.**	**119920.**	**3680.5**	**54451.**	**9446.3**
#1	3765.4	2175.5	21999.	120370.	3685.8	54535.	9407.2
#2	3769.5	2171.5	22161.	120060.	3689.8	54569.	9463.9
#3	3746.5	2158.5	22217.	119340.	3666.0	54249.	9467.9

Sample Name: SEQ-CAL3@S03 Acquired: 10/18/2016 10:47:27 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247	Fe2598
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00368**	**.04944**	**.01358**	**3.6067**	**.02363**	**.02867**	**.19701**	**.10096**	**.01351**	**.07799**	**.02541**
#1	.00362	.04940	.01365	3.6074	.02367	.02870	.19667	.10062	.01363	.07800	.02537
#2	.00365	.04922	.01340	3.6075	.02371	.02846	.19694	.10046	.01344	.07795	.02527
#3	.00375	.04971	.01369	3.6053	.02352	.02886	.19740	.10180	.01345	.07803	.02558

Elem	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.10165**	**.02759**	**.07090**	**.04854**	**.33259**	**.15623**	**.04469**	**.02793**	**.01768**	**.01315**	**.03431**
#1	.10185	.02742	.07134	.04858	.33135	.15609	.04396	.02796	.01757	.01314	.03471
#2	.10164	.02766	.07079	.04824	.33202	.15659	.04417	.02767	.01770	.01307	.03411
#3	.10147	.02769	.07057	.04879	.33441	.15602	.04595	.02816	.01776	.01323	.03412

Elem	V_2924	Zn2062
Units	Cts/S	Cts/S
Avg	**.03143**	**.71312**
#1	.03137	.71249
#2	.03157	.71487
#3	.03133	.71199

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CAL3@S03 Acquired: 10/18/2016 10:47:27 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3739.8**	**2191.2**	**22231.**	**120860.**	**3678.5**	**54140.**	**9365.5**
#1	3745.5	2197.3	22183.	120990.	3687.8	54132.	9337.8
#2	3746.3	2192.2	22182.	120620.	3682.2	54080.	9360.3
#3	3727.8	2183.9	22330.	120970.	3665.5	54208.	9398.5

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CAL4@S04 Acquired: 10/18/2016 10:51:43 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247	Fe2598
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.02153**	**.25466**	**.06948**	**17.963**	**.12472**	**.14261**	**.96940**	**.50284**	**.06705**	**.37962**	**.12638**
#1	.02164	.25257	.06927	17.933	.12484	.14222	.96878	.50298	.06714	.37975	.12605
#2	.02141	.25609	.06894	17.966	.12441	.14301	.97009	.50286	.06715	.38039	.12626
#3	.02155	.25532	.07021	17.991	.12492	.14261	.96932	.50269	.06685	.37872	.12684

Elem	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.50924**	**.13501**	**.34864**	**.24426**	**1.6354**	**.77210**	**.21620**	**.14337**	**.08552**	**.05323**	**.17373**
#1	.50913	.13491	.34829	.24421	1.6370	.77203	.21666	.14292	.08540	.05301	.17310
#2	.50933	.13509	.34835	.24465	1.6323	.76973	.21634	.14326	.08544	.05323	.17442
#3	.50927	.13502	.34927	.24392	1.6368	.77453	.21560	.14394	.08571	.05347	.17368

Elem	V_2924	Zn2062
Units	Cts/S	Cts/S
Avg	**.15811**	**3.5087**
#1	.15854	3.5082
#2	.15821	3.4966
#3	.15758	3.5213

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CAL4@S04 Acquired: 10/18/2016 10:51:43 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3655.0**	**2178.1**	**22362.**	**120890.**	**3662.9**	**53797.**	**9391.5**
#1	3658.3	2180.0	22440.	120730.	3664.4	53724.	9416.2
#2	3652.5	2180.4	22350.	121340.	3660.6	53975.	9392.7
#3	3654.2	2173.9	22297.	120580.	3663.8	53692.	9365.5

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CAL5@S05 Acquired: 10/18/2016 10:55:49 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247	Fe2598
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.11007**	**1.2762**	**.35479**	**88.119**	**.62263**	**.70659**	**4.7165**	**2.4618**	**.32947**	**1.9705**	**.62785**
#1	.11018	1.2744	.35575	87.336	.62247	.70454	4.7207	2.4630	.32932	1.9714	.62544
#2	.11015	1.2800	.35438	89.525	.62055	.70801	4.7124	2.4593	.32986	1.9729	.63131
#3	.10986	1.2743	.35423	87.497	.62487	.70722	4.7166	2.4631	.32923	1.9674	.62679

Elem	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.5578**	**.66574**	**1.7131**	**1.2223**	**8.1666**	**3.7912**	**1.0622**	**.72151**	**.41574**	**.25151**	**.87123**
#1	2.5573	.66459	1.7074	1.2202	8.1545	3.7957	1.0628	.72118	.41598	.25129	.86979
#2	2.5621	.66849	1.7194	1.2232	8.1832	3.7856	1.0599	.72104	.41592	.25185	.87239
#3	2.5539	.66414	1.7125	1.2234	8.1622	3.7922	1.0639	.72232	.41533	.25139	.87150

Elem	V_2924	Zn2062
Units	Cts/S	Cts/S
Avg	**.79060**	**17.123**
#1	.79017	17.153
#2	.79192	17.100
#3	.78972	17.115

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CAL5@S05 Acquired: 10/18/2016 10:55:49 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3381.7**	**2070.0**	**22286.**	**117650.**	**3509.9**	**51929.**	**9248.4**
#1	3381.0	2068.2	22219.	117680.	3507.5	51953.	9237.2
#2	3379.9	2071.7	22235.	117870.	3510.6	51966.	9203.4
#3	3384.2	2070.0	22405.	117380.	3511.5	51867.	9304.5

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CAL6@S06 Acquired: 10/18/2016 10:59:59 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247	Fe2598
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.22201**	**2.5742**	**.71955**	**173.55**	**1.2277**	**1.3955**	**9.2749**	**4.8719**	**.64891**	**3.9712**	**1.2492**
#1	.22210	2.5692	.71898	173.59	1.2281	1.3944	9.2793	4.8715	.64588	3.9695	1.2461
#2	.22158	2.5688	.71792	173.10	1.2306	1.3943	9.2615	4.8638	.64914	3.9659	1.2448
#3	.22234	2.5847	.72174	173.97	1.2244	1.3977	9.2840	4.8805	.65171	3.9781	1.2566

Elem	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5.1307**	**1.3296**	**3.3978**	**2.4448**	**16.269**	**7.4986**	**2.0958**	**1.4531**	**.81909**	**.49725**	**1.7244**
#1	5.1338	1.3272	3.3927	2.4462	16.282	7.4967	2.0993	1.4519	.81929	.49605	1.7297
#2	5.1246	1.3258	3.3866	2.4399	16.210	7.4898	2.0902	1.4507	.81653	.49753	1.7208
#3	5.1337	1.3358	3.4142	2.4482	16.315	7.5091	2.0979	1.4568	.82145	.49817	1.7227

Elem	V_2924	Zn2062
Units	Cts/S	Cts/S
Avg	**1.5746**	**33.311**
#1	1.5715	33.309
#2	1.5745	33.306
#3	1.5778	33.318

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CAL6@S06 Acquired: 10/18/2016 10:59:59 Type: Cal
Method: ISM023_New_TotalMetals(v20) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3208.9**	**1995.8**	**22127.**	**115260.**	**3394.3**	**50557.**	**9129.1**
#1	3207.1	1996.4	22232.	115600.	3398.4	50737.	9164.0
#2	3209.7	1998.2	22031.	114830.	3398.1	50455.	9114.7
#3	3209.8	1992.7	22119.	115350.	3386.3	50479.	9108.6

Sample Name: SEQ-ICV@ICV01 Acquired: 10/18/2016 11:17:26 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247	Fe2598
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**503.76**	**2596.0**	**1000.1**	**511.85**	**508.66**	**10435.**	**514.13**	**511.51**	**513.90**	**477.12**	**5161.0**
Stddev	.88	19.3	3.7	.90	.57	29.	.82	.44	1.78	1.28	19.7
%RSD	.17467	.74488	.37019	.17659	.11225	.27424	.15869	.08527	.34707	.26879	.38120
#1	504.77	2591.5	996.79	510.81	508.08	10406.	513.25	511.02	515.82	478.60	5151.2
#2	503.20	2617.1	999.31	512.39	508.67	10464.	514.86	511.85	512.29	476.43	5183.7
#3	503.31	2579.3	1004.1	512.35	509.22	10434.	514.26	511.68	513.58	476.34	5148.1

Elem	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**10063.**	**6174.3**	**522.19**	**-.24272**	**9961.3**	**518.62**	**1004.7**	**997.73**	**1021.7**	**-.64107**	**1029.6**
Stddev	64.	42.8	1.31	.10461	18.5	1.75	2.4	.22	3.0	.45083	5.0
%RSD	.63222	.69384	.25063	43.099	.18559	.33724	.24304	.02166	.29541	70.325	.48959
#1	10131.	6176.2	521.24	-.31219	9977.0	518.35	1004.4	997.92	1018.7	-.27637	1025.4
#2	10052.	6216.1	523.69	-.29357	9966.0	517.02	1002.4	997.78	1021.8	-.50171	1028.2
#3	10005.	6130.5	521.65	-.12241	9940.9	520.49	1007.3	997.50	1024.7	-1.1451	1035.1

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-ICV@ICV01 Acquired: 10/18/2016 11:17:26 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	V_2924	Zn2062
Units	ppb	ppb
Avg	**499.98**	**1058.7**
Stddev	1.05	4.4
%RSD	.20960	.41502
#1	500.84	1057.6
#2	500.28	1054.9
#3	498.81	1063.5

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3671.2**	**2159.7**	**22472.**	**121070.**	**3673.0**	**54309.**	**9467.5**
Stddev	6.6	4.5	94.	277.	5.1	60.	49.4
%RSD	.18108	.21052	.41742	.22881	.13774	.11136	.52188
#1	3676.5	2163.0	22406.	121350.	3678.3	54354.	9439.5
#2	3673.4	2161.6	22432.	120790.	3668.2	54240.	9438.5
#3	3663.7	2154.5	22580.	121080.	3672.4	54332.	9524.6

Sample Name: SEQ-ICB@ICB01 Acquired: 10/18/2016 11:21:37 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247	Fe2598
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.48043**	**2.6731**	**.68440**	**-.16194**	**.05051**	**10.678**	**.06029**	**.02630**	**.02724**	**-.10812**	**.23285**
Stddev	.40832	5.3880	.72071	.15350	.01822	9.465	.01169	.24197	.29572	.05421	2.7364
%RSD	84.991	201.56	105.31	94.788	36.081	88.640	19.387	920.07	1085.6	50.144	1175.2
#1	.92556	6.2671	.73455	-.13746	.04005	20.920	.06095	.28568	.25649	-.04954	1.1395
#2	.39246	-3.5220	-.06007	-.02215	.07156	2.2538	.04829	-.01347	-.30656	-.15653	2.4008
#3	.12326	5.2742	1.3787	-.32621	.03992	8.8599	.07164	-.19332	.13178	-.11829	-2.8418

Elem	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**112.86**	**3.4046**	**.25366**	**.02705**	**20.381**	**-.01541**	**2.1211**	**.86067**	**-.62990**	**.94673**	**-.27854**
Stddev	24.83	9.0144	.57553	.05051	8.085	.33034	.4109	1.2135	1.0040	.66390	.87384
%RSD	22.001	264.77	226.89	186.75	39.672	2143.0	19.373	141.00	159.40	70.126	313.72
#1	115.12	6.5857	-.28004	-.00762	11.961	-.38395	1.6559	2.2613	-1.1576	.19022	-1.0699
#2	136.48	10.397	.86346	.08499	28.084	.08366	2.2730	.19509	-1.2600	1.4324	-.42498
#3	86.974	-6.7691	.17757	.00377	21.096	.25405	2.4345	.12558	.52794	1.2176	.65926

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-ICB@ICB01 Acquired: 10/18/2016 11:21:37 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	V_2924	Zn2062
Units	ppb	ppb
Avg	**-.10681**	**-.10019**
Stddev	.22736	.23623
%RSD	212.85	235.78
#1	-.04010	.10518
#2	-.36007	-.35836
#3	.07973	-.04741

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3790.1**	**2175.5**	**22031.**	**120590.**	**3705.4**	**55041.**	**9438.5**
Stddev	7.4	6.6	118.	162.	10.0	37.	41.9
%RSD	.19454	.30358	.53497	.13471	.26866	.06756	.44373
#1	3796.8	2181.3	22034.	120700.	3716.9	55063.	9437.7
#2	3791.4	2177.0	22148.	120400.	3698.9	54998.	9480.7
#3	3782.2	2168.3	21912.	120670.	3700.5	55062.	9397.0

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-IFA@ICSA01 Acquired: 10/18/2016 11:25:59 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**-2.3020**	**257250.**	**-8.5250**	**5.5636**	**-.07885**	**242090.**	**2.7877**	**-.51368**	**56.812**	**-13.133**
Stddev	.0271	1309.	2.0974	.0167	.01646	422.	.0269	.21134	.380	.030
%RSD	1.1761	.50896	24.603	.30013	20.879	.17434	.96509	41.142	.66864	.23031
#1	-2.3058	255770.	-8.2005	5.5793	-.07519	241610.	2.7621	-.47722	56.481	-13.158
#2	-2.2733	257680.	-6.6088	5.5461	-.06453	242280.	2.8157	-.32295	56.728	-13.099
#3	-2.3270	258280.	-10.766	5.5653	-.09684	242380.	2.7854	-.74089	57.227	-13.141

Elem	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**97848.**	**148.89**	**253980.**	**12.746**	**.44488**	**-47.349**	**-10.139**	**8.8665**	**-1.7152**	**-2.8964**
Stddev	342.	14.58	1060.	.228	.17433	5.803	.123	.5601	.4434	.9922
%RSD	.34925	9.7927	.41737	1.7863	39.186	12.256	1.2094	6.3164	25.851	34.258
#1	97468.	132.94	252750.	13.004	.38644	-53.635	-10.047	8.2202	-1.7345	-2.4015
#2	98130.	161.54	254580.	12.573	.30727	-46.215	-10.091	9.2091	-2.1486	-2.2490
#3	97946.	152.20	254590.	12.660	.64092	-42.196	-10.278	9.1702	-1.2625	-4.0388

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-IFA@ICSA01 Acquired: 10/18/2016 11:25:59 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**3.1334**	**-2.8845**	**.03297**	**-3.0075**
Stddev	.5316	.9627	.19882	.1447
%RSD	16.966	33.373	603.03	4.8124
#1	3.1041	-3.4226	.13757	-3.0332
#2	2.6170	-3.4579	.15765	-2.8516
#3	3.6790	-1.7731	-.19632	-3.1377

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3204.3**	**1876.8**	**22618.**	**112860.**	**3408.3**	**50558.**	**9318.6**
Stddev	1.0	2.4	138.	161.	11.4	55.	60.0
%RSD	.03163	.12807	.60985	.14234	.33357	.10836	.64410
#1	3203.2	1875.2	22776.	112680.	3419.5	50552.	9386.6
#2	3204.6	1875.7	22558.	112990.	3408.6	50616.	9296.1
#3	3205.1	1879.6	22520.	112890.	3396.8	50507.	9273.0

Sample Name: SEQ-IFB@ICSAB01 Acquired: 10/18/2016 11:30:16 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**207.22**	**257240.**	**98.542**	**521.24**	**511.22**	**242600.**	**967.96**	**486.18**	**557.40**	**493.54**
Stddev	.12	1405.	2.077	1.51	.56	1139.	.74	1.26	1.53	.47
%RSD	.05928	.54612	2.1078	.28971	.10927	.46937	.07696	.25864	.27479	.09476
#1	207.11	256180.	97.681	520.08	511.45	243160.	968.46	485.11	556.90	493.42
#2	207.35	258830.	97.034	522.95	511.63	243350.	968.31	485.87	559.12	494.06
#3	207.19	256700.	100.91	520.69	510.58	241290.	967.10	487.57	556.17	493.15

Elem	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**97941.**	**90.522**	**253750.**	**521.22**	**.15989**	**-39.576**	**1039.3**	**56.551**	**600.48**	**47.081**
Stddev	540.	6.914	1692.	2.69	.24443	4.031	.7	.271	2.84	1.251
%RSD	.55130	7.6375	.66686	.51616	152.87	10.186	.06920	.47924	.47363	2.6580
#1	97944.	83.271	253630.	520.15	.06757	-44.001	1040.1	56.333	603.52	46.703
#2	98480.	97.039	255490.	524.28	.43703	-36.112	1039.0	56.854	600.05	48.477
#3	97400.	91.257	252110.	519.23	-.02493	-38.616	1038.8	56.466	597.88	46.061

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-IFB@ICSAB01 Acquired: 10/18/2016 11:30:16 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**4.1037**	**98.936**	**491.59**	**1041.3**
Stddev	.3089	.818	.52	.3
%RSD	7.5266	.82691	.10528	.02979
#1	4.2618	98.329	492.05	1041.6
#2	4.3015	98.612	491.71	1041.2
#3	3.7478	99.866	491.03	1041.1

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3212.9**	**1873.1**	**22686.**	**113110.**	**3413.3**	**50732.**	**9349.1**
Stddev	1.9	.3	193.	205.	4.1	105.	100.1
%RSD	.05777	.01498	.84916	.18145	.12092	.20683	1.0704
#1	3214.7	1873.4	22649.	113300.	3417.8	50808.	9333.7
#2	3211.0	1872.9	22514.	112890.	3412.3	50612.	9257.6
#3	3212.9	1873.0	22894.	113150.	3409.7	50777.	9455.9

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV01 Acquired: 10/18/2016 11:34:25 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**512.76**	**142150.**	**2118.3**	**16019.**	**397.33**	**199080.**	**962.30**	**2424.3**	**5661.1**	**5127.0**
Stddev	.88	149.	4.3	196.	.91	837.	2.25	7.3	18.2	3.2
%RSD	.17092	.10496	.20275	1.2219	.22813	.42059	.23372	.30255	.32091	.06199
#1	511.84	142010.	2120.5	15911.	396.31	200000.	961.18	2421.3	5653.9	5128.7
#2	512.86	142130.	2113.4	16245.	398.03	198890.	960.83	2419.0	5681.8	5128.9
#3	513.59	142310.	2121.2	15902.	397.66	198360.	964.89	2432.7	5647.7	5123.3

Elem	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**124470.**	**138110.**	**197230.**	**9021.0**	**994.63**	**123230.**	**4058.8**	**5605.3**	**4061.6**	**3480.6**
Stddev	697.	199.	613.	7.5	1.82	970.	8.5	7.8	6.2	7.8
%RSD	.55996	.14412	.31101	.08276	.18312	.78711	.20862	.13963	.15267	.22384
#1	125270.	138310.	197930.	9029.3	993.02	124310.	4052.6	5596.7	4067.9	3487.9
#2	124190.	138110.	196890.	9019.0	994.25	122920.	4055.3	5607.2	4055.5	3472.4
#3	123960.	137910.	196850.	9014.8	996.61	122440.	4068.4	5612.0	4061.3	3481.5

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV01 Acquired: 10/18/2016 11:34:25 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**1972.6**	**3936.2**	**3915.9**	**8067.0**
Stddev	4.5	5.5	10.5	12.7
%RSD	.23004	.14066	.26937	.15701
#1	1969.8	3931.1	3909.9	8053.8
#2	1970.1	3935.6	3928.1	8068.1
#3	1977.8	3942.1	3909.7	8079.1

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3111.6**	**1883.7**	**22653.**	**113000.**	**3349.8**	**50334.**	**9325.1**
Stddev	7.8	6.7	88.	584.	11.4	264.	53.4
%RSD	.25113	.35413	.38715	.51683	.33921	.52454	.57308
#1	3119.6	1888.7	22552.	113280.	3355.1	50423.	9263.6
#2	3111.2	1886.3	22703.	112330.	3357.6	50037.	9351.6
#3	3104.0	1876.1	22705.	113390.	3336.8	50541.	9360.1

Sample Name: SEQ-CCB@CCB01 Acquired: 10/18/2016 11:38:36 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247	Fe2598
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	.03522	9.5905	1.7751	.56769	-.01245	25.840	.09148	.06467	.03733	.12791	10.958
Stddev	.35093	5.5761	.5778	.12399	.02298	15.749	.00700	.18385	.19113	.26774	4.059
%RSD	996.39	58.143	32.548	21.840	184.60	60.949	7.6544	284.28	512.04	209.32	37.044
#1	-.29435	3.2506	1.1863	.67528	-.01968	7.9193	.09342	-.06115	-.06216	.14814	13.634
#2	.40419	13.734	2.3412	.43210	.01328	37.478	.08371	-.02049	-.08354	-.14938	12.952
#3	-.00417	11.787	1.7980	.59569	-.03094	32.123	.09731	.27566	.25768	.38497	6.2873

Elem	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	145.70	7.7498	.61465	.09758	31.837	-.18104	1.8603	1.0821	-1.0083	-.27813	.05181
Stddev	19.96	5.5975	.15461	.00432	4.470	.03203	.5409	.6540	.6502	.31996	.17164
%RSD	13.702	72.228	25.155	4.4270	14.039	17.692	29.073	60.432	64.486	115.04	331.28
#1	133.57	1.5010	.52462	.09421	35.022	-.19772	1.5218	1.6947	-1.1492	-.63050	.21258
#2	168.74	12.305	.79318	.10245	26.727	-.20129	2.4841	1.1583	-.29916	-.00578	-.12895
#3	134.78	9.4437	.52614	.09608	33.760	-.14411	1.5751	.39343	-1.5764	-.19811	.07181

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB01 Acquired: 10/18/2016 11:38:36 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	V_2924	Zn2062
Units	ppb	ppb
Avg	-.24916	.04284
Stddev	.28441	.10974
%RSD	114.14	256.14
#1	.05135	.07999
#2	-.28471	.12918
#3	-.51412	-.08065

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	3818.3	2187.8	22574.	121790.	3715.4	55570.	9654.5
Stddev	3.8	3.9	42.	469.	13.2	286.	66.5
%RSD	.09956	.17690	.18635	.38528	.35405	.51447	.68860
#1	3822.7	2188.5	22541.	121950.	3723.2	55690.	9580.0
#2	3816.6	2191.2	22622.	122160.	3722.7	55776.	9707.9
#3	3815.8	2183.6	22560.	121270.	3700.2	55243.	9675.5

Sample Name: SEQ-CCV@CCV02 Acquired: 10/18/2016 11:47:14 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**514.67**	**142820.**	**2135.0**	**16330.**	**401.86**	**198710.**	**970.86**	**2442.9**	**5680.2**	**5147.5**
Stddev	.98	403.	.6	128.	.89	1154.	1.48	4.8	17.9	5.3
%RSD	.18999	.28205	.03001	.78254	.22265	.58064	.15240	.19564	.31481	.10352
#1	515.79	142460.	2134.8	16209.	400.87	197850.	971.24	2445.0	5661.3	5141.6
#2	514.12	143250.	2135.7	16463.	402.62	200020.	969.23	2437.5	5682.6	5148.9
#3	514.08	142730.	2134.4	16318.	402.08	198260.	972.12	2446.3	5696.9	5151.9

Elem	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**124320.**	**138420.**	**197200.**	**9027.9**	**999.45**	**123100.**	**4097.0**	**5642.1**	**4086.3**	**3507.6**
Stddev	665.	294.	1046.	38.8	1.35	651.	3.8	13.2	5.6	2.8
%RSD	.53463	.21220	.53066	.42948	.13493	.52846	.09307	.23478	.13744	.07842
#1	123750.	138340.	196430.	9007.8	999.88	122680.	4099.0	5650.7	4085.1	3508.3
#2	125050.	138740.	198390.	9072.6	997.94	123850.	4092.6	5626.8	4081.4	3504.6
#3	124170.	138170.	196770.	9003.3	1000.5	122760.	4099.4	5648.7	4092.4	3510.0

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV02 Acquired: 10/18/2016 11:47:14 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**1990.2**	**3961.4**	**3934.7**	**8141.4**
Stddev	2.9	5.0	6.1	8.6
%RSD	.14472	.12652	.15618	.10576
#1	1987.6	3966.8	3928.2	8145.5
#2	1993.3	3956.8	3935.4	8131.6
#3	1989.6	3960.7	3940.5	8147.3

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3109.1**	**1878.1**	**22660.**	**112510.**	**3339.2**	**50094.**	**9338.1**
Stddev	5.4	1.2	144.	457.	6.1	215.	80.7
%RSD	.17444	.06347	.63689	.40606	.18313	.42912	.86382
#1	3112.7	1877.9	22777.	112960.	3342.5	50286.	9393.9
#2	3111.6	1879.3	22499.	112520.	3343.0	50134.	9245.6
#3	3102.8	1876.9	22704.	112040.	3332.2	49862.	9374.7

Sample Name: SEQ-CCB@CCB02 Acquired: 10/18/2016 11:51:28 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247	Fe2598
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.07388**	**2.1358**	**.49597**	**.51545**	**.02024**	**-6.6600**	**.18983**	**.41682**	**.40347**	**-1.8997**	**3.0724**
Stddev	.25695	4.5923	1.8579	.09956	.01845	14.672	.05905	.09915	.40649	.1532	4.2727
%RSD	347.80	215.01	374.60	19.315	91.174	220.29	31.104	23.787	100.75	8.0634	139.07
#1	.36055	2.9319	2.5743	.51474	.02808	-15.465	.22015	.50619	-.06561	-2.0528	7.3703
#2	-.00322	6.2781	-1.0041	.41625	-.00084	-14.792	.12179	.43410	.65258	-1.7465	3.0215
#3	-.13569	-2.8024	-.08230	.61536	.03348	10.277	.22756	.31017	.62343	-1.8998	-1.1746

Elem	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**100.25**	**8.6406**	**.30373**	**.15827**	**-74.222**	**-5.5881**	**1.5788**	**.69613**	**-1.2143**	**-.30078**	**.10329**
Stddev	36.28	8.8923	.20727	.10852	2.515	.3856	.6194	1.6181	1.2731	.54501	.32547
%RSD	36.194	102.91	68.241	68.563	3.3886	6.8996	39.234	232.44	104.84	181.20	315.10
#1	141.93	15.100	.17054	.27540	-71.946	-6.0262	2.0992	2.2173	-2.2476	-.29097	-.11535
#2	83.093	-1.5014	.54253	.13828	-76.922	-5.3003	1.7436	-1.0040	.20787	-.85063	.47734
#3	75.723	12.323	.19811	.06114	-73.797	-5.4379	.89364	.87511	-1.6032	.23927	-.05212

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCB@CCB02 Acquired: 10/18/2016 11:51:28 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	V_2924	Zn2062
Units	ppb	ppb
Avg	**-.13542**	**-3.6898**
Stddev	.09843	.2772
%RSD	72.682	7.5132
#1	-.04862	-3.4113
#2	-.11529	-3.6925
#3	-.24236	-3.9657

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3831.1**	**2186.0**	**22653.**	**122150.**	**3730.3**	**55770.**	**9696.4**
Stddev	2.3	3.1	127.	450.	7.1	203.	72.9
%RSD	.06109	.14112	.55959	.36825	.18957	.36473	.75219
#1	3833.8	2185.0	22666.	122090.	3725.8	55711.	9686.4
#2	3830.3	2189.4	22520.	121730.	3738.4	55603.	9629.1
#3	3829.3	2183.5	22772.	122620.	3726.6	55997.	9773.9

Bonner Analytical Testing Co. ICAPP02

Sample Name: QJ14016-PS1 Acquired: 10/18/2016 11:55:51 Type: Unk
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: MH1J05A SDG: MH1J05 Case: 46282
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**4.3597**	**72524.**	**914.90**	**904.60**	**2.7415**	**8857.0**	**32.179**	**44.814**	**42.762**
#1	4.4434	72256.	894.33	902.26	2.7266	8816.2	32.222	44.759	42.624
#2	4.1546	72624.	914.98	905.71	2.7321	8861.8	32.109	44.705	42.730
#3	4.4811	72691.	935.38	905.84	2.7658	8893.0	32.204	44.976	42.932

Elem	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**663.19**	**F 433770.**	**11116.**	**35655.**	**5378.7**	**30.036**	**377.55**	**5.0823**	**3378.3**
#1	664.82	431430.	11093.	35433.	5352.5	30.057	382.52	4.6941	3378.6
#2	663.00	435270.	11098.	35777.	5393.5	29.946	382.14	5.6033	3373.4
#3	661.73	434620.	11157.	35755.	5390.2	30.104	367.98	4.9495	3383.0

Elem	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**32.409**	**7.5341**	**1894.8**	**-12.505**	**276.31**	**6407.7**
#1	30.616	6.8181	1887.0	-12.515	275.73	6392.2
#2	33.056	9.3377	1895.6	-12.633	277.07	6409.7
#3	33.555	6.4465	1901.9	-12.367	276.12	6421.3

Bonner Analytical Testing Co. ICAPP02

Sample Name: QJ14016-PS1 Acquired: 10/18/2016 11:55:51 Type: Unk
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: MH1J05A SDG: MH1J05 Case: 46282
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3500.7**	**1994.9**	**22929.**	**120620.**	**3705.7**	**54911.**	**9846.1**
#1	3491.0	1995.5	23009.	120410.	3695.0	54767.	9896.0
#2	3499.5	1993.7	22843.	120650.	3711.1	54953.	9798.4
#3	3511.5	1995.5	22934.	120790.	3710.9	55011.	9843.8

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV03 Acquired: 10/18/2016 12:00:02 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**514.26**	**143360.**	**2132.5**	**16408.**	**401.80**	**197890.**	**967.98**	**2432.8**	**5664.2**	**5136.3**
Stddev	.54	408.	9.3	231.	.75	232.	.89	.7	21.0	13.0
%RSD	.10520	.28490	.43524	1.4054	.18736	.11733	.09202	.03002	.37069	.25371
#1	514.88	142890.	2123.5	16142.	401.54	198140.	968.76	2433.0	5676.9	5140.5
#2	514.00	143580.	2142.0	16521.	401.20	197690.	968.17	2432.0	5640.0	5121.7
#3	513.90	143610.	2132.0	16559.	402.64	197830.	967.01	2433.5	5675.7	5146.7

Elem	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**124220.**	**138290.**	**197260.**	**9013.7**	**996.44**	**122550.**	**4098.8**	**5644.4**	**4070.9**	**3490.2**
Stddev	76.	94.	249.	13.4	1.70	127.	10.8	10.6	4.6	8.5
%RSD	.06144	.06810	.12600	.14904	.17081	.10403	.26269	.18783	.11295	.24417
#1	124180.	138330.	197190.	9001.8	998.33	122670.	4086.9	5632.3	4075.9	3500.0
#2	124170.	138350.	197050.	9010.9	995.03	122420.	4108.0	5652.0	4069.8	3485.7
#3	124300.	138180.	197530.	9028.3	995.96	122570.	4101.3	5649.0	4066.9	3484.8

Bonner Analytical Testing Co. ICAPP02

Sample Name: SEQ-CCV@CCV03 Acquired: 10/18/2016 12:00:02 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb
Avg	**1986.8**	**3953.1**	**3924.1**	**8154.7**
Stddev	5.8	4.2	7.9	29.8
%RSD	.29284	.10745	.20141	.36525
#1	1980.6	3948.2	3926.4	8124.8
#2	1992.2	3955.3	3915.3	8184.4
#3	1987.7	3955.9	3930.6	8154.9

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3110.3**	**1881.8**	**22714.**	**112770.**	**3350.9**	**50345.**	**9356.7**
Stddev	11.0	6.6	57.	179.	4.3	92.	26.4
%RSD	.35285	.35158	.24913	.15852	.12743	.18308	.28262
#1	3122.8	1889.4	22731.	112950.	3355.7	50381.	9355.8
#2	3106.0	1877.5	22759.	112760.	3349.4	50413.	9383.6
#3	3102.2	1878.4	22650.	112590.	3347.6	50240.	9330.8

Sample Name: SEQ-CCB@CCB03 Acquired: 10/18/2016 12:04:17 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286	Cr2677	Cu3247	Fe2598
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.02343**	**10.439**	**-.06523**	**.90341**	**-.00230**	**-3.5695**	**.11972**	**.00057**	**.32290**	**-1.8891**	**12.817**
Stddev	.27472	3.539	.16721	.06240	.00582	3.9383	.01474	.10459	.15456	.1032	7.434
%RSD	1172.4	33.905	256.35	6.9074	252.64	110.33	12.313	18378.	47.865	5.4601	58.004
#1	-.23924	7.8117	-.16946	.93706	-.00810	-6.8688	.10284	-.05637	.43676	-1.8122	19.382
#2	.00074	9.0423	-.15387	.83140	.00355	.79051	.12625	.12128	.14696	-2.0063	14.323
#3	.30880	14.464	.12764	.94176	-.00236	-4.6300	.13007	-.06320	.38500	-1.8488	4.7447

Elem	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**115.74**	**8.0586**	**.63810**	**.08639**	**-72.423**	**-5.4287**	**1.6737**	**.99446**	**-1.2309**	**-.13819**	**.34570**
Stddev	22.29	3.9097	.13038	.21407	1.906	.1646	.5372	1.7329	.7926	1.1876	.74299
%RSD	19.261	48.516	20.433	247.79	2.6313	3.0311	32.097	174.26	64.389	859.43	214.92
#1	134.19	6.4289	.68000	.26199	-73.593	-5.6164	2.0694	2.9667	-2.1434	-.26806	.19771
#2	122.07	12.519	.49191	.14925	-70.224	-5.3601	1.8895	-.28437	-.71410	1.1091	1.1515
#3	90.971	5.2273	.74237	-.15207	-73.452	-5.3095	1.0621	.30106	-.83523	-1.2556	-.31215

Bonner Analytical Testing Co. ICAPP02

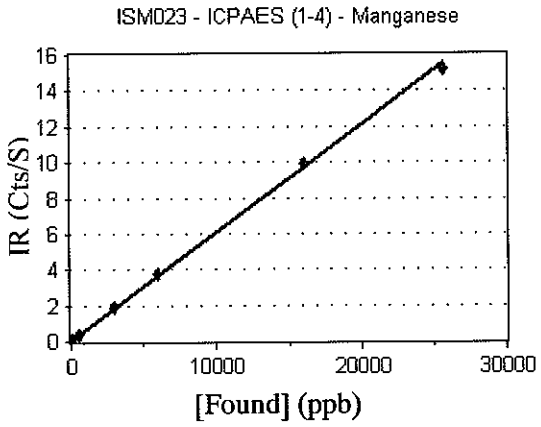
Sample Name: SEQ-CCB@CCB03 Acquired: 10/18/2016 12:04:17 Type: QC
Method: ISM023_New_TotalMetals(v20) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	V_2924	Zn2062
Units	ppb	ppb
Avg	**.04937**	**-4.1100**
Stddev	.12759	.1058
%RSD	258.42	2.5747
#1	-.07357	-4.2276
#2	.18115	-4.0224
#3	.04054	-4.0800

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3835.5**	**2185.8**	**22608.**	**122590.**	**3739.6**	**56013.**	**9645.6**
Stddev	8.8	4.6	77.	398.	4.7	161.	26.5
%RSD	.22918	.21077	.34097	.32435	.12475	.28680	.27444
#1	3843.8	2188.7	22562.	123040.	3744.5	56194.	9621.5
#2	3836.4	2188.2	22566.	122390.	3739.1	55960.	9641.4
#3	3826.3	2180.5	22697.	122330.	3735.2	55887.	9673.9

Bonner Analytical Testing Company

Instrument ID: ICAPP02 Calibration ID: B644072 Calibration Date: 10/26/2016



Calibration Plot: Manganese
Calibration Type: Linear Regression Weighted 1/X
Corr. Coeff.: 0.9989697
Fit: [Y] = 6.058804E-04 * [X] + 1.886784E-03
[y-intercept] = -3.11

Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62709-CAL1	B6I0028	0	-3.18	-0.00004	0
BJ62709-CAL2	B6G0026	15	12.70	0.00958	15
BJ62709-CAL3	B6G0027	120	124.01	0.07702	-3
BJ62709-CAL4	B6G0028	600	633.74	0.38586	-6
BJ62709-CAL5	B6G0029	3000	3,099.64	1.8799	-3
BJ62709-CAL6	B6G0030	6000	6,220.89	3.771	-4
BJ62709-CAL7	B6G0031	16000	16,325.19	9.893	-2
BJ62709-CALA	B6J0168	25716	25,034.83	15.17	3

Sample Name: SEQ-CAL1@S01 Acquired: 10/26/2016 12:12:40 Type: Cal
Method: ISM023_New_TotalMetals(v23) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00130**	**-.00306**	**-.00016**	**.01625**	**-.00134**	**-.00002**	**.00047**
#1	-.00126	-.00266	-.00018	.01642	-.00133	-.00001	.00043
#2	-.00132	-.00294	-.00005	.01631	-.00132	-.00016	.00037
#3	-.00132	-.00358	-.00024	.01601	-.00138	.00012	.00060

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.00026**	**.00002**	**.00131**	**.00026**	**.00125**	**-.00004**	**-.00004**
#1	-.00014	-.00000	.00132	.00054	.00183	-.00009	.00011
#2	-.00029	.00006	.00130	.00015	.00154	.00011	-.00002
#3	-.00037	-.00000	.00132	.00007	.00039	-.00013	-.00021

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00026**	**.00066**	**-.00081**	**.00117**	**-.00076**	**.00045**	**.00264**
#1	.00027	.00192	-.00070	.00141	-.00072	.00031	.00259
#2	.00014	-.00050	-.00078	.00106	-.00067	.00044	.00264
#3	.00036	.00056	-.00093	.00105	-.00089	.00061	.00270

Elem	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S
Avg	**-.00011**	**-.00028**	**.00094**
#1	-.00012	-.00028	.00096
#2	-.00013	-.00027	.00079
#3	-.00008	-.00029	.00106

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4499.7**	**2689.4**	**23237.**	**134700.**	**4718.2**	**66470.**	**10060.**
#1	4511.4	2689.4	23349.	134350.	4732.4	66294.	10134.
#2	4505.0	2688.6	23319.	134750.	4719.9	66460.	10093.
#3	4482.6	2690.0	23043.	135010.	4702.5	66658.	9953.7

Sample Name: SEQ-CAL2@S02 Acquired: 10/26/2016 12:17:03 Type: Cal
Method: ISM023_New_TotalMetals(v23) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00051**	**.00213**	**.00132**	**.38551**	**.00149**	**.00324**	**.02171**	**.01065**
#1	.00060	.00204	.00117	.38298	.00148	.00317	.02172	.01071
#2	.00042	.00265	.00130	.38611	.00149	.00318	.02158	.01070
#3	.00051	.00169	.00149	.38745	.00150	.00338	.02183	.01055

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00158**	**.00930**	**.00340**	**.01124**	**.00345**	**.00958**	**.00517**	**.03902**
#1	.00161	.00929	.00339	.01202	.00342	.00947	.00506	.03835
#2	.00160	.00926	.00342	.01063	.00360	.00961	.00508	.03927
#3	.00153	.00935	.00338	.01108	.00332	.00967	.00536	.03944

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.01597**	**.00602**	**.00203**	**.00211**	**.00378**	**.00376**	**.00324**	**.07780**
#1	.01579	.00618	.00195	.00211	.00380	.00360	.00326	.07741
#2	.01607	.00645	.00221	.00211	.00380	.00393	.00317	.07796
#3	.01604	.00542	.00193	.00211	.00374	.00376	.00328	.07802

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4481.7**	**2701.1**	**23302.**	**136530.**	**4722.2**	**66045.**	**9944.8**
#1	4485.0	2697.0	23213.	136180.	4719.3	65990.	9930.5
#2	4489.5	2710.2	23449.	137210.	4736.7	66365.	9975.9
#3	4470.7	2696.1	23246.	136220.	4710.5	65780.	9928.1

Sample Name: SEQ-CAL3@S03 Acquired: 10/26/2016 12:21:26 Type: Cal
Method: ISM023_New_TotalMetals(v23) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.00227**	**.04376**	**.01093**	**2.9100**	**.02044**	**.02840**	**.16568**	**.08606**
#1	.00218	.04386	.01104	2.8984	.02047	.02837	.16570	.08576
#2	.00225	.04388	.01094	2.9155	.02036	.02817	.16519	.08604
#3	.00237	.04354	.01080	2.9162	.02048	.02865	.16614	.08639

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.01230**	**.06389**	**.02716**	**.08486**	**.02750**	**.07702**	**.03950**	**.31070**
#1	.01233	.06370	.02711	.08436	.02744	.07674	.03953	.30975
#2	.01234	.06425	.02716	.08545	.02775	.07692	.03938	.31255
#3	.01223	.06372	.02720	.08476	.02730	.07741	.03959	.30981

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.12941**	**.03722**	**.02169**	**.01389**	**.01102**	**.03053**	**.02705**	**.58449**
#1	.12987	.03711	.02174	.01391	.01090	.03062	.02705	.58533
#2	.12882	.03703	.02164	.01377	.01101	.03037	.02718	.58310
#3	.12955	.03752	.02168	.01400	.01116	.03060	.02693	.58503

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4442.1**	**2720.2**	**23651.**	**138670.**	**4690.9**	**65672.**	**9857.0**
#1	4446.3	2722.4	23593.	138390.	4702.3	65613.	9843.2
#2	4445.9	2724.9	23646.	138940.	4693.8	65471.	9840.2
#3	4434.0	2713.3	23713.	138670.	4676.5	65933.	9887.8

Sample Name: SEQ-CAL4@S04 Acquired: 10/26/2016 12:25:42 Type: Cal
Method: ISM023_New_TotalMetals(v23) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.01649**	**.23613**	**.05467**	**14.682**	**.10780**	**.14324**	**.82057**	**.42842**
#1	.01653	.23477	.05505	14.610	.10789	.14238	.81823	.42799
#2	.01651	.23674	.05405	14.698	.10772	.14360	.82088	.42798
#3	.01643	.23689	.05491	14.738	.10778	.14373	.82258	.42929

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.06158**	**.31806**	**.13716**	**.42240**	**.13883**	**.38586**	**.19983**	**1.5609**
#1	.06166	.31832	.13600	.42141	.13760	.38361	.19924	1.5497
#2	.06144	.31728	.13782	.42389	.13945	.38642	.19994	1.5641
#3	.06164	.31858	.13767	.42191	.13944	.38754	.20031	1.5690

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.64166**	**.17877**	**.11427**	**.06887**	**.04459**	**.15545**	**.13917**	**2.8703**
#1	.64088	.17821	.11357	.06852	.04455	.15535	.13927	2.8725
#2	.64113	.17850	.11429	.06887	.04436	.15509	.13868	2.8588
#3	.64297	.17960	.11493	.06923	.04487	.15592	.13958	2.8796

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4326.7**	**2702.1**	**23721.**	**138460.**	**4638.9**	**64202.**	**9738.4**
#1	4332.8	2706.2	23839.	137830.	4653.4	63937.	9812.0
#2	4334.6	2708.5	23718.	138890.	4641.9	64555.	9718.5
#3	4312.7	2691.7	23605.	138650.	4621.5	64113.	9684.6

Sample Name: SEQ-CAL5@S05 Acquired: 10/26/2016 12:29:47 Type: Cal
Method: ISM023_New_TotalMetals(v23) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.08629**	**1.1895**	**.27558**	**71.102**	**.53495**	**.70264**	**3.9684**	**2.0828**
#1	.08649	1.1927	.27581	72.002	.53473	.70269	3.9707	2.0832
#2	.08623	1.1905	.27546	70.497	.53593	.70449	3.9666	2.0816
#3	.08616	1.1853	.27549	70.806	.53418	.70074	3.9679	2.0836

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.30197**	**1.6449**	**.67866**	**2.1068**	**.67909**	**1.8799**	**.99635**	**7.7408**
#1	.30202	1.6433	.67839	2.1077	.67956	1.8810	.99715	7.7528
#2	.30144	1.6444	.67833	2.1055	.68051	1.8839	.99451	7.7464
#3	.30245	1.6471	.67925	2.1072	.67721	1.8747	.99738	7.7233

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.1169**	**.87112**	**.57055**	**.33365**	**.20890**	**.77697**	**.69441**	**13.835**
#1	3.1156	.87028	.57056	.33437	.20811	.77700	.69356	13.832
#2	3.1148	.86920	.57035	.33321	.20888	.77421	.69420	13.819
#3	3.1204	.87389	.57072	.33338	.20971	.77969	.69546	13.853

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4037.5**	**2598.1**	**23681.**	**135280.**	**4484.9**	**61993.**	**9608.7**
#1	4040.1	2599.0	23759.	135210.	4483.8	62060.	9611.9
#2	4030.9	2592.2	23615.	135170.	4469.6	61969.	9579.0
#3	4041.6	2603.0	23668.	135470.	4501.3	61949.	9635.2

Sample Name: SEQ-CAL6@S06 Acquired: 10/26/2016 12:33:59 Type: Cal
Method: ISM023_New_TotalMetals(v23) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.17649**	**2.4384**	**.55856**	**143.20**	**1.0572**	**1.4100**	**7.8835**	**4.1638**
#1	.17678	2.4352	.55830	142.27	1.0579	1.4077	7.8885	4.1646
#2	.17650	2.4413	.55774	145.26	1.0572	1.4117	7.8660	4.1551
#3	.17620	2.4388	.55965	142.08	1.0565	1.4106	7.8960	4.1717

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.60416**	**3.3553**	**1.3623**	**4.2781**	**1.3714**	**3.7710**	**2.0193**	**15.704**
#1	.60514	3.3610	1.3568	4.2647	1.3682	3.7609	2.0220	15.688
#2	.60040	3.3392	1.3640	4.2937	1.3777	3.7890	2.0123	15.708
#3	.60693	3.3657	1.3663	4.2759	1.3682	3.7632	2.0235	15.717

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6.2121**	**1.7347**	**1.1611**	**.66264**	**.41505**	**1.5529**	**1.4039**	**27.025**
#1	6.2078	1.7344	1.1639	.66359	.41224	1.5507	1.4078	26.927
#2	6.2020	1.7316	1.1574	.66125	.41711	1.5506	1.3938	27.028
#3	6.2266	1.7382	1.1619	.66308	.41579	1.5573	1.4100	27.121

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3820.2**	**2506.8**	**23489.**	**132500.**	**4324.9**	**60014.**	**9449.9**
#1	3833.1	2515.4	23533.	132460.	4331.5	59926.	9452.9
#2	3815.1	2504.4	23386.	132770.	4323.6	60390.	9398.8
#3	3812.4	2500.7	23547.	132260.	4319.6	59726.	9497.9

Sample Name: SEQ-CAL7@S07 Acquired: 10/26/2016 12:38:10 Type: Cal
Method: ISM023_New_TotalMetals(v23) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Al3961	Ca3181	Cr2677	Fe2598	K_7664	Mg2790	Mn2576	Na5895
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**20.098**	**5.5550**	**1.4824**	**9.4576**	**10.543**	**5.4925**	**9.8930**	**31.816**
#1	20.026	5.5389	1.4845	9.4318	10.527	5.4772	9.8539	31.555
#2	20.098	5.5486	1.4802	9.4223	10.551	5.5008	9.9221	32.454
#3	20.168	5.5777	1.4823	9.5187	10.551	5.4993	9.9031	31.438

Elem	Pb2203
Units	Cts/S
Avg	**4.5013**
#1	4.4974
#2	4.4931
#3	4.5134

Int. Std.	Sc2273	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2178.7**	**55512.**	**9035.1**
#1	2177.8	55355.	9052.0
#2	2180.6	55443.	9027.6
#3	2177.7	55739.	9025.7

Sample Name: SEQ-CALA@S10 Acquired: 10/26/2016 12:46:49 Type: Cal
Method: ISM023_New_TotalMetals(v23) Mode: IR Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Fe2598	Mn2576
Units	Cts/S	Cts/S
Avg	**14.282**	**15.170**
#1	14.214	15.137
#2	14.301	15.159
#3	14.332	15.215

Int. Std.	Y_3710
Units	Cts/S
Avg	**8930.2**
#1	8960.7
#2	8894.4
#3	8935.5

Sample Name: SEQ-ICV@ICV01 Acquired: 10/26/2016 12:51:18 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**491.32**	**2668.1**	**964.71**	**511.51**	**493.09**	**10362.**	**508.07**
Stddev	.68	34.8	2.54	1.75	.30	69.	.59
%RSD	.13820	1.3050	.26281	.34229	.06054	.66917	.11579
#1	492.00	2629.5	961.99	509.51	493.42	10288.	507.68
#2	491.31	2677.6	967.01	512.25	492.83	10426.	507.78
#3	490.64	2697.2	965.15	512.78	493.04	10372.	508.74

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**505.71**	**510.21**	**483.19**	**5261.8**	**10056.**	**6273.4**	W **535.28**
Stddev	.32	.21	.86	57.7	11.	45.4	3.69
%RSD	.06249	.04112	.17878	1.0972	.11429	.72407	.68844
#1	505.37	510.45	482.21	5198.2	10057.	6221.7	532.12
#2	505.74	510.04	483.85	5276.4	10044.	6291.4	534.39
#3	506.00	510.15	483.51	5310.9	10067.	6307.0	539.32

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**-.22039**	**10234.**	**517.39**	**1002.4**	**1002.3**	**1026.2**	**.03530**
Stddev	.11177	11.	.70	1.6	3.1	2.8	.53814
%RSD	50.715	.10564	.13498	.16169	.30522	.27572	1524.3
#1	-.26970	10223.	517.42	1000.5	1003.2	1024.9	-.07428
#2	-.29903	10235.	516.67	1003.4	998.91	1024.3	.61980
#3	-.09245	10244.	518.07	1003.1	1004.8	1029.5	-.43961

Elem	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb
Avg	**999.77**	**497.26**	**1023.6**
Stddev	1.32	1.13	.6
%RSD	.13235	.22822	.06237
#1	1000.4	495.95	1024.3
#2	998.26	497.81	1023.5
#3	1000.7	498.00	1023.1

Sample Name: SEQ-ICV@ICV01 Acquired: 10/26/2016 12:51:18 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4370.1**	**2691.8**	**23832.**	**140250.**	**4610.6**	**63677.**	**9608.6**
Stddev	3.2	1.9	167.	167.	2.2	250.	71.9
%RSD	.07278	.07176	.70116	.11933	.04724	.39317	.74842
#1	4366.4	2690.8	24022.	140440.	4608.1	63939.	9691.0
#2	4371.6	2690.6	23707.	140140.	4611.4	63440.	9558.6
#3	4372.3	2694.1	23769.	140150.	4612.2	63653.	9576.2

Sample Name: SEQ-ICB@ICB01 Acquired: 10/26/2016 12:55:26 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.70212**	**-3.5556**	**1.6006**	**-.43984**	**.04005**	**-17.268**	**.09131**	**-.15654**
Stddev	.20024	1.7813	.7722	.16116	.01380	18.546	.02412	.12877
%RSD	28.520	50.099	48.242	36.642	34.466	107.40	26.410	82.261
#1	.58238	-1.4993	.72244	-.37718	.02447	-29.454	.10642	-.19563
#2	.93329	-4.6255	1.9059	-.62292	.05075	4.0752	.10402	-.26123
#3	.59068	-4.5420	2.1734	-.31941	.04494	-26.426	.06350	-.01275

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.16885**	**.60941**	**-11.122**	**117.96**	**10.395**	**.07142**	**-.17840**	**65.986**
Stddev	.55350	.20092	5.797	16.00	14.261	.44091	.10183	2.873
%RSD	327.82	32.969	52.121	13.565	137.20	617.38	57.084	4.3538
#1	-.03965	.71321	-7.5605	129.34	26.538	.08244	-.29553	68.193
#2	-.25013	.37783	-17.811	124.89	5.1348	.50671	-.12873	62.738
#3	.79631	.73720	-7.9943	99.666	-.48953	-.37491	-.11093	67.028

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**-.15872**	**.03734**	**-.35534**	**-.90792**	**-1.6154**	**-.13244**	**-.57454**	**-.18267**
Stddev	.32569	.26358	.84759	.27341	1.2621	.73882	.49090	.02909
%RSD	205.20	705.81	238.53	30.114	78.129	557.85	85.443	15.924
#1	.11880	-.06675	-1.2275	-.64320	-.49351	.07864	-.35054	-.18811
#2	-.07768	.33707	.46539	-.89130	-1.3708	.47787	-.23559	-.20866
#3	-.51728	-.15829	-.30396	-1.1893	-2.9819	-.95383	-1.1375	-.15125

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4485.5**	**2686.3**	**23317.**	**139180.**	**4636.8**	**63865.**	**9528.8**
Stddev	15.5	9.0	122.	221.	18.0	89.	51.2
%RSD	.34615	.33472	.52493	.15852	.38779	.13950	.53762
#1	4493.0	2689.7	23176.	139400.	4652.9	63861.	9469.7
#2	4495.8	2693.1	23373.	138960.	4640.2	63956.	9556.6
#3	4467.6	2676.1	23401.	139180.	4617.4	63778.	9560.1

Sample Name: SEQ-IFA@ICSA01 Acquired: 10/26/2016 12:59:47 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**-2.2952**	**267040.**	**-9.2623**	**5.8291**	**-.03796**	**249400.**	**3.1623**
Stddev	.2081	1598.	.9891	.1300	.01007	774.	.0526
%RSD	9.0666	.59854	10.679	2.2295	26.520	.31047	1.6634
#1	-2.2794	265200.	-8.5686	5.9660	-.04288	248510.	3.2191
#2	-2.0955	267820.	-8.8235	5.7074	-.04463	249860.	3.1153
#3	-2.5108	268100.	-10.395	5.8139	-.02638	249830.	3.1524

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**-.66820**	**59.393**	**-11.623**	**103090.**	**154.11**	**266550.**	**12.763**
Stddev	.16830	.210	.142	365.	9.66	1205.	.127
%RSD	25.187	.35322	1.2177	.35380	6.2676	.45205	.99754
#1	-.80128	59.601	-11.777	102690.	152.28	265170.	12.820
#2	-.47902	59.181	-11.593	103170.	145.49	267400.	12.852
#3	-.72431	59.396	-11.499	103400.	164.55	267070.	12.617

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.36579**	**106.45**	**-3.6830**	F **11.269**	**-5.7882**	**-.65156**	**3.2639**
Stddev	.11142	2.24	.1783	.755	1.9429	2.3125	.2859
%RSD	30.459	2.1006	4.8409	6.7001	33.567	354.91	8.7584
#1	.45007	105.49	-3.5389	11.890	-8.0177	1.8626	3.3047
#2	.40783	104.85	-3.6278	10.429	-4.4570	-1.1298	3.5272
#3	.23947	109.00	-3.8824	11.489	-4.8900	-2.6875	2.9598

Elem	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb
Avg	**-2.6008**	**-1.3750**	**4.8808**
Stddev	.8508	.3650	.1617
%RSD	32.712	26.549	3.3129
#1	-3.4500	-1.7905	5.0212
#2	-1.7485	-1.1058	4.7040
#3	-2.6038	-1.2286	4.9171

Sample Name: SEQ-IFA@ICSA01 Acquired: 10/26/2016 12:59:47 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3788.2**	**2357.5**	**23544.**	**129840.**	**4286.5**	**58291.**	**9236.3**
Stddev	8.3	4.6	109.	445.	13.6	208.	55.2
%RSD	.21941	.19700	.46188	.34277	.31644	.35632	.59749
#1	3790.3	2358.5	23526.	129350.	4288.7	58207.	9239.3
#2	3795.2	2361.6	23445.	130220.	4298.8	58528.	9179.6
#3	3779.0	2352.5	23660.	129940.	4272.0	58139.	9289.9

Sample Name: SEQ-IFB@ICSAB01 Acquired: 10/26/2016 13:04:02 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**209.60**	**273610.**	**96.396**	**542.52**	**511.23**	**254560.**	**994.80**
Stddev	.42	2783.	.971	2.60	.66	1646.	4.18
%RSD	.20169	1.0171	1.0075	.47928	.12819	.64663	.41975
#1	209.83	270420.	96.413	539.57	511.35	252690.	991.37
#2	209.86	274860.	97.358	544.49	510.52	255210.	993.58
#3	209.11	275550.	95.416	543.50	511.82	255790.	999.45

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**494.74**	**583.92**	**514.90**	**105270.**	**153.65**	**271270.**	**560.63**
Stddev	1.25	.52	2.37	749.	12.02	2129.	3.90
%RSD	.25291	.08877	.46088	.71111	7.8218	.78476	.69638
#1	494.08	583.69	516.88	104410.	154.03	268830.	556.16
#2	493.96	584.52	515.55	105670.	165.47	272270.	563.38
#3	496.19	583.56	512.27	105740.	141.44	272730.	562.36

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.44148**	**119.84**	**1056.3**	F **61.352**	**622.07**	**50.226**	**3.4644**
Stddev	.10939	6.25	1.5	.417	3.82	.771	.1785
%RSD	24.779	5.2155	.14224	.67930	.61427	1.5347	5.1509
#1	.46672	113.16	1056.4	61.757	617.75	49.573	3.6179
#2	.53605	120.80	1054.8	60.924	623.41	50.029	3.5067
#3	.32168	125.55	1057.8	61.376	625.03	51.077	3.2686

Elem	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb
Avg	**100.07**	**513.65**	**1040.6**
Stddev	.80	.67	3.0
%RSD	.79526	.13028	.28901
#1	100.90	514.14	1042.5
#2	99.309	513.93	1037.1
#3	100.02	512.89	1042.1

Sample Name: SEQ-IFB@ICSAB01 Acquired: 10/26/2016 13:04:02 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3786.5**	**2348.9**	**23544.**	**130090.**	**4274.3**	**58117.**	**9162.3**
Stddev	8.6	5.5	222.	290.	18.9	48.	70.1
%RSD	.22805	.23565	.94113	.22329	.44232	.08176	.76496
#1	3793.3	2346.7	23486.	130410.	4286.5	58094.	9184.7
#2	3789.5	2355.2	23789.	130030.	4283.9	58172.	9218.4
#3	3776.8	2344.8	23357.	129840.	4252.5	58085.	9083.7

Sample Name: SEQ-CCV@CCV01 Acquired: 10/26/2016 13:08:10 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**487.18**	**140210.**	**1956.4**	**15786.**	**380.08**	**194440.**	**943.41**
Stddev	1.16	546.	3.9	98.	.49	624.	3.01
%RSD	.23751	.38944	.20152	.62362	.12963	.32096	.31953
#1	487.67	139580.	1952.3	15710.	380.04	193720.	941.96
#2	485.86	140490.	1956.7	15751.	380.59	194860.	941.39
#3	488.01	140550.	1960.2	15897.	379.61	194740.	946.87

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**2350.2**	**5613.5**	**5028.0**	**124170.**	**134560.**	**197050.**	**9126.2**
Stddev	6.0	6.3	24.6	468.	320.	662.	21.2
%RSD	.25413	.11298	.49007	.37700	.23770	.33583	.23214
#1	2349.3	5609.0	5003.7	123640.	134480.	196440.	9103.6
#2	2344.7	5610.8	5027.1	124330.	134910.	197750.	9145.7
#3	2356.6	5620.8	5053.0	124540.	134280.	196960.	9129.2

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**980.12**	**122050.**	**3895.2**	**5450.4**	**3977.8**	**3411.2**	**1886.4**
Stddev	2.18	269.	5.8	14.1	11.9	11.5	4.3
%RSD	.22196	.22044	.14981	.25899	.29818	.33809	.22722
#1	979.95	121750.	3892.7	5436.5	3972.4	3408.5	1884.7
#2	978.04	122100.	3891.1	5449.9	3969.7	3401.3	1891.2
#3	982.38	122280.	3901.9	5464.7	3991.5	3423.9	1883.2

Elem	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb
Avg	**3767.2**	**3902.1**	**7588.2**
Stddev	4.2	11.8	21.9
%RSD	.11219	.30324	.28863
#1	3766.1	3892.4	7569.6
#2	3763.6	3898.6	7582.7
#3	3771.9	3915.3	7612.3

vcl 10/28-16

Sample Name: SEQ-CCV@CCV01 Acquired: 10/26/2016 13:08:10 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3677.0**	**2368.3**	**23361.**	**129840.**	**4182.4**	**57395.**	**9161.8**
Stddev	11.2	7.1	108.	395.	15.3	114.	42.7
%RSD	.30356	.29951	.46334	.30444	.36517	.19832	.46604
#1	3683.8	2371.9	23282.	129510.	4184.3	57493.	9128.4
#2	3683.0	2372.9	23317.	129730.	4196.6	57421.	9147.2
#3	3664.1	2360.1	23485.	130280.	4166.3	57270.	9209.9

JCT 10/28/16

Sample Name: SEQ-CCB@CCB01 Acquired: 10/26/2016 13:12:21 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.54384**	**12.640**	**.68948**	**1.8629**	**.09016**	**9.0915**	**.19723**	**.36391**
Stddev	.03718	8.455	1.3954	.3546	.02601	5.9779	.05904	.19087
%RSD	6.8358	66.892	202.39	19.036	28.850	65.753	29.937	52.450
#1	.56287	19.116	.75770	2.2710	.06248	2.4647	.26403	.55802
#2	.50100	15.729	2.0496	1.6296	.09390	10.731	.17564	.35724
#3	.56765	3.0747	-.73882	1.6882	.11410	14.078	.15201	.17646

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.91203**	**.96425**	**8.1371**	**142.83**	**34.185**	**1.2269**	**.10410**	**88.258**
Stddev	.45158	.68553	3.1022	27.37	16.567	.3786	.24546	4.938
%RSD	49.514	71.095	38.124	19.161	48.461	30.855	235.79	5.5952
#1	.57463	.27811	5.0996	173.58	37.512	1.2888	.33191	93.955
#2	.73643	.96547	11.300	121.15	48.836	1.5707	.13625	85.634
#3	1.4250	1.6492	8.0113	133.75	16.208	.82118	-.15585	85.187

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.80123**	**1.4179**	**-.88658**	**-.44781**	**-1.3604**	**1.1851**	**-.17818**	**1.0803**
Stddev	.60476	1.2237	.67084	1.1794	1.3030	.8547	.05685	.5808
%RSD	75.479	86.307	75.666	263.37	95.783	72.118	31.903	53.762
#1	1.3916	2.3531	-.80547	-1.7869	-1.5106	2.1621	-.17350	1.7140
#2	.18304	1.8676	-.25998	.00717	.01124	.81699	-.12382	.95361
#3	.82904	.03291	-1.5943	.43632	-2.5818	.57614	-.23722	.57335

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4496.7**	**2686.7**	**23361.**	**139730.**	**4633.8**	**63809.**	**9504.9**
Stddev	12.5	2.1	76.	592.	3.7	351.	30.7
%RSD	.27717	.07915	.32621	.42344	.08064	.54978	.32286
#1	4505.4	2687.6	23305.	139110.	4637.0	63452.	9492.6
#2	4502.3	2688.3	23330.	140290.	4634.7	64153.	9482.3
#3	4482.4	2684.3	23448.	139780.	4629.7	63821.	9539.9

Sample Name: SEQ-CCV@CCV02 Acquired: 10/26/2016 13:29:48 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**484.94**	**141150.**	**1937.5**	**15770.**	**377.02**	**194840.**	**938.52**
Stddev	.35	883.	5.1	80.	.47	799.	3.59
%RSD	.07232	.62566	.26300	.50736	.12478	.41003	.38299
#1	484.58	140160.	1936.9	15699.	377.57	193980.	937.00
#2	485.28	141860.	1932.7	15857.	376.76	194990.	935.93
#3	484.96	141430.	1942.8	15753.	376.74	195560.	942.62

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**2336.6**	**5604.0**	**4993.3**	**124070.**	**133910.**	**197320.**	**9144.7**
Stddev	7.6	4.2	8.9	496.	417.	1119.	39.9
%RSD	.32623	.07558	.17795	.40010	.31147	.56708	.43645
#1	2333.7	5602.9	5002.6	123520.	133440.	196040.	9098.7
#2	2330.7	5608.7	4984.9	124220.	134250.	198040.	9165.1
#3	2345.2	5600.4	4992.4	124480.	134040.	197900.	9170.3

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**977.40**	**122820.**	**3881.6**	**5436.4**	**3954.7**	**3393.7**	**1875.5**
Stddev	4.39	445.	10.0	16.2	17.2	11.5	1.4
%RSD	.44877	.36221	.25854	.29727	.43416	.33959	.07366
#1	975.73	122330.	3875.4	5424.5	3952.5	3386.9	1873.9
#2	974.10	123180.	3876.1	5429.8	3938.7	3387.1	1876.5
#3	982.38	122970.	3893.1	5454.8	3972.9	3407.0	1876.1

Elem	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb
Avg	**3742.9**	**3888.0**	**7545.2**
Stddev	7.2	10.2	22.3
%RSD	.19144	.26206	.29492
#1	3745.7	3899.1	7542.0
#2	3734.7	3885.8	7524.8
#3	3748.2	3879.1	7568.9

Sample Name: SEQ-CCV@CCV02 Acquired: 10/26/2016 13:29:48 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3680.9**	**2373.6**	**23532.**	**129940.**	**4191.0**	**57462.**	**9199.4**
Stddev	7.9	8.8	49.	191.	20.2	178.	37.9
%RSD	.21395	.37173	.20919	.14708	.48262	.30999	.41207
#1	3681.8	2379.9	23579.	129840.	4205.9	57372.	9241.0
#2	3688.3	2377.4	23537.	130160.	4199.2	57668.	9190.4
#3	3672.6	2363.5	23481.	129820.	4168.0	57348.	9166.9

Sample Name: SEQ-CCB@CCB02 Acquired: 10/26/2016 13:34:02 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.66466**	**3.9227**	**.11921**	**1.5175**	**.07474**	**-14.455**	**.31159**	**.60540**
Stddev	.16767	9.5616	1.6441	.4729	.01390	3.891	.10958	.37114
%RSD	25.227	243.75	1379.2	31.165	18.595	26.916	35.168	61.304
#1	.82785	14.958	.86542	2.0581	.06102	-13.602	.40741	.98069
#2	.67328	-1.2909	-1.7657	1.1808	.07441	-11.062	.33525	.59697
#3	.49284	-1.8988	1.2579	1.3135	.08881	-18.702	.19211	.23855

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.80851**	**1.0642**	**13.316**	**107.42**	**25.256**	**1.0925**	**.24987**	**83.199**
Stddev	.19169	.5277	5.022	10.17	15.648	.2919	.18808	9.519
%RSD	23.709	49.588	37.716	9.4647	61.958	26.722	75.271	11.441
#1	.58836	.48197	17.585	119.11	41.694	1.4296	.45059	93.996
#2	.93841	1.1995	7.7824	100.68	10.539	.92810	.22135	79.588
#3	.89876	1.5110	14.581	102.47	23.535	.91988	.07768	76.015

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**1.0915**	**3.1796**	**.58465**	**-.07205**	**-.25872**	**.29778**	**-.06175**	**2.1969**
Stddev	.2365	.4434	1.1117	1.2656	1.2648	1.0651	.13680	.9320
%RSD	21.670	13.945	190.15	1756.6	488.88	357.67	221.51	42.423
#1	1.3104	3.5027	1.0626	-.64715	-1.3645	.97971	-.02709	3.0614
#2	1.1234	3.3621	-.68608	1.3790	1.1204	.84316	-.21255	2.3197
#3	.84060	2.6741	1.3774	-.94797	-.53205	-.92952	.05437	1.2096

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4487.5**	**2687.8**	**23387.**	**140230.**	**4630.4**	**63769.**	**9470.8**
Stddev	3.1	7.3	99.	197.	14.0	135.	67.2
%RSD	.06947	.27027	.42262	.14049	.30138	.21166	.70919
#1	4491.1	2694.8	23296.	140410.	4637.3	63739.	9400.4
#2	4485.1	2688.2	23492.	140270.	4639.6	63916.	9534.1
#3	4486.4	2680.3	23374.	140020.	4614.4	63651.	9477.8

Sample Name: SEQ-CCV@CCV03 Acquired: 10/26/2016 14:00:04 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**481.61**	**139670.**	**1923.7**	**15636.**	**374.50**	**193920.**	**931.02**
Stddev	.10	435.	3.2	162.	.47	331.	1.54
%RSD	.02082	.31176	.16402	1.0336	.12603	.17078	.16583
#1	481.52	139850.	1920.1	15596.	373.96	193930.	929.88
#2	481.72	139990.	1926.3	15498.	374.71	194240.	930.40
#3	481.60	139180.	1924.5	15813.	374.83	193580.	932.78

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**2315.5**	**5567.1**	**4921.7**	**123550.**	**133100.**	**195400.**	**9035.6**
Stddev	5.2	12.6	6.7	439.	249.	396.	17.7
%RSD	.22538	.22576	.13541	.35555	.18681	.20248	.19538
#1	2312.3	5578.0	4929.3	123440.	133300.	195490.	9039.8
#2	2312.7	5569.9	4919.3	124030.	133180.	195750.	9050.7
#3	2321.5	5553.4	4916.6	123170.	132830.	194970.	9016.2

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**968.07**	**122490.**	**3825.7**	**5361.0**	**3895.9**	**3344.8**	**1859.4**
Stddev	2.95	477.	6.9	11.4	18.5	15.4	4.9
%RSD	.30438	.38904	.18140	.21272	.47382	.46057	.26124
#1	965.03	122780.	3820.7	5348.1	3875.5	3327.7	1854.7
#2	968.26	122750.	3822.8	5365.1	3900.5	3349.2	1859.1
#3	970.92	121940.	3833.7	5369.8	3911.5	3357.5	1864.4

Elem	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb
Avg	**3731.1**	**3858.9**	**7520.1**
Stddev	11.1	10.3	16.6
%RSD	.29830	.26668	.22058
#1	3725.2	3868.1	7535.2
#2	3724.2	3860.7	7502.4
#3	3743.9	3847.8	7522.7

Sample Name: SEQ-CCV@CCV03 Acquired: 10/26/2016 14:00:04 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3680.9**	**2383.8**	**23132.**	**129150.**	**4206.6**	**57386.**	**9067.0**
Stddev	11.5	8.2	43.	245.	14.2	173.	39.7
%RSD	.31142	.34587	.18373	.19005	.33735	.30224	.43773
#1	3673.7	2376.5	23094.	129180.	4199.1	57318.	9022.8
#2	3694.1	2392.8	23177.	128900.	4223.0	57256.	9078.4
#3	3674.8	2382.2	23123.	129380.	4197.8	57583.	9099.7

Sample Name: SEQ-CCB@CCB03 Acquired: 10/26/2016 14:04:18 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.83003**	**10.896**	**-.68587**	**2.9791**	**.13571**	**12.857**	**.30227**	**.67832**
Stddev	.04819	4.485	.41448	.5425	.03528	6.706	.04599	.06153
%RSD	5.8054	41.160	60.431	18.211	25.998	52.157	15.213	9.0705
#1	.81305	13.676	-1.1065	3.5855	.09810	11.841	.34609	.65663
#2	.79264	13.289	-.67332	2.5397	.14097	20.012	.25439	.63057
#3	.88441	5.7220	-.27781	2.8122	.16807	6.7169	.30634	.74775

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**1.4415**	**1.1768**	**23.932**	**101.09**	**42.794**	**1.5571**	**.20321**	**66.077**
Stddev	.2069	.1926	10.789	26.59	17.579	.2094	.08057	5.176
%RSD	14.350	16.369	45.083	26.309	41.079	13.446	39.648	7.8339
#1	1.2155	.97551	35.347	77.801	56.915	1.7746	.16017	70.618
#2	1.4875	1.3594	13.902	130.07	23.105	1.5400	.15330	60.441
#3	1.6214	1.1955	22.547	95.391	48.363	1.3569	.29616	67.172

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.77606**	**1.7289**	**1.2657**	**.13874**	**1.0133**	**1.2021**	**.13801**	**2.0752**
Stddev	.22679	1.6347	1.3458	1.3645	.2832	1.3605	.27013	.2508
%RSD	29.223	94.551	106.33	983.50	27.949	113.18	195.74	12.085
#1	.53329	3.1418	1.7478	1.3502	.80570	1.2793	.14353	2.0193
#2	.98247	-.06154	-.25474	-1.3394	.89825	2.5224	.40533	1.8571
#3	.81241	2.1065	2.3042	.40544	1.3359	-.19540	-.13485	2.3492

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4473.9**	**2674.6**	**23098.**	**138670.**	**4623.8**	**63808.**	**9395.7**
Stddev	7.9	1.2	99.	397.	4.7	413.	58.5
%RSD	.17676	.04327	.42875	.28634	.10247	.64724	.62215
#1	4470.1	2673.6	23038.	138960.	4619.0	64223.	9381.5
#2	4483.0	2674.4	23212.	138840.	4628.4	63806.	9460.0
#3	4468.6	2675.9	23043.	138220.	4623.9	63397.	9345.7

Sample Name: SEQ-CCV@CCV04 Acquired: 10/26/2016 14:21:39 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**484.59**	**138340.**	**1943.6**	**15748.**	**372.75**	**193570.**	**924.57**
Stddev	.22	336.	5.1	308.	.38	176.	2.40
%RSD	.04502	.24271	.26063	1.9577	.10077	.09110	.25904
#1	484.74	138600.	1938.7	15394.	373.05	193660.	922.89
#2	484.68	137960.	1943.3	15957.	372.88	193370.	923.51
#3	484.34	138440.	1948.8	15892.	372.33	193680.	927.31

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**2312.3**	**5504.3**	**4906.5**	**124310.**	**132600.**	**192780.**	**8945.9**
Stddev	4.4	3.4	8.1	216.	52.	529.	23.2
%RSD	.19020	.06265	.16449	.17394	.03938	.27464	.25910
#1	2311.1	5500.9	4897.2	124560.	132590.	192260.	8927.9
#2	2308.7	5507.8	4911.8	124170.	132650.	192760.	8937.8
#3	2317.2	5504.3	4910.4	124200.	132550.	193320.	8972.1

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**962.53**	**122540.**	**3819.3**	**5330.9**	**3886.0**	**3340.8**	**1843.8**
Stddev	1.93	400.	6.4	11.5	11.1	17.4	17.4
%RSD	.20076	.32628	.16648	.21515	.28494	.52109	.94555
#1	961.30	122970.	3816.5	5330.5	3875.3	3322.6	1823.7
#2	961.54	122170.	3814.9	5319.6	3885.2	3342.7	1854.7
#3	964.76	122490.	3826.6	5342.5	3897.4	3357.2	1853.0

Elem	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb
Avg	**3737.9**	**3814.7**	**7536.5**
Stddev	8.9	9.2	17.1
%RSD	.23812	.24222	.22713
#1	3734.2	3804.8	7536.8
#2	3731.6	3823.2	7519.3
#3	3748.1	3816.0	7553.5

Sample Name: SEQ-CCV@CCV04 Acquired: 10/26/2016 14:21:39 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3739.6**	**2414.3**	**23669.**	**131780.**	**4278.3**	**59169.**	**9302.5**
Stddev	13.0	5.9	157.	479.	12.2	167.	16.7
%RSD	.34693	.24513	.66204	.36325	.28427	.28298	.17941
#1	3745.3	2417.0	23850.	131280.	4288.7	59023.	9320.8
#2	3748.8	2418.4	23576.	132230.	4281.4	59351.	9298.8
#3	3724.8	2407.5	23582.	131830.	4264.9	59132.	9288.0

Sample Name: SEQ-CCB@CCB04 Acquired: 10/26/2016 14:25:53 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.85983**	**9.5086**	**.13420**	**3.2875**	**.10986**	**18.424**	**.31774**	**.73819**
Stddev	.22010	8.2782	1.0045	.2164	.00872	20.521	.03010	.17839
%RSD	25.598	87.060	748.51	6.5836	7.9333	111.38	9.4737	24.166
#1	.76543	1.4154	.10521	3.5316	.11687	39.227	.33467	.81082
#2	.70268	17.960	1.1529	3.1190	.10010	-1.8036	.33556	.53494
#3	1.1114	9.1502	-.85547	3.2118	.11261	17.849	.28298	.86881

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**1.5654**	**1.1642**	**20.969**	**121.79**	**45.321**	**2.3329**	**.22927**	**75.048**
Stddev	.2904	.3195	1.575	8.64	6.527	.1756	.15490	3.961
%RSD	18.553	27.445	7.5109	7.0969	14.402	7.5285	67.561	5.2783
#1	1.3665	.79525	22.275	128.22	37.932	2.3982	.38032	77.069
#2	1.4310	1.3496	21.413	111.96	47.730	2.1340	.07079	77.592
#3	1.8987	1.3477	19.220	125.18	50.301	2.4666	.23670	70.484

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**1.2643**	**1.4105**	**1.5390**	**.40613**	**-.85388**	**1.1091**	**.47842**	**2.2670**
Stddev	.3042	1.0001	.8878	1.1324	1.1113	.1460	.27207	.2108
%RSD	24.060	70.903	57.684	278.82	130.15	13.160	56.867	9.3005
#1	1.6152	2.2597	1.6131	-.59609	.25780	1.2056	.28088	2.4071
#2	1.1021	.30817	.61655	.17995	-.85463	1.1805	.36565	2.3693
#3	1.0756	1.6637	2.3875	1.6345	-1.9648	.94119	.78874	2.0245

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4582.2**	**2746.3**	**23814.**	**142090.**	**4751.9**	**65736.**	**9696.6**
Stddev	7.3	2.6	77.	546.	9.9	96.	49.1
%RSD	.15923	.09541	.32236	.38410	.20901	.14586	.50589
#1	4588.2	2747.9	23815.	141750.	4763.3	65673.	9698.8
#2	4584.3	2747.7	23736.	142720.	4746.2	65846.	9646.5
#3	4574.1	2743.3	23890.	141790.	4746.1	65688.	9744.6

Sample Name: SEQ-CCV@CCV05 Acquired: 10/26/2016 15:02:22 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**480.87**	**134200.**	**1961.7**	**15298.**	**372.63**	**191170.**	**911.18**
Stddev	2.02	1558.	5.8	339.	.22	1646.	1.01
%RSD	.42010	1.1613	.29483	2.2170	.05834	.86116	.11101
#1	483.20	132490.	1956.2	14953.	372.68	189290.	910.58
#2	479.71	134580.	1961.2	15311.	372.39	191820.	910.60
#3	479.70	135540.	1967.8	15631.	372.82	192380.	912.34

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**2290.8**	**5420.4**	**4733.5**	**123540.**	**131590.**	**187740.**	**8729.5**
Stddev	3.2	7.9	7.8	1288.	285.	1374.	54.0
%RSD	.14185	.14633	.16433	1.0427	.21650	.73179	.61912
#1	2289.3	5424.1	4739.9	122080.	131280.	186160.	8667.3
#2	2288.5	5425.8	4735.8	124010.	131830.	188340.	8764.3
#3	2294.5	5411.3	4724.8	124520.	131670.	188700.	8757.0

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**943.43**	**120960.**	**3767.8**	**5228.8**	**3776.3**	**3244.1**	**1832.0**
Stddev	1.62	1047.	3.6	7.4	4.2	8.6	2.6
%RSD	.17205	.86573	.09533	.14220	.11124	.26529	.14174
#1	942.50	119810.	3766.6	5220.3	3771.8	3236.0	1835.0
#2	942.48	121220.	3765.0	5232.4	3777.0	3243.1	1830.9
#3	945.30	121850.	3771.9	5233.8	3780.1	3253.1	1830.2

Elem	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb
Avg	**3742.4**	**3730.2**	**7616.8**
Stddev	11.7	5.8	11.4
%RSD	.31285	.15497	.14989
#1	3739.2	3735.6	7605.9
#2	3732.6	3730.9	7615.8
#3	3755.4	3724.1	7628.6

Sample Name: SEQ-CCV@CCV05 Acquired: 10/26/2016 15:02:22 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3771.9**	**2432.6**	**23640.**	**130410.**	**4354.4**	**60196.**	**9411.0**
Stddev	9.1	.6	78.	207.	3.6	127.	47.6
%RSD	.24136	.02589	.33107	.15854	.08240	.21049	.50632
#1	3767.5	2432.4	23685.	130640.	4350.4	60285.	9459.8
#2	3782.4	2433.3	23686.	130230.	4357.3	60051.	9408.5
#3	3765.8	2432.0	23550.	130360.	4355.4	60252.	9364.6

Sample Name: SEQ-CCB@CCB05 Acquired: 10/26/2016 15:06:36 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.67582**	**11.917**	**.70118**	**2.8952**	**.11254**	**15.330**	**.18651**	**.36367**
Stddev	.18691	6.082	.85830	.6327	.01372	15.333	.06222	.04313
%RSD	27.657	51.035	122.41	21.855	12.193	100.02	33.359	11.858
#1	.53088	18.629	-.27877	3.5184	.09808	17.523	.25676	.40769
#2	.88679	6.7711	1.0629	2.9139	.12538	-.98197	.16443	.36180
#3	.60981	10.351	1.3194	2.2533	.11416	29.448	.13834	.32151

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**1.3548**	**.93672**	**22.280**	**110.33**	**37.559**	**1.7938**	**.25790**	**53.632**
Stddev	.0925	.26477	8.934	13.31	21.582	.5969	.08234	2.857
%RSD	6.8251	28.266	40.100	12.068	57.463	33.276	31.927	5.3275
#1	1.3523	.64662	32.572	124.24	62.255	2.1840	.35005	55.467
#2	1.2635	1.1654	17.758	97.702	28.102	2.0908	.23211	50.340
#3	1.4484	.99818	16.511	109.04	22.319	1.1067	.19154	55.089

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.33737**	**.99559**	**.75984**	**-.54139**	**-1.5877**	**-.16684**	**.05271**	**1.2426**
Stddev	.13655	.50249	.69286	.93535	.2039	.23079	.41115	.5033
%RSD	40.476	50.471	91.185	172.77	12.840	138.33	780.06	40.506
#1	.44875	1.4201	.89807	.40975	-1.7092	.08264	-.17883	1.8072
#2	.37833	.44080	.00828	-1.4601	-1.7015	-.37273	-.19046	.84104
#3	.18502	1.1258	1.3732	-.57380	-1.3523	-.21042	.52742	1.0794

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4601.0**	**2759.7**	**23718.**	**140530.**	**4801.4**	**66316.**	**9707.5**
Stddev	18.5	10.7	23.	211.	16.0	163.	9.7
%RSD	.40272	.38811	.09782	.15016	.33234	.24605	.09966
#1	4609.0	2763.3	23745.	140330.	4805.8	66171.	9718.1
#2	4614.2	2768.2	23708.	140750.	4814.7	66493.	9699.1
#3	4579.8	2747.7	23701.	140490.	4783.7	66284.	9705.3

Sample Name: SEQ-CCV@CCV06 Acquired: 10/26/2016 15:34:46 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**477.04**	**134160.**	**1942.6**	**15239.**	**368.35**	**190160.**	**906.09**
Stddev	.53	722.	1.4	408.	.84	410.	3.51
%RSD	.11194	.53846	.07067	2.6771	.22858	.21568	.38765
#1	477.29	133990.	1942.2	14813.	368.06	190000.	903.51
#2	476.43	133530.	1941.6	15626.	367.70	189860.	904.67
#3	477.41	134950.	1944.2	15279.	369.31	190630.	910.09

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**2274.1**	**5415.3**	**4748.5**	**122550.**	**130650.**	**187330.**	**8689.8**
Stddev	6.6	4.8	5.4	517.	309.	514.	13.8
%RSD	.29168	.08878	.11371	.42147	.23642	.27449	.15886
#1	2269.8	5412.0	4742.5	122170.	130330.	187030.	8680.7
#2	2270.6	5413.2	4750.2	122330.	130680.	187040.	8683.2
#3	2281.7	5420.8	4752.9	123140.	130940.	187920.	8705.7

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**940.98**	**120380.**	**3744.8**	**5216.9**	**3772.2**	**3244.0**	**1810.0**
Stddev	2.89	493.	11.1	14.8	20.8	12.4	4.9
%RSD	.30758	.40926	.29589	.28355	.55205	.38295	.27010
#1	939.12	120430.	3733.0	5201.7	3751.6	3231.8	1804.6
#2	939.51	119870.	3746.5	5217.9	3771.8	3243.7	1814.2
#3	944.32	120850.	3755.0	5231.2	3793.2	3256.6	1811.2

Elem	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb
Avg	**3720.4**	**3733.8**	**7536.5**
Stddev	12.5	2.3	22.9
%RSD	.33566	.06239	.30363
#1	3709.2	3731.2	7527.0
#2	3718.1	3734.5	7520.0
#3	3733.8	3735.7	7562.6

Sample Name: SEQ-CCV@CCV06 Acquired: 10/26/2016 15:34:46 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3792.2**	**2450.0**	**23888.**	**132000.**	**4378.9**	**60425.**	**9472.7**
Stddev	16.0	8.5	57.	276.	18.9	119.	9.7
%RSD	.42198	.34508	.23843	.20940	.43151	.19737	.10203
#1	3800.3	2452.7	23905.	131680.	4387.4	60296.	9461.6
#2	3802.6	2456.7	23824.	132190.	4392.2	60448.	9479.0
#3	3773.8	2440.5	23934.	132130.	4357.3	60531.	9477.6

Sample Name: SEQ-CCB@CCB06 Acquired: 10/26/2016 15:38:59 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.62576**	**15.862**	**-.62610**	**2.8491**	**.11826**	**20.596**	**.22225**	**.51634**
Stddev	.04626	1.559	.74529	.2294	.02308	13.851	.02989	.06238
%RSD	7.3925	9.8287	119.04	8.0532	19.512	67.254	13.449	12.081
#1	.67022	16.885	.15736	3.1130	.12719	36.509	.19721	.58444
#2	.62917	14.068	-1.3262	2.6974	.09206	14.033	.21420	.46197
#3	.57789	16.633	-.70947	2.7368	.13554	11.246	.25535	.50262

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**1.2540**	**.56548**	**15.279**	**126.53**	**46.315**	**1.8782**	**.15861**	**65.082**
Stddev	.2644	.14765	5.630	23.48	12.011	.1694	.09340	2.790
%RSD	21.087	26.111	36.847	18.554	25.933	9.0206	58.888	4.2872
#1	1.3961	.39498	21.368	150.17	59.239	1.7783	.26258	68.179
#2	1.4171	.65017	14.208	126.19	44.208	2.0738	.08180	62.765
#3	.94893	.65128	10.262	103.22	35.497	1.7825	.13144	64.303

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.71340**	**1.1463**	**.82842**	**-.02487**	**-1.0417**	**.29837**	**.17715**	**1.5647**
Stddev	.03673	1.5128	.42872	1.0959	.8143	.37078	.31375	.1081
%RSD	5.1479	131.98	51.752	4406.1	78.170	124.27	177.11	6.9112
#1	.69280	1.2553	.37715	-.13634	-.21974	.60932	-.07189	1.6289
#2	.69159	-.41811	.87781	1.1225	-1.0573	.39778	.07381	1.6253
#3	.75580	2.6017	1.2303	-1.0608	-1.8481	-.11198	.52954	1.4398

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4616.9**	**2770.9**	**23981.**	**141850.**	**4826.5**	**66600.**	**9802.6**
Stddev	20.0	13.3	181.	88.	29.0	125.	94.9
%RSD	.43299	.48024	.75645	.06212	.60131	.18706	.96836
#1	4634.5	2784.1	23836.	141860.	4853.7	66474.	9734.1
#2	4620.9	2771.0	23923.	141750.	4829.7	66723.	9762.7
#3	4595.2	2757.5	24184.	141920.	4796.0	66601.	9911.0

Sample Name: 6100170-09RE1 Acquired: 10/26/2016 15:43:24 Type: Unk
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: MH1J13 SDG: MH1J05 Case: 46282
Comment: 05X 10/28/16

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**4.8754**	**44301.**	**59.506**	**319.64**	**2.3032**	**5513.2**	**19.279**
#1	5.1218	43556.	60.515	316.16	2.2892	5428.6	19.263
#2	4.8576	44514.	60.604	320.82	2.3277	5513.8	19.301
#3	4.6469	44834.	57.399	321.93	2.2926	5597.3	19.275

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**43.686**	**27.937**	**457.93**	**70666.**	**5650.0**	**11231.**	F **16522.**
#1	43.839	28.066	458.76	69539.	5637.0	11045.	16320.
#2	43.596	27.864	457.38	71027.	5618.6	11310.	16610.
#3	43.623	27.880	457.66	71432.	5694.5	11339.	16635.

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**4.6547**	**160.97**	**19.843**	**1219.1**	**3.3113**	**11.322**	**492.09**
#1	4.8382	151.98	19.717	1222.3	2.7909	11.746	489.70
#2	4.6230	164.88	19.957	1219.3	2.9534	9.9805	493.68
#3	4.5030	166.04	19.853	1215.8	4.1897	12.240	492.88

Elem	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb
Avg	**8.2576**	**68.053**	**1787.2**
#1	7.7244	67.956	1794.3
#2	8.1897	68.076	1783.8
#3	8.8587	68.127	1783.7

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4406.4**	**2724.3**	**24484.**	**143250.**	**4879.3**	**67050.**	**10008.**
#1	4413.8	2725.6	24605.	143300.	4881.0	67081.	10061.
#2	4402.6	2725.9	24499.	143270.	4874.2	67147.	10000.
#3	4402.7	2721.4	24347.	143180.	4882.8	66923.	9962.4

Sample Name: SEQ-CCV@CCV07 Acquired: 10/26/2016 15:47:38 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**478.08**	**137110.**	**1942.1**	**15311.**	**367.62**	**192250.**	**910.36**
Stddev	1.30	483.	4.1	261.	.44	742.	1.41
%RSD	.27276	.35194	.21282	1.7041	.11862	.38594	.15541
#1	476.90	136650.	1939.2	15294.	368.07	191490.	910.91
#2	477.86	137620.	1940.3	15580.	367.20	192970.	908.75
#3	479.48	137050.	1946.8	15059.	367.59	192290.	911.41

Elem	Co2286	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**2280.1**	**5441.0**	**4794.6**	**123880.**	**131110.**	**189630.**	**8795.8**
Stddev	2.2	12.4	14.9	391.	296.	467.	33.2
%RSD	.09591	.22783	.31170	.31586	.22583	.24626	.37731
#1	2280.6	5427.4	4777.4	123420.	130820.	189130.	8758.3
#2	2277.7	5444.1	4801.7	124080.	131410.	190050.	8821.4
#3	2282.0	5451.6	4804.6	124120.	131100.	189700.	8807.6

Elem	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	Ti3234
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**947.61**	**122230.**	**3763.6**	**5233.2**	**3808.1**	**3266.5**	**1809.7**
Stddev	1.35	367.	5.2	10.7	1.7	5.7	8.3
%RSD	.14254	.30062	.13885	.20380	.04376	.17560	.45901
#1	949.04	122070.	3763.8	5231.3	3808.3	3259.9	1800.1
#2	946.36	122650.	3758.2	5223.7	3806.3	3268.7	1814.1
#3	947.44	121970.	3768.7	5244.7	3809.6	3270.7	1814.8

Elem	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb
Avg	**3715.9**	**3752.2**	**7511.7**
Stddev	10.4	12.5	15.4
%RSD	.27900	.33324	.20473
#1	3713.0	3737.8	7500.7
#2	3707.3	3758.3	7505.1
#3	3727.4	3760.4	7529.2

Sample Name: SEQ-CCV@CCV07 Acquired: 10/26/2016 15:47:38 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3782.8**	**2441.4**	**23716.**	**131930.**	**4347.6**	**59883.**	**9330.1**
Stddev	3.9	3.8	108.	258.	3.9	160.	42.1
%RSD	.10254	.15766	.45741	.19529	.09062	.26701	.45131
#1	3785.4	2444.5	23681.	131860.	4348.3	60022.	9314.0
#2	3784.8	2442.5	23630.	132220.	4351.1	59918.	9298.4
#3	3778.4	2437.1	23838.	131720.	4343.3	59708.	9377.9

Sample Name: SEQ-CCB@CCB07 Acquired: 10/26/2016 15:51:52 Type: QC
Method: ISM023_New_TotalMetals(v23) Mode: CONC Corr. Factor: 1.000000
User: MSB2 EPA ID: SDG: Case:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3131	Ca3181	Cd2144	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.29222**	**15.012**	**.59807**	**2.7399**	**.09563**	**-3.6100**	**.24612**	**.51792**
Stddev	.16324	11.000	.39965	.2354	.02234	1.1355	.03660	.02969
%RSD	55.862	73.278	66.823	8.5917	23.361	31.454	14.872	5.7331
#1	.47854	8.6777	1.0569	3.0039	.11879	-3.3661	.20391	.48684
#2	.22374	27.714	.32611	2.5520	.07421	-2.6164	.26546	.54600
#3	.17437	8.6437	.41118	2.6636	.09389	-4.8477	.26900	.52092

Elem	Cr2677	Cu3247	Fe2598	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**1.3049**	**.84692**	**17.772**	**169.75**	**35.936**	**2.0516**	**.25957**	**65.835**
Stddev	.1364	.38255	5.377	33.40	4.540	.4244	.10195	7.302
%RSD	10.449	45.169	30.257	19.674	12.633	20.686	39.277	11.092
#1	1.4515	.59542	23.949	206.78	36.202	2.5336	.14495	59.692
#2	1.2813	1.2872	15.228	141.90	40.336	1.8874	.34014	63.904
#3	1.1819	.65818	14.139	160.58	31.269	1.7339	.29361	73.908

Elem	Ni2316	Pb2203	Sb2068	Se1960	Ti3234	Tl1908	V_2924	Zn2062
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avg	**.73811**	**1.7755**	**.68982**	**-.98461**	**-1.0096**	**.41698**	**.12350**	**1.5984**
Stddev	.02765	.4247	.90012	.81129	.2623	1.0222	.26232	.0405
%RSD	3.7465	23.919	130.49	82.397	25.982	245.14	212.41	2.5340
#1	.77003	1.4826	-.11188	-.15915	-1.1590	1.5765	.37839	1.5890
#2	.72315	2.2625	.51780	-1.0137	-.70671	-.35395	-.14567	1.5635
#3	.72116	1.5813	1.6635	-1.7809	-1.1631	.02843	.13776	1.6428

Int. Std.	In2306	Sc2273	Sc3630	Sc3642	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4604.5**	**2761.3**	**23864.**	**141370.**	**4798.7**	**66295.**	**9777.3**
Stddev	7.9	1.1	42.	248.	8.3	147.	39.2
%RSD	.17066	.04008	.17586	.17543	.17400	.22247	.40102
#1	4608.1	2761.7	23901.	141300.	4807.7	66286.	9794.5
#2	4609.8	2762.2	23873.	141160.	4797.1	66447.	9804.9
#3	4595.4	2760.0	23818.	141650.	4791.2	66152.	9732.4

PREPARATION BENCH SHEET

QJ14016

Bonner Analytical Testing Co.

Matrix: Soil
Analysis: ISM023 - ICPAES (1-4)
Prepared: 10/17/2016 10:00 using METALS - 3050B

Case: 46282
SDG: MH1J05
Work Order: 6100170

Lab Number	Sample ID	Initial (g)	Final (mL)	Spike ID	Spike Amount (uL)	Spike ID	Spike Amount (uL)
6100170-01	MH1J05	1	100				
6100170-01RE1	MH1J05	1	100				
6100170-02	MH1J06	1	100				
6100170-02RE1	MH1J06	1	100				
6100170-03	MH1J07	1	100				
6100170-03RE1	MH1J07	1	100				
6100170-04	MH1J08	1	100				
6100170-04RE1	MH1J08	1	100				
6100170-05	MH1J09	1	100				
6100170-05RE1	MH1J09	1	100				
6100170-06	MH1J10	1	100				
6100170-06RE1	MH1J10	1	100				
6100170-07	MH1J11	1	100				
6100170-07RE1	MH1J11	1	100				
6100170-08	MH1J12	1	100				
6100170-09	MH1J13	1	100				
6100170-09RE1	MH1J13	1	100				
6100170-10	MH1J14	1	100				
6100170-10RE1	MH1J14	1	100				
6100170-11	MH1J15	1	100				
6100170-11RE1	MH1J15	1	100				
6100170-12	MH1J16	1	100				
6100170-12RE1	MH1J16	1	100				
6100170-13	MH1J17	1	100				
6100170-13RE1	MH1J17	1	100				
6100170-14	MH1J18	1	100				
6100170-15	MH1J19	1	100				
6100170-15RE1	MH1J19	1	100				
6100170-16	MH1J20	1	100				
6100170-17	MH1J21	1	100				
6100170-18	MH1J22	1	100				
6100170-18RE1	MH1J22	1	100				
QJ14016-PS1	MH1J05A	0.1	10	B6J0175	10000		
QJ14016-MS1	MH1J05S	1	100	B6B0060	200	B6B0061	200
QJ14016-BS1	LCS01	1	100	B6I0067	500		
QJ14016-DUP1	MH1J05D	1	100				
QJ14016-DUP2	MH1J05D	1	100				
QJ14016-BLK1	PBS01	1	100				

PREPARATION BENCH SHEET

QJ14016

Bonner Analytical Testing Co.

Matrix: Soil

Analysis: QC

Prepared: 10/17/2016 10:00 using METALS - 3050B

Case:

SDG: MH1J05

Work Order: 6100170

Lab Number	Sample ID	Initial (g)	Final (mL)	Spike ID	Spike Amount (uL)	Spike ID	Spike Amount (uL)

Table 1: Quality Controls (QC), Reagents (R) and Standards (Std)

LIMS ID	Description	Vendor	LotNum	Expiration
B3E0023	R - Distilled Water	In-House	NA	04/25/20
B6B0060	QC - CLPP-SPK-1	Inorganic Ventures	J2-MEB568046	02/10/17
B6B0061	QC - CLPP-SPK-5-REV1	Inorganic Ventures	K2-MEB619111	03/01/17
B6E0054	R - Hydrogen Peroxide 30%	Fisher	143279	05/16/19
B6H0063	R - Nitric Acid - 1:1	In House	NA	08/15/17
B6I0064	R - Hydrochloric - Concentrate	Fisher	4116040	05/13/19
B6I0067	QC - BA-AES-CRQL-A	Inorganic Ventures	K2-MEB650368	08/16/17
B6I0123	R - Nitric Acid, Concentrated	Fisher	1116020	04/17/18
B6J0175	PS-MH1J05	In House	NA	02/19/17

Table 2: Metals Apparatus

Balance ID		Mettler IV	
Dig. Block ID		1	
Start Temp	Stop Temp	95.5	96.0
Start Time	Stop Time	1000	1600

Comments:

LEM 10/17/2016

Perpared By Date

10/28/2016

Preparation Reviewed By Date

Bonner Analytical Testing Company
Analytical Run Log

Instrument ID: ICAPP02 **Case:** 46282 **FileID:** MH1J05 **Std. Prep Date:** 10/17/16

Analyst: MSB2 **SDG:** MH1J05 **Calibration ID:** B644054 **Std. Log Page No.:** ~~30~~ 31

Lab Number	EPA ID	Analyzed Date/Time	STD ID	ISTD ID	DF	Elements list are used per QC/sample
BJ62619-CAL1	S01	10/17/16 15:22	B6I0028	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CAL2	S02	10/17/16 15:26	B6G0026	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CAL3	S03	10/17/16 15:30	B6G0027	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CAL4	S04	10/17/16 15:35	B6G0028	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CAL5	S05	10/17/16 15:39	B6G0029	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CAL6	S06	10/17/16 15:43	B6G0030	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CAL7	S07	10/17/16 15:47	B6G0031	B6I0029	1	Al Ca Fe Mg Mn Pb
BJ62619-CAL8	S08	10/17/16 15:52	B6G0032	B6I0029	1	Al Fe Pb
BJ62619-ICV1	ICV01	10/17/16 15:56	B6G0039	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-ICB1	ICB01	10/17/16 16:00	B6I0028	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-IFA1	ICSA01	10/17/16 16:05	B6H0021	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-IFB1	ICSAB01	10/17/16 16:09	B6H0022	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CCV1	CCV01	10/17/16 16:13	B6G0037	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CCB1	CCB01	10/17/16 16:17	B6I0028	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CCV2	CCV02	10/17/16 17:43	B6G0037	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CCB2	CCB02	10/17/16 17:47	B6I0028	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CCV3	CCV03	10/17/16 18:51	B6G0037	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CCB3	CCB03	10/17/16 18:55	B6I0028	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-IBL2	ZZZZZZ	10/17/16 19:05		B6I0029	1	non-report
QJ14016-BS1	LCS01	10/17/16 19:09		B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
6100170-01	MH1J05	10/17/16 19:14		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
QJ14016-MS1	MH1J05S	10/17/16 19:18		B6I0029	1	As Cu Mn Pb Zn
QJ14016-DUP1	MH1J05D	10/17/16 19:22		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
BJ62619-SRD1	MH1J05L	10/17/16 19:26		B6I0029	5	Al As Ca Cu Mg Mn Pb Zn
6100170-02	MH1J06	10/17/16 19:30		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
QJ14016-BLK1	PBS01	10/17/16 19:35		B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
6100170-03	MH1J07	10/17/16 19:39		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
6100170-04	MH1J08	10/17/16 19:43		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
6100170-05	MH1J09	10/17/16 19:48		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
6100170-06	MH1J10	10/17/16 19:52		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
6100170-07	MH1J11	10/17/16 19:56		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
6100170-08	MH1J12	10/17/16 20:00		B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
6100170-09	MH1J13	10/17/16 20:04		B6I0029	1	Al As Ca Cu Fe Mg Pb Zn

Bonner Analytical Testing Company
Analytical Run Log

Instrument ID: ICAPP02 **Case:** 46282 **FileID:** MH1J05 **Std. Prep Date:** 10/17/16

Analyst: MSB2 **SDG:** MH1J05 **Calibration ID:** B644054 **Std. Log Page No.:** ~~30~~ 31 10/26

Lab Number	EPA ID	Analyzed Date/Time	STD ID	ISTD ID	DF	Elements list are used per QC/sample
6100170-10	MH1J14	10/17/16 20:08		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
6100170-11	MH1J15	10/17/16 20:13		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
6100170-12	MH1J16	10/17/16 20:17		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
BJ62619-CCV4	CCV04	10/17/16 20:21	B6G0037	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CCB4	CCB04	10/17/16 20:25	B6I0028	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
6100170-13	MH1J17	10/17/16 20:30		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
6100170-14	MH1J18	10/17/16 20:34		B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
6100170-15	MH1J19	10/17/16 20:38		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
6100170-16	MH1J20	10/17/16 20:42		B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
6100170-17	MH1J21	10/17/16 20:46		B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
6100170-18	MH1J22	10/17/16 20:50		B6I0029	1	Al As Ca Cu Mg Mn Pb Zn
6100170-01RE1	MH1J05	10/17/16 20:59		B6I0029	3	Fe
QJ14016-DUP2	MH1J05D	10/17/16 21:03		B6I0029	3	Fe
BJ62619-SRD2	MH1J05L	10/17/16 21:07		B6I0029	15	Fe
6100170-02RE1	MH1J06	10/17/16 21:12		B6I0029	2	Fe
6100170-03RE1	MH1J07	10/17/16 21:16		B6I0029	3	Fe
6100170-04RE1	MH1J08	10/17/16 21:20		B6I0029	2	Fe
6100170-05RE1	MH1J09	10/17/16 21:24		B6I0029	2	Fe
6100170-06RE1	MH1J10	10/17/16 21:28		B6I0029	3	Fe
6100170-07RE1	MH1J11	10/17/16 21:33		B6I0029	3	Fe
6100170-10RE1	MH1J14	10/17/16 21:37		B6I0029	4	Fe
6100170-11RE1	MH1J15	10/17/16 21:41		B6I0029	3	Fe
6100170-12RE1	MH1J16	10/17/16 21:45		B6I0029	2	Fe
6100170-13RE1	MH1J17	10/17/16 21:50		B6I0029	3	Fe
6100170-15RE1	MH1J19	10/17/16 21:54		B6I0029	3	Fe
6100170-18RE1	MH1J22	10/17/16 21:58		B6I0029	3	Fe
BJ62619-CCV5	CCV05	10/17/16 22:02	B6G0037	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn
BJ62619-CCB5	CCB05	10/17/16 22:07	B6I0028	B6I0029	1	Al As Ca Cu Fe Mg Mn Pb Zn

File Name: MH1J05 SDG No.: MH1J05 Standards Prep Date: 10/19/16

Instrument: ICAPP02 Case No.: 46202 Standards Log Page No.: 31 32

Analyst: MSB2

Lab ID	EPA Sample #	Date&Time	Elements circled for S0-S# were used throughout this run unless otherwised noted. ~~Al~~, As, Sb, ~~Ba, Be, Ca, Cd, Cr, Co, Cu, Fe, Pb, Mg, Mn, Ni, K, Se, Ag, Na, Tl, V, Zn~~
QJ14016-BS1	~~LCS01~~	10/17/16 19:09	
6100170-01	MH1J05	~~10/17/16~~ 19:14	
QJ14016-MS1	~~MH1J05S~~	10/17/16 19:18	
~~6100170-01RE1~~	~~MH1J05~~	~~10/17/16 20:59~~	
BJ62621-CAL1	S01	10/18/16 10:38	
BJ62621-CAL2	S02	10/18/16 10:43	
BJ62621-CAL3	S03	10/18/16 10:47	
BJ62621-CAL4	S04	10/18/16 10:51	
BJ62621-CAL5	S05	10/18/16 10:55	
BJ62621-CAL6	S06	10/18/16 10:59	
BJ62621-ICV1	ICV01	10/18/16 11:17	
BJ62621-ICB1	ICB01	10/18/16 11:21	
BJ62621-IFA1	ICSA01	10/18/16 11:25	
BJ62621-IFB1	ICSAB01	10/18/16 11:30	
BJ62621-CCV1	CCV01	10/18/16 11:34	
BJ62621-CCB1	CCB01	10/18/16 11:38	
BJ62621-CCV2	CCV02	10/18/16 11:47	
BJ62621-CCB2	CCB02	10/18/16 11:51	
QJ14016-PS1	MH1J05A	10/18/16 11:55	
BJ62621-CCV3	CCV03	10/18/16 12:00	
BJ62621-CCB3	CCB03	10/18/16 12:04	

10/25

10/07/16

Bonner Analytical Testing Company
Analytical Run Log

Instrument ID: ICAPP02 **Case:** 46282 **FileID:** CLP_10262016 **Std. Prep Date:** ~~101916~~ 10/27/16

Analyst: MQJ **SDG:** MH1J05 **Calibration ID:** B644072 **Std. Log Page No.:** ~~32~~ 33

Lab Number	EPA ID	Analyzed Date/Time	STD ID	ISTD ID	DF	Elements list are used per QC/sample
BJ62709-CAL1	S01	10/26/16 12:12	B6I0028	B6I0029	1	Mn
BJ62709-CAL2	S02	10/26/16 12:17	B6G0026	B6I0029	1	Mn
BJ62709-CAL3	S03	10/26/16 12:21	B6G0027	B6I0029	1	Mn
BJ62709-CAL4	S04	10/26/16 12:25	B6G0028	B6I0029	1	Mn
BJ62709-CAL5	S05	10/26/16 12:29	B6G0029	B6I0029	1	Mn
BJ62709-CAL6	S06	10/26/16 12:33	B6G0030	B6I0029	1	Mn
BJ62709-CAL7	S07	10/26/16 12:38	B6G0031	B6I0029	1	Mn
BJ62709-CALA	S10	10/26/16 12:46	B6J0168	B6I0029	1	Mn
BJ62709-ICV1	ICV01	10/26/16 12:51	B6G0039	B6I0029	1	Mn
BJ62709-ICB1	ICB01	10/26/16 12:55	B6I0028	B6I0029	1	Mn
BJ62709-IFA1	ICSA01	10/26/16 12:59	B6H0021	B6I0029	1	Al Ca Fe Mg Mn
BJ62709-IFB1	ICSAB01	10/26/16 13:04	B6H0022	B6I0029	1	Al Ca Fe Mg Mn
BJ62709-CCV1	CCV01	10/26/16 13:08	B6G0037	B6I0029	1	Mn
BJ62709-CCB1	CCB01	10/26/16 13:12	B6I0028	B6I0029	1	Mn
BJ62709-CCV2	CCV02	10/26/16 13:29	B6G0037	B6I0029	1	Mn
BJ62709-CCB2	CCB02	10/26/16 13:34	B6I0028	B6I0029	1	Mn
BJ62709-CCV3	CCV03	10/26/16 14:00	B6G0037	B6I0029	1	Mn
BJ62709-CCB3	CCB03	10/26/16 14:04	B6I0028	B6I0029	1	Mn
BJ62709-CCV4	CCV04	10/26/16 14:21	B6G0037	B6I0029	1	Mn
BJ62709-CCB4	CCB04	10/26/16 14:25	B6I0028	B6I0029	1	Mn
BJ62709-CCV5	CCV05	10/26/16 15:02	B6G0037	B6I0029	1	Mn
BJ62709-CCB5	CCB05	10/26/16 15:06	B6I0028	B6I0029	1	Mn
BJ62709-CCV6	CCV06	10/26/16 15:34	B6G0037	B6I0029	1	Mn
BJ62709-CCB6	CCB06	10/26/16 15:38	B6I0028	B6I0029	1	Mn
6100170-09RE1	MH1J13	10/26/16 15:43		B6I0029	5	Mn
BJ62709-CCV7	CCV07	10/26/16 15:47	B6G0037	B6I0029	1	Mn
BJ62709-CCB7	CCB07	10/26/16 15:51	B6I0028	B6I0029	1	Mn

Bonner Analytical Testing Company
ISM02.3 STANDARD & QC LOG

Standards for ICAPP01 and ICAPP02 daily analysis were prepared on: 10/17/16

QC for ICAPP01 and ICAPP02 daily analysis were prepared on: 10/17/16

Description	EPA ID	Amount Spiked	Volume Made	Manufacturer	Lot#	Date Lot Expires	LIMS ID
Initial Calibration High	S8		50 mL	NA	NA	2 weeks	B6G0032
Pb @ 1000 ppm		1.25 Ml	Composite	Inorganic Ventures	J2-PB03066	Mar-17	B6G0036
Al @ 10000 ppm		2.0 mL		Inorganic Ventures	J2-AL05009	Mar-17	B6G0034
Fe @ 10000 ppm		1.75 mL		Inorganic Ventures	K2-FE04057	Mar-17	B6G0035
Initial Calibration High	S7		50 mL	Inorganic Ventures	NA	2 weeks	B6G0031
BAT-12		4.0 mL	Composite		J2-MEB613057	Feb-17	B6G0025
Initial Calibration High	S6		50 mL	Inorganic Ventures	NA	2 weeks	B6G0030
BAT-5		5.0 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		5.0 mL			K2-MEB619109	Mar-17	B6G0024
Initial Calibration Mid	S5		50 mL	Inorganic Ventures	NA	2 weeks	B6G0029
BAT-5		2.5 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		2.5 mL			K2-MEB619109	Mar-17	B6G0024
Initial Calibration Low	S4		50 mL	Inorganic Ventures	NA	2 weeks	B6G0028
BAT-5		0.5 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		0.5 mL			K2-MEB619109	Mar-17	B6G0024
Initial Calibration Low	S3	2.0 mL	50 mL	Inorganic Ventures	From S5	2 weeks	B6G0027
Initial Calibration Low	S2		50 mL	NA	NA	2 weeks	B6G0026
Initial Calibration Mid (S4)		0.25 mL	Composite	Inorganic Ventures	From S5	2 weeks	B6G0029
Ag @ 350 ppb		1.0 mL		In-house	NA	Mar-17	B6G0033
Initial Calibration Blank	S1	NA	50 mL	In-house	NA	1 yr	
Continuing Calibration Blank	CCB						
Initial Calibration Blank	ICB						
Initial Calibration Verification	ICV	NA	50 mL	NA	NA	1 week	B6G0039
ICV-1		5.0 mL	Composite	EPA REF MATERIAL	0307	NA	B3A0040
ICV-3		1.0 mL		In-House	NA	Mar-17	B6G0038
Interelement Check Standard A	ICSA	25 mL	250 mL	EPA REF Material	1211	2 weeks	B5L0034
Interelement Check Standard AB	ICSAB	NA	250 mL	EPA REF Material	NA	2 weeks	B5L0033
ICS PART A		25 mL	Composite		1211	NA	B5L0034
ICS PART B		25 mL			0710	NA	B5L0033
Continuing Calibration Verification	CCV		100 mL	Inorganic Ventures	NA	2 weeks	B6G0037
BAT-5		5.0 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		5.0 mL			K2-MEB619109	Mar-17	B6G0024
BAT-12		3.0 mL			J2-MEB613057	Feb-17	B6G0025
Matrix Spike (see Note 3)	MS	NA	50 mL	Inorganic Ventures	NA	NA	
CLPP-SPK-1		200 uL (soil) 50uL (water)	Composite		J2-MEB568046	Feb-17	B6B0060
CLPP-SPK-5-REV1					K2-MEB619111	Feb-17	B6B0061
Lab Control Sample	LCS		50 mL	Inorganic Ventures	NA	NA	
BA-AES-CRQL-A		500uL (soil) 250uL (water)	Composite		K2-MEB650368	Aug-17	B6I0067

Note[1]: All standards and QC (exception: MS & LCS) are brought to final volume with the same acidified water source that is used for the S0, CCB & ICB.

Note[2]: ICV-3 includes all non-routine target metals.

Prepared By: _____ Analyst

Reviewed By: _____ Supervisor/Date 10/18/2016

Document Number: MH-L-047
Revision Number: 2.7

LOG BOOK#: 31

Date Effective: 09/01/2016
MSB2

Bonner Analytical Testing Company
ISM02.3 STANDARD & QC LOG

Standards for ICAPP01 and ICAPP02 daily analysis were prepared on: 10/18/16

QC for ICAPP01 and ICAPP02 daily analysis were prepared on: 10/18/16

Description	EPA ID	Amount Spiked	Volume Made	Manufacturer	Lot#	Date Lot Expires	LIMS ID
Initial Calibration High	S8		50 mL	NA	NA	2 weeks	B6G0032
Pb @ 1000 ppm		1.25 Ml	Composite	Inorganic Ventures	J2-PB03066	Mar-17	B6G0036
Al @ 10000 ppm		2.0 mL		Inorganic Ventures	J2-AL05009	Mar-17	B6G0034
Fe @ 10000 ppm		1.75 mL		Inorganic Ventures	K2-FE04057	Mar-17	B6G0035
Initial Calibration High	S7		50 mL	Inorganic Ventures	NA	2 weeks	B6G0031
BAT-12		4.0 mL	Composite		J2-MEB613057	Feb-17	B6G0025
Initial Calibration High	S6		50 mL	Inorganic Ventures	NA	2 weeks	B6G0030
BAT-5		5.0 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		5.0 mL			K2-MEB619109	Mar-17	B6G0024
Initial Calibration Mid	S5		50 mL	Inorganic Ventures	NA	2 weeks	B6G0029
BAT-5		2.5 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		2.5 mL			K2-MEB619109	Mar-17	B6G0024
Initial Calibration Low	S4		50 mL	Inorganic Ventures	NA	2 weeks	B6G0028
BAT-5		0.5 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		0.5 mL			K2-MEB619109	Mar-17	B6G0024
Initial Calibration Low	S3	2.0 mL	50 mL	Inorganic Ventures	From S5	2 weeks	B6G0027
Initial Calibration Low	S2		50 mL	NA	NA	2 weeks	B6G0026
Initial Calibration Mid (S4)		0.25 mL	Composite	Inorganic Ventures	From S5	2 weeks	B6G0029
Ag @ 350 ppb		1.0 mL		In-house	NA	Mar-17	B6G0033
Initial Calibration Blank	S1	NA	50 mL	In-house	NA	1 yr	
Continuing Calibration Blank	CCB						
Initial Calibration Blank	ICB						
Initial Calibration Verification	ICV	NA	50 mL	NA	NA	1 week	B6G0039
ICV-1		5.0 mL	Composite	EPA REF MATERIAL	0307	NA	B3A0040
ICV-3		1.0 mL		In-House	NA	Mar-17	B6G0038
Interelement Check Standard A	ICSA	25 mL	250 mL	EPA REF Material	1211	2 weeks	B5L0034
Interelement Check Standard AB	ICSAB	NA	250 mL	EPA REF Material	NA	2 weeks	B5L0033
ICS PART A		25 mL	Composite		1211	NA	B5L0034
ICS PART B		25 mL			0710	NA	B5L0033
Continuing Calibration Verification	CCV		100 mL	Inorganic Ventures	NA	2 weeks	B6G0037
BAT-5		5.0 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		5.0 mL			K2-MEB619109	Mar-17	B6G0024
BAT-12		3.0 mL			J2-MEB613057	Feb-17	B6G0025
Matrix Spike (see Note 3)	MS	NA	50 mL	Inorganic Ventures	NA	NA	
CLPP-SPK-1		200 uL (soil) 50uL (water)	Composite		J2-MEB568046	Feb-17	B6B0060
CLPP-SPK-5-REV1					K2-MEB619111	Feb-17	B6B0061
Lab Control Sample	LCS		50 mL	Inorganic Ventures	NA	NA	
BA-AES-CRQL-A		500uL (soil) 250uL (water)	Composite		K2-MEB650368	Aug-17	B6I0067

Note[1]: All standards and QC (exception: MS & LCS) are brought to final volume with the same acidified water source that is used for the S0, CCB & ICB.

Note[2]: ICV-3 includes all non-routine target metals.

Prepared By: _____ Analyst

Reviewed By: _____ 10/18/2016 Supervisor/Date

Document Number: MH-L-047
Revision Number: 2.7

LOG BOOK#: 32

Date Effective: 09/01/2016
MSB2

Bonner Analytical Testing Company
ISM02.3 STANDARD & QC LOG

Standards for ICAPP01 and ICAPP02 daily analysis were prepared on: 10/24/16

QC for ICAPP01 and ICAPP02 daily analysis were prepared on: 10/24/16

Description	EPA ID	Amount Spiked	Volume Made	Manufacturer	Lot#	Date Lot Expires	LIMS ID
Initial Calibration High	S8		50 mL	NA	NA	2 weeks	B6G0032
Pb @ 1000 ppm		1.25 Ml	Composite	Inorganic Ventures	J2-PB03066	Mar-17	B6G0036
Al @ 10000 ppm		2.0 mL		Inorganic Ventures	J2-AL05009	Mar-17	B6G0034
Fe @ 10000 ppm		1.75 mL		Inorganic Ventures	K2-FE04057	Mar-17	B6G0035
Initial Calibration High	S7		50 mL	Inorganic Ventures	NA	2 weeks	B6G0031
BAT-12		4.0 mL	Composite		J2-MEB613057	Feb-17	B6G0025
Initial Calibration High	S6		50 mL	Inorganic Ventures	NA	2 weeks	B6G0030
BAT-5		5.0 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		5.0 mL			K2-MEB619109	Mar-17	B6G0024
Initial Calibration Mid	S5		50 mL	Inorganic Ventures	NA	2 weeks	B6G0029
BAT-5		2.5 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		2.5 mL			K2-MEB619109	Mar-17	B6G0024
Initial Calibration Low	S4		50 mL	Inorganic Ventures	NA	2 weeks	B6G0028
BAT-5		0.5 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		0.5 mL			K2-MEB619109	Mar-17	B6G0024
Initial Calibration Low	S3	2.0 mL	50 mL	Inorganic Ventures	From S5	2 weeks	B6G0027
Initial Calibration Low	S2		50 mL	NA	NA	2 weeks	B6G0026
Initial Calibration Mid (S4)		0.25 mL	Composite	Inorganic Ventures	From S5	2 weeks	B6G0029
Ag @ 350 ppb		1.0 mL		In-house	NA	Mar-17	B6G0033
Initial Calibration Blank	S1	NA	50 mL	In-house	NA	1 yr	
Continuing Calibration Blank	CCB						
Initial Calibration Blank	ICB						
Initial Calibration Verification	ICV	NA	50 mL	NA	NA	1 week	B6G0039
ICV-1		5.0 mL	Composite	EPA REF MATERIAL	0307	NA	B3A0040
ICV-3		1.0 mL		In-House	NA	Mar-17	B6G0038
Interelement Check Standard A	ICSA	25 mL	250 mL	EPA REF Material	1211	2 weeks	B5L0034
Interelement Check Standard AB	ICSAB	NA	250 mL	EPA REF Material	NA	2 weeks	B5L0033
ICS PART A		25 mL	Composite		1211	NA	B5L0034
ICS PART B		25 mL			0710	NA	B5L0033
Continuing Calibration Verification	CCV		100 mL	Inorganic Ventures	NA	2 weeks	B6G0037
BAT-5		5.0 mL	Composite		K2-MEB619108	Mar-17	B6G0023
BAT-14		5.0 mL			K2-MEB619109	Mar-17	B6G0024
BAT-12		3.0 mL			J2-MEB613057	Feb-17	B6G0025
Matrix Spike (see Note 3)	MS	NA	50 mL	Inorganic Ventures	NA	NA	
CLPP-SPK-1		200 uL (soil) 50uL (water)	Composite		J2-MEB568046	Feb-17	B6B0060
CLPP-SPK-5-REV1					K2-MEB619111	Feb-17	B6B0061
Lab Control Sample	LCS		50 mL	Inorganic Ventures	NA	NA	
BA-AES-CRQL-A		500uL (soil) 250uL (water)	Composite		K2-MEB650368	Aug-17	B6I0067

Note[1]: All standards and QC (exception: MS & LCS) are brought to final volume with the same acidified water source that is used for the S0, CCB & ICB.

Note[2]: ICV-3 includes all non-routine target metals.

Prepared By: _____ Analyst

Reviewed By: _____ Supervisor/Date

LOG BOOK#: 33

Analytical Standard Record

B6J0175

Description:	PS-MH1J05	Expires:	02/19/2017
Standard Type:	Analyte Spike	Prepared:	10/26/2016
Solvent:	NA	Prepared By:	Lauren Meadows
Final Volume (mls):	10	Department:	METALS
Vials:	1	Last Edit:	10/26/2016 13:17 by LEM

Analyte	Parent	CAS Number	Concentration	Units
Arsenic	B6A0046	7440-38-2	0.628	ug/mL

Parent Standards used:

Standard	Description	Prepared	Prepared By	Lot Nbr	Expires	Last Edit	(mls)
B6A0046	Std - Arsenic - 10ppm	01/06/2016	High-Purity Standards	1521106	06/29/2017	01/26/2016 11:33 by MSB2	0.628

Reviewed By

10/26/16
Date

REAGENTS PREPARATION LOG

ICAPP Reference Standard

LIMS ID: BGI0029

Preparation Date: 8/9/16

Prepared By: MAX BONNER

Reagents	Conc. mg/L	Amount	Supplier	Lot Number	Received Date	Expiration Date
Distilled H2O	Neat	~20 L	BATCO	NA	NA	NA
Scandium	NEAT ~~10,000~~	~~0.309g~~ ~~10.0 mL~~ 0.614	ALDRICH	MKBS4658V	8/4/15	8/4/18
Indium (III) Chloride	Neat	1.98g	ALDRICH	MKBS6036V	8/4/15	8/4/18
Yttrium (III) Oxide	Neat	0.130g	ALDRICH	MKBT0144V	12/20/12	NA

Balance ID: Mettler IV

Instrument: ICAPP01 & ICAPP02

Fil Volume: 20 Liters

Concentration: Sc (10ppm); In (50ppm); Y (2.5ppm)

Used For: ICAPP Reference Standard

Expiration Date: 12 months after preparation date

Comments: Added 200 mL of conc. HNO_3 to acidify & stabilize soln.

Reviewed By: [signature] 8/9/16

Supervisor/Date

REAGENTS PREPARATION LOG

Acidified Water

LIMS ID: B61008

Preparation Date: 9/8/2016 Prepared By: MATT Johnson

Reagents	Conc. mg/L	Amount	Supplier	Lot Number	Received Date	Expiration Date
Distilled H2O	Neat	18800 mL	BATCO	NA	NA	NA
Nitric Acid	Neat	200 mL	Fisher	111 6020	08/04/16	02/17/18
Hydrochloric Acid	Neat	1000 mL	FISHER	4116040	08/04/16	05/13/19

Balance ID NA

Instrument ICAPP01 & ICAPP02

Final Volume 20 Liters

Concentration 1% HNO3 / 5% HCl

Used For ICAPP Acidified Water

Expiration Date 12 months after preparation date

Comments

Reviewed By: 9/8/16

Supervisor/Date

Metals Weekly Digestion Block Temperature Verification

Date	10/02/2016	10/02/2016	10/10/2016	10/10/2016	10/17/16	10/17/16	10/24/16	10/24/16
Initials	LEM	LEM	LEM	LEM	[illegible]	[illegible]	[illegible]	[illegible]
	Temp Read Out	**Thermometer**	**Temp Read Out**	**Thermometer**	**Temp Read Out**	**Thermometer**	**Temp Read Out**	**Thermometer**
ICP Digester 01	115.0	95.0	95.0	96.5	115.0	96.4	115.0	95.0
ICP Digester 02	114.0	96.5	115.0	94.5	115.5	96.6	115.0	95.6
ICP Digester 03	NOT IN USE	NOT IN USE	NIU	NIU	NOT in use	NOT IN USE	NOT IN USE	NOT in use
ICP Digester 04	92.0	94.0	NIU	NIU	[illegible]	93.5	not in use	Not in use
Reviewed/Date:	[illegible]	10/03/16	[illegible]	10/10/16	[illegible]	10/18/2016	[illegible]	10/24/16

Date								
Initials								
	Temp Read Out	**Thermometer**	**Temp Read Out**	**Thermometer**	**Temp Read Out**	**Thermometer**	**Temp Read Out**	**Thermometer**
ICP Digester 01								
ICP Digester 02								
ICP Digester 03								
ICP Digester 04								
Reviewed/Date:								

If temperature does not agree with the certified thermometer than either recalibrate the digestion block or use the thermometer to regulate the digestion block and record the thermometer temperature on digestion logs.

A copy of this page must accompany each SDG digested during the week.

**Certification cannot exceed 1 year

Thermometer Serial No./ID: H157522

**Date of certification: 08/10/2016

217

EPA SAMPLE NO.

MH1J05

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-01

% Solids: 86.6 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.7	*	10/19/2016	0930
7440-39-3	Barium	41.2		10/19/2016	0930
7440-41-7	Beryllium	0.28	J	10/19/2016	0930
7440-43-9	Cadmium	2.1	*	10/19/2016	0930
7440-47-3	Chromium	3.9		10/19/2016	0930
7440-48-4	Cobalt	4.5		10/19/2016	0930
7439-98-7	Molybdenum	3.3		10/19/2016	0930
7440-02-0	Nickel	2.5	*	10/19/2016	0930
7782-49-2	Selenium	1.9	J	10/19/2016	0930
7440-22-4	Silver	1.7		10/19/2016	0930
7440-28-0	Thallium	0.16	J	10/19/2016	0930
7440-62-2	Vanadium	25.9		10/19/2016	0930

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J06

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-02

% Solids: 65.7 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	13.4	*	10/19/2016	0946
7440-39-3	Barium	81.4		10/19/2016	0946
7440-41-7	Beryllium	0.30	J	10/19/2016	0946
7440-43-9	Cadmium	0.71	J*	10/19/2016	0946
7440-47-3	Chromium	3.3		10/19/2016	0946
7440-48-4	Cobalt	4.2		10/19/2016	0946
7439-98-7	Molybdenum	3.5		10/19/2016	0946
7440-02-0	Nickel	2.2	*	10/19/2016	0946
7782-49-2	Selenium	2.2	J	10/19/2016	0946
7440-22-4	Silver	3.4		10/19/2016	0946
7440-28-0	Thallium	0.28	J	10/19/2016	0946
7440-62-2	Vanadium	24.4		10/19/2016	0946

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J07

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-03

% Solids: 83.9 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.4	*	10/19/2016	0950
7440-39-3	Barium	35.7		10/19/2016	0950
7440-41-7	Beryllium	0.27	J	10/19/2016	0950
7440-43-9	Cadmium	1.2	*	10/19/2016	0950
7440-47-3	Chromium	4.6		10/19/2016	0950
7440-48-4	Cobalt	3.8		10/19/2016	0950
7439-98-7	Molybdenum	3.2		10/19/2016	0950
7440-02-0	Nickel	3.1	*	10/19/2016	0950
7782-49-2	Selenium	1.5	J	10/19/2016	0950
7440-22-4	Silver	1.1		10/19/2016	0950
7440-28-0	Thallium	0.16	J	10/19/2016	0950
7440-62-2	Vanadium	30.7		10/19/2016	0950

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J08

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-04

% Solids: 81.9 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	3.5	*	10/19/2016	0954
7440-39-3	Barium	37.4		10/19/2016	0954
7440-41-7	Beryllium	0.16	J	10/19/2016	0954
7440-43-9	Cadmium	0.36	J*	10/19/2016	0954
7440-47-3	Chromium	2.1		10/19/2016	0954
7440-48-4	Cobalt	2.7		10/19/2016	0954
7439-98-7	Molybdenum	2.0	J	10/19/2016	0954
7440-02-0	Nickel	1.9	*	10/19/2016	0954
7782-49-2	Selenium	1.5	J	10/19/2016	0954
7440-22-4	Silver	0.87		10/19/2016	0954
7440-28-0	Thallium	0.15	J	10/19/2016	0954
7440-62-2	Vanadium	15.5		10/19/2016	0954

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J09

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-05

% Solids: 89.7 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	5.1	*	10/19/2016	0958
7440-39-3	Barium	153		10/19/2016	0958
7440-41-7	Beryllium	0.35	J	10/19/2016	0958
7440-43-9	Cadmium	1.1	*	10/19/2016	0958
7440-47-3	Chromium	4.8		10/19/2016	0958
7440-48-4	Cobalt	6.1		10/19/2016	0958
7439-98-7	Molybdenum	2.0	J	10/19/2016	0958
7440-02-0	Nickel	4.1	*	10/19/2016	0958
7782-49-2	Selenium	1.7	J	10/19/2016	0958
7440-22-4	Silver	1.6		10/19/2016	0958
7440-28-0	Thallium	0.15	J	10/19/2016	0958
7440-62-2	Vanadium	24.1		10/19/2016	0958

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J10

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-06

% Solids: 57.0 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	2.7	*	10/19/2016	1002
7440-39-3	Barium	31.3		10/19/2016	1002
7440-41-7	Beryllium	0.26	J	10/19/2016	1002
7440-43-9	Cadmium	0.28	J*	10/19/2016	1002
7440-47-3	Chromium	3.3		10/19/2016	1002
7440-48-4	Cobalt	3.2		10/19/2016	1002
7439-98-7	Molybdenum	2.5	J	10/19/2016	1002
7440-02-0	Nickel	2.8	*	10/19/2016	1002
7782-49-2	Selenium	1.2	J	10/19/2016	1002
7440-22-4	Silver	1.0		10/19/2016	1002
7440-28-0	Thallium	0.15	J	10/19/2016	1002
7440-62-2	Vanadium	29.5		10/19/2016	1002

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J11

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-07

% Solids: 95.6 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	2.1	*	10/19/2016	1006
7440-39-3	Barium	46.5		10/19/2016	1006
7440-41-7	Beryllium	0.20	J	10/19/2016	1006
7440-43-9	Cadmium	2.4	*	10/19/2016	1006
7440-47-3	Chromium	3.5		10/19/2016	1006
7440-48-4	Cobalt	2.9		10/19/2016	1006
7439-98-7	Molybdenum	2.2		10/19/2016	1006
7440-02-0	Nickel	2.2	*	10/19/2016	1006
7782-49-2	Selenium	1.2	J	10/19/2016	1006
7440-22-4	Silver	1.8		10/19/2016	1006
7440-28-0	Thallium	0.12	J	10/19/2016	1006
7440-62-2	Vanadium	20.2		10/19/2016	1006

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J12

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-08

% Solids: 85.2 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	0.87	J*	10/19/2016	1010
7440-39-3	Barium	51.2		10/19/2016	1010
7440-41-7	Beryllium	0.72		10/19/2016	1010
7440-43-9	Cadmium	1.3	*	10/19/2016	1010
7440-47-3	Chromium	3.3		10/19/2016	1010
7440-48-4	Cobalt	5.4		10/19/2016	1010
7439-98-7	Molybdenum	1.6	J	10/19/2016	1010
7440-02-0	Nickel	3.0	*	10/19/2016	1010
7782-49-2	Selenium	1.3	J	10/19/2016	1010
7440-22-4	Silver	1.4		10/19/2016	1010
7440-28-0	Thallium	0.17	J	10/19/2016	1010
7440-62-2	Vanadium	12.5		10/19/2016	1010

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J13

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-09

% Solids: 76.4 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.2	J*	10/19/2016	1014
7440-39-3	Barium	127		10/19/2016	1014
7440-41-7	Beryllium	1.1		10/19/2016	1014
7440-43-9	Cadmium	12.3	*	10/19/2016	1014
7440-47-3	Chromium	6.1		10/19/2016	1014
7440-48-4	Cobalt	20.6		10/19/2016	1014
7439-98-7	Molybdenum	2.4	J	10/19/2016	1014
7440-02-0	Nickel	9.0	*	10/19/2016	1014
7782-49-2	Selenium	1.9	J	10/19/2016	1014
7440-22-4	Silver	1.7		10/19/2016	1014
7440-28-0	Thallium	0.35	J	10/19/2016	1014
7440-62-2	Vanadium	20.2		10/19/2016	1014

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J14

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-10

% Solids: 71.3 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.8	*	10/19/2016	1018
7440-39-3	Barium	35.1		10/19/2016	1018
7440-41-7	Beryllium	0.21	J	10/19/2016	1018
7440-43-9	Cadmium	3.4	*	10/19/2016	1018
7440-47-3	Chromium	3.8		10/19/2016	1018
7440-48-4	Cobalt	3.9		10/19/2016	1018
7439-98-7	Molybdenum	3.1		10/19/2016	1018
7440-02-0	Nickel	2.7	*	10/19/2016	1018
7782-49-2	Selenium	1.5	J	10/19/2016	1018
7440-22-4	Silver	2.5		10/19/2016	1018
7440-28-0	Thallium	0.17	J	10/19/2016	1018
7440-62-2	Vanadium	26.8		10/19/2016	1018

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J15

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-11

% Solids: 82.6 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	2.8	*	10/19/2016	1022
7440-39-3	Barium	38.0		10/19/2016	1022
7440-41-7	Beryllium	0.22	J	10/19/2016	1022
7440-43-9	Cadmium	2.1	*	10/19/2016	1022
7440-47-3	Chromium	3.5		10/19/2016	1022
7440-48-4	Cobalt	4.0		10/19/2016	1022
7439-98-7	Molybdenum	4.0		10/19/2016	1022
7440-02-0	Nickel	2.2	*	10/19/2016	1022
7782-49-2	Selenium	1.8	J	10/19/2016	1022
7440-22-4	Silver	1.7		10/19/2016	1022
7440-28-0	Thallium	0.15	J	10/19/2016	1022
7440-62-2	Vanadium	24.9		10/19/2016	1022

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J16

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-12

% Solids: 61.6 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	0.85	JD*	10/19/2016	1057
7440-39-3	Barium	54.4	D	10/19/2016	1057
7440-41-7	Beryllium	1.1	JD	10/19/2016	1057
7440-43-9	Cadmium	0.90	JD*	10/19/2016	1057
7440-47-3	Chromium	5.2		10/19/2016	1027
7440-48-4	Cobalt	14.2	D	10/19/2016	1057
7439-98-7	Molybdenum	4.9	JD	10/19/2016	1057
7440-02-0	Nickel	4.2	D*	10/19/2016	1057
7782-49-2	Selenium	2.9	J	10/19/2016	1027
7440-22-4	Silver	1.2	JD	10/19/2016	1057
7440-28-0	Thallium	0.19	J	10/19/2016	1027
7440-62-2	Vanadium	32.3		10/19/2016	1027

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J17

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.: 2658.0
SDG No.: MH1J05
Matrix: Soil
Lab Sample ID: 6100170-13
% Solids: 89.5
Date Received: 10/13/2016
Analytical method: ICP-MS
Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.2	*	10/19/2016	1031
7440-39-3	Barium	48.3		10/19/2016	1031
7440-41-7	Beryllium	0.39	J	10/19/2016	1031
7440-43-9	Cadmium	0.81	*	10/19/2016	1031
7440-47-3	Chromium	4.5		10/19/2016	1031
7440-48-4	Cobalt	5.6		10/19/2016	1031
7439-98-7	Molybdenum	3.7		10/19/2016	1031
7440-02-0	Nickel	2.7	*	10/19/2016	1031
7782-49-2	Selenium	1.8	J	10/19/2016	1031
7440-22-4	Silver	1.3		10/19/2016	1031
7440-28-0	Thallium	0.13	J	10/19/2016	1031
7440-62-2	Vanadium	25.6		10/19/2016	1031

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J18

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON Case No.: 46282
MA No.: 2658.0 SDG No.: MH1J05
Matrix: Soil
Lab Sample ID: 6100170-14
% Solids: 60.0
Date Received: 10/13/2016
Analytical method: ICP-MS
Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	3.8	*	10/19/2016	1035
7440-39-3	Barium	99.4		10/19/2016	1035
7440-41-7	Beryllium	0.53	J	10/19/2016	1035
7440-43-9	Cadmium	1.3	*	10/19/2016	1035
7440-47-3	Chromium	2.8		10/19/2016	1035
7440-48-4	Cobalt	3.4		10/19/2016	1035
7439-98-7	Molybdenum	1.2	J	10/19/2016	1035
7440-02-0	Nickel	2.3	*	10/19/2016	1035
7782-49-2	Selenium	2.1	J	10/19/2016	1035
7440-22-4	Silver	2.6		10/19/2016	1035
7440-28-0	Thallium	0.28	J	10/19/2016	1035
7440-62-2	Vanadium	13.1		10/19/2016	1035

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J19

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-15

% Solids: 90.2 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	7.9	*	10/19/2016	1039
7440-39-3	Barium	107		10/19/2016	1039
7440-41-7	Beryllium	0.12	J	10/19/2016	1039
7440-43-9	Cadmium	1.4	*	10/19/2016	1039
7440-47-3	Chromium	2.5		10/19/2016	1039
7440-48-4	Cobalt	1.6		10/19/2016	1039
7439-98-7	Molybdenum	1.3	J	10/19/2016	1039
7440-02-0	Nickel	1.0	*	10/19/2016	1039
7782-49-2	Selenium	2.1	J	10/19/2016	1039
7440-22-4	Silver	8.9		10/19/2016	1039
7440-28-0	Thallium	0.24	J	10/19/2016	1039
7440-62-2	Vanadium	14.4		10/19/2016	1039

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J20

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-16

% Solids: 59.2 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	3.4	*	10/19/2016	1043
7440-39-3	Barium	81.9		10/19/2016	1043
7440-41-7	Beryllium	0.60	J	10/19/2016	1043
7440-43-9	Cadmium	2.3	*	10/19/2016	1043
7440-47-3	Chromium	2.4		10/19/2016	1043
7440-48-4	Cobalt	4.5		10/19/2016	1043
7439-98-7	Molybdenum	1.1	J	10/19/2016	1043
7440-02-0	Nickel	3.4	*	10/19/2016	1043
7782-49-2	Selenium	2.4	J	10/19/2016	1043
7440-22-4	Silver	1.9		10/19/2016	1043
7440-28-0	Thallium	0.24	J	10/19/2016	1043
7440-62-2	Vanadium	11.3		10/19/2016	1043

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J21

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-17

% Solids: 93.6 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	5.3	*	10/19/2016	1047
7440-39-3	Barium	41.1		10/19/2016	1047
7440-41-7	Beryllium	0.12	J	10/19/2016	1047
7440-43-9	Cadmium	2.2	*	10/19/2016	1047
7440-47-3	Chromium	1.6		10/19/2016	1047
7440-48-4	Cobalt	2.8		10/19/2016	1047
7439-98-7	Molybdenum	1.1	J	10/19/2016	1047
7440-02-0	Nickel	1.0	*	10/19/2016	1047
7782-49-2	Selenium	2.0	J	10/19/2016	1047
7440-22-4	Silver	1.6		10/19/2016	1047
7440-28-0	Thallium	0.18	J	10/19/2016	1047
7440-62-2	Vanadium	11.1		10/19/2016	1047

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J22

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-18

% Solids: 56.1 Date Received: 10/13/2016

Analytical method: ICP-MS

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7440-36-0	Antimony	1.8	*	10/19/2016	1051
7440-39-3	Barium	69.4		10/19/2016	1051
7440-41-7	Beryllium	0.45	J	10/19/2016	1051
7440-43-9	Cadmium	0.72	J*	10/19/2016	1051
7440-47-3	Chromium	4.8		10/19/2016	1051
7440-48-4	Cobalt	3.7		10/19/2016	1051
7439-98-7	Molybdenum	2.8	J	10/19/2016	1051
7440-02-0	Nickel	2.4	*	10/19/2016	1051
7782-49-2	Selenium	2.0	J	10/19/2016	1051
7440-22-4	Silver	6.8		10/19/2016	1051
7440-28-0	Thallium	0.21	J	10/19/2016	1051
7440-62-2	Vanadium	23.9		10/19/2016	1051

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Initial Calibration Verification Source: USEPA, Lot: ICV (0307)

Continuing Calibration Verification Source: In-House, Lot: B6A0045

Run Batch: BJ62109M101916A Analytical method: ICP-MS

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID: ICV01				ID: CCV01				ID: CCV02		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Antimony	199.00	202	101	1	500.00	530	106	0	530	106	2
Barium	99.000	101	102	1	500.00	514	103	0	515	103	0
Beryllium	99.000	107	108	1	500.00	498	100	0	505	101	1
Cadmium	99.000	102	103	1	500.00	513	103	0	510	102	1
Chromium	98.000	99.3	101	0	500.00	504	101	1	505	101	0
Cobalt	100.00	103	103	0	500.00	501	100	1	503	101	1
Molybdenum	10.000	10.7	107	0	1250.0	1300	104	0	1300	104	1
Nickel	101.00	102	101	0	500.00	498	100	0	501	100	1
Selenium	206.00	207	101	1	500.00	512	102	1	510	102	0
Silver	100.00	103	103	1	65.000	66.0	102	0	66.1	102	1
Thallium	206.00	218	106	1	500.00	500	100	1	498	100	1
Vanadium	100.00	100	100	1	500.00	503	101	1	505	101	1

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Initial Calibration Verification Source: USEPA, Lot: ICV (0307)

Continuing Calibration Verification Source: In-House, Lot: B6A0045

Run Batch: BJ62109M101916A Analytical method: ICP-MS

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID:				ID: CCV03				ID:		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Antimony					500.00	533	107	1			
Barium					500.00	521	104	1			
Beryllium					500.00	498	100	2			
Cadmium					500.00	515	103	0			
Chromium					500.00	511	102	1			
Cobalt					500.00	511	102	0			
Molybdenum					1250.0	1330	106	1			
Nickel					500.00	509	102	0			
Selenium					500.00	512	102	2			
Silver					65.000	67.2	103	0			
Thallium					500.00	508	102	1			
Vanadium					500.00	514	103	1			

FORM 3-IN
BLANKS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Preparation Blank Matrix: Soil

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/kg

Analytical method: ICP-MS Preparation Batch: QJ14036

Run Batch: BJ62109M101916A Preparation Method: 200.8

	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction Blank	
Analyte	ID: ICB01	Q	ID: CCB01	Q	ID: CCB02	Q	ID: CCB03	Q	ID: PBS01	Q
Antimony	2.0	U	2.0	U	2.0	U	2.0	U	1.0	U
Barium	10	U	0.084	J	0.072	J	0.064	J	5.0	U
Beryllium	1.0	U	0.12	J	0.13	J	1.0	U	0.50	U
Cadmium	1.0	U	1.0	U	0.053	J	1.0	U	0.50	U
Chromium	2.0	U	2.0	U	2.0	U	2.0	U	1.0	U
Cobalt	0.015	J	0.042	J	0.040	J	0.029	J	0.50	U
Molybdenum	4.0	U	0.29	J	0.32	J	4.0	U	2.0	U
Nickel	1.0	U	1.0	U	1.0	U	1.0	U	0.097	J
Selenium	5.0	U	5.0	U	5.0	U	5.0	U	-0.078	J
Silver	0.017	J	0.0069	J	1.0	U	1.0	U	0.50	U
Thallium	1.0	U	0.082	J	0.075	J	1.0	U	0.50	U
Vanadium	5.0	U	5.0	U	5.0	U	5.0	U	2.5	U

NOTE: Hardness (total) is reported in mg/L

FORM 4-IN
ICP INTERFERENCE CHECK SAMPLE

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Analytical Method: ICP-MS ICSA Source: USEPA, Lot:ICSA-0803

Instrument ID: ICPMS01 ICSB Source: USEPA, Lot:ICSA-0803 & ICSB-0803

Run Batch: BJ62109M101916A

Concentration Units: ug/L

Analyte	True		Found			
	ICSA	ICSAB	ICSA	%R	ICSAB	%R
Antimony	1.5	22	1.1	73	20.8	95
Barium	1.2	22	2.0	167	22.7	103
Beryllium	0	19	0.33		19.4	102
Cadmium	0.7	20	0.41	59	19.1	96
Chromium	21	40	21.7	103	43.6	109
Cobalt	1	20	1.3	130	20.5	103
Molybdenum	2000	2000	2180	109	2140	107
Nickel	6	24	5.7	95	24.2	101
Selenium	0.3	19	-0.097	-32	20.2	106
Silver	0	18	0.012		18.4	102
Thallium	0	21	0.024		19.6	93
Vanadium	0.5	19	-0.61	-122	21.6	114

EPA SAMPLE NO.

MH1J05S

FORM 5A-IN
MATRIX SPIKE SAMPLE RECOVERY

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Analytical Method: ICP-MS

% Solids: 86.6

Concentration Units (µg/L, mg/L or mg/kg dry weight): mg/kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q
Antimony	75-125	9.7		1.7		11.5	69	*
Barium	75-125	240		41.2		231	87	
Beryllium	75-125	5.0		0.28	J	5.77	82	
Cadmium	75-125	6.4		2.1		5.77	74	*
Chromium	75-125	24.0		3.9		23.1	89	
Cobalt	75-125	52.0		4.5		57.7	82	
Molybdenum	75-125	97.0		3.3		115	82	
Nickel	75-125	49.0		2.5		57.7	81	
Selenium	75-125	12.0		1.9	J	11.5	86	
Silver	75-125	6.2		1.7		5.77	78	
Thallium	75-125	4.9		0.16	J	5.77	82	
Vanadium	75-125	77.0		25.9		57.7	89	

EPA SAMPLE NO.

MH1J05A

FORM 5B-IN
POST-DIGESTION/DISTILLATION SPIKE
SAMPLE RECOVERY

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No. 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Analytical Method: ICP-MS

% Solids: 86.6

Concentration Units (µg/L, mg/L or mg/kg dry weight): mg/kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q
Antimony	75-125	5.0		1.7		3.5	95	
Cadmium	75-125	5.7		2.1		4.3	84	

EPA SAMPLE NO.

FORM 6-IN
DUPLICATES

MH1J05D

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Analytical Method: ICP-MS

% Solids: 86.6

Concentration Units (µg/L, mg/L, or mg/kg dry weight): mg/Kg

Analyte	Control Limit	Sample (S)	Q	Duplicate (D)	Q	RPD	Q
Antimony	1.2	1.7		2.6		39	
Barium		41.2		49.3		18	
Beryllium		0.28	J	0.25	J		
Cadmium	0.58	2.1		2.3		5	
Chromium	1.2	3.9		4.1		4	
Cobalt		4.5		4.7		5	
Molybdenum	2.3	3.3		3.8		13	
Nickel	0.58	2.5		2.7		7	
Selenium		1.9	J	2.0	J		
Silver	0.58	1.7		1.8		4	
Thallium		0.16	J	0.19	J		
Vanadium		25.9		26.8		4	

NOTE: Hardness (total) is reported in mg/L

EPA SAMPLE NO.

LCS01

FORM 7-IN
LABORATORY CONTROL SAMPLE

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Preparation Method: 200.8

Analytical method: ICP-MS Preparation Batch: QJ14036

Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/Kg

Analyte	True	Found	%R
Antimony	2.0000	2.0	100
Barium	10.000	10.2	102
Beryllium	1.0000	1.2	120
Cadmium	1.0000	1.1	110
Chromium	2.0000	2.1	105
Cobalt	1.0000	1.0	100
Molybdenum	4.0000	4.1	103
Nickel	1.0000	1.0	100
Selenium	5.0000	5.0	100
Silver	1.0000	1.0	100
Thallium	1.0000	0.97	97
Vanadium	5.0000	5.4	108

EPA SAMPLE NO.

MH1J05L

FORM 8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Matrix: Soil Analytical method: ICP-MS

% Solids: 86.6

Concentration Units (µg/L, mg/L or mg/kg dry weight): mg/Kg

Analyte	Initial Sample Result (I)	Q	Serial Dilution Result (S)	Q	% Difference	Q
Antimony	1.7		1.7	J	0	
Barium	41.2		41.8		1	
Beryllium	0.28	J	0.55	J	98	
Cadmium	2.1		2.1	J	0	
Chromium	3.9		3.4	J	13	
Cobalt	4.5		4.8		7	
Molybdenum	3.3		3.3	J	0	
Nickel	2.5		3.3		31	*
Selenium	1.9	J	1.7	J	7	
Silver	1.7		1.8	J	6	
Thallium	0.16	J	0.24	J	50	
Vanadium	25.9		24.6		5	

NOTE: Hardness (total) is reported in mg/L

FORM 9-IN
METHOD DETECTION LIMIT

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

Analytical Method: ICP-MS Instrument ID: ICPMS01

Preparation Method: 200.8

Concentration Units (µg/L, µg, or mg/kg): mg/Kg

Analyte	Wavelength/Mass	MDL	Date Analyzed
Antimony	121.00 u	0.03	06/28/2016
Barium	137.00 u	0.044	06/27/2016
Beryllium	9.00 u	0.04	06/28/2016
Cadmium	111.00 u	0.042	06/29/2016
Chromium	52.00 u	0.082	06/29/2016
Cobalt	59.00 u	0.03	06/28/2016
Nickel	60.00 u	0.045	06/28/2016
Selenium	78.00 u	0.068	06/29/2016
Silver	107.00 u	0.027	06/28/2016
Thallium	205.00 u	0.038	06/29/2016
Vanadium	51.00 u	0.082	06/28/2016
Molybdenum	95.00 u	0.045	06/28/2016

FORM 11-IN
ICP-MS INTERNAL STANDARD ASSOCIATION

Lab Name: Bonner Analytical Testing Co
Contract: EPW14029
Lab Code: BON Case No.: 46282
MA No.: 2658.0 SDG No.:MH1J05
Instrument ID: ICPMS01
Date: 10/19/2016
Run Batch: BJ62109M101916A

Analyte	Assoc. Internal Standard 1	Assoc. Internal Standard 2
Antimony	Sc	Tb
Barium	Sc	Tb
Beryllium	Sc	
Cadmium	Sc	Tb
Chromium	Rh	
Cobalt	Sc	Tb
Molybdenum	Sc	Tb
Nickel	Sc	Tb
Selenium	Rh	
Silver	Sc	Tb
Thallium	Ho	
Vanadium	Rh	

FORM 12-IN
ANALYSIS LOG

Lab Name: Bonner Analytical Testing Co.

Contract: EPW14029

Lab Code: BON Case No.: 46282

MA No.: 2658.0 SDG No.: MH1J05

Instrument ID: ICPMS01

Analytical Method: ICP-MS

Start Date: 10/19/2016

End Date: 10/19/2016

Run Batch: BJ62109M101916A

EPA Sample NO.	D/F	Time	Analytes																								
			Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	CN	
TUNE01	1.0	0739																									
S01	1.0	0751		X		X	X	X		X	X							X		X	X		X	X			
S02	1.0	0755																									
S03	1.0	0759				X																					
S04	1.0	0803		X			X	X		X	X							X		X	X		X	X			
S05	1.0	0807		X		X	X	X		X	X							X		X	X		X	X			
S06	1.0	0811		X		X	X	X		X	X							X		X	X		X	X			
S07	1.0	0815		X		X	X	X		X	X							X		X	X		X	X			
S08	1.0	0819		X		X	X	X		X	X							X		X	X		X	X			
ICV01	1.0	0823		X		X	X	X		X	X							X		X	X		X	X			
ICB01	1.0	0828		X		X	X	X		X	X							X		X	X		X	X			
ICSA01	1.0	0832		X		X	X	X		X	X							X		X	X		X	X			
ICSAB01	1.0	0836		X		X	X	X		X	X							X		X	X		X	X			
CCV01	1.0	0840		X		X	X	X		X	X							X		X	X		X	X			
CCB01	1.0	0845		X		X	X	X		X	X							X		X	X		X	X			
CCV02	1.0	0914		X		X	X	X		X	X							X		X	X		X	X			
CCB02	1.0	0918		X		X	X	X		X	X							X		X	X		X	X			
PBS01	1.0	0922		X		X	X	X		X	X							X		X	X		X	X			
LCS01	1.0	0926		X		X	X	X		X	X							X		X	X		X	X			
MH1J05	1.0	0930		X		X	X	X		X	X							X		X	X		X	X			
MH1J05S	1.0	0934		X		X	X	X		X	X							X		X	X		X	X			
MH1J05D	1.0	0938		X		X	X	X		X	X							X		X	X		X	X			
MH1J05L	5.0	0942		X		X	X	X		X	X							X		X	X		X	X			
MH1J06	1.0	0946		X		X	X	X		X	X							X		X	X		X	X			
MH1J07	1.0	0950		X		X	X	X		X	X							X		X	X		X	X			
MH1J08	1.0	0954		X		X	X	X		X	X							X		X	X		X	X			
MH1J09	1.0	0958		X		X	X	X		X	X							X		X	X		X	X			
MH1J10	1.0	1002		X		X	X	X		X	X							X		X	X		X	X			
MH1J11	1.0	1006		X		X	X	X		X	X							X		X	X		X	X			
MH1J12	1.0	1010		X		X	X	X		X	X							X		X	X		X	X			

FORM 12-IN
ANALYSIS LOG

Lab Name: Bonner Analytical Testing Co.

Contract: EPW14029

Lab Code: BON Case No.: 46282

MA No.: 2658.0 SDG No.: MH1J05

Instrument ID: ICPMS01

Analytical Method: ICP-MS

Start Date: 10/19/2016

End Date: 10/19/2016

Run Batch: BJ62109M101916A

EPA Sample NO.	D/F	Time	Analytes																								
			Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	CN	
MH1J13	1.0	1014		X		X	X	X		X	X							X		X	X		X	X			
MH1J14	1.0	1018		X		X	X	X		X	X							X		X	X		X	X			
MH1J15	1.0	1022		X		X	X	X		X	X							X		X	X		X	X			
MH1J16	1.0	1027								X										X			X	X			
MH1J17	1.0	1031		X		X	X	X		X	X							X		X	X		X	X			
MH1J18	1.0	1035		X		X	X	X		X	X							X		X	X		X	X			
MH1J19	1.0	1039		X		X	X	X		X	X							X		X	X		X	X			
MH1J20	1.0	1043		X		X	X	X		X	X							X		X	X		X	X			
MH1J21	1.0	1047		X		X	X	X		X	X							X		X	X		X	X			
MH1J22	1.0	1051		X		X	X	X		X	X							X		X	X		X	X			
MH1J05A	1.0	1054		X				X																			
MH1J16	2.0	1057		X		X	X	X			X							X			X						
CCV03	1.0	1101		X		X	X	X		X	X							X		X	X		X	X			
CCB03	1.0	1107		X		X	X	X		X	X							X		X	X		X	X			

FORM 12-IN
ANALYSIS LOG

Lab Name: Bonner Analytical Testing Co.

Contract: EPW14029

Lab Code: BON Case No.: 46282

MA No.: 2658.0 SDG No.: MH1J05

Instrument ID: ICPMS01

Analytical Method: ICP-MS

Start Date: 10/19/2016

End Date: 10/19/2016

Run Batch: BJ62109M101916A

EPA Sample NO.	D/F	Time	Analytes																							
			B	Au	Li	Bi	Mo	Os	Pd	P	Pt	Si	S	Sn	Sr	Ti	U	Zr								
TUNE01	1.0	0739																								
S01	1.0	0751					X																			
S02	1.0	0755					X																			
S03	1.0	0759					X																			
S04	1.0	0803					X																			
S05	1.0	0807					X																			
S06	1.0	0811					X																			
S07	1.0	0815					X																			
S08	1.0	0819					X																			
ICV01	1.0	0823					X																			
ICB01	1.0	0828					X																			
ICSA01	1.0	0832					X																			
ICSAB01	1.0	0836					X																			
CCV01	1.0	0840					X																			
CCB01	1.0	0845					X																			
CCV02	1.0	0914					X																			
CCB02	1.0	0918					X																			
PBS01	1.0	0922					X																			
LCS01	1.0	0926					X																			
MH1J05	1.0	0930					X																			
MH1J05S	1.0	0934					X																			
MH1J05D	1.0	0938					X																			
MH1J05L	5.0	0942					X																			
MH1J06	1.0	0946					X																			
MH1J07	1.0	0950					X																			
MH1J08	1.0	0954					X																			
MH1J09	1.0	0958					X																			
MH1J10	1.0	1002					X																			
MH1J11	1.0	1006					X																			
MH1J12	1.0	1010					X																			

FORM 12-IN
ANALYSIS LOG

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.: 2658.0
SDG No.: MH1J05
Instrument ID: ICPMS01
Analytical Method: ICP-MS
Start Date: 10/19/2016
End Date: 10/19/2016
Run Batch: BJ62109M101916A

EPA Sample NO.	D/F	Time	Analytes																							
			B	Au	Li	Bi	Mo	Os	Pd	P	Pt	Si	S	Sn	Sr	Ti	U	Zr								
MH1J13	1.0	1014					X																			
MH1J14	1.0	1018					X																			
MH1J15	1.0	1022					X																			
MH1J16	1.0	1027																								
MH1J17	1.0	1031					X																			
MH1J18	1.0	1035					X																			
MH1J19	1.0	1039					X																			
MH1J20	1.0	1043					X																			
MH1J21	1.0	1047					X																			
MH1J22	1.0	1051					X																			
MH1J05A	1.0	1054																								
MH1J16	2.0	1057					X																			
CCV03	1.0	1101					X																			
CCB03	1.0	1107					X																			

EPA SAMPLE NO.

TUNE01

FORM 13-IN
ICP-MS TUNE

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: 2658.0 SDG No.: MH1J05

ICP-MS Instrument ID: ICPMS01 Date: 10/19/16

Run Batch: BJ62109M101916A

Element - Mass	Avg. Measured Mass (u)	Average Peak Width (u)	%Height	%RSD
Be - 9	9.0	0.7	5	0.9
Mg - 24	23.9	0.7	5	0.3
Mg - 25	24.9	0.7	5	0.8
Mg - 26	25.9	0.7	5	0.5
Co - 59	58.9	0.7	5	0.7
In - 113	112.9	0.7	5	0.6
In - 115	114.9	0.7	5	0.6
Pb - 206	205.9	0.7	5	0.9
Pb - 207	206.9	0.7	5	1.0
Pb - 208	207.9	0.7	5	0.7

FORM 14-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA. No.: 2658.0 SDG No.: MH1J05

ICP-MS Instrument ID: ICPMS01 Start Date: 10/19/2016

Run Batch: BJ62109M101916A End Date: 10/19/2016

EPA Sample NO.	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc-45	Q	Element Y-89	Q	Element Rh-103	Q	Element In-115	Q
S01	7:51	100		100				100			
S02	7:55	101		98				101			
S03	7:59	99		95				98			
S04	8:03	100		95				99			
S05	8:07	101		95				97			
S06	8:11	100		94				97			
S07	8:15	100		95				97			
S08	8:19	97		89				94			
ICV01	8:23	97		86				95			
ICB01	8:28	98		88				95			
ICSA01	8:32	95		97				93			
ICSAB01	8:36	89		104				92			
CCV01	8:40	97		113				108			
CCB01	8:45	95		105				106			
CCV02	9:14	99		107				102			
CCB02	9:18	97		96				100			
PBS01	9:22	97		96				100			
LCS01	9:26	100		98				102			
MH1J05	9:30	103		114				102			
MH1J05S	9:34	100		110				99			
MH1J05D	9:38	99		108				98			
MH1J05L	9:42	99		101				101			
MH1J06	9:46	99		108				100			
MH1J07	9:50	101		109				100			
MH1J08	9:54	104		110				103			
MH1J09	9:58	106		115				106			
MH1J10	10:02	106		111				102			
MH1J11	10:06	105		114				104			
MH1J12	10:10	109		113				105			
MH1J13	10:14	109		114				107			

FORM 14-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA. No.: 2658.0 SDG No.: MH1J05

ICP-MS Instrument ID: ICPMS01 Start Date: 10/19/2016

Run Batch: BJ62109M101916A End Date: 10/19/2016

EPA Sample NO.	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc-45	Q	Element Y-89	Q	Element Rh-103	Q	Element In-115	Q
MH1J14	10:18	110		119				106			
MH1J15	10:22	109		117				105			
MH1J16	10:27	109		132	R			105			
MH1J17	10:31	111		123				105			
MH1J18	10:35	110		116				107			
MH1J19	10:39	110		115				103			
MH1J20	10:43	111		114				108			
MH1J21	10:47	112		118				107			
MH1J22	10:51	112		118				106			
MH1J05A	10:54	111		121				106			
MH1J16	10:57	112		120				108			
CCV03	11:01	108		107				106			
CCB03	11:07	110		107				106			

FORM 14-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA. No.: 2658.0 SDG No.: MH1J05

ICP-MS Instrument ID: ICPMS01 Start Date: 10/19/2016

Run Batch: BJ62109M101916A End Date: 10/19/2016

EPA Sample NO.	Time	Internal Standards %RI For:									
		Element Tb-159	Q	Element Ho-165	Q	Element Bi-209	Q	Element	Q	Element	Q
S01	7:51	100		100							
S02	7:55	103		103							
S03	7:59	101		100							
S04	8:03	101		101							
S05	8:07	100		100							
S06	8:11	101		102							
S07	8:15	105		105							
S08	8:19	105		105							
ICV01	8:23	104		105							
ICB01	8:28	103		103							
ICSA01	8:32	104		105							
ICSAB01	8:36	109		109							
CCV01	8:40	121		121							
CCB01	8:45	112		113							
CCV02	9:14	116		118							
CCB02	9:18	107		108							
PBS01	9:22	107		107							
LCS01	9:26	108		108							
MH1J05	9:30	113		113							
MH1J05S	9:34	114		113							
MH1J05D	9:38	112		112							
MH1J05L	9:42	109		109							
MH1J06	9:46	109		109							
MH1J07	9:50	110		109							
MH1J08	9:54	111		110							
MH1J09	9:58	116		115							
MH1J10	10:02	111		110							
MH1J11	10:06	112		112							
MH1J12	10:10	118		118							
MH1J13	10:14	122		120							

FORM 14-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA. No.: 2658.0 SDG No.: MH1J05

ICP-MS Instrument ID: ICPMS01 Start Date: 10/19/2016

Run Batch: BJ62109M101916A End Date: 10/19/2016

EPA Sample NO.	Time	Internal Standards %RI For:									
		Element Tb-159	Q	Element Ho-165	Q	Element Bi-209	Q	Element	Q	Element	Q
MH1J14	10:18	115		114							
MH1J15	10:22	116		116							
MH1J16	10:27	118		118							
MH1J17	10:31	116		116							
MH1J18	10:35	117		116							
MH1J19	10:39	113		113							
MH1J20	10:43	117		116							
MH1J21	10:47	115		114							
MH1J22	10:51	116		116							
MH1J05A	10:54	114		112							
MH1J16	10:57	111		111							
CCV03	11:01	114		114							
CCB03	11:07	108		108							

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.

Contract: EPW14029

Lab Code: BON

Case No.: 46282

MA No.: 2658.0

SDG No.: MH1J05

Instrument ID: ICPMS01

Start Date: 10/19/2016

Analytical method: ICP-MS

Run Batch: BJ62109M101916A

Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Antimony	0.0	0.0010							
Barium	0.0	0.032					5.0	4.9	2
Beryllium	0.0	0.091							
Cadmium	0.0	0.00060							
Chromium	0.0	-0.0038							
Cobalt	0.0	0.00010							
Nickel	0.0	0.0026							
Selenium	0.0	-0.028							
Silver	0.0	0.00010							
Thallium	0.0	0.010							
Vanadium	0.0	-0.018							
Molybdenum	0.0	0.00040		2.0	2.0	0	4.0	4.0	-1

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.: 2658.0
SDG No.: MH1J05
Instrument ID: ICPMS01
Start Date: 10/19/2016
Analytical method: ICP-MS
Run Batch: BJ62109M101916A
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Antimony	2.0	2.0	2	10.0	9.8	2	50.0	48.9	2
Barium				10.0	10	0	50.0	49.1	2
Beryllium	1.0	1.1	-12	10.0	9.8	2	50.0	50.5	-1
Cadmium	1.0	0.92	8	10.0	9.9	1	50.0	49.2	2
Chromium	2.0	2.0	0	10.0	10.3	-3	50.0	50.8	-2
Cobalt	1.0	0.98	2	10.0	10.0	0	50.0	49.6	1
Nickel	1.0	1.0	0	10.0	10	0	50.0	49.7	1
Selenium	5.0	5.3	-6	10.0	9.6	4	50.0	49.9	0
Silver	1.0	0.99	1	1.3	1.3	1	6.5	6.5	0
Thallium	1.0	0.98	2	10.0	9.8	2	50.0	49.3	1
Vanadium	5.0	5.1	-1	10.0	10.2	-2	50.0	50.5	-1
Molybdenum	10.0	9.9	1	25.0	24.8	1	125	124	1

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.: 2658.0
SDG No.: MH1J05
Instrument ID: ICPMS01
Start Date: 10/19/2016
Analytical method: ICP-MS
Run Batch: BJ62109M101916A
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Antimony	500	513	-3	1000	1010	-1			
Barium	500	501	0	1000	1010	-1			
Beryllium	500	501	0	1000	1030	-3			
Cadmium	500	501	0	1000	1010	-1			
Chromium	500	499	0	1000	1000	0			
Cobalt	500	503	-1	1000	996	0			
Nickel	500	501	0	1000	1000	0			
Selenium	500	502	0	1000	992	1			
Silver	65.0	65.2	0	130	130	0			
Thallium	500	508	-2	1000	1040	-4			
Vanadium	500	496	1	1000	998	0			
Molybdenum	1250	1300	-4	2500	2600	-4			

FORM 16-IN
INITIAL CALIBRATION SUMMARY

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.: 2658.0
SDG No.: MH1J05
Instrument ID: ICPMS01
Start Date: 10/19/2016
Analytical method: ICP-MS
Run Batch: BJ62109M101916A

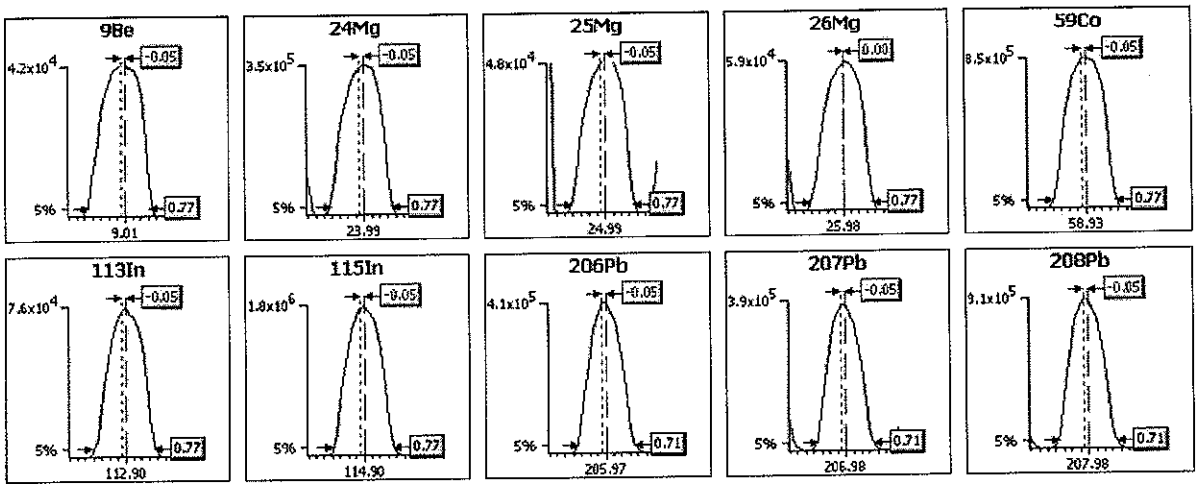
Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Antimony	0.999969	3942.996329	0.004951	WLR	Standard Devi
Barium	0.999991	1371.712922	0.006599	WLR	Standard Devi
Beryllium	0.999922	345.986282	0.020405	WLR	Standard Devi
Cadmium	0.999987	1166.223565	0.005134	WLR	Standard Devi
Chromium	0.999997	1076.329942	0.162997	WLR	Standard Devi
Cobalt	0.999989	6205.718315	0.002618	WLR	Standard Devi
Nickel	1.000000	1306.266297	0.311605	WLR	Standard Devi
Selenium	0.999986	32.017410	0.270729	WLR	Standard Devi
Silver	0.999999	5072.188741	0.001372	WLR	Standard Devi
Thallium	0.999954	10040.983697	-0.004897	WLR	Standard Devi
Vanadium	0.999994	791.666988	0.015547	WLR	Standard Devi
Molybdenum	0.999997	1808.788186	0.009418	WLR	Standard Devi

Performance Report

Sample details
Sample name : SEQ-TUN1@TUNE01
Acquired at : 10/19/2016 07:39:25
Report name : 200_8 + IS TEST_NO SCREEN [7/9/2015 09:58:10]

Mass Calibration verification

Acquisition parameters
Sweeps : 10
Dwell : 10.0 mSecs
Point spacing : 0.05 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
9Be	0.85	0.65	0.11	0.77	-0.05
24Mg	0.85	0.65	0.11	0.77	-0.05
25Mg	0.85	0.65	0.11	0.77	-0.05
26Mg	0.85	0.65	0.11	0.77	0.00
59Co	0.85	0.65	0.11	0.77	-0.05
113In	0.85	0.65	0.11	0.77	-0.05
115In	0.85	0.65	0.11	0.77	-0.05
206Pb	0.85	0.65	0.11	0.71	-0.05
207Pb	0.85	0.65	0.11	0.71	-0.05
208Pb	0.85	0.65	0.11	0.71	-0.05

Sample details
Sample name : SEQ-TUN1@TUNE01
Acquired at : 10/19/2016 07:39:25
Report name : 200_8 + IS TEST_NO SCREEN [7/9/2015 09:58:10]

Tune conditions

Major	
Extraction	-200
Lens 1	0.3
Focus	18.4
D1	-41.6
Pole Bias	1.5
Hexapole Bias	-3.5
Nebuliser	0.78
Sampling Depth	130

Minor	
Lens 2	-26.7
Lens 3	-189.0
Forward power	1400
Horizontal	95
Vertical	375
D2	-160
DA	-32.9
Cool	13.0
Auxiliary	0.90

Global	
Standard resolution	n/a
High resolution	n/a
Analogue Detector	n/a
PC Detector	n/a

Add. Gases	
CCT 7% h2/He	0.00
Dont touch this thing	0.00

Sensitivity and stability results

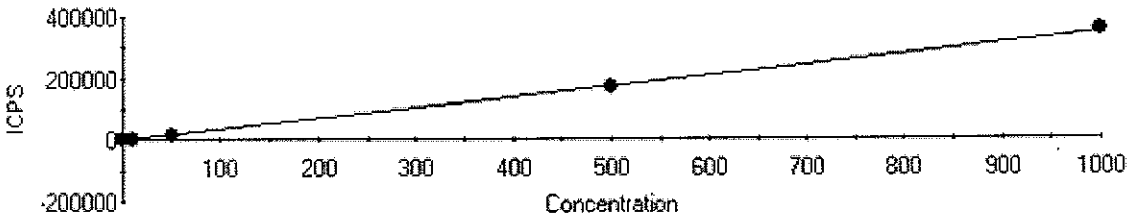
Acquisition parameters
Sweeps : 30

Run	Time	6Li	9Be	24Mg	25Mg	26Mg	45Sc	59Co	89Y	113In	115In	159Tb	206Pb	207Pb	208Pb	209Bi
Dwell (mSecs)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Limits	%RSD	3.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
	Countrate	>4000	>4000	>4000	>4000	>4000	>5000	>4000	>5000	>10000	>20000	>20000	>20000	>20000	>20000	>20000
1	07:40:04	105120.95	44689.574	363016.06	50375.856	59842.986	1232246.3	890695.95	114290.61	78840.393	1873535.7	167390.35	432009.89	383018.89	949117.27	114310.86
2	07:40:11	105056.88	45108.301	364722.36	49953.535	59272.600	1243996.8	891939.45	115769.14	78181.406	1879921.4	170395.41	435996.96	386161.05	953742.50	115772.52
3	07:40:19	105994.33	44813.516	362634.61	50439.541	59742.327	1254314.0	904181.42	116022.34	77969.598	1875251.4	169138.94	436248.61	388278.44	963698.18	116177.64
4	07:40:27	105987.59	45764.904	365756.00	49876.447	59812.788	1237317.4	904688.32	116336.31	79206.892	1896127.0	171179.94	442178.38	391958.07	962068.36	116039.22
5	07:40:34	105279.43	45222.199	364229.86	50932.277	60087.927	1248940.9	896621.48	116822.49	78487.358	1893818.5	172117.40	439922.80	391457.16	965779.29	118081.94
x		105487.83	45119.699	364071.78	50315.531	59751.725	1243363.1	897625.32	115848.18	78537.129	1883730.8	170044.41	437271.33	388174.72	958881.12	116076.43
σ		466.38	420.02	1271.30	425.21	297.80	8825.68	6599.65	955.27	497.91	10556.72	1842.13	3919.89	3732.84	7118.38	1345.67
%RSD		0.4421	0.9309	0.3492	0.8451	0.4984	0.7098	0.7352	0.8246	0.6340	0.5604	1.0833	0.8964	0.9616	0.7424	1.1593

Result : The performance report passed.

Fully Quant Calibration

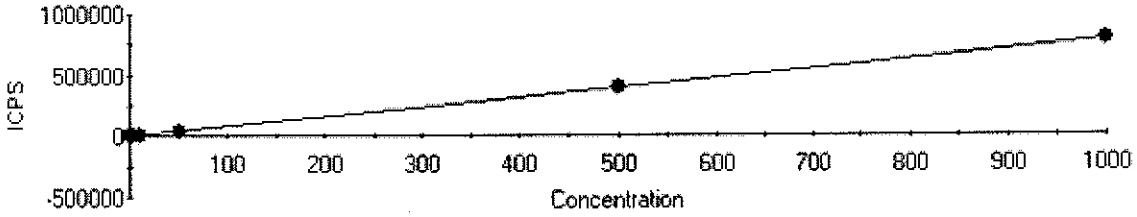
9Be FQ Block 1



Intercept CPS=-7.059925 Intercept Conc=-0.020405
Sensitivity=345.986282 Correlation Coeff=0.999922

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	0.091	0.091	24.52	0.00
SEQ-CAL4@S04	1.000	1.122	0.122	381.29	12.24
SEQ-CAL5@S05	10.000	9.834	0.166	3395.51	1.66
SEQ-CAL6@S06	50.000	50.527	0.527	17474.47	1.05
SEQ-CAL7@S07	500.000	501.371	1.371	173460.53	0.27
SEQ-CAL8@S08	1000.000	1030.055	30.055	356377.67	3.01

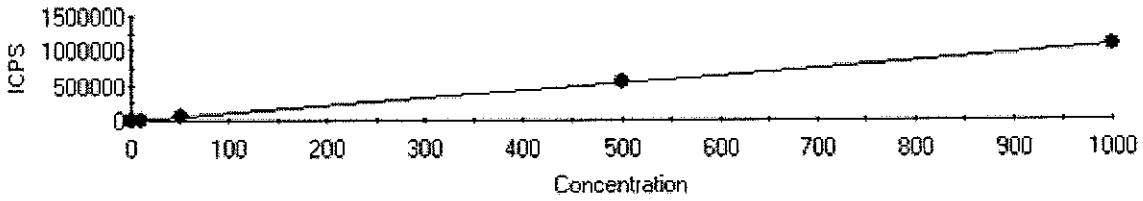
51V FQ Block 1



Intercept CPS=12.308140 Intercept Conc=0.015547
Sensitivity=791.666988 Correlation Coeff=0.999994

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	-0.018	0.018	-2.26	0.00
SEQ-CAL4@S04	5.000	5.073	0.073	4028.20	1.45
SEQ-CAL5@S05	10.000	10.177	0.177	8069.49	1.77
SEQ-CAL6@S06	50.000	50.488	0.488	39981.75	0.98
SEQ-CAL7@S07	500.000	495.545	4.455	392319.21	0.89
SEQ-CAL8@S08	1000.000	998.084	1.916	790162.71	0.19

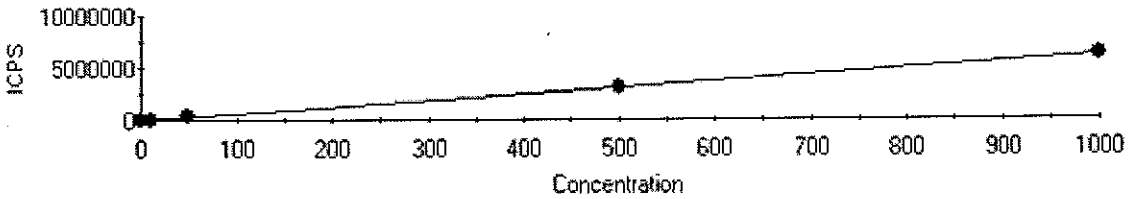
52Cr FQ Block 1



Intercept CPS=175.438568 Intercept Conc=0.162997
Sensitivity=1076.329942 Correlation Coeff=0.999997

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	-0.004	0.004	171.31	0.00
SEQ-CAL4@S04	2.000	1.991	0.009	2318.49	0.45
SEQ-CAL5@S05	10.000	10.346	0.346	11311.64	3.46
SEQ-CAL6@S06	50.000	50.780	0.780	54831.40	1.56
SEQ-CAL7@S07	500.000	498.868	1.132	537121.54	0.23
SEQ-CAL8@S08	1000.000	1002.889	2.889	1079615.44	0.29

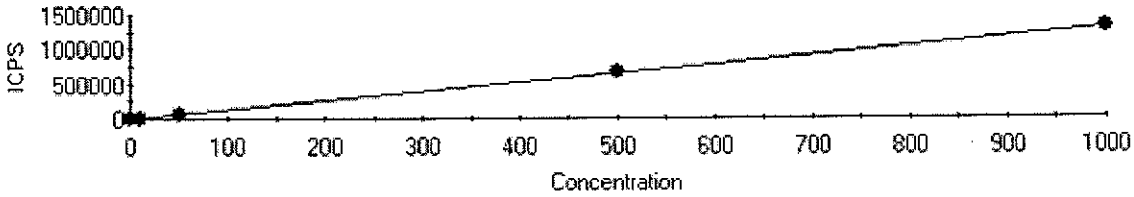
59Co FQ Block 1



Intercept CPS=16.246846 Intercept Conc=0.002618
Sensitivity=6205.718315 Correlation Coeff=0.999989

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	0.000	0.000	16.60	0.00
SEQ-CAL4@S04	1.000	0.977	0.023	6076.54	2.34
SEQ-CAL5@S05	10.000	10.047	0.047	62363.46	0.47
SEQ-CAL6@S06	50.000	49.570	0.430	307632.78	0.86
SEQ-CAL7@S07	500.000	502.710	2.710	3119692.52	0.54
SEQ-CAL8@S08	1000.000	995.753	4.247	6179378.76	0.42

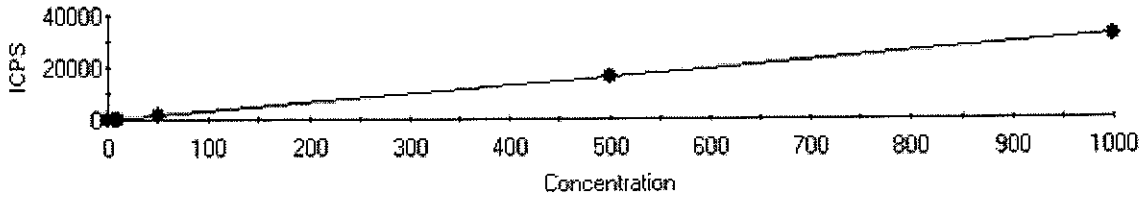
60Ni FQ Block 1



Intercept CPS=407.039201 Intercept Conc=0.311605
Sensitivity=1306.266297 Correlation Coeff=1.000000

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	0.003	0.003	410.40	0.00
SEQ-CAL4@S04	1.000	1.000	0.000	1712.73	0.04
SEQ-CAL5@S05	10.000	9.990	0.010	13457.13	0.10
SEQ-CAL6@S06	50.000	49.706	0.294	65336.82	0.59
SEQ-CAL7@S07	500.000	500.932	0.932	654757.93	0.19
SEQ-CAL8@S08	1000.000	1002.438	2.438	1309857.39	0.24

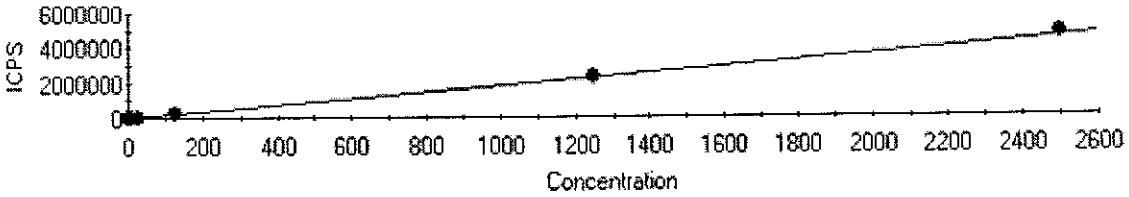
78Se FQ Block 1



Intercept CPS=8.668027 Intercept Conc=0.270729
Sensitivity=32.017410 Correlation Coeff=0.999986

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	-0.028	0.028	7.77	0.00
SEQ-CAL4@S04	5.000	5.321	0.321	179.05	6.43
SEQ-CAL5@S05	10.000	9.633	0.367	317.10	3.67
SEQ-CAL6@S06	50.000	49.853	0.147	1604.82	0.29
SEQ-CAL7@S07	500.000	501.671	1.671	16070.88	0.33
SEQ-CAL8@S08	1000.000	992.113	7.887	31773.55	0.79

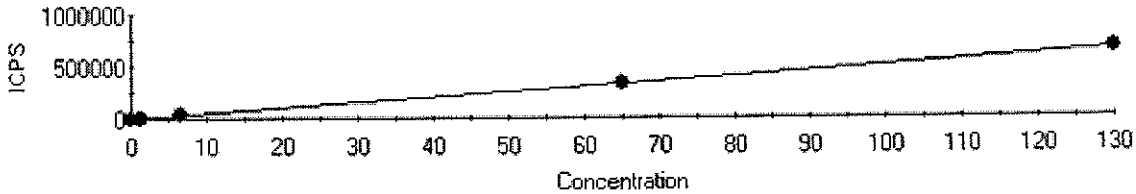
95Mo FQ Block 1



Intercept CPS=17.035420 Intercept Conc=0.009418
Sensitivity=1808.788186 Correlation Coeff=0.999997

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	0.000	0.000	17.81	0.00
SEQ-CAL2@S02	2.000	2.009	0.009	3650.74	0.45
SEQ-CAL3@S03	4.000	4.021	0.021	7290.12	0.52
SEQ-CAL4@S04	10.000	9.901	0.099	17925.03	0.99
SEQ-CAL5@S05	25.000	24.807	0.193	44887.43	0.77
SEQ-CAL6@S06	125.000	123.755	1.245	223863.77	1.00
SEQ-CAL7@S07	1250.000	1301.704	51.704	2354524.53	4.14
SEQ-CAL8@S08	2500.000	2603.251	103.251	4708747.18	4.13

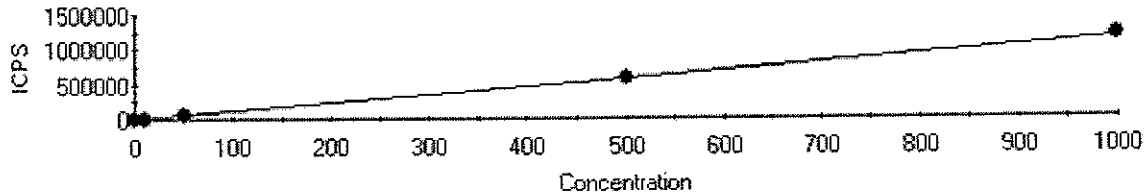
107Ag FQ Block 1



Intercept CPS=6.960083 Intercept Conc=0.001372
Sensitivity=5072.188741 Correlation Coeff=0.999999

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	0.000	0.000	7.71	0.00
SEQ-CAL4@S04	1.000	0.991	0.009	5035.36	0.86
SEQ-CAL5@S05	1.300	1.291	0.009	6555.78	0.68
SEQ-CAL6@S06	6.500	6.478	0.022	32866.29	0.33
SEQ-CAL7@S07	65.000	65.163	0.163	330527.60	0.25
SEQ-CAL8@S08	130.000	129.871	0.129	658736.90	0.10

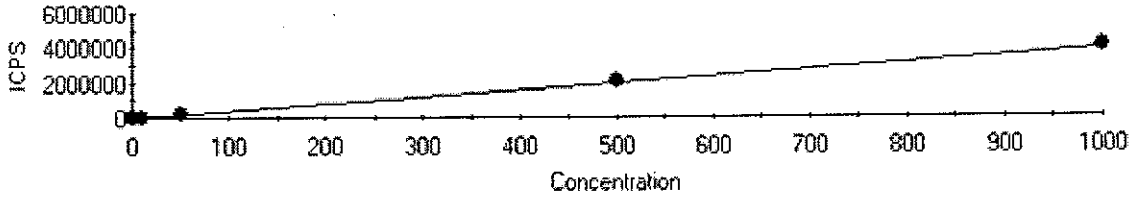
111Cd FQ Block 1



Intercept CPS=5.987215 Intercept Conc=0.005134
Sensitivity=1166.223565 Correlation Coeff=0.999987

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	0.001	0.001	6.68	0.00
SEQ-CAL4@S04	1.000	0.919	0.081	1077.76	8.10
SEQ-CAL5@S05	10.000	9.945	0.055	11603.93	0.55
SEQ-CAL6@S06	50.000	49.154	0.846	57330.30	1.69
SEQ-CAL7@S07	500.000	501.443	1.443	584800.25	0.29
SEQ-CAL8@S08	1000.000	1014.044	14.044	1182608.27	1.40

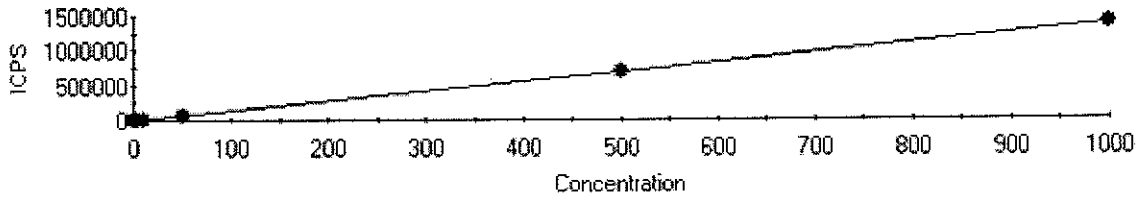
121Sb FQ Block 1



Intercept CPS=19.523347 Intercept Conc=0.004951
Sensitivity=3942.996329 Correlation Coeff=0.999969

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	0.001	0.001	23.27	0.00
SEQ-CAL4@S04	2.000	1.960	0.040	7745.93	2.02
SEQ-CAL5@S05	10.000	9.795	0.205	38640.15	2.05
SEQ-CAL6@S06	50.000	48.937	1.063	192976.40	2.13
SEQ-CAL7@S07	500.000	513.302	13.302	2023967.01	2.66
SEQ-CAL8@S08	1000.000	1010.603	10.603	3984823.98	1.06

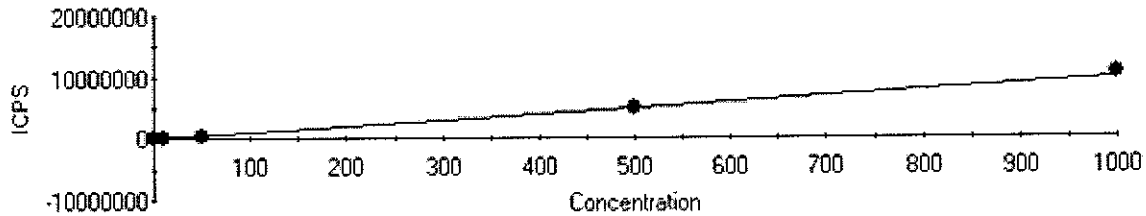
137Ba FQ Block 1



Intercept CPS=9.051704 Intercept Conc=0.006599
Sensitivity=1371.712922 Correlation Coeff=0.999991

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	0.032	0.032	53.54	0.00
SEQ-CAL3@S03	5.000	4.875	0.125	6696.36	2.50
SEQ-CAL5@S05	10.000	9.982	0.018	13700.87	0.18
SEQ-CAL6@S06	50.000	49.132	0.868	67403.46	1.74
SEQ-CAL7@S07	500.000	501.254	1.254	687585.55	0.25
SEQ-CAL8@S08	1000.000	1011.799	11.799	1387906.83	1.18

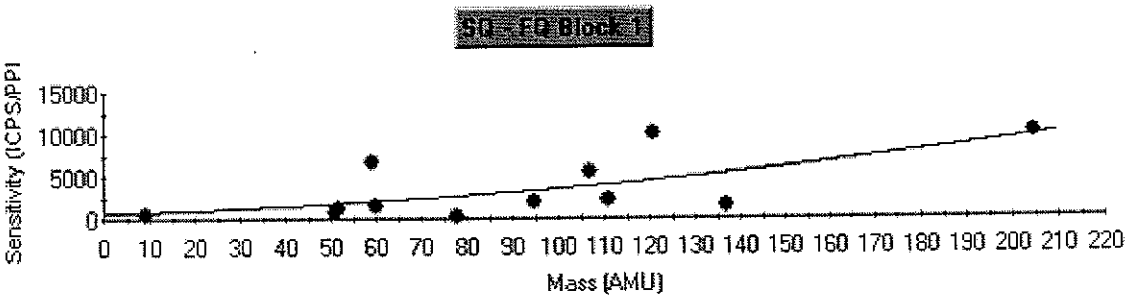
205Tl FQ Block 1



Intercept CPS=-49.166929 Intercept Conc=-0.004897
Sensitivity=10040.983697 Correlation Coeff=0.999954

Label	Defined	Measured	Error	Mean CPS	% Error
SEQ-CAL1@S01	0.000	0.010	0.010	54.30	0.00
SEQ-CAL4@S04	1.000	0.982	0.018	9808.87	1.82
SEQ-CAL5@S05	10.000	9.826	0.174	98616.51	1.74
SEQ-CAL6@S06	50.000	49.321	0.679	495179.94	1.36
SEQ-CAL7@S07	500.000	507.490	7.490	5095652.58	1.50
SEQ-CAL8@S08	1000.000	1036.197	36.197	10404387.46	3.62

Semi Quant Calibration



Coeff 0=632.498530 Coeff 1=14.746219 Coeff 2=0.143966

Symbol	Mass	RSF	Available	Excluded	Sensitivity Measured	Corrected	Calculated	%Error
9Be	9.01	0.7500	1	1	345.99	461.32	777.09	68.5
51V	50.94	0.9900	1	1	791.67	801.59	1757.36	119.2
52Cr	51.94	0.9800	1	1	1076.33	1311.24	1786.82	36.3
59Co	58.93	0.9300	1	1	6205.72	6672.82	2001.55	-70.0
60Ni	59.93	0.9100	1	1	1306.27	5487.22	2033.33	-62.9
78Se	77.92	0.1000	1	1	32.02	1356.10	2655.52	95.8
95Mo	94.91	0.9800	1	1	1808.79	12487.84	3328.72	-73.3
107Ag	106.91	0.9300	1	1	5072.19	10621.16	3854.29	-63.7
111Cd	110.90	0.5660	1	1	1166.22	16022.28	4038.66	-74.8
121Sb	120.90	0.3900	1	1	3943.00	17659.82	4519.83	-74.4
137Ba	136.91	0.9100	1	1	1371.71	13316.05	5349.72	-59.8
205Tl	204.97	1.0000	1	1	10040.98	14242.53	9703.58	-31.9

Dilution Corrected Concentrations

SEQ-CAL1@S01 10/19/2016 07:51:01

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:51:01	99.5%	0.0791	98.5%	-0.0082	-0.0540	0.0043	3.8840	-0.0004	0.0590	-0.0085	0.0765	0.0156	-0.0614	-0.0009	-0.0001	0.0026	0.0011	-0.0016	99.9%
2	07:51:19	99.9%	0.1273	99.2%	0.0162	0.0166	-0.0194	-3.1940	-0.0005	-0.0393	0.0043	-0.1663	-0.0448	0.3533	-0.0010	0.0035	-0.0037	-0.0010	-0.0015	99.7%
3	07:51:32	100.6%	0.0675	102.4%	-0.0080	-0.0178	0.0036	-0.6893	0.0011	-0.0119	0.0042	0.0058	0.0292	-0.2919	0.0019	-0.0022	0.0011	-0.0001	0.0032	100.4%
x		100.0%	0.0913	100.0%	0.0000	-0.0184	-0.0038	-0.0000	0.0001	0.0026	0.0000	-0.0280	0.0000	0.0000	0.0000	0.0004	-0.0000	0.0000	0.0000	100.0%
σ		0.6%	0.0317	2.1%	0.0141	0.0353	0.0135	3.5890	0.0009	0.0507	0.0073	0.1249	0.0394	0.3269	0.0017	0.0029	0.0033	0.0011	0.0028	0.4%
%RSD		0.6	34.7300	2.1	0.0000	191.9000	351.9000	0.0000	1535.0000	1968.0000	0.0000	446.1000	0.0000	0.0000	0.0000	674.7000	0.0000	0.0000	0.0000	0.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:51:01	-0.0091	-0.0014	-0.0005	0.0007	0.0013	-0.0024	0.0526	98.5%	98.3%	0.0089	0.0000
2	07:51:19	-0.0034	0.0006	0.0010	0.0034	-0.0013	0.0044	0.0225	100.4%	100.6%	0.0092	0.0000
3	07:51:32	0.0126	0.0012	-0.0005	-0.0023	-0.0000	0.0009	0.0222	101.1%	101.1%	0.0128	0.0000
x		0.0000	0.0001	0.0000	0.0006	0.0000	0.0010	0.0324	100.0%	100.0%	0.0103	0.0000
σ		0.0112	0.0014	0.0009	0.0029	0.0013	0.0034	0.0175	1.3%	1.5%	0.0021	0.0000
%RSD		0.0000	912.8000	0.0000	485.8000	0.0000	353.9000	53.8400	1.3	1.5	20.8000	0.0000

SEQ-CAL2@S02 10/19/2016 07:55:22

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:55:36	100.5%	0.2179	97.6%	-0.0121	0.9668	0.4280	9.7360	0.2301	0.2266	0.0420	1.1750	0.1710	-1.4870	0.6348	2.0000	1.1840	0.7015	1.6650	100.8%
2	07:55:50	101.3%	0.2170	98.0%	-0.0123	1.0120	0.3942	13.9600	0.2164	0.2446	0.0804	1.0790	0.0993	-0.6723	0.6670	1.9600	1.1810	0.6752	1.7360	100.3%
3	07:56:04	101.1%	0.3004	99.8%	-0.0212	1.0540	0.4261	9.2260	0.2063	0.2607	0.0417	0.6860	-0.1247	3.6560	0.6491	2.0660	1.1750	0.7184	1.7610	101.6%
x		101.0%	0.2451	98.5%	-0.0152	1.0110	0.4161	10.9800	0.2176	0.2440	0.0547	0.9799	0.0485	0.4989	0.6503	2.0090	1.1800	0.6984	1.7210	100.9%
σ		0.4%	0.0479	1.2%	0.0052	0.0439	0.0190	2.6010	0.0120	0.0171	0.0223	0.2590	0.1542	2.7650	0.0161	0.0535	0.0044	0.0218	0.0496	0.6%
%RSD		0.4	19.5400	1.2	34.4200	4.3390	4.5700	23.7000	5.4940	6.9890	40.7000	26.4300	318.0000	554.2000	2.4810	2.6640	0.3736	3.1210	2.8840	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:55:36	0.0213	0.2188	0.0131	0.2020	1.4670	0.4121	2.1240	102.1%	101.4%	0.2134	0.0000
2	07:55:50	0.0055	0.2245	0.0130	0.1978	1.5620	0.4016	2.2170	103.0%	102.6%	0.2094	0.0000
3	07:56:04	-0.0028	0.2208	0.0099	0.1838	1.5040	0.4196	1.9820	104.0%	103.8%	0.2151	0.0000
x		0.0080	0.2214	0.0120	0.1945	1.5110	0.4111	2.1080	103.0%	102.6%	0.2126	0.0000
σ		0.0122	0.0029	0.0018	0.0095	0.0482	0.0090	0.1184	0.9%	1.2%	0.0029	0.0000
%RSD		153.1000	1.3110	15.3600	4.8920	3.1910	2.1960	5.6190	0.9	1.1	1.3860	0.0000

SEQ-CAL3@S03 10/19/2016 07:59:41

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:59:41	97.9%	0.6409	94.7%	-0.0043	2.4960	1.0540	19.1900	0.4945	0.7682	0.1092	2.9730	0.1151	1.3560	1.3810	4.0710	2.3640	1.3120	3.4290	97.3%
2	07:59:55	99.8%	0.4851	95.4%	0.0018	2.5560	0.9870	12.4000	0.4987	0.7802	0.0949	2.4420	0.2730	-1.1350	1.3630	3.9390	2.3370	1.3820	3.5530	98.5%
3	08:00:09	100.4%	0.6328	96.0%	-0.0114	2.6280	1.0900	19.6200	0.5310	0.7811	0.0574	2.6370	0.1226	-0.5990	1.3390	4.0530	2.3600	1.3240	3.6270	96.7%
x		99.4%	0.5862	95.4%	-0.0046	2.5600	1.0440	17.0700	0.5081	0.7765	0.0872	2.6840	0.1702	-0.1260	1.3610	4.0210	2.3540	1.3390	3.5368	97.5%
σ		1.3%	0.0877	0.6%	0.0066	0.0662	0.0524	4.0530	0.0200	0.0072	0.0268	0.2689	0.0891	1.3110	0.0210	0.0714	0.0144	0.0374	0.0999	0.9%
%RSD		1.3	14.9600	0.7	142.2000	2.5840	5.0190	23.7400	3.9350	0.9246	30.7300	10.0200	52.3400	1041.0000	1.5420	1.7760	0.6119	2.7900	2.8250	1.0

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:59:41	0.0122	0.4956	0.0182	0.5370	2.9750	0.9667	4.8520	98.9%	98.7%	0.5046	0.0000
2	07:59:55	0.0287	0.5135	0.0195	0.5148	2.9910	1.0320	4.9150	100.9%	100.5%	0.5046	0.0000
3	08:00:09	0.0141	0.4777	0.0254	0.4848	3.1120	0.9840	4.8590	101.8%	102.2%	0.5144	0.0000
x		0.0183	0.4956	0.0210	0.5122	3.0260	0.9942	4.8750	100.5%	100.5%	0.5079	0.0000
σ		0.0090	0.0179	0.0039	0.0262	0.0748	0.0339	0.0343	1.5%	1.8%	0.0057	0.0000
%RSD		49.2800	3.6100	18.3300	5.1150	2.4720	3.4080	0.7045	1.5	1.7	1.1190	0.0000

SEQ-CAL4@S04 10/19/2016 08:03:44

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:03:44	100.0%	1.0020	94.3%	-0.0019	4.9400	1.9760	32.5800	0.9597	1.0840	0.1454	5.5680	0.4907	-0.4003	3.1870	9.8730	5.8500	3.3100	8.4680	99.3%
2	08:03:58	99.2%	1.1420	95.3%	-0.0089	5.1250	2.0560	22.9000	0.9758	0.9859	0.1743	5.4610	0.3205	-0.4594	3.3070	9.8790	5.9710	3.3970	8.6300	97.5%
3	08:04:12	100.2%	1.2230	96.9%	-0.0266	5.1520	1.9410	28.9100	0.9942	0.9288	0.1838	4.9360	0.3118	-0.0109	3.2300	9.9490	6.1230	3.3290	8.6970	99.3%
x		99.8%	1.1220	95.5%	-0.0125	5.0730	1.9910	28.1300	0.9766	0.9996	0.1678	5.3210	0.3743	-0.2902	3.2410	9.9010	5.9820	3.3450	8.5980	98.7%
σ		0.5%	0.1120	1.4%	0.0127	0.1153	0.0585	4.8890	0.0172	0.0785	0.0200	0.3384	0.1009	0.2437	0.0608	0.0422	0.1368	0.0457	0.1178	1.1%
%RSD		0.5	9.9810	1.4	102.1000	2.2730	2.9400	17.3800	1.7650	7.8550	11.9100	6.3590	26.9500	83.9600	1.8740	0.4262	2.2870	1.3660	1.3700	1.1

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:03:44	0.0425	0.9776	0.0384	0.9297	7.3920	1.9620	9.8870	99.5%	99.7%	0.9789	0.0000
2	08:03:58	0.0745	0.9961	0.0379	0.8807	7.3850	1.9810	9.5860	100.8%	100.8%	0.9819	0.0000
3	08:04:12	0.0488	1.0000	0.0431	0.9466	7.4170	1.9350	9.6520	103.4%	102.8%	0.9846	0.0000
x		0.0553	0.9914	0.0398	0.9190	7.3980	1.9600	9.7080	101.2%	101.1%	0.9818	0.0000
σ		0.0170	0.0121	0.0029	0.0342	0.0168	0.0233	0.1584	2.0%	1.6%	0.0029	0.0000
%RSD		30.7100	1.2240	7.2200	3.7230	0.2276	1.1870	1.6320	2.0	1.5	0.2929	0.0000

SEQ-CAL5@S05 10/19/2016 08:07:46

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:07:46	100.2%	9.8310	94.8%	6.1080	10.2900	10.4900	58.9100	9.9410	9.7370	0.2822	10.4600	0.6727	-3.4110	7.7900	24.5200	14.6200	8.4740	21.2600	96.3%
2	08:08:00	100.1%	9.7980	95.7%	6.1670	10.2200	10.2900	52.7200	10.0900	10.1000	0.3842	9.0800	0.5029	-0.8428	7.9450	24.9100	14.8700	8.5900	21.5700	97.2%
3	08:08:13	101.8%	9.8740	95.9%	6.0410	10.0200	10.2600	76.3700	10.1100	10.1300	0.3328	9.3570	0.2264	3.4070	7.9730	25.0000	15.0200	8.5410	22.0000	97.0%
x		100.7%	9.8340	95.5%	6.1060	10.1800	10.3500	62.6600	10.0500	9.9900	0.3331	9.6330	0.4673	-0.2821	7.9020	24.8100	14.8400	8.5350	21.6100	96.9%
σ		1.0%	0.0383	0.6%	0.0628	0.1401	0.1256	12.2600	0.0931	0.2203	0.0510	0.7319	0.2252	3.4430	0.0986	0.2562	0.2004	0.0580	0.3714	0.5%
%RSD		1.0	0.3890	0.6	1.0280	1.3770	1.2130	19.5700	0.9271	2.2050	15.3200	7.5980	48.2000	1221.0000	1.2480	1.0330	1.3510	0.6791	1.7180	0.5

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:07:46	0.5045	1.2840	0.3311	9.6940	9.1700	9.6320	10.1700	98.0%	98.0%	9.9070	0.0000
2	08:08:00	0.4997	1.2760	0.3617	10.0200	9.4370	9.7690	9.6930	99.9%	100.7%	9.7620	0.0000
3	08:08:13	0.4845	1.3130	0.3267	10.1200	9.5660	9.9840	10.0800	101.2%	101.7%	9.8100	0.0000
x		0.4962	1.2910	0.3399	9.9450	9.3910	9.7950	9.9820	99.7%	100.2%	9.8260	0.0000
σ		0.0104	0.0196	0.0191	0.2241	0.2017	0.1773	0.2545	1.6%	1.9%	0.0741	0.0000
%RSD		2.1040	1.5200	5.6100	2.2530	2.1480	1.8100	2.5490	1.6	1.9	0.7535	0.0000

SEQ-CAL6@S06 10/19/2016 08:11:47

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:11:47	100.4%	50.7200	93.7%	30.3500	51.1600	51.2000	300.7000	49.1000	49.0700	2.0340	50.5600	3.1230	0.4161	39.0500	121.8000	72.3200	41.3600	105.6000	96.6%
2	08:12:01	100.6%	50.5500	94.9%	30.2700	50.9000	51.0100	361.0000	49.5000	49.7800	2.1480	49.5900	3.0400	-2.6270	39.4100	122.9000	73.3100	42.0100	107.3000	96.8%
3	08:12:15	100.3%	50.3000	94.3%	30.7000	49.4000	50.1200	330.5000	50.1100	50.2800	2.0610	49.4100	2.9640	-1.3270	40.2300	126.5000	74.2000	42.6600	109.3000	98.4%
x		100.4%	50.5300	94.3%	30.4400	50.4900	50.7800	330.7000	49.5700	49.7100	2.0810	49.8500	3.0420	-1.1790	39.5700	123.8000	73.2800	42.0100	107.4000	97.3%
σ		0.2%	0.2108	0.6%	0.2317	0.9489	0.5771	30.1300	0.5088	0.6073	0.0596	0.6149	0.0797	1.5270	0.6048	2.4890	0.9384	0.6529	1.8470	1.0%
%RSD		0.2	0.4172	0.7	0.7612	1.8800	1.1360	9.1110	1.0270	1.2220	2.8640	1.2330	2.6200	129.5000	1.5290	2.0110	1.2810	1.5540	1.7200	1.0

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:11:47	2.2960	6.3010	1.6410	48.5100	45.0800	48.4000	48.2300	99.3%	99.1%	49.4500	0.0000
2	08:12:01	2.2980	6.5440	1.7930	48.8800	45.8000	48.8600	48.9600	101.5%	101.1%	49.4500	0.0000
3	08:12:15	2.4500	6.5890	1.8110	50.0700	47.1100	49.5500	50.2000	103.0%	104.4%	49.0600	0.0000
x		2.3480	6.4780	1.7480	49.1500	45.9900	48.9400	49.1300	101.3%	101.6%	49.3200	0.0000
σ		0.0880	0.1550	0.0934	0.8137	1.0300	0.5775	0.9962	1.9%	2.7%	0.2241	0.0000
%RSD		3.7480	2.3930	5.3430	1.6550	2.2400	1.1800	2.0280	1.8	2.6	0.4544	0.0000

SEQ-CAL7@S07 10/19/2016 08:15:49

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:15:49	99.6%	500.9000	93.3%	300.3000	498.1000	499.2000	2476.0000	↑502.4000	499.9000	18.3200	496.9000	26.9800	1.1650	400.7000	1287.0000	↑773.3000	426.0000	↑1123.0000	97.2%
2	08:16:03	100.7%	499.7000	95.6%	301.1000	497.6000	500.0000	2777.0000	↑500.0000	497.0000	18.5600	504.0000	26.2800	-1.6320	406.3000	1293.0000	↑771.5000	430.3000	↑1122.0000	97.0%
3	08:16:16	100.3%	503.5000	94.7%	305.4000	490.9000	497.5000	2615.0000	↑505.7000	505.9000	19.1000	504.1000	26.9700	-0.3149	409.0000	1324.0000	↑781.4000	439.4000	↑1131.0000	98.2%
x		100.2%	501.4000	94.5%	302.3000	495.5000	498.9000	2623.0000	↑502.7000	500.9000	18.6600	501.7000	26.7500	-0.2606	405.3000	1302.0000	↑775.4000	431.9000	↑1126.0000	97.5%
σ		0.5%	1.9440	1.2%	2.7390	3.9990	1.2810	150.5000	↑2.9070	4.5680	0.3963	4.1110	0.4022	1.3990	4.2390	19.9900	↑5.2960	6.8690	↑4.8180	0.6%
%RSD		0.5	0.3877	1.2	0.9061	0.8070	0.2569	5.7370	↑0.5782	0.9118	2.1240	0.8194	1.5040	536.8000	1.0460	1.5360	↑0.6831	1.5900	↑0.4280	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:15:49	23.6500	64.9200	17.2200	499.8000	481.3000	507.8000	497.5000	101.5%	102.9%	↑508.8000	0.0000
2	08:16:03	23.4400	65.0600	17.5700	499.3000	484.6000	513.6000	503.1000	104.8%	105.7%	↑506.5000	0.0000
3	08:16:16	23.9000	65.5100	17.4800	505.2000	494.6000	518.6000	503.1000	107.3%	107.5%	↑507.2000	0.0000
x		23.6700	65.1600	17.4200	501.4000	486.8000	513.3000	501.3000	104.5%	105.3%	↑507.9000	0.0000
σ		0.2304	0.3103	0.1806	3.2690	6.9090	5.4030	3.2220	2.9%	2.3%	↑1.1580	0.0000
%RSD		0.9733	0.4762	1.0360	0.6519	1.4190	1.0530	0.6429	2.8	2.2	↑0.2282	0.0000

SEQ-CAL8@S08 10/19/2016 08:19:52

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:19:52	96.5%	↑1040.0000	87.6%	606.5000	↑1014.0000	↑1017.0000	4415.0000	↑994.2000	999.3000	37.8900	↑1004.0000	52.1300	1.4680	↑822.1000	~2577.0000	↑1530.0000	↑872.4000	↑2228.0000	92.1%
2	08:20:06	97.2%	↑1022.0000	89.5%	608.0000	977.9000	987.5000	4638.0000	↑987.6000	993.1000	37.4900	976.0000	52.1000	0.5005	↑833.7000	~2613.0000	↑1542.0000	↑877.8000	↑2251.0000	95.7%
3	08:20:21	97.4%	↑1028.0000	89.4%	618.6000	↑1002.0000	↑1004.0000	4845.0000	~1005.0000	↑1015.0000	35.9100	996.1000	54.7900	0.6004	↑835.0000	~2621.0000	↑1562.0000	↑884.9000	↑2261.0000	94.6%
x		97.1%	↑1030.0000	88.8%	611.0000	↑998.1000	↑1003.0000	4633.0000	~995.8000	↑1002.0000	37.1000	↑992.1000	53.0100	0.8563	↑830.3000	~2603.0000	↑1544.0000	↑878.4000	↑2247.0000	94.1%
σ		0.5%	↑9.2990	1.0%	6.5850	↑18.5400	↑14.8200	215.4000	~9.0120	↑11.1700	1.0490	↑14.5700	1.5460	0.5322	↑7.1010	~23.3700	↑16.0700	↑6.2610	↑17.0200	1.8%
%RSD		0.5	↑0.9027	1.2	1.0780	↑1.8580	↑1.4780	4.6500	~0.9051	↑1.1150	2.8280	↑1.4690	2.9170	62.1500	↑0.8553	~0.8976	↑1.0400	↑0.7127	↑0.7576	1.9

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:19:52	46.6400	128.8000	34.8200	↑1004.0000	↑950.9000	~1001.0000	~1011.0000	102.0%	101.5%	~1047.0000	0.0000
2	08:20:06	47.1900	130.0000	34.9200	↑1008.0000	↑953.5000	~1015.0000	~1008.0000	105.0%	106.7%	~1028.0000	0.0000
3	08:20:21	47.3800	↑130.9000	35.0800	↑1030.0000	↑964.5000	~1016.0000	~1017.0000	106.9%	107.5%	~1034.0000	0.0000
x		47.0700	↑129.9000	34.9400	↑1014.0000	↑956.3000	~1011.0000	~1012.0000	104.6%	105.2%	~1036.0000	0.0000
σ		0.3829	↑1.0320	0.1320	↑13.5400	↑7.1900	~8.5050	~4.7840	2.5%	3.2%	~9.4660	0.0000
%RSD		0.8134	↑0.7949	0.3778	↑1.3360	↑0.7519	~0.8416	~0.4729	2.3	3.1	~0.9135	0.0000

SEQ-ICV@ICV01 10/19/2016 08:23:58 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:24:12	96.5%	107.9000	85.1%	0.0564	100.6000	99.2800	609.4000	102.3000	102.5000	7.3330	206.6000	11.1500	0.2698	3.3700	10.7000	6.3870	3.5800	9.2770	93.6%
2	08:24:25	96.0%	107.7000	85.8%	0.0698	100.2000	99.6000	589.4000	102.3000	101.7000	7.9070	205.7000	11.3900	-0.8572	3.4280	10.7800	6.4560	3.7490	9.3870	94.7%
3	08:24:44	97.6%	106.0000	87.0%	0.0705	99.4900	98.9600	625.0000	102.9000	101.9000	7.9870	209.5000	11.3900	-2.1350	3.4790	10.7100	6.4670	3.6390	9.4410	95.4%
x		96.7%	108.288%	86.0%	0.0656	100.101%	101.307%	608.0000	103.547%	104.111%	7.7430	103.127%	11.3100	-0.9074	3.4260	10.7300	6.4370	3.6560	9.3680	94.6%
σ		0.8%	n/a	0.9%	0.0079	n/a	n/a	17.8600	n/a	n/a	0.3565	n/a	0.1376	1.2030	0.0545	0.0415	0.0433	0.0855	0.0839	0.9%
%RSD		0.9	0.9682	1.1	12.1100	0.5726	0.3217	2.9380	0.3635	0.3965	4.6040	0.9636	1.2170	132.6000	1.5900	0.3871	0.6728	2.3380	0.8953	0.9

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:24:12	4.7550	103.8000	3.4890	103.1000	0.1690	200.2000	101.7000	101.8%	103.0%	↑220.4000	0.0000
2	08:24:25	4.6990	103.0000	3.5490	102.2000	0.1594	202.0000	100.4000	104.9%	105.7%	↑218.0000	0.0000
3	08:24:44	4.9690	102.8000	3.5350	101.2000	0.1860	202.7000	101.2000	105.7%	107.2%	↑215.4000	0.0000
x		4.8080	104.248%	3.5240	103.200%	0.1715	101.841%	101.118%	104.1%	105.3%	↑106.325%	0.0000
σ		0.1427	n/a	0.0315	n/a	0.0135	n/a	n/a	2.1%	2.2%	↑n/a	0.0000
%RSD		2.9680	0.5370	0.8949	0.9352	7.8590	0.6290	0.6663	2.0	2.0	↑1.1540	0.0000

SEQ-ICB@ICB01 10/19/2016 08:28:28 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:28:28	96.8%	0.1321	86.3%	-0.0019	-0.0107	-0.0016	-0.1969	0.0139	0.0075	0.0177	-0.0920	0.2426	-3.6470	0.0254	0.0725	0.0472	0.0146	0.0552	97.1%
2	08:28:42	98.8%	0.0752	87.9%	-0.0122	0.0374	0.0766	6.9240	0.0148	-0.0525	0.0051	-0.0112	0.0230	-0.1445	0.0259	0.0534	0.0386	0.0142	0.0541	93.6%
3	08:28:56	98.1%	0.0635	89.5%	-0.0061	0.0341	0.0565	2.4640	0.0151	-0.0374	0.0318	0.2417	-0.0697	1.4010	0.0275	0.0678	0.0410	0.0232	0.0644	94.8%
x		97.9%	0.0902	87.9%	-0.0067	0.0203	0.0438	3.0640	0.0146	-0.0275	0.0182	0.0462	0.0653	-0.7969	0.0263	0.0646	0.0422	0.0173	0.0579	95.2%
σ		1.0%	0.0367	1.6%	0.0052	0.0269	0.0406	3.5980	0.0006	0.0312	0.0133	0.1741	0.1604	2.5870	0.0011	0.0100	0.0044	0.0051	0.0056	1.8%
%RSD		1.0	40.6600	1.8	76.9700	132.8000	92.6300	117.4000	4.2330	113.6000	73.2600	377.2000	245.6000	324.6000	4.2670	15.4300	10.4500	29.4500	9.7460	1.9

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:28:28	-0.0040	0.0225	0.0011	0.0069	0.0303	0.0879	0.0282	101.2%	101.3%	0.0357	0.0000
2	08:28:42	0.0115	0.0117	-0.0005	0.0127	0.0434	0.0897	0.0251	102.9%	102.5%	0.0415	0.0000
3	08:28:56	0.0042	0.0156	0.0026	0.0153	0.0449	0.0865	0.0391	104.4%	105.9%	0.0432	0.0000
x		0.0039	0.0166	0.0011	0.0117	0.0395	0.0880	0.0308	102.8%	103.2%	0.0401	0.0000
σ		0.0077	0.0054	0.0016	0.0043	0.0080	0.0016	0.0073	1.6%	2.4%	0.0039	0.0000
%RSD		196.8000	32.8500	145.6000	36.8100	20.2800	1.8230	23.8100	1.6	2.3	9.7680	0.0000

SEQ-IFA@ICSA01 10/19/2016 08:32:35 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:32:35	93.4%	0.3964	92.3%	518.0000	-0.4735	21.8700	85.6200	1.2790	5.7540	-0.0085	-0.1191	-0.2016	4.7250	674.5000	r:2183.0000	r:1305.0000	725.3000	r:1890.0000	91.6%
2	08:32:49	96.7%	0.3085	97.0%	518.5000	-0.5404	21.3800	95.9700	1.2620	5.6880	0.0187	-0.0481	-0.1516	2.7840	678.7000	r:2183.0000	r:1297.0000	r:737.4000	r:1890.0000	93.5%
3	08:33:05	95.3%	0.2976	100.8%	517.7000	-0.8127	21.7900	130.0000	1.2740	5.5780	-0.0085	-0.1223	-0.3755	6.5410	r:691.0000	r:2161.0000	r:1287.0000	r:732.9000	r:1866.0000	93.5%
x		95.2%	1.#IO%	96.7%	518.1000	-121.778%	103.237%	103.9000	127.172%	94.559%	0.0006	-32.174%	-0.2429	4.6830	r:681.4000	r:2176.0000	r:1296.0000	r:731.9000	r:1882.0000	92.9%
σ		1.7%	n/a	4.3%	0.3952	n/a	n/a	23.2200	n/a	n/a	0.0157	n/a	0.1175	1.8790	r:8.5380	r:12.5100	r:8.9380	r:6.1290	r:13.5100	1.1%
%RSD		1.7	16.2000	4.4	0.0763	29.5100	1.2220	22.3600	0.7063	1.5650	2669.0000	43.4600	48.4000	40.1200	r:1.2530	r:0.5748	r:0.6895	r:0.8374	r:0.7177	1.2

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:32:35	-0.0001	0.0116	0.7599	0.4774	1.0610	1.1950	2.0360	99.5%	100.9%	0.0269	0.0000
2	08:32:49	0.0207	0.0097	0.6962	0.4963	0.1398	1.1230	2.0420	104.5%	105.0%	0.0217	0.0000
3	08:33:05	-0.0054	0.0137	0.6631	0.2507	0.1460	1.1000	1.9680	108.5%	109.7%	0.0228	0.0000
x		0.0050	1.#IO%	0.7064	58.303%	0.4490	75.959%	167.962%	104.2%	105.2%	1.#IO%	0.0000
σ		0.0138	n/a	0.0492	n/a	0.5303	n/a	n/a	4.5%	4.4%	n/a	0.0000
%RSD		273.2000	17.0500	6.9660	33.4800	118.1000	4.3410	2.0270	4.3	4.2	11.7100	0.0000

SEQ-IFB@ICSA01 10/19/2016 08:36:38 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:36:38	89.4%	20.0500	102.2%	505.3000	21.7700	43.8900	255.3000	20.3300	23.9800	0.6232	20.3200	0.7610	4.6330	r:681.4000	r:2139.0000	r:1269.0000	711.8000	r:1838.0000	90.7%
2	08:36:52	89.3%	19.6000	104.3%	512.5000	21.5200	43.4600	243.6000	20.6800	24.4900	0.8106	20.7000	0.4660	9.6050	670.9000	r:2128.0000	r:1262.0000	r:722.5000	r:1849.0000	91.7%
3	08:37:06	89.4%	18.5900	105.8%	510.8000	21.3800	43.3300	222.5000	20.5800	23.9800	0.6088	19.4400	0.9187	2.8700	678.4000	r:2148.0000	r:1277.0000	r:722.6000	r:1848.0000	92.8%
x		89.4%	102.175%	104.1%	509.5000	113.466%	108.899%	240.5000	102.663%	100.639%	0.6809	106.060%	0.7152	5.7030	r:676.9000	r:2138.0000	r:1269.0000	r:719.0000	r:1845.0000	91.7%
σ		0.1%	n/a	1.8%	3.7540	n/a	n/a	16.6300	n/a	n/a	0.1126	n/a	0.2298	3.4920	r:5.3910	r:10.1700	r:7.7110	r:6.2310	r:6.4540	1.1%
%RSD		0.1	3.8500	1.8	0.7368	0.9156	0.5763	6.9160	0.8824	1.2080	16.5400	3.2090	32.1300	61.2400	r:0.7964	r:0.4755	r:0.6075	r:0.8667	r:0.3498	1.2

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:36:38	0.8977	18.2700	1.3780	18.4200	0.1361	20.4300	22.0600	106.9%	106.5%	19.4200	0.0000
2	08:36:52	0.8513	18.4300	1.3080	19.2400	0.1380	20.8200	22.9700	109.4%	109.1%	19.6600	0.0000
3	08:37:06	0.8652	18.3700	1.3660	19.6200	0.1553	21.2300	23.0700	111.0%	111.8%	19.5700	0.0000
x		0.8714	101.974%	1.3510	95.479%	0.1431	94.680%	103.187%	109.1%	109.1%	93.102%	0.0000
σ		0.0238	n/a	0.0378	n/a	0.0106	n/a	n/a	2.1%	2.6%	n/a	0.0000
%RSD		2.7320	0.4470	2.8010	3.2210	7.4030	1.9180	2.4550	1.9	2.4	0.6165	0.0000

SEQ-CCV@CCV01 10/19/2016 08:40:44 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:40:58	97.5%	497.2000	111.9%	300.3000	505.2000	505.9000	2654.0000	r:504.0000	498.6000	20.2500	516.4000	28.9200	-0.5808	405.8000	r:1299.0000	r:773.6000	428.0000	r:1125.0000	106.9%
2	08:41:12	96.5%	498.6000	113.2%	300.9000	504.4000	507.7000	2594.0000	r:501.9000	499.5000	19.3200	511.1000	26.7600	2.2520	408.5000	r:1308.0000	r:778.3000	437.0000	r:1124.0000	107.8%
3	08:41:25	96.9%	497.3000	114.1%	301.7000	498.3000	499.7000	2621.0000	r:497.4000	496.4000	19.2000	509.5000	26.5700	2.5980	408.2000	r:1299.0000	r:774.0000	433.5000	r:1123.0000	109.8%
x		96.9%	99.536%	113.1%	301.0000	100.523%	100.888%	2623.0000	r:100.213%	99.636%	19.5900	102.466%	27.4200	1.4230	407.5000	r:1302.0000	r:775.3000	432.9000	r:1124.0000	108.2%
σ		0.5%	n/a	1.1%	0.7208	n/a	n/a	30.0900	r:n/a	n/a	0.5731	n/a	1.3050	1.7440	1.5100	r:5.1860	r:2.6340	4.5080	r:0.8995	1.5%
%RSD		0.5	0.1539	1.0	0.2395	0.7514	0.8337	1.1470	r:0.6706	0.3156	2.9260	0.7002	4.7610	122.6000	0.3706	r:0.3983	r:0.3398	1.0410	r:0.0800	1.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:40:58	24.0700	65.8800	17.7900	511.1000	491.2000	532.5000	511.5000	118.8%	119.4%	r:504.9000	0.0000
2	08:41:12	24.5200	66.1100	18.0100	514.7000	496.1000	530.7000	515.6000	121.0%	121.5%	r:499.6000	0.0000
3	08:41:25	24.3900	66.0700	17.9100	513.2000	495.5000	528.2000	514.8000	121.9%	122.6%	r:495.1000	0.0000
x		24.3300	101.574%	17.9000	102.599%	494.2000	106.092%	102.795%	120.6%	121.2%	r:99.973%	0.0000
σ		0.2318	n/a	0.1097	n/a	2.6470	n/a	n/a	1.6%	1.6%	r:n/a	0.0000
%RSD		0.9529	0.1876	0.6128	0.3537	0.5355	0.4016	0.4175	1.3	1.3	r:0.9818	0.0000

SEQ-CCB@CCB01 10/19/2016 08:45:01 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:45:01	94.9%	0.1316	103.9%	0.0031	-0.0325	0.0586	16.2500	0.0451	0.0224	-0.0085	0.0896	-0.0691	1.5130	0.0813	0.2693	0.1550	0.0772	0.2399	105.9%
2	08:45:15	96.5%	0.1763	105.0%	-0.0073	-0.0039	0.0473	13.2800	0.0436	0.0353	0.0034	-0.0771	-0.0174	1.1910	0.1144	0.2854	0.1515	0.0933	0.2723	107.5%
3	08:45:28	95.6%	0.0659	106.0%	0.0213	-0.0524	0.0549	17.5200	0.0366	0.0945	0.0036	-0.1720	-0.0496	1.0020	0.0860	0.3239	0.1818	0.1045	0.2812	105.5%
x		95.7%	0.1246	105.0%	0.0057	-0.0296	0.0536	15.6800	0.0418	0.0507	-0.0005	-0.0532	-0.0454	1.2350	0.0939	0.2929	0.1628	0.0917	0.2645	106.3%
σ		0.8%	0.0556	1.0%	0.0145	0.0244	0.0058	2.1770	0.0045	0.0385	0.0069	0.1324	0.0261	0.2586	0.0179	0.0281	0.0166	0.0138	0.0218	1.1%
%RSD		0.8	44.5900	1.0	252.9000	82.2900	10.7500	13.8800	10.8300	75.8800	1344.0000	249.2000	57.5200	20.9300	19.0900	9.5920	10.2000	15.0000	8.2220	1.0

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:45:01	-0.0048	0.0084	0.0009	0.0320	0.0683	0.0523	0.0739	109.9%	111.1%	0.0766	0.0000
2	08:45:15	-0.0055	0.0071	0.0023	0.0313	0.0545	0.0589	0.0810	112.4%	112.2%	0.0863	0.0000
3	08:45:28	0.0154	0.0052	0.0022	0.0519	0.0706	0.0693	0.0980	112.9%	114.3%	0.0830	0.0000
x		0.0017	0.0069	0.0018	0.0384	0.0645	0.0602	0.0843	111.7%	112.5%	0.0820	0.0000
σ		0.0119	0.0016	0.0008	0.0117	0.0087	0.0086	0.0124	1.6%	1.6%	0.0049	0.0000
%RSD		688.3000	23.4100	43.2200	30.4200	13.5300	14.2200	14.6800	1.5	1.4	6.0070	0.0000

SEQ-CCV@CCV02 10/19/2016 09:14:02 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:14:16	99.5%	506.1000	106.5%	300.2000	507.4000	507.6000	2482.0000	r:507.7000	504.1000	19.4400	508.3000	28.0000	-0.1917	402.9000	r:1301.0000	r:770.6000	430.7000	r:1121.0000	101.6%
2	09:14:29	99.4%	499.3000	108.0%	297.1000	501.1000	502.9000	2725.0000	r:497.7000	496.4000	19.5100	511.4000	27.6600	1.4300	401.9000	r:1291.0000	r:765.6000	433.4000	r:1121.0000	102.8%
3	09:14:43	99.2%	510.1000	105.9%	304.0000	505.2000	505.8000	2588.0000	r:505.0000	501.5000	19.3600	510.5000	27.4800	-3.6790	408.8000	r:1311.0000	r:775.5000	435.3000	r:1134.0000	102.2%
x		99.4%	101.039%	106.8%	300.4000	100.906%	101.086%	2598.0000	r:100.694%	100.132%	19.4400	102.007%	27.7100	-0.8138	404.5000	r:1301.0000	r:770.6000	433.1000	r:1125.0000	102.2%
σ		0.2%	n/a	1.1%	3.5030	n/a	n/a	122.2000	r:n/a	n/a	0.0754	n/a	0.2621	2.6110	3.7390	r:9.6210	r:4.9050	2.2930	r:7.7270	0.6%
%RSD		0.2	1.0810	1.0	1.1660	0.6344	0.4745	4.7020	r:1.0210	0.7868	0.3879	0.3148	0.9458	320.8000	0.9242	r:0.7394	r:0.6365	0.5294	r:0.6867	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:14:16	24.0000	65.4600	17.4000	506.6000	488.6000	522.6000	514.8000	115.0%	115.7%	r:501.3000	0.0000
2	09:14:29	23.9800	65.8600	17.7400	510.7000	r:479.9000	528.4000	513.7000	116.4%	117.3%	r:498.6000	0.0000
3	09:14:43	24.5000	67.1000	18.1800	513.5000	497.4000	539.2000	517.1000	117.7%	119.9%	r:494.9000	0.0000
x		24.1600	101.751%	17.7700	102.054%	r:488.6000	106.013%	103.045%	116.4%	117.7%	r:99.653%	0.0000
σ		0.2928	n/a	0.3927	n/a	r:8.7750	n/a	n/a	1.3%	2.1%	r:n/a	0.0000
%RSD		1.2120	1.2910	2.2100	0.6835	r:1.7960	1.5890	0.3380	1.2	1.8	r:0.6440	0.0000

SEQ-CCB@CCB02 10/19/2016 09:18:19 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:18:19	96.2%	0.1327	94.3%	0.0175	-0.0510	0.0338	11.3800	0.0395	0.0272	0.0043	-0.1660	-0.0575	0.5673	0.0964	0.3501	0.1665	0.1026	0.2623	99.5%
2	09:18:33	96.7%	0.1210	95.8%	0.0229	-0.0578	0.0220	12.3400	0.0456	-0.0173	-0.0085	-0.1664	-0.0790	1.1270	0.0825	0.2878	0.1739	0.1208	0.2397	99.8%
3	09:18:46	97.1%	0.1386	97.8%	0.0276	-0.0164	0.0461	11.2000	0.0343	-0.0414	0.0041	-0.0652	0.1250	-1.9050	0.0807	0.3161	0.1437	0.1095	0.2674	101.3%
x		96.7%	0.1308	96.0%	0.0227	-0.0417	0.0340	11.6400	0.0398	-0.0105	-0.0000	-0.1326	-0.0038	-0.0703	0.0866	0.3180	0.1614	0.1109	0.2565	100.2%
σ		0.4%	0.0090	1.7%	0.0050	0.0222	0.0120	0.6155	0.0056	0.0348	0.0073	0.0583	0.1121	1.6140	0.0086	0.0312	0.0158	0.0092	0.0147	1.0%
%RSD		0.4	6.8560	1.8	22.1200	53.2200	35.4100	5.2880	14.2000	331.2000	24360.0000	43.9800	2925.0000	2294.0000	9.9430	9.8050	9.7680	8.2640	5.7430	1.0

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:18:19	0.0151	0.0058	-0.0005	0.0572	0.0754	0.0608	0.0782	105.5%	106.1%	0.0768	0.0000
2	09:18:33	0.0050	0.0057	0.0025	0.0479	0.0724	0.0599	0.0700	107.1%	109.1%	0.0776	0.0000
3	09:18:46	0.0025	0.0056	-0.0005	0.0523	0.0730	0.0498	0.0685	109.2%	108.5%	0.0704	0.0000
x		0.0075	0.0057	0.0005	0.0525	0.0736	0.0568	0.0722	107.3%	107.9%	0.0749	0.0000
σ		0.0066	0.0001	0.0017	0.0047	0.0016	0.0061	0.0052	1.8%	1.6%	0.0040	0.0000
%RSD		87.9900	2.1710	353.1000	8.8660	2.1250	10.8100	7.2350	1.7	1.5	5.3150	0.0000

QJ14036-BLK1@PBS01@MH1J05@46282 10/19/2016 09:22:24 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:22:24	97.2%	0.0718	93.8%	-0.0104	-0.0618	-0.0842	-13.1000	0.0059	0.2084	0.0042	-0.1672	0.0416	-0.5021	0.0085	0.0372	0.0229	0.0111	0.0333	100.6%
2	09:22:38	97.1%	0.0896	97.4%	-0.0120	-0.0502	-0.0814	-13.0300	0.0066	0.1412	0.0167	-0.1332	-0.0023	0.8256	0.0162	0.0541	0.0230	0.0136	0.0467	101.0%
3	09:22:52	97.4%	0.0606	96.0%	-0.0157	-0.0404	-0.0769	-12.6000	0.0090	0.2331	-0.0085	-0.1651	0.0568	-0.7451	0.0235	0.0489	0.0341	0.0186	0.0430	98.6%
x		97.2%	0.0740	95.7%	-0.0127	-0.0508	-0.0808	-12.9100	0.0072	0.1942	0.0041	-0.1552	0.0320	-0.1405	0.0161	0.0467	0.0267	0.0144	0.0410	100.1%
σ		0.1%	0.0147	1.8%	0.0027	0.0107	0.0037	0.2679	0.0016	0.0476	0.0126	0.0191	0.0307	0.8455	0.0075	0.0086	0.0064	0.0038	0.0069	1.3%
%RSD		0.1	19.8000	1.9	21.2100	21.0300	4.5210	2.0750	22.6300	24.4800	304.6000	12.2800	95.9000	601.7000	46.6500	18.5100	24.1100	26.2800	16.9300	1.3

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:22:24	0.0012	0.0032	0.0010	-0.0023	0.0361	0.0117	0.0028	106.1%	105.8%	0.0212	0.0000
2	09:22:38	0.0091	0.0018	-0.0005	0.0032	0.0349	0.0032	0.0096	107.4%	107.8%	0.0228	0.0000
3	09:22:52	0.0046	0.0018	-0.0005	0.0198	0.0272	0.0072	0.0117	108.7%	108.7%	0.0226	0.0000
x		0.0049	0.0023	-0.0000	0.0069	0.0327	0.0074	0.0080	107.4%	107.4%	0.0222	0.0000
σ		0.0040	0.0008	0.0009	0.0115	0.0048	0.0042	0.0047	1.3%	1.5%	0.0009	0.0000
%RSD		80.3300	34.9800	45360.0000	167.5000	14.7800	57.6400	58.1000	1.2	1.4	3.8410	0.0000

QJ14036-BS1@LCS01 10/19/2016 09:26:25 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:26:25	100.1%	2.4000	95.6%	-0.0155	10.5000	4.0970	33.4500	2.0260	2.0120	0.3911	9.2960	0.6898	0.9312	2.6190	8.1070	4.8310	2.7070	7.0050	101.9%
2	09:26:39	100.4%	2.2170	96.9%	-0.0160	10.8600	4.1880	29.0400	2.0790	2.0630	0.3767	9.7550	0.5727	0.8858	2.5380	8.4040	4.8500	2.8240	7.1730	102.5%
3	09:26:52	99.3%	2.3590	100.1%	-0.0172	10.9400	4.1780	31.1900	1.9880	2.1580	0.4032	10.6500	0.6425	0.5389	2.5850	8.2420	4.8840	2.8050	7.1180	102.0%
x		99.9%	116.278%	97.5%	-0.0163	107.634%	103.859%	31.2300	101.537%	103.869%	0.3903	98.989%	0.6350	0.7853	2.5810	8.2510	4.8550	2.7790	7.0990	102.1%
σ		0.6%	n/a	2.3%	0.0009	n/a	n/a	2.2100	n/a	n/a	0.0133	n/a	0.0589	0.2146	0.0411	0.1485	0.0271	0.0630	0.0856	0.3%
%RSD		0.6	4.1190	2.4	5.4770	2.1880	1.2070	7.0760	2.2530	3.5570	3.3980	6.9340	9.2780	27.3200	1.5920	1.8000	0.5590	2.2680	1.2050	0.3

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:26:25	0.0831	2.0130	0.0814	2.1230	0.0309	3.9980	20.1500	106.7%	106.3%	1.8760	0.0000
2	09:26:39	0.1039	2.0720	0.0920	2.1010	0.0455	4.0420	20.5800	108.2%	106.6%	1.9950	0.0000
3	09:26:52	0.0950	2.0490	0.0945	2.1870	0.0331	4.1220	20.7200	109.1%	109.7%	1.9680	0.0000
x		0.0940	102.234%	0.0893	106.865%	0.0365	101.356%	102.416%	108.0%	107.5%	97.330%	0.0000
σ		0.0104	n/a	0.0070	n/a	0.0079	n/a	n/a	1.2%	1.9%	n/a	0.0000
%RSD		11.1000	1.4650	7.8000	2.0890	21.5500	1.5530	1.4490	1.1	1.7	3.2030	0.0000

6100170-01@MH1J05 10/19/2016 09:30:25

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:30:25	101.7%	0.4538	111.2%	25.3500	44.7400	6.8620	43.7000	7.6930	4.3650	0.1792	3.2090	0.0383	2.4860	2.2500	5.6380	3.4100	1.9300	4.8150	101.7%
2	09:30:39	102.5%	0.4146	114.9%	25.7000	44.4700	6.8300	40.3200	7.8400	4.3490	0.1892	3.1990	-0.0591	3.3020	2.2050	5.8410	3.5710	1.8280	4.9680	103.0%
3	09:30:53	102.3%	0.5654	114.9%	25.4600	45.1800	6.7430	24.4600	7.9130	4.4590	0.1161	3.2610	0.0864	2.2480	2.2770	5.8100	3.5550	1.9750	5.0670	102.2%
x		102.2%	0.4779	113.6%	25.5000	44.8000	6.8110	36.1600	7.8150	4.3910	0.1615	3.2230	0.0219	2.6790	2.2440	5.7630	3.5120	1.9110	4.9500	102.3%
σ		0.4%	0.0783	2.1%	0.1763	0.3611	0.0615	10.2700	0.1120	0.0595	0.0397	0.0335	0.0741	0.5526	0.0362	0.1093	0.0885	0.0750	0.1271	0.7%
%RSD		0.4	16.3700	1.9	0.6913	0.8061	0.9029	28.4100	1.4330	1.3550	24.5500	1.0380	339.0000	20.6300	1.6120	1.8960	2.5190	3.9230	2.5690	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:30:25	0.2202	2.9370	0.1366	3.6290	2.4230	2.8500	70.1700	111.4%	110.4%	0.2771	0.0000
2	09:30:39	0.2008	2.9480	0.1448	3.6400	2.3670	2.9890	71.1600	113.9%	113.9%	0.2777	0.0000
3	09:30:53	0.2048	2.9470	0.1662	3.8160	2.4110	3.0710	72.6700	115.1%	115.0%	0.2850	0.0000
x		0.2086	2.9440	0.1492	3.6950	2.4000	2.9700	71.3300	113.5%	113.1%	0.2799	0.0000
σ		0.0102	0.0057	0.0153	0.1050	0.0292	0.1116	1.2580	1.9%	2.4%	0.0044	0.0000
%RSD		4.9030	0.1940	10.2700	2.8410	1.2180	3.7590	1.7640	1.7	2.1	1.5740	0.0000

QJ14036-MS1@MH1J05S 10/19/2016 09:34:26 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:34:26	99.2%	8.9140	109.0%	21.6000	132.9000	42.0900	229.0000	89.4400	85.1700	0.7615	20.1300	1.0550	0.5899	53.0200	167.7000	99.6700	55.6600	143.8000	99.2%
2	09:34:40	99.2%	8.7270	110.1%	21.5000	134.5000	42.6200	244.5000	91.0500	86.0800	0.8301	21.6400	1.1170	0.0423	53.5900	169.8000	101.0000	57.0300	147.5000	98.7%
3	09:34:54	100.7%	8.4540	111.6%	21.8400	134.2000	42.2700	298.0000	90.5300	85.7400	0.8685	19.7000	0.9864	1.4240	53.5800	169.0000	100.3000	57.1600	147.4000	98.7%
x		99.7%	82.204%	110.3%	21.6500	89.093%	88.785%	257.2000	82.525%	81.275%	0.8200	86.331%	1.0530	0.6853	53.4000	81.538%	100.3000	56.6200	146.2000	98.9%
σ		0.9%	n/a	1.3%	0.1725	n/a	n/a	36.2000	n/a	n/a	0.0542	n/a	0.0655	0.6956	0.3261	n/a	0.6619	0.8325	2.1190	0.3%
%RSD		0.9	2.6630	1.2	0.7970	0.6224	0.6418	14.0800	0.9123	0.5360	6.6070	4.9830	6.2210	101.5000	0.6107	0.6055	0.6599	1.4700	1.4490	0.3

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:34:26	0.5163	10.7400	0.4438	10.9300	1.4210	16.6600	414.5000	111.7%	110.7%	8.2390	0.0000
2	09:34:40	0.5685	10.7400	0.4512	11.1700	1.5180	16.7400	419.6000	113.0%	113.9%	8.4820	0.0000
3	09:34:54	0.5218	10.8100	0.4814	11.0900	1.4300	17.1800	419.0000	116.1%	114.7%	8.6030	0.0000
x		0.5355	78.170%	0.4588	73.723%	1.4560	69.464%	86.596%	113.6%	113.1%	81.613%	0.0000
σ		0.0287	n/a	0.0199	n/a	0.0538	n/a	n/a	2.3%	2.1%	n/a	0.0000
%RSD		5.3560	0.3620	4.3450	1.1000	3.6950	1.6700	0.6677	2.0	1.8	2.1910	0.0000

QJ14036-DUP1@MH1J05D 10/19/2016 09:38:28

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:38:28	97.3%	0.4785	105.2%	25.6100	45.9100	6.9340	53.9800	8.2090	4.6480	0.2742	3.4770	0.2390	-0.3861	2.2250	6.4780	3.9040	2.1920	5.4010	99.1%
2	09:38:42	97.5%	0.3943	108.2%	25.7100	46.3600	7.2070	51.4500	8.3230	4.7050	0.2532	3.3320	0.1632	0.9608	2.2150	6.4180	3.9300	2.1910	5.5040	97.3%
3	09:38:56	98.2%	0.4350	111.5%	25.3400	47.0300	7.0830	70.4000	8.0730	4.7510	0.2422	3.4340	0.2457	0.0238	2.2400	6.7070	3.9250	2.1510	5.5270	96.5%
x		97.7%	0.4359	108.3%	25.5500	46.4400	7.0750	58.6100	8.2020	4.7010	0.2565	3.4140	0.2160	0.1995	2.2270	6.5340	3.9190	2.1780	5.4770	97.6%
σ		0.5%	0.0421	3.2%	0.1932	0.5646	0.1364	10.2900	0.1254	0.0513	0.0162	0.0743	0.0458	0.6904	0.0129	0.1528	0.0134	0.0235	0.0673	1.3%
%RSD		0.5	9.6660	2.9	0.7562	1.2160	1.9270	17.5500	1.5290	1.0910	6.3270	2.1760	21.2200	346.1000	0.5800	2.3380	0.3413	1.0770	1.2280	1.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:38:28	0.2051	3.0160	0.1357	3.8730	2.9500	4.4300	84.5100	109.6%	109.2%	0.3432	0.0000
2	09:38:42	0.1948	3.0600	0.1269	3.8440	2.9880	4.3900	86.1900	111.9%	112.3%	0.3248	0.0000
3	09:38:56	0.2315	3.0820	0.1400	3.9900	2.9630	4.4380	85.3300	114.0%	113.4%	0.3266	0.0000
x		0.2105	3.0530	0.1342	3.9020	2.9670	4.4190	85.3400	111.8%	111.6%	0.3316	0.0000
σ		0.0190	0.0335	0.0067	0.0772	0.0191	0.0261	0.8400	2.2%	2.2%	0.0102	0.0000
%RSD		9.0140	1.0970	4.9590	1.9780	0.6424	0.5904	0.9843	2.0	1.9	3.0630	0.0000

SEQ-SRD1@MH1J05L@5X 10/19/2016 09:42:29

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:42:29	97.5%	0.2159	98.6%	5.2560	8.5190	1.1840	-19.6900	1.7150	1.2440	0.0669	0.6538	-0.0003	0.9839	0.3949	1.1090	0.7388	0.4253	1.0390	101.3%
2	09:42:43	98.6%	0.2112	101.0%	5.3260	8.5800	1.2000	-19.5100	1.7270	1.1400	0.0042	0.6271	0.0303	0.2833	0.4329	1.1990	0.7799	0.4084	1.0060	100.5%
3	09:42:57	100.8%	0.1416	103.3%	5.3920	8.4440	1.1620	-29.7400	1.5790	1.0690	0.0537	0.5084	0.0952	-0.8285	0.4516	1.1360	0.7485	0.3919	0.9996	102.4%
x		99.0%	0.1896	101.0%	5.3250	8.5140	1.1820	-22.9800	1.6740	1.1510	0.0416	0.5965	0.0417	0.1462	0.4265	1.1480	0.7557	0.4085	1.0150	101.4%
σ		1.7%	0.0416	2.4%	0.0681	0.0678	0.0194	5.8570	0.0822	0.0882	0.0331	0.0774	0.0488	0.9139	0.0289	0.0461	0.0215	0.0167	0.0209	1.0%
%RSD		1.7	21.9300	2.3	1.2800	0.7965	1.6380	25.4900	4.9140	7.6590	79.5000	12.9700	116.9000	624.9000	6.7690	4.0180	2.8390	4.0870	2.0590	1.0

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:42:29	0.0631	0.5995	0.0200	0.7814	0.4902	0.6114	14.5800	106.7%	106.1%	0.0812	0.0000
2	09:42:43	0.0502	0.6401	0.0367	0.7112	0.4594	0.6237	14.4100	109.3%	109.6%	0.0897	0.0000
3	09:42:57	0.0441	0.6336	0.0417	0.7246	0.4927	0.5478	14.4400	111.0%	111.6%	0.0802	0.0000
x		0.0525	0.6244	0.0328	0.7391	0.4808	0.5943	14.4800	109.0%	109.1%	0.0837	0.0000
σ		0.0097	0.0218	0.0113	0.0373	0.0186	0.0408	0.0914	2.2%	2.8%	0.0052	0.0000
%RSD		18.4500	3.4940	34.5500	5.0450	3.8610	6.8580	0.6310	2.0	2.6	6.2410	0.0000

6100170-02@MH1J06 10/19/2016 09:46:30

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:46:30	98.4%	0.3553	106.5%	6.6040	32.5900	4.3420	28.9100	5.5710	2.8250	0.2245	2.8700	0.1067	1.4590	1.5240	4.4540	2.8210	1.4660	3.8990	98.3%
2	09:46:44	98.2%	0.4358	109.0%	6.8210	31.9800	4.2820	24.2500	5.4350	3.0660	0.2572	2.7300	0.1366	-0.1139	1.5280	4.6060	2.8220	1.6230	3.9890	100.6%
3	09:46:58	98.8%	0.4066	109.8%	6.8430	31.4700	4.2350	49.8000	5.6000	2.8650	0.2435	3.1290	0.0916	0.4310	1.5770	4.6740	2.9530	1.5680	4.0520	101.0%
x		98.5%	0.3992	108.4%	6.7560	32.0100	4.2860	34.3200	5.5350	2.9190	0.2417	2.9100	0.1116	0.5921	1.5430	4.5780	2.8650	1.5520	3.9800	100.0%
σ		0.3%	0.0408	1.7%	0.1319	0.5597	0.0537	13.6100	0.0881	0.1290	0.0164	0.2025	0.0229	0.7988	0.0298	0.1127	0.0761	0.0794	0.0767	1.5%
%RSD		0.3	10.2200	1.6	1.9520	1.7480	1.2520	39.6600	1.5910	4.4200	6.7960	6.9580	20.4700	134.9000	1.9310	2.4620	2.6540	5.1140	1.9280	1.5

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:46:30	0.0667	4.4370	0.0478	1.0030	0.2890	17.5000	105.8000	106.3%	106.5%	0.3512	0.0000
2	09:46:44	0.0550	4.4500	0.0257	0.8895	0.2900	17.4500	107.7000	110.0%	109.8%	0.3769	0.0000
3	09:46:58	0.0832	4.6210	0.0404	0.9232	0.3343	17.9400	107.5000	111.6%	112.0%	0.3634	0.0000
x		0.0683	4.5030	0.0380	0.9385	0.3044	17.6300	107.0000	109.3%	109.4%	0.3638	0.0000
σ		0.0142	0.1025	0.0112	0.0581	0.0259	0.2686	1.0100	2.7%	2.7%	0.0128	0.0000
%RSD		20.7600	2.2760	29.6200	6.1930	8.5060	1.5240	0.9444	2.5	2.5	3.5280	0.0000

6100170-03@MH1J07 10/19/2016 09:50:31

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:50:31	98.0%	0.4072	107.1%	28.3200	50.7600	7.4850	49.9700	6.4310	5.0520	0.1950	2.2610	0.0309	2.2690	2.0570	5.1150	3.2110	1.7820	4.5710	100.1%
2	09:50:45	101.1%	0.5361	108.4%	29.3200	51.4700	7.6990	36.6500	6.3790	5.2360	0.1564	2.3220	0.1373	1.0710	1.9480	5.4590	3.3800	1.8770	4.7510	100.4%
3	09:50:59	100.0%	0.4045	110.4%	28.9600	52.4900	7.8700	37.4400	6.5170	5.1210	0.1461	3.1020	-0.0110	2.2060	1.9590	5.4750	3.3870	1.9000	4.6470	98.8%
x		99.7%	0.4493	108.6%	28.8700	51.5700	7.6850	41.3600	6.4420	5.1360	0.1658	2.5610	0.0524	1.8490	1.9880	5.3490	3.3260	1.8530	4.6570	99.7%
σ		1.6%	0.0752	1.6%	0.5078	0.8667	0.1926	7.4690	0.0695	0.0928	0.0258	0.4687	0.0764	0.6743	0.0601	0.2034	0.0995	0.0624	0.0902	0.8%
%RSD		1.6	16.7400	1.5	1.7590	1.6810	2.5060	18.0600	1.0790	1.8070	15.5500	18.3000	145.8000	36.4700	3.0220	3.8030	2.9910	3.3660	1.9380	0.8

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:50:31	0.1309	1.7060	0.0771	2.0230	0.7371	2.3320	59.7900	107.1%	107.1%	0.2767	0.0000
2	09:50:45	0.1187	1.8010	0.0740	2.0070	0.7261	2.3230	60.1200	110.4%	109.3%	0.2457	0.0000
3	09:50:59	0.1005	1.7960	0.0727	1.9730	0.7015	2.3790	59.8800	112.3%	111.5%	0.2806	0.0000
x		0.1167	1.7680	0.0746	2.0010	0.7216	2.3450	59.9300	109.9%	109.3%	0.2677	0.0000
σ		0.0153	0.0534	0.0023	0.0255	0.0183	0.0297	0.1703	2.7%	2.2%	0.0191	0.0000
%RSD		13.1300	3.0210	3.0200	1.2730	2.5320	1.2670	0.2841	2.4	2.0	7.1400	0.0000

6100170-04@MH1J08 10/19/2016 09:54:32

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:54:32	103.6%	0.1897	108.1%	16.3400	25.1500	3.4310	19.7800	4.4080	3.0060	0.1766	2.7570	0.1896	-1.0680	1.1130	3.1240	1.9850	1.0700	2.7420	103.2%
2	09:54:46	103.8%	0.2486	109.8%	16.3800	25.5600	3.5770	26.0700	4.5210	3.1130	0.1154	2.6670	0.0656	2.3790	±3.7150	3.1870	1.9330	1.1030	2.7140	102.8%
3	09:55:00	102.5%	0.3425	110.7%	16.2400	25.2800	3.3400	17.4700	4.5530	2.9960	0.1260	2.1620	0.2031	-1.5080	1.1650	3.3270	2.0820	1.0910	2.8520	104.1%
x		103.3%	0.2603	109.5%	16.3200	25.3300	3.4490	21.1100	4.4940	3.0380	0.1393	2.5290	0.1528	-0.0657	±1.9970	3.2120	2.0000	1.0880	2.7690	103.3%
σ		0.7%	0.0771	1.3%	0.0710	0.2079	0.1191	4.4560	0.0760	0.0647	0.0327	0.3205	0.0758	2.1290	±1.4880	0.1041	0.0759	0.0170	0.0734	0.7%
%RSD		0.7	29.6100	1.2	0.4351	0.8209	3.4530	21.1100	1.6910	2.1280	23.4800	12.6700	49.5900	3241.0000	±74.4700	3.2390	3.7930	1.5600	2.6500	0.7

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:54:32	0.0578	1.3750	0.0400	0.5779	0.2689	5.5680	60.6000	107.9%	108.0%	0.2438	0.0000
2	09:54:46	0.0569	1.4530	0.0227	0.6131	0.2956	5.6120	61.5800	111.2%	110.4%	0.2421	0.0000
3	09:55:00	0.0584	1.4590	0.0224	0.6002	0.2661	5.7870	61.6600	113.0%	112.5%	0.2281	0.0000
x		0.0577	1.4290	0.0284	0.5971	0.2769	5.6560	61.2800	110.7%	110.3%	0.2380	0.0000
σ		0.0008	0.0469	0.0101	0.0179	0.0163	0.1158	0.5927	2.6%	2.2%	0.0086	0.0000
%RSD		1.3390	3.2780	35.5300	2.9890	5.8850	2.0470	0.9672	2.3	2.0	3.6260	0.0000

6100170-05@MH1J09 10/19/2016 09:58:33

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:58:33	104.8%	0.5952	112.3%	19.6800	42.6900	8.3910	38.0100	10.8700	7.1030	0.2761	3.0260	0.2579	0.6588	1.4480	3.5490	2.3250	1.2020	3.1310	107.4%
2	09:58:47	105.0%	0.7040	115.6%	19.9400	43.0300	8.5620	66.6200	11.0000	7.3820	0.2927	3.1780	0.2092	0.4305	1.4860	3.5880	2.2680	1.2460	3.0670	105.6%
3	09:59:00	105.1%	0.6073	118.2%	20.1300	43.8000	8.6690	39.9500	10.9600	7.5480	0.3208	3.0870	0.1166	1.6550	1.4610	3.7190	2.3440	1.2240	3.2370	104.4%
x		105.0%	0.6355	115.4%	19.9100	43.1700	8.5410	48.1900	10.9400	7.3440	0.2965	3.0970	0.1945	0.9147	1.4650	3.6190	2.3120	1.2240	3.1450	105.8%
σ		0.1%	0.0596	3.0%	0.2258	0.5679	0.1399	15.9900	0.0660	0.2246	0.0226	0.0765	0.0718	0.6511	0.0191	0.0890	0.0395	0.0218	0.0860	1.5%
%RSD		0.1	9.3800	2.6	1.1340	1.3160	1.6370	33.1700	0.6032	3.0580	7.6110	2.4700	36.8900	71.1800	1.3060	2.4600	1.7070	1.7820	2.7330	1.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:58:33	0.1406	2.8330	0.0782	2.0790	2.7570	8.9500	270.2000	113.9%	111.9%	0.2779	0.0000
2	09:58:47	0.1392	2.8540	0.0961	2.0280	2.7450	9.2510	275.6000	115.8%	116.2%	0.2731	0.0000
3	09:59:00	0.1119	2.8680	0.0762	2.0470	2.7930	9.3570	279.0000	118.1%	117.2%	0.2738	0.0000
x		0.1306	2.8520	0.0835	2.0510	2.7650	9.1860	274.9000	115.9%	115.1%	0.2749	0.0000
σ		0.0162	0.0180	0.0109	0.0253	0.0250	0.2110	4.4640	2.1%	2.8%	0.0026	0.0000
%RSD		12.4200	0.6317	13.1000	1.2330	0.9056	2.2970	1.6240	1.8	2.4	0.9418	0.0000

6100170-06@MH1J10 10/19/2016 10:02:34

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:02:34	106.0%	0.1970	109.1%	21.1100	33.6300	3.7460	39.1300	3.5550	3.2280	0.0412	1.1850	0.0168	1.2640	1.0280	2.8330	1.9210	0.9482	2.4410	102.5%
2	10:02:48	103.7%	0.3137	111.7%	21.2300	33.6300	3.7780	35.0600	3.6320	3.2300	0.0780	1.5480	-0.0488	2.1610	1.0790	2.8750	1.9360	0.9680	2.5340	103.0%
3	10:03:02	106.1%	0.3629	112.5%	21.0700	33.7900	3.7720	4.3400	3.6700	3.2620	0.0916	1.5020	0.0157	2.8620	1.1350	2.9990	1.9410	0.9230	2.5920	101.8%
x		105.3%	0.2912	111.1%	21.1400	33.6800	3.7650	26.1800	3.6190	3.2400	0.0703	1.4120	-0.0054	2.0960	1.0800	2.9020	1.9320	0.9464	2.5220	102.4%
σ		1.4%	0.0852	1.8%	0.0821	0.0911	0.0175	19.0200	0.0585	0.0189	0.0261	0.1974	0.0376	0.8011	0.0536	0.0861	0.0105	0.0225	0.0764	0.6%
%RSD		1.3	29.2500	1.6	0.3885	0.2705	0.4639	72.6600	1.6170	0.5830	37.0900	13.9800	694.0000	38.2300	4.9610	2.9650	0.5420	2.3790	3.0270	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:02:34	0.0396	1.1700	0.0119	0.3014	0.5053	3.0180	35.5900	109.6%	108.8%	0.1629	0.0000
2	10:02:48	0.0324	1.1790	0.0198	0.3622	0.4587	3.0660	35.6700	111.4%	109.9%	0.1732	0.0000
3	10:03:02	0.0223	1.1810	0.0184	0.3066	0.4831	3.1000	35.8900	111.8%	112.5%	0.1725	0.0000
x		0.0314	1.1770	0.0167	0.3234	0.4824	3.0620	35.7200	110.9%	110.4%	0.1695	0.0000
σ		0.0087	0.0054	0.0042	0.0338	0.0233	0.0412	0.1597	1.1%	1.9%	0.0057	0.0000
%RSD		27.5700	0.4594	25.1500	10.4400	4.8250	1.3440	0.4471	1.0	1.7	3.3790	0.0000

6100170-07@MH1J11 10/19/2016 10:06:36

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:06:36	103.7%	0.4255	111.8%	26.4100	38.9300	6.7820	52.8200	5.5620	4.1020	0.2009	2.7180	0.2579	-2.0250	1.5570	4.1890	2.5880	1.3980	3.6000	103.3%
2	10:06:49	103.1%	0.3519	113.4%	26.4400	38.7800	6.8770	46.5900	5.6680	4.3490	0.1756	2.0380	0.3042	-2.2350	1.5640	4.2730	2.6140	1.4770	3.5370	103.7%
3	10:07:03	105.7%	0.3781	115.8%	26.8200	38.0500	6.6570	69.3200	5.6340	4.3490	0.1480	1.9280	0.1090	0.9765	1.5140	4.1520	2.6330	1.4780	3.7080	105.7%
x		104.2%	0.3852	113.6%	26.5500	38.5900	6.7720	56.2400	5.6220	4.2670	0.1749	2.2280	0.2237	-1.0950	1.5450	4.2050	2.6120	1.4510	3.6150	104.3%
σ		1.3%	0.0373	2.0%	0.2329	0.4689	0.1100	11.7400	0.0540	0.1427	0.0265	0.4278	0.1020	1.7970	0.0271	0.0617	0.0230	0.0460	0.0863	1.3%
%RSD		1.3	9.6890	1.8	0.8770	1.2150	1.6250	20.8700	0.9613	3.3430	15.1400	19.2000	45.5900	164.1000	1.7510	1.4670	0.8803	3.1720	2.3880	1.2

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:06:36	0.2356	3.5070	0.1797	4.2840	15.2600	3.9320	87.6000	109.7%	109.6%	0.2227	0.0000
2	10:06:49	0.2277	3.5050	0.1509	4.8710	15.6100	4.0660	89.1400	112.2%	112.3%	0.2175	0.0000
3	10:07:03	0.2677	3.4830	0.1563	4.6760	15.8800	4.2200	89.8200	113.6%	114.4%	0.2240	0.0000
x		0.2437	3.4980	0.1623	4.6100	15.5800	4.0730	88.8500	111.9%	112.1%	0.2214	0.0000
σ		0.0212	0.0135	0.0153	0.2990	0.3132	0.1443	1.1410	2.0%	2.4%	0.0034	0.0000
%RSD		8.7030	0.3863	9.4230	6.4850	2.0100	3.5420	1.2840	1.8	2.2	1.5510	0.0000

6100170-08@MH1J12 10/19/2016 10:10:37

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:10:37	107.1%	1.3240	112.4%	6.5480	21.0200	5.6030	38.9400	9.1900	4.8570	0.3412	2.2600	0.0326	3.3960	1.0340	2.6710	1.7240	0.8770	2.3760	105.6%
2	10:10:50	108.6%	1.2010	112.6%	6.7150	21.3900	5.4670	19.0300	9.2370	5.0310	0.3772	2.0620	0.0749	0.9865	1.0820	2.7450	1.7110	0.9722	2.4180	105.6%
3	10:11:04	107.8%	1.1740	115.3%	6.7110	21.3200	5.6580	29.5700	9.4000	5.2500	0.3073	2.3450	-0.0596	4.7860	1.0870	2.8380	1.7690	0.9161	2.4410	104.8%
x		107.8%	1.2330	113.4%	6.6580	21.2500	5.5760	29.1800	9.2750	5.0460	0.3419	2.2230	0.0160	3.0560	1.0680	2.7510	1.7350	0.9218	2.4110	105.3%
σ		0.7%	0.0798	1.6%	0.0951	0.1958	0.0983	9.9640	0.1101	0.1969	0.0349	0.1455	0.0688	1.9220	0.0292	0.0837	0.0305	0.0479	0.0332	0.5%
%RSD		0.7	6.4710	1.4	1.4290	0.9216	1.7620	34.1500	1.1870	3.9030	10.2100	6.5460	430.8000	62.9000	2.7340	3.0400	1.7560	5.1950	1.3770	0.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:10:37	0.1851	2.3540	0.0828	2.3620	0.1805	1.4280	86.4500	115.7%	115.0%	0.3017	0.0000
2	10:10:50	0.1860	2.4050	0.0895	2.1680	0.2020	1.5250	87.8000	118.5%	118.1%	0.2845	0.0000
3	10:11:04	0.1940	2.4520	0.0684	2.3070	0.1879	1.4910	87.5100	121.0%	119.5%	0.3071	0.0000
x		0.1884	2.4040	0.0802	2.2790	0.1901	1.4810	87.2500	118.4%	117.6%	0.2978	0.0000
σ		0.0049	0.0490	0.0108	0.1000	0.0109	0.0494	0.7143	2.6%	2.3%	0.0118	0.0000
%RSD		2.6260	2.0400	13.4300	4.3890	5.7410	3.3370	0.8186	2.2	2.0	3.9600	0.0000

6100170-09@MH1J13 10/19/2016 10:14:38

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:14:38	107.6%	1.6610	112.7%	32.2600	30.7300	9.3540	71.0200	31.1800	13.6700	0.3950	3.1260	0.0611	2.8500	1.5710	3.4530	2.2110	1.1540	2.9440	107.3%
2	10:14:52	107.8%	1.5330	113.4%	33.1800	30.5500	9.1080	69.2700	31.6200	13.7300	0.4763	2.4370	0.1829	2.0860	1.5630	3.7120	2.2120	1.2370	2.9350	107.7%
3	10:15:06	108.4%	1.8010	115.3%	32.8000	31.2100	9.4930	33.5800	31.6100	13.8200	0.5408	3.1800	0.0927	3.4670	1.6260	3.6310	2.2030	1.2040	3.1550	106.6%
x		107.9%	1.6650	113.8%	32.7500	30.8300	9.3180	57.9500	31.4700	13.7400	0.4707	2.9140	0.1122	2.8010	1.5870	3.5990	2.2080	1.1980	3.0110	107.2%
σ		0.4%	0.1341	1.3%	0.4615	0.3445	0.1950	21.1300	0.2541	0.0771	0.0731	0.4142	0.0633	0.6921	0.0344	0.1327	0.0049	0.0415	0.1247	0.5%
%RSD		0.4	8.0520	1.1	1.4090	1.1170	2.0930	36.4600	0.8075	0.5608	15.5200	14.2100	56.3500	24.7100	2.1670	3.6860	0.2203	3.4630	4.1400	0.5

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:14:38	1.0070	2.6160	0.6348	18.3200	0.5832	1.7500	193.6000	119.2%	117.9%	0.5176	0.0000
2	10:14:52	0.9502	2.6380	0.7018	18.8800	0.6031	1.7810	194.5000	123.4%	120.1%	0.5460	0.0000
3	10:15:06	1.0470	2.7030	0.7187	18.9600	0.6318	1.8710	194.4000	124.0%	121.6%	0.5461	0.0000
x		1.0010	2.6520	0.6851	18.7200	0.6060	1.8010	194.2000	122.2%	119.9%	0.5366	0.0000
σ		0.0488	0.0452	0.0444	0.3500	0.0244	0.0629	0.5356	2.6%	1.8%	0.0164	0.0000
%RSD		4.8680	1.7060	6.4760	1.8700	4.0330	3.4900	0.2759	2.1	1.5	3.0580	0.0000

6100170-10@MH1J14 10/19/2016 10:18:40

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:18:40	109.7%	0.3369	118.7%	28.5000	38.3600	5.5700	17.3800	5.5300	3.8360	0.1953	1.8540	0.0228	2.4100	1.6420	4.4750	2.8560	1.4980	3.8290	106.2%
2	10:18:53	107.7%	0.2307	119.1%	28.8500	38.0100	5.4100	45.4400	5.6850	3.8280	0.1945	2.2040	0.0242	2.1870	1.6230	4.3050	2.8360	1.5670	3.9140	106.6%
3	10:19:07	109.9%	0.3344	119.6%	28.9000	38.1400	5.4400	51.6300	5.5510	4.0220	0.1718	2.4170	-0.2109	5.0220	1.7230	4.6600	2.8490	1.5610	3.9920	105.9%
x		109.1%	0.3007	119.2%	28.7500	38.1700	5.4730	38.1500	5.5890	3.8950	0.1872	2.1580	-0.0546	3.2060	1.6630	4.4800	2.8470	1.5420	3.9120	106.2%
σ		1.2%	0.0606	0.5%	0.2172	0.1765	0.0851	18.2500	0.0841	0.1100	0.0133	0.2843	0.1353	1.5760	0.0534	0.1780	0.0104	0.0384	0.0816	0.4%
%RSD		1.1	20.1600	0.4	0.7554	0.4625	1.5550	47.8500	1.5050	2.8230	7.1180	13.1800	247.8000	49.1700	3.2090	3.9740	0.3658	2.4900	2.0870	0.3

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:18:40	0.2726	3.4820	0.1634	4.8110	2.0380	2.4010	49.7100	112.5%	111.7%	0.2412	0.0000
2	10:18:53	0.2574	3.4980	0.1635	4.9710	2.0860	2.4960	49.5100	115.2%	115.0%	0.2485	0.0000
3	10:19:07	0.2741	3.5590	0.1466	4.7940	2.0200	2.5990	51.0700	116.9%	116.3%	0.2422	0.0000
x		0.2680	3.5130	0.1578	4.8590	2.0480	2.4990	50.1000	114.9%	114.3%	0.2440	0.0000
σ		0.0092	0.0404	0.0098	0.0976	0.0338	0.0991	0.8462	2.2%	2.4%	0.0040	0.0000
%RSD		3.4360	1.1510	6.1820	2.0090	1.6490	3.9660	1.6890	1.9	2.1	1.6320	0.0000

6100170-11@MH1J15 10/19/2016 10:22:45

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:22:59	107.4%	0.3606	116.1%	27.5400	40.8900	5.8140	23.2300	6.6890	3.6540	0.2098	3.4000	0.2413	0.3006	2.3100	6.5830	4.1000	2.1850	5.7200	105.0%
2	10:23:13	108.2%	0.3657	117.2%	27.4800	41.5100	5.8120	48.1800	6.5880	3.7090	0.1511	2.8420	-0.1009	3.7930	2.3160	6.5990	4.0770	2.1960	5.7350	103.7%
3	10:23:27	108.5%	0.3800	117.9%	27.5900	41.0000	5.7400	50.9000	6.7380	3.5900	0.1364	2.9230	0.2091	0.8199	2.3740	6.8150	4.1360	2.1660	5.7210	105.4%
x		108.0%	0.3688	117.1%	27.5300	41.1300	5.7890	40.7700	6.6720	3.6510	0.1658	3.0550	0.1165	1.6380	2.3330	6.6660	4.1040	2.1820	5.7250	104.7%
σ		0.6%	0.0100	0.9%	0.0542	0.3292	0.0419	15.2500	0.0766	0.0593	0.0388	0.3013	0.1890	1.8850	0.0352	0.1298	0.0297	0.0152	0.0087	0.9%
%RSD		0.5	2.7170	0.8	0.1969	0.8003	0.7241	37.4000	1.1470	1.6250	23.4300	9.8640	162.2000	115.1000	1.5080	1.9480	0.7230	0.6959	0.1518	0.9

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:22:59	0.1786	2.8290	0.1291	3.4210	2.2920	4.6560	62.3500	114.7%	114.1%	0.2478	0.0000
2	10:23:13	0.1745	2.8990	0.1443	3.5450	2.2970	4.6890	62.5900	116.5%	116.6%	0.2422	0.0000
3	10:23:27	0.1730	2.7940	0.1356	3.3070	2.2570	4.6560	63.3100	117.4%	116.8%	0.2536	0.0000
x		0.1754	2.8410	0.1363	3.4240	2.2820	4.6670	62.7500	116.2%	115.8%	0.2479	0.0000
σ		0.0029	0.0532	0.0076	0.1191	0.0214	0.0194	0.5029	1.4%	1.5%	0.0057	0.0000
%RSD		1.6650	1.8730	5.5760	3.4790	0.9384	0.4151	0.8014	1.2	1.3	2.3060	0.0000

6100170-12@MH1J16 10/19/2016 10:27:04

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:27:18	105.8%	1.1230	131.1%	37.0400	39.5000	6.3500	54.6700	17.8300	5.0380	0.3406	3.7000	0.2548	0.7918	2.1640	6.1860	3.7760	2.0530	5.2490	105.7%
2	10:27:32	108.8%	1.3850	133.4%	37.2000	39.8400	6.5290	54.0400	17.8800	5.0210	0.1374	3.8380	0.1200	3.4880	2.0780	6.2130	3.7580	2.1170	5.3270	104.7%
3	10:27:45	108.8%	1.2960	132.9%	37.2000	40.1400	6.4340	61.1700	18.0300	5.3130	0.1861	3.2440	0.0730	2.3760	2.1540	6.0310	3.7460	2.0940	5.3050	104.7%
x		107.8%	1.2680	132.5%	37.1500	39.8300	6.4380	56.6300	17.9100	5.1240	0.2214	3.5940	0.1492	2.2190	2.1320	6.1430	3.7600	2.0880	5.2940	105.0%
σ		1.7%	0.1334	1.2%	0.0940	0.3218	0.0895	3.9500	0.1076	0.1639	0.1061	0.3109	0.0944	1.3550	0.0470	0.0980	0.0150	0.0322	0.0405	0.6%
%RSD		1.6	10.5200	0.9	0.2530	0.8080	1.3900	6.9750	0.6006	3.1990	47.9300	8.6490	63.2500	61.0700	2.2030	1.5950	0.3996	1.5440	0.7640	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:27:18	0.1200	1.5610	0.0526	1.1890	0.2270	1.0690	71.2100	116.0%	115.8%	0.2346	0.0000
2	10:27:32	0.0943	1.5560	0.0563	1.1780	0.2429	1.1100	72.5000	118.8%	118.2%	0.2340	0.0000
3	10:27:45	0.0997	1.5640	0.0512	1.0240	0.2486	1.0980	72.2200	120.3%	119.4%	0.2493	0.0000
x		0.1047	1.5600	0.0534	1.1300	0.2395	1.0930	71.9800	118.4%	117.8%	0.2393	0.0000
σ		0.0136	0.0039	0.0027	0.0921	0.0112	0.0211	0.6759	2.2%	1.8%	0.0087	0.0000
%RSD		12.9500	0.2518	4.9730	8.1470	4.6860	1.9340	0.9390	1.9	1.6	3.6290	0.0000

6100170-13@MH1J17 10/19/2016 10:31:23

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:31:37	109.2%	0.6316	121.4%	48.4300	45.0100	7.9360	51.6500	10.0200	4.9330	0.2917	3.2310	0.0781	2.4260	2.1330	6.7850	3.9650	2.1600	5.6540	106.0%
2	10:31:51	110.3%	0.7677	122.5%	48.9700	46.5500	8.2740	48.4400	9.9870	5.0220	0.2723	2.7580	0.1047	1.6670	2.2320	6.6860	4.0140	2.1770	5.7770	104.3%
3	10:32:05	109.7%	0.7097	124.4%	48.4800	45.8800	8.0860	44.9100	10.0700	4.8070	0.4032	3.7570	-0.0148	3.0730	2.2050	6.6380	4.0600	2.1110	5.6860	105.1%
x		109.7%	0.7030	122.7%	48.6300	45.8100	8.0990	48.3300	10.0200	4.9210	0.3224	3.2490	0.0560	2.3890	2.1900	6.7030	4.0130	2.1490	5.7050	105.1%
σ		0.5%	0.0683	1.5%	0.2935	0.7718	0.1693	3.3720	0.0431	0.1078	0.0707	0.4994	0.0628	0.7035	0.0511	0.0747	0.0478	0.0340	0.0638	0.9%
%RSD		0.5	9.7140	1.2	0.6035	1.6850	2.0910	6.9760	0.4302	2.1900	21.9100	15.3700	112.0000	29.4500	2.3320	1.1140	1.1900	1.5820	1.1180	0.8

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:31:37	0.1049	2.2810	0.0562	1.4040	0.5649	2.1360	86.3100	114.2%	113.6%	0.2307	0.0000
2	10:31:51	0.0818	2.4230	0.0489	1.4170	0.5510	2.1620	86.7800	116.6%	116.1%	0.2539	0.0000
3	10:32:05	0.1169	2.2890	0.0494	1.5440	0.5819	2.1400	86.5200	118.4%	117.1%	0.2391	0.0000
x		0.1012	2.3310	0.0515	1.4550	0.5659	2.1460	86.5300	116.4%	115.6%	0.2413	0.0000
σ		0.0178	0.0797	0.0040	0.0776	0.0155	0.0143	0.2363	2.1%	1.8%	0.0118	0.0000
%RSD		17.6200	3.4210	7.8520	5.3310	2.7360	0.6648	0.2731	1.8	1.5	4.8700	0.0000

6100170-14@MH1J18 10/19/2016 10:35:17

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:35:31	109.7%	0.6609	114.3%	4.8350	15.6600	3.3290	43.6900	4.0010	2.7430	0.2436	2.4780	0.1877	0.3984	0.6597	1.4720	0.9901	0.5101	1.2720	106.0%
2	10:35:45	110.3%	0.5922	116.3%	4.9810	15.8300	3.4210	33.1700	4.0830	2.6220	0.2440	2.6800	-0.0106	3.7340	0.6274	1.5020	0.9668	0.4722	1.2950	105.9%
3	10:35:59	110.4%	0.6473	116.8%	4.9560	15.6600	3.4460	17.8900	4.0340	2.8280	0.1453	2.3090	0.0281	1.9080	±2.6540	1.5200	0.9537	0.5523	1.3560	107.6%
x		110.2%	0.6335	115.8%	4.9240	15.7200	3.3990	31.5900	4.0390	2.7310	0.2110	2.4890	0.0684	2.0130	±1.3140	1.4980	0.9702	0.5115	1.3070	106.5%
σ		0.4%	0.0364	1.3%	0.0781	0.0992	0.0615	12.9700	0.0412	0.1037	0.0569	0.1855	0.1051	1.6700	±1.1610	0.0242	0.0185	0.0401	0.0433	1.0%
%RSD		0.3	5.7500	1.1	1.5870	0.6309	1.8090	41.0800	1.0200	3.7970	26.9600	7.4530	153.7000	82.9500	±88.3600	1.6140	1.9020	7.8330	3.3130	0.9

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:35:31	0.1336	3.1980	0.0573	1.6170	1.0280	4.4810	119.6000	115.5%	114.8%	0.3444	0.0000
2	10:35:45	0.0955	3.1560	0.0604	1.6110	1.0070	4.5790	120.0000	116.7%	115.1%	0.3365	0.0000
3	10:35:59	0.1047	3.1390	0.0650	1.6320	1.0520	4.6390	118.3000	118.2%	116.7%	0.3382	0.0000
x		0.1113	3.1640	0.0609	1.6200	1.0290	4.5660	119.3000	116.8%	115.5%	0.3397	0.0000
σ		0.0199	0.0303	0.0039	0.0111	0.0227	0.0800	0.8507	1.3%	1.0%	0.0042	0.0000
%RSD		17.9000	0.9588	6.3790	0.6851	2.2090	1.7520	0.7131	1.1	0.9	1.2290	0.0000

6100170-15@MH1J19 10/19/2016 10:39:36

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:39:50	108.9%	0.2415	113.3%	5.7060	26.0700	4.5130	12.4500	2.8370	1.8860	0.1514	3.8210	-0.0451	3.4400	0.8397	2.4010	1.5440	0.8203	2.1120	103.5%
2	10:40:04	109.6%	0.2221	114.6%	5.3370	26.1200	4.5380	35.6400	2.7900	1.8220	0.2637	3.3720	0.3722	-2.1880	0.8744	2.3540	1.5130	0.7897	2.0960	102.9%
3	10:40:17	109.9%	0.1608	116.6%	5.4050	25.7500	4.5480	57.5500	2.7960	1.7560	0.1507	4.1040	0.1822	0.5712	0.9045	2.5150	1.5830	0.8535	2.1470	103.9%
x		109.5%	0.2081	114.9%	5.4830	25.9800	4.5330	35.2100	2.8080	1.8210	0.1886	3.7660	0.1698	0.6076	0.8729	2.4230	1.5470	0.8212	2.1180	103.4%
σ		0.5%	0.0421	1.7%	0.1963	0.2008	0.0182	22.5600	0.0254	0.0650	0.0650	0.3689	0.2089	2.8140	0.0325	0.0828	0.0354	0.0319	0.0260	0.5%
%RSD		0.4	20.2200	1.5	3.5810	0.7728	0.4016	64.0600	0.9051	3.5710	34.4700	9.7950	123.1000	463.2000	3.7170	3.4190	2.2910	3.8800	1.2270	0.5

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:39:50	0.1348	16.1400	0.0894	2.3680	1.9700	14.2200	192.5000	111.8%	111.3%	0.4188	0.0000
2	10:40:04	0.1433	16.3300	0.0936	2.4850	1.9530	14.3300	192.2000	113.4%	112.6%	0.4111	0.0000
3	10:40:17	0.1434	15.8900	0.0864	2.5060	1.9980	14.1200	194.7000	113.1%	113.9%	0.4514	0.0000
x		0.1405	16.1200	0.0898	2.4530	1.9740	14.2200	193.1000	112.8%	112.6%	0.4271	0.0000
σ		0.0050	0.2210	0.0036	0.0744	0.0226	0.1077	1.3610	0.9%	1.3%	0.0214	0.0000
%RSD		3.5310	1.3710	4.0090	3.0330	1.1440	0.7570	0.7049	0.8	1.2	5.0030	0.0000

6100170-16@MH1J20 10/19/2016 10:43:56

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:44:09	109.5%	0.6354	112.8%	4.5940	13.5000	2.9250	13.3400	5.2320	4.1270	0.2767	2.9360	0.1905	0.3132	0.5434	1.2760	0.8480	0.4213	1.1240	107.1%
2	10:44:23	110.0%	0.7212	115.5%	4.6050	13.4600	2.8810	17.5100	5.2500	4.0040	0.2643	3.1240	0.2879	-1.8870	0.5253	1.2280	0.8099	0.4302	1.1250	107.3%
3	10:44:37	111.4%	0.7911	115.0%	4.8530	13.2300	2.8070	26.2700	5.3980	4.0670	0.2355	2.4530	-0.0280	2.8000	0.5546	1.3080	0.8089	0.4478	1.1140	109.6%
x		110.3%	0.7159	114.4%	4.6840	13.4000	2.8710	19.0400	5.2930	4.0660	0.2588	2.8380	0.1501	0.4087	0.5411	1.2710	0.8223	0.4331	1.1210	108.0%
σ		1.0%	0.0780	1.4%	0.1460	0.1494	0.0599	6.6010	0.0910	0.0615	0.0211	0.3459	0.1618	2.3450	0.0148	0.0402	0.0223	0.0135	0.0057	1.3%
%RSD		0.9	10.8900	1.3	3.1180	1.1150	2.0850	34.6600	1.7190	1.5120	8.1640	12.1900	107.8000	573.8000	2.7300	3.1640	2.7130	3.1140	0.5095	1.2

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:44:09	0.1692	2.2510	0.1081	2.7290	0.5929	4.1320	96.7700	115.0%	113.6%	0.3018	0.0000
2	10:44:23	0.1894	2.2770	0.0823	2.6680	0.6107	3.9740	96.3600	117.7%	115.5%	0.2758	0.0000
3	10:44:37	0.2086	2.3200	0.0942	2.6040	0.6034	4.0900	97.8400	117.5%	117.6%	0.2923	0.0000
x		0.1891	2.2830	0.0949	2.6670	0.6023	4.0650	96.9900	116.7%	115.6%	0.2899	0.0000
σ		0.0197	0.0350	0.0129	0.0625	0.0090	0.0816	0.7679	1.5%	2.0%	0.0132	0.0000
%RSD		10.4400	1.5350	13.6100	2.3440	1.4860	2.0070	0.7917	1.3	1.7	4.5470	0.0000

6100170-17@MH1J21 10/19/2016 10:47:28

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:47:41	110.8%	0.2013	117.1%	2.7640	20.7500	3.0330	31.9600	5.2880	1.9140	0.1822	3.9210	0.1465	1.4370	0.7077	2.0780	1.3190	0.6784	1.7170	106.8%
2	10:47:55	111.6%	0.2429	116.9%	2.7070	21.0000	3.1240	38.9800	5.2900	1.8110	0.2336	3.9540	0.0863	2.5130	0.7172	2.0450	1.2830	0.6823	1.7930	105.2%
3	10:48:09	112.0%	0.2481	118.5%	2.6230	20.7400	3.0440	28.0500	5.2770	1.8950	0.2992	3.2130	0.2695	0.8220	0.7624	2.0050	1.3270	0.6486	1.7410	107.6%
x		111.5%	0.2308	117.5%	2.6980	20.8300	3.0670	33.0000	5.2850	1.8740	0.2383	3.6960	0.1674	1.5910	0.7291	2.0430	1.3100	0.6698	1.7500	106.5%
σ		0.6%	0.0256	0.9%	0.0710	0.1487	0.0495	5.5420	0.0068	0.0548	0.0586	0.4186	0.0934	0.8561	0.0292	0.0362	0.0233	0.0184	0.0387	1.2%
%RSD		0.5	11.1000	0.7	2.6320	0.7139	1.6150	16.8000	0.1292	2.9220	24.5900	11.3200	55.7900	53.8200	4.0100	1.7710	1.7780	2.7520	2.2100	1.2

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:47:41	0.2212	2.8610	0.1591	3.9560	0.6538	9.5980	76.6600	114.1%	112.0%	0.3323	0.0000
2	10:47:55	0.1991	2.9810	0.1299	4.1870	0.6583	10.0400	77.2600	114.9%	114.6%	0.3330	0.0000
3	10:48:09	0.2103	2.8690	0.1470	4.0150	0.6620	9.9900	77.1700	115.4%	115.9%	0.3282	0.0000
x		0.2102	2.9040	0.1453	4.0530	0.6580	9.8760	77.0300	114.8%	114.2%	0.3312	0.0000
σ		0.0110	0.0671	0.0146	0.1197	0.0041	0.2424	0.3271	0.6%	2.0%	0.0026	0.0000
%RSD		5.2470	2.3120	10.0700	2.9550	0.6257	2.4540	0.4246	0.6	1.8	0.7779	0.0000

6100170-18@MH1J22 10/19/2016 10:51:05

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:51:05	110.0%	0.4976	117.1%	38.0800	27.1200	5.3890	40.4600	4.0370	2.7230	0.2074	2.1160	0.1898	1.8620	1.1650	3.0290	2.0050	1.0700	2.6340	106.1%
2	10:51:19	111.0%	0.5677	117.9%	38.4400	26.8400	5.4330	52.6400	4.1250	2.7770	0.1362	2.2920	-0.0347	3.3920	1.1900	3.1960	2.0660	1.0400	2.6940	105.6%
3	10:51:33	112.4%	0.4527	118.1%	38.8800	26.4400	5.2960	46.7900	4.1570	2.6640	0.1579	2.3540	0.1669	-0.7800	1.1570	3.1310	2.1020	1.1070	2.8010	107.1%
x		111.1%	0.5080	117.7%	38.4700	26.8000	5.3730	46.6300	4.1060	2.7220	0.1671	2.2540	0.1073	1.4910	1.1710	3.1190	2.0580	1.0720	2.7100	106.3%
σ		1.2%	0.0580	0.5%	0.4010	0.3424	0.0703	6.0920	0.0618	0.0568	0.0365	0.1234	0.1235	2.1100	0.0174	0.0844	0.0489	0.0337	0.0844	0.8%
%RSD		1.1	11.4600	0.5	1.0420	1.2780	1.3070	13.0600	1.5040	2.0870	21.8400	5.4730	115.1000	141.5000	1.4870	2.7050	2.3760	3.1410	3.1150	0.7

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:51:05	0.0718	7.4950	0.0372	0.7873	2.4250	2.0270	78.1100	115.6%	114.8%	0.2438	0.0000
2	10:51:19	0.0765	7.6350	0.0254	0.8449	2.5050	2.0710	77.5600	115.9%	117.0%	0.2469	0.0000
3	10:51:33	0.0864	7.6930	0.0342	0.7818	2.4880	2.0400	77.8700	116.9%	116.3%	0.2315	0.0000
x		0.0782	7.6080	0.0322	0.8046	2.4730	2.0460	77.8500	116.1%	116.0%	0.2407	0.0000
σ		0.0075	0.1021	0.0061	0.0349	0.0424	0.0226	0.2772	0.7%	1.2%	0.0081	0.0000
%RSD		9.5580	1.3430	19.0600	4.3410	1.7140	1.1040	0.3561	0.6	1.0	3.3730	0.0000

QJ14036-PS1@MH1J05A 10/19/2016 10:54:12

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:54:12	108.3%	0.4678	118.5%	24.6200	44.6200	6.8070	61.0100	7.5400	4.5440	0.6417	14.3400	0.6071	4.1180	5.5350	15.8300	9.6780	5.2480	13.8500	105.7%
2	10:54:26	111.4%	0.3446	121.9%	24.6100	44.2500	6.7320	71.9500	7.6280	4.4960	0.6029	14.1400	0.5941	3.1460	5.6860	16.0600	9.6090	5.3760	13.7400	106.2%
3	10:54:39	110.9%	0.3658	122.7%	25.0400	44.8500	6.8830	34.0400	7.7220	4.6940	0.5391	13.5200	0.9339	0.1450	5.6000	16.2300	9.8950	5.5760	14.0600	106.9%
x		110.2%	0.3927	121.0%	24.7600	44.5800	6.8070	55.6600	7.6300	4.5780	0.5945	14.0000	0.7117	2.4690	5.6070	16.0400	9.7270	5.4000	13.8800	106.3%
σ		1.7%	0.0659	2.3%	0.2459	0.3066	0.0755	19.5100	0.0911	0.1031	0.0518	0.4254	0.1925	2.0710	0.0759	0.2019	0.1493	0.1655	0.1645	0.6%
%RSD		1.5	16.7700	1.9	0.9931	0.6878	1.1090	35.0500	1.1940	2.2530	8.7130	3.0390	27.0500	83.8600	1.3530	1.2590	1.5340	3.0650	1.1850	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:54:12	0.5484	2.8590	0.3409	9.8060	2.3980	8.5770	70.8400	112.4%	110.1%	0.2480	0.0000
2	10:54:26	0.5138	2.9300	0.3139	9.6150	2.4110	8.6480	70.3300	114.5%	112.8%	0.2619	0.0000
3	10:54:39	0.5200	3.0210	0.3280	10.3000	2.4730	8.8730	72.1800	115.4%	114.4%	0.2609	0.0000
x		0.5274	2.9360	0.3276	9.9080	2.4270	8.6990	71.1200	114.1%	112.4%	0.2569	0.0000
σ		0.0184	0.0812	0.0135	0.3560	0.0401	0.1547	0.9565	1.6%	2.2%	0.0077	0.0000
%RSD		3.4970	2.7650	4.1220	3.5930	1.6530	1.7780	1.3450	1.4	1.9	3.0070	0.0000

6100170-12RE1@MH1J16@2X 10/19/2016 10:57:52

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:57:52	110.7%	0.6737	118.0%	18.2300	17.6500	2.7590	18.9200	8.8630	2.6020	0.1790	1.7100	0.0973	1.4560	0.9932	3.0290	1.8630	0.9861	2.5060	108.6%
2	10:58:05	111.8%	0.6612	120.3%	18.7300	18.2600	2.8800	10.1900	8.8130	2.6080	0.0513	1.4250	0.0773	0.5520	1.0290	3.0490	1.8090	1.0500	2.5420	106.4%
3	10:58:19	112.0%	0.6956	122.7%	18.5000	17.5800	2.7800	8.6200	8.6340	2.5650	0.1648	1.3360	-0.1109	3.2720	1.0530	3.0440	1.9020	1.0200	2.5680	110.2%
x		111.5%	0.6768	120.3%	18.4900	17.8300	2.8060	12.5800	8.7700	2.5920	0.1317	1.4900	0.0212	1.7600	1.0250	3.0400	1.8580	1.0190	2.5390	108.4%
σ		0.7%	0.0174	2.4%	0.2538	0.3782	0.0644	5.5510	0.1203	0.0233	0.0700	0.1955	0.1149	1.3850	0.0303	0.0104	0.0465	0.0322	0.0310	1.9%
%RSD		0.6	2.5710	2.0	1.3730	2.1210	2.2940	44.1300	1.3720	0.9002	53.1300	13.1200	541.4000	78.7100	2.9510	0.3416	2.5010	3.1560	1.2220	1.7

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:57:52	0.0433	0.6966	0.0195	0.5540	0.1224	0.5381	33.0300	109.8%	109.8%	0.1107	0.0000
2	10:58:05	0.0460	0.7573	0.0271	0.5505	0.1183	0.5340	33.8800	111.2%	111.0%	0.1027	0.0000
3	10:58:19	0.0604	0.7512	0.0331	0.5588	0.1237	0.4914	33.7600	112.7%	112.4%	0.1204	0.0000
x		0.0499	0.7350	0.0265	0.5544	0.1215	0.5212	33.5600	111.2%	111.1%	0.1113	0.0000
σ		0.0092	0.0335	0.0068	0.0041	0.0028	0.0259	0.4612	1.4%	1.3%	0.0089	0.0000
%RSD		18.3500	4.5520	25.6500	0.7460	2.3260	4.9640	1.3740	1.3	1.1	7.9840	0.0000

SEQ-CCV@CCV03 10/19/2016 11:01:56 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:02:10	107.4%	502.3000	105.6%	301.7000	517.0000	516.9000	2786.0000	r513.1000	509.6000	19.4700	519.0000	26.9200	0.7189	409.3000	r1330.0000	r787.1000	438.4000	r1152.0000	104.4%
2	11:02:24	108.6%	502.0000	107.1%	303.3000	507.7000	503.6000	2700.0000	r511.6000	510.5000	18.6400	502.3000	27.4800	0.1162	411.4000	r1316.0000	r785.7000	438.7000	r1142.0000	107.3%
3	11:02:38	109.3%	488.5000	108.2%	303.9000	517.5000	512.0000	2582.0000	r508.6000	506.7000	20.3000	515.8000	27.1900	1.3240	413.4000	r1331.0000	r790.1000	445.1000	r1155.0000	106.0%
x		108.4%	99.515%	107.0%	303.0000	102.809%	102.164%	2689.0000	r102.218%	101.790%	19.4700	102.478%	27.2000	0.7198	411.3000	r1326.0000	r787.6000	440.7000	r1150.0000	105.9%
σ		1.0%	n/a	1.3%	1.1460	n/a	n/a	102.6000	rn/a	n/a	0.8258	n/a	0.2832	0.6040	2.0240	r8.2420	r2.2240	3.7820	r6.7950	1.5%
%RSD		0.9	1.5880	1.2	0.3782	1.0720	1.3210	3.8140	r0.4482	0.3894	4.2420	1.7260	1.0410	83.9200	0.4920	r0.6216	r0.2823	0.8580	r0.5909	1.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:02:10	24.4400	67.3800	18.2900	513.5000	r491.8000	534.3000	522.5000	111.6%	111.4%	r513.8000	0.0000
2	11:02:24	24.3000	66.9700	18.0600	514.5000	494.6000	530.2000	517.3000	114.8%	114.5%	r506.3000	0.0000
3	11:02:38	24.3300	67.2400	17.8200	516.6000	502.7000	535.7000	523.2000	115.5%	116.3%	r503.7000	0.0000
x		24.3500	103.382%	18.0600	102.979%	r496.4000	106.678%	104.198%	114.0%	114.1%	r101.588%	0.0000
σ		0.0737	n/a	0.2324	n/a	r5.6500	n/a	n/a	2.1%	2.5%	rn/a	0.0000
%RSD		0.3024	0.3052	1.2870	0.3038	r1.1380	0.5410	0.6238	1.8	2.2	r1.0360	0.0000

SEQ-CCB@CCB03 10/19/2016 11:07:35 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:07:35	108.6%	0.1026	105.6%	0.0023	0.0302	0.0072	1.0410	0.0412	0.0221	-0.0085	0.0242	-0.0807	1.3320	0.0467	0.1635	0.0916	0.0591	0.1456	105.9%
2	11:07:49	110.4%	0.0742	107.5%	0.0241	-0.0749	0.0049	9.8140	0.0233	-0.0415	0.0035	0.0874	-0.0772	1.2710	0.0569	0.1525	0.0966	0.0548	0.1400	106.6%
3	11:08:03	111.3%	0.0560	108.3%	0.0141	-0.1318	-0.0126	18.0200	0.0212	0.0132	0.0035	0.0244	-0.1135	2.4470	0.0690	0.1195	0.0719	0.0370	0.1175	105.8%
x		110.1%	0.0776	107.1%	0.0135	-0.0588	-0.0001	9.6250	0.0286	-0.0021	-0.0005	0.0453	-0.0904	1.6830	0.0575	0.1452	0.0867	0.0503	0.1343	106.1%
σ		1.4%	0.0235	1.4%	0.0109	0.0822	0.0108	8.4910	0.0110	0.0344	0.0069	0.0364	0.0200	0.6624	0.0111	0.0229	0.0131	0.0117	0.0149	0.4%
%RSD		1.3	30.2600	1.3	81.0500	139.7000	7548.0000	88.2200	38.4400	1664.0000	1402.0000	80.3100	22.1400	39.3500	19.3400	15.8000	15.0700	23.2800	11.0600	0.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:07:35	0.0222	0.0061	0.0009	0.0164	0.0619	0.0520	0.0695	105.4%	105.6%	0.0662	0.0000
2	11:07:49	0.0090	0.0047	-0.0005	0.0264	0.0348	0.0457	0.0426	108.9%	110.0%	0.0511	0.0000
3	11:08:03	-0.0026	0.0016	0.0009	0.0237	0.0331	0.0323	0.0804	109.1%	108.7%	0.0388	0.0000
x		0.0096	0.0042	0.0004	0.0222	0.0433	0.0433	0.0641	107.8%	108.1%	0.0520	0.0000
σ		0.0124	0.0023	0.0008	0.0052	0.0161	0.0100	0.0194	2.1%	2.3%	0.0137	0.0000
%RSD		129.8000	54.8700	186.9000	23.2800	37.2600	23.1500	30.2900	1.9	2.1	26.3800	0.0000

Mass Uncorrected ICPS

SEQ-CAL1@S01 10/19/2016 07:51:01

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	07:51:01	95997.5250	20.0000	123165.3900	73.3336	198.0022	180.0018	96.6672	13.3333	476.6792	0.0000	11.1111	10.0000	136.6677	20.0000	16.6667	43.3334	26.6667	20.0000	40091.5420
2	07:51:19	96388.2940	36.6667	124047.2600	113.3340	214.6692	154.0013	80.6670	13.3333	353.3402	3.3333	3.3333	0.0000	143.3345	20.0000	23.3334	23.3334	20.0000	20.0000	39977.7090
3	07:51:32	97105.8700	16.6667	128028.5500	76.6670	202.6689	180.0018	88.6671	23.3334	400.0088	3.3333	8.8889	10.0000	133.3343	30.0000	13.3333	40.0001	23.3334	36.6667	40272.3390
x		96497.2300	24.4445	125080.4000	87.7782	205.1134	171.3350	88.6671	16.6667	410.0094	2.2222	7.7778	6.6667	137.7788	23.3334	17.7778	35.5556	23.3334	25.5556	40113.8630
σ		562.1453	10.7152	2590.9707	22.1947	8.5982	15.0114	8.0001	5.7735	62.2747	1.9245	4.0062	5.7735	5.0918	5.7735	5.0918	10.7152	3.3333	9.6225	148.5776
%RSD		0.5826	43.8348	2.0714	25.2849	4.1919	8.7614	9.0226	34.6411	15.1886	86.6025	51.5079	86.6025	3.6957	24.7436	28.6411	30.1365	14.2857	37.6533	0.3704

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	07:51:01	76.6670	0.0000	0.0000	6.6667	76.6670	10.0000	80.0004	161084.6200	158733.8100	40.0001	103222.7100
2	07:51:19	90.0004	10.0000	3.3333	10.0000	66.6669	36.6667	40.0001	164067.2500	162451.9600	43.3334	104213.9300
3	07:51:32	126.6676	13.3333	0.0000	3.3333	73.3336	23.3334	40.0001	165244.9600	163317.2600	80.0004	105353.6200
x		97.7783	7.7778	1.1111	6.6667	72.2225	23.3334	53.3335	163465.6100	161501.0100	54.4446	104263.4200
σ		25.8918	6.9389	1.9245	3.3333	5.0918	13.3334	23.0942	2144.4331	2435.2092	22.1946	1066.3133
%RSD		26.4801	89.2143	173.2051	50.0000	7.0501	57.1429	43.3014	1.3119	1.5079	40.7654	1.0227

SEQ-CAL2@S02 10/19/2016 07:55:22

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	07:55:36	96977.8480	66.6669	122043.7400	66.6669	1046.7269	641.3560	160.6681	1416.7771	690.0262	13.3333	46.6668	30.0000	113.3340	2056.8993	3617.3862	3927.5149	2360.3064	5645.0855	40446.4420
2	07:55:50	97789.8100	66.6669	122618.0600	66.6669	1100.0666	601.3532	163.3348	1340.0988	716.6949	23.3334	43.3334	23.3334	126.6676	2173.5932	3567.3665	3944.1888	2286.9543	5921.9282	40225.4650
3	07:56:04	97537.1170	96.6672	124821.0700	53.3335	1122.0692	644.0228	160.6681	1300.0930	750.0309	13.3333	31.1112	33.3334	203.3356	2146.9201	3814.1333	3980.8714	2467.0014	6092.0405	40741.0870
x		97434.9250	76.6670	123160.9600	62.2224	1089.6209	628.9107	161.5570	1352.3229	718.9174	16.6667	40.3705	28.8889	147.7791	2125.8042	3666.2953	3950.8584	2371.4207	5886.3514	40470.9980
σ		415.5152	17.3207	1466.0977	7.6981	38.7421	23.9027	1.5396	59.2948	30.0640	5.7735	8.1902	5.0918	48.5731	61.1455	130.4513	27.2964	90.5366	225.5914	258.6865
%RSD		0.4265	22.5921	1.1904	12.3718	3.5556	3.8006	0.9530	4.3847	4.1819	34.6411	20.2875	17.6253	32.8687	2.8763	3.5581	0.6909	3.8178	3.8324	0.6392

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	07:55:36	143.3345	1116.7353	30.0000	243.3366	6255.4848	1653.4837	2957.1475	166915.0600	163802.5400	2123.5813	106341.6900
2	07:55:50	110.0007	1153.4065	30.0000	240.0032	6705.8057	1623.4783	3110.5321	168320.6200	165737.1400	2106.9108	109252.5700
3	07:56:04	93.3338	1150.0727	23.3334	226.6695	6542.3533	1716.8288	2813.7687	170004.8700	167594.0500	2190.2638	109043.4100
x		115.5563	1140.0715	27.7778	236.6698	6501.2146	1664.5969	2960.4828	168413.5200	165711.2400	2140.2520	108212.5500
σ		25.4591	20.2784	3.8490	8.8194	227.9616	47.6572	148.4098	1546.9948	1895.8861	44.1063	1623.5899
%RSD		22.0318	1.7787	13.8564	3.7265	3.5064	2.8630	5.0130	0.9186	1.1441	2.0608	1.5004

SEQ-CAL3@S03 10/19/2016 07:59:41

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103R
1	07:59:41	94495.2420	203.3356	118470.2700	76.6670	2239.6092	1275.4228	246.6700	2937.1411	1343.4326	30.0000	101.1117	60.0002	156.6680	4314.3568	7122.7893	7573.1531	4260.9984	11246.9530	39050.35
2	07:59:55	96320.9190	153.3346	119301.0300	86.6671	2276.2849	1219.4151	229.3362	2987.1574	1370.1032	26.6667	85.5560	63.3336	116.6674	4311.0219	6979.3448	7583.1614	4544.4689	11800.9880	39519.044
3	08:00:09	96866.6720	203.3356	120037.2900	66.6669	2327.6313	1304.0935	250.0034	3200.5633	1380.1047	16.6667	90.0004	30.0000	123.3342	4267.6681	7232.8762	7713.2708	4387.7253	12138.0980	38782.549
x		95894.2770	186.6686	119269.5300	76.6670	2281.1751	1266.3105	242.0032	3041.6206	1364.5469	24.4445	92.2227	51.1113	132.2232	4297.6823	7111.6701	7623.1951	4397.7309	11728.6800	39117.317
σ		1241.9490	28.8681	783.9858	10.0001	44.2143	43.0684	11.0958	139.9018	18.9570	6.9389	8.0124	18.3587	21.4307	26.0465	127.1309	78.1682	141.9999	449.9514	372.785
%RSD		1.2951	15.4649	0.6573	13.0435	1.9382	3.4011	4.5850	4.5995	1.3893	28.3864	8.6881	35.9190	16.2079	0.6061	1.7876	1.0254	3.2289	3.8363	0.953

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	07:59:41	120.0008	2443.6617	40.0001	616.6876	12228.2190	3734.1001	6535.6818	161674.9600	159374.8800	4951.3480	103843.0500
2	07:59:55	156.6680	2567.0290	43.3334	600.0198	12481.8960	4047.5675	6735.8278	164936.1000	162275.5200	5041.3975	105744.7800
3	08:00:09	126.6676	2406.9853	56.6668	570.0179	13086.0780	3890.8324	6715.8130	166426.2200	165034.5300	5228.1696	108223.7000
x		134.4455	2472.5587	46.6668	595.5751	12598.7310	3890.8333	6662.4409	164345.7600	162228.3100	5073.6384	105937.1800
σ		19.5318	83.8438	8.8192	23.6502	440.7024	156.7337	110.2318	2430.0184	2830.1188	141.1990	2196.6537
%RSD		14.5277	3.3910	18.8983	3.9710	3.4980	4.0283	1.6545	1.4786	1.7445	2.7830	2.0735

SEQ-CAL4@S04 10/19/2016 08:03:44

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	08:03:44	96502.8330	320.0056	117889.4600	80.0004	4277.0059	2285.6206	388.0083	5665.0979	1730.1646	40.0001	185.5575	136.6677	130.0009	9922.0783	17246.3430	18689.1910	10716.3120	27735.5780
2	08:03:58	95738.1450	370.0075	119209.8500	70.0003	4291.0125	2327.6313	373.3410	5825.1990	1626.8122	46.6668	178.8907	86.6671	126.6676	10415.9640	17460.0840	19300.4660	11126.8050	28601.5890
3	08:04:12	96651.0620	403.3423	121243.1400	43.3334	4425.7437	2249.6116	377.3412	6042.0072	1583.4712	50.0001	165.5571	93.3338	136.6677	10385.9290	17951.0390	20205.7630	11133.4800	29430.8960
x		96297.3460	364.4518	119447.4800	64.4447	4331.2540	2287.6212	379.5635	5844.1014	1646.8160	45.5557	176.6684	105.5562	131.1121	10241.3240	17552.4890	19398.4740	10992.1990	28589.3540
σ		489.9214	41.9452	1689.4203	18.9543	82.1296	39.0483	7.5820	189.1643	75.3648	5.0918	10.1837	27.1488	5.0918	276.8822	361.3211	763.0217	238.9482	847.7251
%RSD		0.5088	11.5091	1.4144	29.4117	1.8962	1.7069	1.9976	3.2368	4.5764	11.1770	5.7643	25.7197	3.8836	2.7036	2.0585	3.9334	2.1738	2.9652

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:03:44	183.3352	4817.9430	83.3337	1066.7292	30333.8570	7576.4892	13359.8090	162645.3800	161043.9100	9751.8943	106780.1100
2	08:03:58	253.3369	4968.0238	83.3337	1023.3909	30671.6540	7743.2963	13112.7830	164698.5200	162801.4700	9888.7087	106921.7700
3	08:04:12	203.3356	5098.0957	96.6672	1123.4027	31504.4950	7736.6240	13523.3840	169003.1100	166015.4800	10112.2880	108324.9000
x		213.3359	4961.3542	87.7782	1071.1743	30836.6690	7685.4698	13331.9920	165449.0000	163286.9500	9917.6303	107342.2600
σ		36.0564	140.1954	7.6981	50.1539	602.5120	94.4389	206.7090	3244.6296	2521.0913	181.9291	853.9314
%RSD		16.9012	2.8257	8.7699	4.6821	1.9539	1.2288	1.5505	1.9611	1.5440	1.8344	0.7955

SEQ-CAL5@S05 10/19/2016 08:07:46

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98M
1	08:07:46	95661.1680	3217.2358	118558.0700	9501.6295	8368.5167	11048.0430	1429.4457	58722.3800	12495.2480	73.3336	331.1171	133.3343	76.6670	24145.3560	42663.2070	46501.9640	27300.9320	69346.822
2	08:08:00	96607.2670	3237.2429	119692.8000	9685.1564	8363.8457	10937.2420	1407.4423	60215.4330	13086.0780	100.0006	291.1158	130.0009	120.0008	24960.8870	43935.9140	47946.1030	28056.5610	71332.094
3	08:08:13	98254.7830	3270.5882	119990.0100	9514.9768	8308.4616	10879.8400	1442.1144	60611.3840	13179.5470	86.6671	298.8938	123.3342	190.0020	25218.2630	44401.5010	48757.0660	28093.3410	73277.475
x		97174.4060	3241.6890	119413.6300	9567.2542	8346.9413	10955.0410	1426.3341	59849.7320	12920.2910	86.6671	307.0422	128.8898	128.8899	24774.8350	43666.8740	47735.0440	27816.9450	71318.797
σ		936.0219	26.9526	755.6872	102.3241	33.4061	85.5023	17.5442	996.1861	371.0529	13.3335	21.2091	5.0918	57.1880	560.1285	899.8352	1142.2700	447.2582	1965.360
%RSD		0.9632	0.8314	0.6328	1.0695	0.4002	0.7805	1.2300	1.6645	2.8719	15.3847	6.9075	3.9505	44.3696	2.2609	2.0607	2.3929	1.6079	2.755

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:07:46	1143.4052	6292.1768	706.6941	10946.5870	37339.8610	36824.4310	13596.8270	160219.5300	158320.0200	97469.7330	103897.0000
2	08:08:00	1150.0727	6345.5472	783.3671	11480.5780	39026.9240	37942.3480	13179.5470	163303.6900	162706.4600	98699.5620	105478.3800
3	08:08:13	1126.7365	6582.3822	713.3613	11700.8590	39910.7490	39134.0500	13850.5430	165390.9200	164287.8500	100151.9800	106705.9200
x		1140.0715	6406.7020	734.4742	11376.0080	38759.1780	37966.9430	13542.3060	162971.3800	161771.4400	98773.7600	105360.4300
σ		12.0200	154.4660	42.4735	387.8566	1306.1902	1155.0058	338.8045	2601.6575	3091.8339	1342.6641	1408.1710
%RSD		1.0543	2.4110	5.7828	3.4094	3.3700	3.0421	2.5018	1.5964	1.9112	1.3593	1.3365

SEQ-CAL6@S06 10/19/2016 08:11:47

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	
1	08:11:47	96849.8270	16434.8420	117183.7600	46347.8460	40931.2720	53419.8260	6685.7909	287477.9800	60883.1920	516.6814	1572.3582	860.0407	140.0011	120817.5300	211641.9000	229702.4400	133087.0900	34
2	08:12:01	97092.3940	16598.4730	118747.1800	46857.1140	41133.5150	53333.3200	6783.1964	293960.4200	62645.1010	546.6831	1545.6869	790.0343	90.0004	123996.5700	217320.2000	236821.6500	137512.2200	35
3	08:12:15	96762.2350	16398.1090	117896.2100	47202.2250	40483.9420	53271.6270	6733.1592	296204.8700	62987.4550	533.3490	1565.6904	803.3688	113.3340	126804.9100	224132.6400	240208.8000	139976.0700	36
x		96901.4850	16477.1410	117942.3900	46802.3950	40849.5760	53341.5910	6734.0488	292547.7500	62171.9160	532.2378	1561.2452	817.8146	114.4452	123873.0000	217698.2400	235577.6300	136858.4600	35
σ		171.0341	106.6689	782.7344	429.8098	332.4031	74.4450	48.7088	4531.7035	1129.1188	15.0317	13.8802	37.1717	25.0188	2995.6044	6253.9465	5362.5189	3490.7086	
%RSD		0.1765	0.6474	0.6637	0.9184	0.8137	0.1396	0.7233	1.5490	1.8161	2.8242	0.8890	4.5452	21.8610	2.4183	2.8728	2.2763	2.5506	

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:11:47	4877.9750	30905.7780	3504.0085	54898.5960	184030.7000	185867.5100	64974.7010	162394.2800	160117.7600	492231.4500	104571.3300
2	08:12:01	4968.0238	32671.9380	3897.5020	56323.9420	190478.1500	191182.7100	67294.8210	165961.1700	163327.4400	502089.2200	107029.6900
3	08:12:15	5311.5512	33039.9310	3954.1931	57987.6870	197202.6000	195257.9700	69709.5810	168439.4600	168656.7700	514406.6800	108820.7700
x		5052.5167	32205.8830	3785.2345	56403.4090	190570.4900	190769.4000	67326.3670	165598.3000	164033.9900	502909.1200	106807.2600
σ		228.8042	1140.8584	245.1928	1546.0776	6586.4360	4708.8521	2367.5978	3038.8823	4313.1262	11110.3290	2133.4332
%RSD		4.5285	3.5424	6.4776	2.7411	3.4562	2.4683	3.5166	1.8351	2.6294	2.2092	1.9975

SEQ-CAL7@S07 10/19/2016 08:15:49

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	
1	08:15:49	96145.7460	161674.9600	116700.9400	456266.2100	396819.6400	522648.0500	64036.0760	r2938133.9000	616102.8000	4667.8648	15480.9480	7389.6688	153.3346	1247498.1000	2252166.3000	r2472944.4000	1
2	08:16:03	97200.2040	165316.2400	119598.2300	468782.8600	397113.3900	522293.1700	64515.4470	r2998494.2000	628317.7900	4717.8906	15663.4820	7136.1331	106.6673	1300211.5000	2325998.2000	r2535773.5000	1
3	08:16:16	96745.3910	164983.6200	118460.1400	471241.8900	395779.0500	525837.6600	64690.0150	r3015502.6000	636045.0300	4911.3263	15854.9250	7433.0375	130.0009	1313631.0000	2391723.6000	r2579899.6000	1
x		96697.1130	163991.6100	118253.1000	465430.3200	396570.6900	523592.9600	64413.8460	r2984043.6000	626821.8700	4765.6939	15666.4520	7319.6131	130.0010	1287113.5000	2323296.1000	r2529539.2000	1
σ		528.8840	2013.1545	1459.6991	8031.0289	701.1391	1952.0479	338.6017	r40658.2450	10054.9230	128.5778	187.0062	160.3712	23.3337	34957.9290	69817.8640	r53749.4570	
%RSD		0.5469	1.2276	1.2344	1.7255	0.1768	0.3728	0.5257	r1.3625	1.6041	2.6980	1.1937	2.1910	17.9488	2.7160	3.0051	r2.1249	

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:15:49	49829.5240	321368.2800	37132.3470	571535.0100	1988033.0000	1974648.4000	681318.5800	165971.3500	166144.4700	r5255265.2000	110760.6500
2	08:16:03	50791.4920	331260.6900	38963.3190	587300.4200	2060266.7000	2055888.2000	709892.2300	171254.6600	170650.1200	r5373704.6000	113028.3100
3	08:16:16	52169.2610	336114.0500	39073.7920	599549.1400	2125602.8000	2100542.7000	721887.1400	175378.8500	173564.5200	r5473390.7000	117720.6300
x		50930.0930	329581.0100	38389.8190	586128.1900	2057967.5000	2043693.1000	704365.9800	170868.2900	170119.7000	r5367453.5000	113836.5300
σ		1176.0103	7515.0159	1090.4031	14043.8060	68813.7270	63826.9860	20841.2210	4715.6343	3738.3543	r109197.0000	3549.6818
%RSD		2.3091	2.2802	2.8403	2.3960	3.3438	3.1231	2.9589	2.7598	2.1975	r2.0344	3.1182

SEQ-CAL8@S08 10/19/2016 08:19:52

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95M
1	08:19:52	93158.2150	u315425.4800	109630.4100	866368.3500	u762050.8500	u1008528.9000	122445.7600	r5502161.5000	1165953.8000	9141.2603	u29624.8580	13503.3550	150.0012	r2470060.2000	m4353041.20(
2	08:20:06	93821.6520	u316325.9700	111911.2800	886640.0900	765065.6300	1017086.8000	124097.2700	r5584304.1000	1183982.8000	9394.8520	29903.5460	14004.1110	140.0011	r2565625.1000	m4521276.30(
3	08:20:21	93990.0450	u317996.0800	111820.1700	901595.9000	u775338.2800	u1022117.6000	124934.6200	m5591282.7000	u1211320.7000	8894.3489	30168.8650	14558.3140	140.0011	r2585829.1000	m4563906.40(
x		93656.6370	u316582.5100	111120.6200	884868.1100	u767484.9200	u1015911.1000	123825.8800	m5592582.8000	u1187085.8000	9143.4871	u29899.0900	14021.9270	143.3345	r2540504.8000	m4479408.00(
σ		439.7814	u1304.3610	1291.3652	17680.4960	u6966.2536	u6870.2305	1266.4262	m94832.0160	u22842.0450	250.2590	u272.0308	527.7054	5.7736	r61837.5540	m111493.29(
%RSD		0.4696	u0.4120	1.1621	1.9981	u0.9077	u0.6763	1.0227	m1.6957	u1.9242	2.7370	u0.9098	3.7634	4.0281	r2.4341	m2.48(

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:19:52	95384.4560	619951.7000	73042.2600	u1119205.9000	r3844385.5000	m3816430.5000	m1370671.9000	166728.3500	163989.2000	m10671910.0000	113767.4400
2	08:20:06	98942.1780	641420.3600	75102.2770	u1152514.4000	r3955946.5000	m3971549.1000	m1404519.9000	171686.0200	172243.0800	m11012492.0000	117990.7600
3	08:20:21	100138.5000	u651135.8900	76093.8040	u1187178.8000	r4041616.0000	m4019931.3000	m1436516.1000	174675.5000	173574.7100	m11153300.0000	118696.5300
x		98155.0460	u637502.6500	74746.1140	u1152966.4000	r3947316.0000	m3935970.3000	m1403902.6000	171029.9600	169935.6600	m10945900.0000	116818.2400
σ		2472.8375	u15956.9670	1556.6370	u33988.6810	r98898.0870	m106313.3800	m32926.4730	4013.9894	5192.6535	m247507.2400	2665.5354
%RSD		2.5193	u2.5030	2.0826	u2.9479	r2.5055	m2.7011	m2.3454	2.3470	3.0557	m2.2612	2.2818

SEQ-ICV@ICV01 10/19/2016 08:23:58 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	
1	08:24:12	93104.3340	31788.8150	106493.4500	153.3346	77911.7720	100218.7100	12528.6270	551481.4900	116812.3600	1800.1782	6203.2268	2940.4755	133.3343	9962.1221	17774.0250	19414.0410	11040.0330	2
2	08:24:25	92622.7860	31969.4470	107370.3400	173.3350	78380.4420	101719.2400	12678.1680	557322.0200	117149.9900	1963.5454	6246.5898	3020.5017	116.6674	10302.5010	18201.5360	19958.5520	11757.5980	2
3	08:24:44	94178.6480	31889.1660	108763.4200	176.6684	78584.8620	101762.3900	12752.2710	567787.4300	118889.0200	1996.8860	6406.7012	3020.5017	96.6672	10569.4740	18285.0370	20209.1040	11537.3160	3
x		93301.9230	31882.4760	107542.4000	167.7793	78292.3590	101233.4500	12653.0220	558863.6500	117617.1200	1920.2032	6285.5059	2993.8263	115.5563	10278.0320	18086.8660	19860.5660	11444.9830	2
σ		796.5288	90.5015	1144.7255	12.6200	345.0817	879.0500	113.9227	8261.5610	1114.3555	105.2729	107.1742	46.2032	18.3588	304.4144	274.1263	406.4878	367.5857	
%RSD		0.8537	0.2839	1.0644	7.5218	0.4408	0.8683	0.9004	1.4783	0.9474	5.4824	1.7051	1.5433	15.8873	2.9618	1.5156	2.0467	3.2118	

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:24:12	9655.1245	492157.6100	7209.5243	113112.6800	743.3637	754556.7900	136899.7500	166429.6200	166270.0700	r2278784.1000	112144.1200
2	08:24:25	9725.1991	497732.5100	7476.4064	114317.6100	720.0285	777830.9800	138537.6100	171495.8100	170653.5200	r2313351.8000	113713.4400
3	08:24:44	10385.9290	501610.5100	7523.1116	114388.4900	836.7052	788257.5500	140930.6400	172820.5500	173146.6700	r2318870.0000	115218.8800
x		9922.0843	497166.8800	7403.0141	113939.5900	766.6991	773548.4400	138789.3400	170248.6600	170023.4200	r2303668.6000	113692.1500
σ		403.2267	4751.7672	169.1865	717.0065	61.7395	17253.7090	2027.2033	3373.0619	3481.3306	r21726.5330	1537.4899
%RSD		4.0639	0.9558	2.2854	0.6293	8.0526	2.2305	1.4606	1.9813	2.0476	r0.9431	1.3523

SEQ-ICB@ICB01 10/19/2016 08:28:28 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	08:28:28	93407.4190	33.3334	107920.1300	73.3336	204.0023	168.6682	86.0004	90.0004	366.6741	6.6667	5.5556	13.3333	73.3336	96.6672	136.6677	176.6684	66.6669	196.6688	38946.5810
2	08:28:42	95276.6680	16.6667	109971.1500	60.0002	268.6706	241.3365	104.0006	96.6672	303.3384	3.3333	7.7778	10.0000	126.6676	100.0006	106.6673	153.3346	66.6669	196.6688	37547.3800
3	08:28:56	94613.1250	13.3333	111951.7700	70.0003	246.6700	224.0028	95.3338	100.0006	326.6725	10.0000	15.5556	10.0000	153.3346	106.6673	133.3343	163.3348	96.6672	233.3363	38036.0710
x		94432.4040	21.1111	109947.6800	67.7780	239.7810	211.3358	95.1116	95.5561	332.2283	6.6667	9.6296	11.1111	117.7786	101.1117	125.5564	164.4459	76.6670	208.8913	38176.6770
σ		947.6378	10.7152	2015.9270	6.9389	32.8800	37.9540	9.0022	5.0918	32.0313	3.3333	5.2509	1.9245	40.7345	5.0918	16.4432	11.7065	17.3207	21.1700	710.1188
%RSD		1.0035	50.7561	1.8335	10.2377	13.7125	17.9591	9.4648	5.3286	9.6413	50.0000	54.5287	17.3205	34.5857	5.0358	13.0962	7.1187	22.5921	10.1345	1.8601

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:28:28	83.3337	113.3340	3.3333	13.3333	190.0020	350.0067	46.6668	165350.1900	163632.8600	313.3387	108422.7200
2	08:28:42	116.6674	63.3336	0.0000	20.0000	246.6700	363.3406	43.3334	168154.2500	165482.5600	376.6745	111091.3100
3	08:28:56	103.3339	83.3337	6.6667	23.3334	256.6703	356.6737	63.3336	170629.7400	170952.5800	406.6758	113629.0600
x		101.1117	86.6671	3.3333	18.8889	231.1141	356.6737	51.1113	168044.7300	166692.6700	365.5630	111047.7000
σ		16.7776	25.1664	3.3333	5.0918	35.9535	6.6669	10.7152	2641.4826	3811.7506	47.6503	2603.4439
%RSD		16.5931	29.0380	100.0000	26.9564	15.5566	1.8692	20.9645	1.5719	2.2867	13.0348	2.3444

SEQ-IFA@ICSA01 10/19/2016 08:32:35 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	
1	08:32:35	90111.0640	120.0008	115387.6700	777965.1000	285.3378	21715.2380	2681.7288	7403.0130	7379.6607	0.0000	4.4444	26.6667	200.0022	2069157.6000	±3762266.7000	±4110144.4000	2315270.5000	±61
2	08:32:49	93282.8160	96.6672	121300.5600	818557.7300	294.6714	21685.8340	2700.4010	7676.5731	7673.2370	6.6667	6.6667	10.0000	173.3350	2188144.1000	±3954284.1000	±4295089.5000	±2473947.9000	±64
3	08:33:05	91939.2330	96.6672	126054.5900	849334.6600	266.6706	22102.1690	2805.7662	8056.9020	7826.7010	0.0000	4.4444	10.0000	233.3363	±2313842.9000	±4066440.8000	±4425565.1000	±2553807.5000	±65
x		91777.7050	104.4451	120914.2700	815285.8300	282.2266	21834.4140	2729.2987	7712.1627	7626.5329	2.2222	5.1852	15.5556	202.2245	±2190381.5000	±3927663.9000	±4276933.0000	±2447675.3000	±63
σ		1592.0337	13.4717	5343.9400	35797.1040	14.2573	232.3482	66.8777	328.3941	227.1502	3.8490	1.2830	9.6225	30.0623	±122357.9800	±153824.4300	±158492.2600	±121419.3600	±2
%RSD		1.7347	12.8983	4.4196	4.3907	5.0517	1.0641	2.4504	4.2581	2.9784	173.2051	24.7436	61.8590	14.8658	±5.5861	±3.9164	±3.7057	±4.9606	

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:32:35	93.3338	63.3336	1613.4765	2046.8971	4381.0554	4587.8240	2747.0817	162672.5200	163015.2500	223.3361	104099.2900
2	08:32:49	143.3345	56.6668	1553.4661	2173.5932	670.0247	4531.1289	2893.7938	170901.4400	169526.0500	176.6684	108854.5000
3	08:33:05	90.0004	80.0004	1536.7966	1940.2070	723.3621	4611.1692	2897.1282	177400.8500	177166.3400	196.6688	110608.8200
x		108.8896	66.6669	1567.9130	2053.5657	1924.8141	4576.7074	2846.0012	170324.9400	169902.5500	198.8911	107854.2000
σ		29.8767	12.0186	40.3298	116.8359	2127.3346	41.1618	85.6831	7381.0683	7083.0563	23.4131	3368.0759
%RSD		27.4376	18.0278	2.5722	5.6894	110.5216	0.8994	3.0106	4.3335	4.1689	11.7718	3.1228

SEQ-IFB@ICSAB01 10/19/2016 08:36:38 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	9
1	08:36:38	86112.5900	7079.4221	127785.1600	840011.9400	17090.7170	42999.4520	5386.2618	129614.1200	32611.7220	150.0012	597.7974	270.0040	196.6688	±2285335.1000	±4030484.3000	±4369253.7000	2482389.
2	08:36:52	85981.3570	7062.7425	130398.5500	869394.4700	17043.9620	43047.0100	5377.5900	134602.4900	33983.3990	196.6688	615.5764	273.3374	276.6709	2299130.2000	±4096350.7000	±4438236.2000	±2574795.
3	08:37:06	86146.2400	6799.2083	132370.0700	879687.5400	17037.2830	43444.2260	5392.9325	135959.1200	33792.6910	150.0012	585.5744	290.0046	173.3350	2359546.5000	±4197324.1000	±4559724.7000	±2613732.
x		86080.0620	6980.4576	130184.5900	863031.3200	17057.3210	43163.5630	5385.5948	133391.9100	33462.6040	165.5571	599.6494	277.7820	215.5582	±2314670.6000	±4108053.0000	±4455738.2000	±2556972.
σ		87.1216	157.1879	2299.9289	20588.9640	29.1139	244.2219	7.6929	3341.2431	743.0291	26.9435	15.0865	10.7155	54.1958	±39471.0440	±84033.2360	±96434.1000	±67461.
%RSD		0.1012	2.2518	1.7667	2.3857	0.1707	0.5658	0.1428	2.5048	2.2205	16.2745	2.5159	3.8575	25.1421	±1.7053	±2.0456	±2.1643	±2.

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:36:38	2126.9154	96974.4790	3187.2253	24138.6710	676.6919	84820.5280	32063.1090	174692.4900	171995.1100	207558.2600	108982.6900
2	08:36:52	2066.9016	99986.8480	3090.5252	25692.9220	700.0270	88374.1380	34147.3450	178801.2200	176241.9700	215412.2500	111364.6300
3	08:37:06	2130.2496	101200.1600	3277.2573	26575.4540	790.0343	91457.7460	34813.1970	181442.7900	180480.5900	219498.2600	112461.3400
x		2108.0222	99387.1630	3185.0026	25469.0160	722.2510	88217.4710	33674.5510	178312.1700	176239.2200	214189.5900	110936.2200
σ		35.6505	2175.7340	93.3859	1233.7253	59.8503	3321.3814	1434.7113	3401.6217	4242.7369	6013.9503	1778.4555
%RSD		1.6912	2.1891	2.9320	4.8440	8.2866	3.7650	4.2605	1.9077	2.4074	2.8078	1.6031

SEQ-CCV@CCV01 10/19/2016 08:40:44 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo
1	08:40:58	93791.3420	192428.5900	139928.6800	546783.4000	443136.0200	582126.3600	71602.2050	±3523781.5000	734694.6600	5668.4333	17678.2830	8670.7997	136.6677	1499760.2000	±2697626.9000	±2935377.9000
2	08:41:12	92828.1980	195176.2400	141533.2300	554305.7300	445978.0700	589377.9500	72357.4840	±3551999.9000	745034.0900	5458.3048	17652.6780	8143.6459	190.0020	1531366.9000	±2755222.0000	±2995737.6000
3	08:41:25	93242.4050	196381.7900	142769.0000	560608.4700	449072.9800	590760.8600	72663.9130	±3550840.3000	746898.1200	5521.6764	17922.0930	8243.7361	200.0022	1543329.4000	±2759772.1000	±3004360.4000
x		93287.3150	194662.2000	141410.3000	553899.2000	446062.3600	587421.7200	72207.8670	±3542207.2000	742208.9600	5549.4715	17751.0180	8352.7272	175.5573	1524818.8000	±2737540.3000	±2978492.0000
σ		483.1398	2026.1101	1424.1444	6921.4979	2969.3739	4637.7547	546.4381	±15967.6630	6573.9756	107.7865	148.7075	279.9680	34.0485	22510.5780	±34640.8620	±37585.9490
%RSD		0.5179	1.0408	1.0071	1.2496	0.6657	0.7895	0.7568	±0.4508	0.8857	1.9423	0.8377	3.3518	19.3945	1.4763	±1.2854	±1.2619

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:40:58	60040.9510	386084.5700	45396.3970	691165.1400	2396107.8000	2443826.4000	823782.8900	194205.7800	192874.5600	±6054741.4000	123844.5200
2	08:41:12	62077.8970	393245.2400	46646.0320	706625.1700	2457536.6000	2474026.6000	844230.4900	197723.7400	196225.1300	±6094404.4000	128802.7100
3	08:41:25	62255.7740	396317.7800	46780.0520	710543.6200	2475287.2000	2483289.1000	849900.7400	199345.2500	197948.5600	±6093410.7000	129387.5900
x		61458.2070	391882.5300	46274.1600	702777.9700	2442977.2000	2467047.4000	839304.7100	197091.5900	195682.7500	±6080852.2000	127344.9400
σ		1230.5980	5250.9398	763.1132	10246.0740	41549.1160	20636.3330	13738.0140	2627.4009	2580.1164	±22618.0580	3045.5246
%RSD		2.0023	1.3399	1.6491	1.4579	1.7008	0.8365	1.6368	1.3331	1.3185	±0.3720	2.3916

SEQ-CCB@CCB01 10/19/2016 08:45:01 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	08:45:01	91393.7740	40.0001	130009.7100	96.6672	299.3383	252.6702	133.3343	310.0053	456.6781	0.0000	12.2222	13.3333	173.3350	303.3384	536.6825	583.3521	300.0050	893.3772	42495.7590
2	08:45:15	92882.0780	56.6668	131379.1800	80.0004	310.6720	243.3366	128.0009	303.3384	480.0127	3.3333	6.6667	23.3334	170.0016	423.3432	576.6850	580.0185	363.3406	1026.7246	43125.3800
3	08:45:28	92033.5130	16.6667	132535.7900	130.0009	288.6713	247.3367	134.6677	260.0037	566.6843	3.3333	3.3333	10.0000	163.3348	326.6725	656.6904	693.3598	406.6758	1066.7292	42301.5230
x		92103.1220	37.7779	131308.2300	102.2228	299.5605	247.7812	132.0010	291.1158	501.1251	2.2222	7.4074	15.5556	168.8905	351.1180	590.0193	618.9101	356.6738	995.6104	42640.8870
σ		746.5896	20.0925	1264.5367	25.4591	11.0020	4.6826	3.5277	27.1493	57.9624	1.9245	4.4905	6.9389	5.0918	63.6276	61.1050	64.4968	53.6470	90.7679	430.6761
%RSD		0.8106	53.1858	0.9630	24.9054	3.6727	1.8898	2.6725	9.3259	11.5665	86.6025	60.6218	44.6072	3.0149	18.1214	10.3564	10.4210	15.0409	9.1168	1.0100

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:45:01	93.3338	53.3335	3.3333	46.6668	386.6749	243.3366	120.0008	179637.4700	179426.7000	800.0352	114840.8100
2	08:45:15	93.3338	46.6668	6.6667	46.6668	330.0060	276.6709	133.3343	183758.6200	181146.9800	916.7129	115910.9300
3	08:45:28	143.3345	36.6667	6.6667	73.3336	406.6758	323.3391	160.0014	184619.1200	184585.1100	896.7109	119162.5700
x		110.0007	45.5557	5.5556	55.5557	374.4522	281.1155	137.7788	182671.7300	181719.5900	871.1530	116638.1000
σ		28.8679	8.3887	1.9245	15.3961	39.7694	40.1860	20.3673	2662.7445	2626.4458	62.3965	2250.7729
%RSD		26.2434	18.4143	34.6410	27.7129	10.6207	14.2952	14.7826	1.4577	1.4453	7.1625	1.9297

SEQ-CCV@CCV02 10/19/2016 09:14:02 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo
1	09:14:16	95872.8870	186415.2200	133158.1200	520301.7000	422039.5500	555282.0200	67965.1130	±3384622.3000	708370.1000	5174.8057	16541.7030	7986.8402	136.6677	1427338.4000	±2590525.9000	±2803404.4000
2	09:14:29	95802.1470	186530.8900	135055.8100	522195.8100	423099.1400	556361.8000	68596.4950	±3364850.1000	707229.5600	5251.5164	16833.3480	8006.8578	166.6682	1442564.5000	±2604864.0000	±2822289.6000
3	09:14:43	95573.0880	186908.5300	132464.7700	524478.4100	423548.0000	556764.0000	68362.0730	±3360056.9000	703402.3900	5184.8114	16718.6930	7830.0372	76.6670	1457316.4000	±2626118.3000	±2840223.4000
x		95749.3740	186618.2100	133559.5600	522325.3100	422895.5600	556135.9400	68307.8940	±3369843.1000	706334.0100	5203.7112	16697.9140	7941.2451	126.6676	1442406.4000	±2607169.4000	±2821972.5000
σ		156.7117	257.9870	1341.3579	2091.3650	774.5551	766.3714	319.1590	±13021.6320	2602.1209	41.7017	146.9289	96.8275	45.8264	14989.6260	±17907.8860	±18411.5410
%RSD		0.1637	0.1382	1.0043	0.4004	0.1832	0.1378	0.4672	±0.3864	0.3684	0.8014	0.8799	1.2193	36.1784	1.0392	±0.6869	±0.6524

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:14:16	57487.8610	368375.3100	42633.0660	658312.8000	2292783.4000	2308270.3000	799905.3300	188044.9400	186891.5200	±5824459.1000	119787.3600
2	09:14:29	58175.5480	375477.1800	44036.3990	672281.5800	±2280686.5000	2363768.0000	808086.9300	190277.3400	189477.5600	±5874143.6000	123422.1700
3	09:14:43	59212.2090	381194.5600	44987.7060	674328.4900	2363010.4000	2412769.2000	817403.8500	192421.7800	193712.0800	±5960129.5000	126375.6600
x		58291.8720	375015.6800	43885.7240	668307.6200	±2312160.1000	2361602.5000	808465.3700	190248.0200	190027.0600	±5886244.1000	123195.0700
σ		868.0395	6422.0750	1184.5292	8716.0672	±44451.0550	52283.0970	8755.3940	2188.5660	3443.3245	±68639.8360	3300.0165
%RSD		1.4891	1.7125	2.6991	1.3042	±1.9225	2.2139	1.0830	1.1504	1.8120	±1.1661	2.6787

SEQ-CCB@CCB02 10/19/2016 09:18:19 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:18:19	92727.1750	36.6667	117994.1400	110.0007	240.0032	210.6691	113.3340	250.0034	423.3432	3.3333	3.3333	0.0000	146.6679	330.0060	643.3561	580.0185	363.3406	906.7119	39894.0090
2	09:18:33	93171.6850	33.3334	119790.7400	120.0008	240.6699	198.6688	114.0007	290.0046	373.3410	0.0000	3.3333	3.3333	156.6680	290.0046	540.0160	613.3540	430.0102	843.3725	40021.2330
3	09:18:46	93521.9210	40.0001	122334.2800	130.0009	271.3374	228.0029	116.6674	226.6695	350.0067	3.3333	6.6667	10.0000	106.6673	290.0046	603.3534	523.3484	400.0088	956.7170	40647.3350
x		93140.2600	36.6667	120039.7200	120.0008	250.6701	212.4469	114.6674	255.5592	382.2303	2.2222	4.4444	4.4444	136.6677	303.3384	595.5752	572.2403	397.7865	902.2671	40187.5260
σ		398.3037	3.3333	2180.7548	10.0001	17.9015	14.7476	1.7639	32.0310	37.4676	1.9245	1.9245	5.0918	26.4579	23.0948	52.1073	45.5042	33.3903	56.8029	403.2555
%RSD		0.4276	9.0909	1.8167	8.3334	7.1414	6.9418	1.5382	12.5337	9.8024	86.6025	43.3013	114.5644	19.3593	7.6135	8.7491	7.9519	8.3940	6.2956	1.0034

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:18:19	130.0009	36.6667	0.0000	73.3336	393.3418	263.3372	120.0008	172518.2200	171424.4900	766.6990	112825.8100
2	09:18:33	110.0007	36.6667	6.6667	63.3336	386.6749	263.3372	110.0007	175144.3900	176275.9500	796.7016	114263.6000
3	09:18:46	106.6673	36.6667	0.0000	70.0003	396.6753	226.6695	110.0007	178464.7000	175307.4900	713.3613	117058.8300
x		115.5563	36.6667	2.2222	68.8892	392.2307	251.1146	113.3340	175375.7700	174335.9800	758.9206	114716.0800
σ		12.6200	0.0000	3.8490	5.0918	5.0920	21.1701	5.7736	2979.9865	2567.4997	42.2111	2152.4781
%RSD		10.9210	0.0000	173.2051	7.3913	1.2982	8.4304	5.0943	1.6992	1.4727	5.5620	1.8764

QJ14036-BLK1@PBS01@MH1J05@46282 10/19/2016 09:22:24 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:22:24	93636.4240	16.6667	117278.3000	66.6669	100.0006	85.3337	55.3335	50.0001	646.6897	3.3333	3.3333	10.0000	130.0009	50.0001	83.3337	110.0007	60.0002	136.6677	40356.0420
2	09:22:38	93596.0110	23.3334	121868.0800	66.6669	110.0007	88.6671	56.0002	56.6668	583.3521	6.6667	4.4444	20.0000	153.3346	76.6670	116.6674	113.3340	70.0003	186.6686	40496.6650
3	09:22:52	93835.1240	13.3333	120020.4100	60.0002	117.3341	91.3338	56.0002	70.0003	693.3598	0.0000	3.3333	10.0000	123.3342	100.0006	106.6673	150.0012	86.6671	173.3350	39555.8700
x		93689.1860	17.7778	119722.2600	64.4447	109.1118	88.4449	55.7779	58.8891	641.1338	3.3333	3.7037	13.3333	135.5566	75.5559	102.2228	124.4453	72.2225	165.5571	40136.1920
σ		127.9907	5.0918	2309.3692	3.8490	8.7009	3.0062	0.3849	10.1836	55.2139	3.3333	0.6415	5.7735	15.7530	25.0187	17.1055	22.1947	13.4716	25.8920	507.4685
%RSD		0.1366	28.6411	1.9289	5.9726	7.9743	3.3989	0.6901	17.2928	8.6119	100.0000	17.3205	43.3013	11.6209	33.1129	16.7336	17.8349	18.6529	15.6393	1.2644

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:22:24	100.0006	23.3334	3.3333	3.3333	226.6695	66.6669	13.3333	173496.5800	170857.2900	173.3350	112410.7200
2	09:22:38	120.0008	16.6667	0.0000	10.0000	226.6695	33.3334	23.3334	175507.9700	174057.1400	193.3354	113666.1900
3	09:22:52	110.0007	16.6667	0.0000	30.0000	193.3354	50.0001	26.6667	177699.9400	175582.7300	193.3354	115981.8300
x		110.0007	18.8889	1.1111	14.4445	215.5581	50.0001	21.1111	175568.1600	173499.0500	186.6686	114019.5800
σ		10.0001	3.8490	1.9245	13.8778	19.2455	16.6668	6.9389	2102.3281	2411.6449	11.5472	1811.5916
%RSD		9.0910	20.3771	173.2051	96.0770	8.9282	33.3334	32.8684	1.1974	1.3900	6.1860	1.5888

QJ14036-BS1@LCS01 10/19/2016 09:26:25 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	09:26:25	96411.8750	786.7007	119517.1800	60.0002	8879.6679	4673.8678	665.3577	12184.8270	2940.4755	106.6673	312.2276	220.0027	156.6680	8463.9383	14701.8780	16030.7880	9107.8935	23854.5900
2	09:26:39	96758.8660	736.6965	121219.4900	60.0002	9195.3148	4798.5995	672.0248	12678.8350	3047.1773	103.3339	328.8948	186.6686	156.6680	8317.1362	15456.4620	16324.6440	9638.4401	24773.7100
3	09:26:52	95721.3020	810.0361	125213.0800	60.0002	9232.6860	4767.9167	672.0248	12488.5720	3263.9192	110.0007	356.6737	200.0022	150.0012	8664.1267	15499.8690	16805.5190	9781.9266	25121.3280
x		96297.3480	777.8111	121983.2500	60.0002	9102.5562	4746.7947	669.8025	12450.7450	3083.8573	106.6673	332.5987	202.2245	154.4458	8481.7337	15219.4030	16386.9840	9509.4201	24583.2090
σ		528.1783	37.4692	2923.7497	0.0000	193.9293	64.9931	3.8493	249.1670	164.8121	3.3334	22.4533	16.7778	3.8491	174.1784	448.7147	391.1094	355.0560	654.5033
%RSD		0.5485	4.8173	2.3968	0.0000	2.1305	1.3692	0.5747	2.0012	5.3443	3.1250	6.7509	8.2966	2.4922	2.0536	2.9483	2.3867	3.7337	2.6624

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:26:25	280.0043	10349.2210	183.3352	2530.3521	206.6690	16211.1080	28852.3790	174441.0600	171682.6200	19975.2550	111887.6600
2	09:26:39	330.0060	10806.4190	210.0024	2540.3549	273.3374	16625.1880	29895.7430	176935.2400	172171.7400	21304.9350	113737.0600
3	09:26:52	316.6722	10899.8640	220.0027	2693.7324	223.3361	17236.3250	30481.0150	178321.9400	177156.1500	21625.6910	114759.8000
x		308.8942	10685.1680	204.4468	2588.1465	234.4475	16690.8730	29743.0450	176566.0800	173670.1700	20968.6270	113461.5100
σ		25.8924	294.6664	18.9546	91.5768	34.6954	515.7551	824.9851	1966.6009	3028.8329	875.1072	1455.7618
%RSD		8.3823	2.7577	9.2711	3.5383	14.7988	3.0900	2.7737	1.1138	1.7440	4.1734	1.2830

6100170-01@MH1J05 10/19/2016 09:30:25

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	09:30:25	98989.3540	166.6682	139041.8900	45915.6620	36493.7690	7691.2522	1028.0581	53097.9480	6792.5367	50.0001	113.3340	60.0002	183.3352	8086.9286	11363.7650	12572.0200	7209.5243	18171.4760
2	09:30:39	99791.3850	156.6680	143669.6900	48080.1420	36717.3330	7753.3048	1030.7251	55844.3310	6986.0165	53.3335	114.4452	46.6668	200.0022	8156.9912	12111.3960	13540.0760	7026.0474	19283.7640
3	09:30:53	99643.1050	216.6693	143720.4800	47664.6290	36910.1110	7595.1714	982.0530	56454.7500	7162.8207	33.3334	115.5563	70.0003	180.0018	8460.6018	12104.7200	13546.7520	7623.1949	19768.1360
x		99474.6140	180.0018	142144.0200	47220.1440	36707.0710	7679.9095	1013.6121	55132.3430	6980.4580	45.5557	114.4452	58.8891	187.7797	8234.8406	11859.9600	13219.6160	7286.2555	19074.4590
σ		426.7376	32.1462	2686.6411	1148.6594	208.3608	79.6746	27.3634	1788.0783	185.2046	10.7152	1.1111	11.7064	10.7154	198.6286	429.7309	560.8444	305.8791	818.6496
%RSD		0.4290	17.8588	1.8901	2.4326	0.5676	1.0374	2.6996	3.2432	2.6532	23.5211	0.9709	19.8787	5.7064	2.4121	3.6234	4.2425	4.1980	4.2919

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:30:25	636.6890	16585.1150	336.6729	4721.2256	11397.1400	12528.6270	107161.2300	182034.4400	178308.3500	3017.1673	197403.5600
2	09:30:39	606.6869	17106.0790	366.6741	4864.6345	11437.1900	13486.6630	111395.0000	186255.3300	183979.6900	3120.5355	206676.2600
3	09:30:53	620.0211	17199.5880	423.3432	5131.4478	11727.5600	13954.0340	114729.4200	188201.4600	185704.2200	3233.9084	210546.9100
x		621.1323	16963.5940	375.5634	4905.7693	11520.6300	13323.1080	111095.2100	185497.0800	182664.0900	3123.8704	204875.5800
σ		15.0319	331.0904	44.0136	208.1817	180.3218	726.6424	3792.9905	3152.6559	3869.4768	108.4091	6754.1623
%RSD		2.4201	1.9518	11.7194	4.2436	1.5652	5.4540	3.4142	1.6996	2.1184	3.4703	3.2967

QJ14036-MS1@MH1J05S 10/19/2016 09:34:26 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo
1	09:34:26	96418.6130	3353.9519	136334.6800	38390.8920	105847.9800	45106.2920	5624.4060	606775.7600	122101.1800	200.0022	647.8009	310.0053	146.6679	188130.0100	334285.1000	362839.2000	205223.9100
2	09:34:40	96455.6700	3317.2718	137735.5600	38605.1290	106577.7600	45435.2570	5687.1117	624155.2100	124682.5300	216.6693	692.2486	316.6722	136.6677	192180.0800	341938.6700	371581.9300	212539.1300
3	09:34:54	97907.7350	3257.2501	139634.2000	39756.7430	106728.1800	45082.8420	5743.1469	630148.2000	126125.5600	226.6695	631.1330	303.3384	160.0014	195945.8600	347147.2700	376279.3500	217306.5400
x		96927.3390	3309.4913	137901.4800	38917.5880	106384.6400	45208.1300	5684.8882	620359.7300	124303.0900	214.4470	657.0608	310.0053	147.7790	192085.3200	341123.6800	370233.4900	211689.8600
σ		849.2500	48.8182	1656.0040	734.5819	470.8090	197.0466	59.4017	12139.6870	2038.8475	13.4718	31.5925	6.6669	11.7065	3908.7902	6469.7000	6820.7825	6085.9244
%RSD		0.8762	1.4751	1.2009	1.8875	0.4426	0.4359	1.0449	1.9569	1.6402	6.2821	4.8082	2.1506	7.9216	2.0349	1.8966	1.8423	2.8749

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:34:26	1336.7649	60158.3900	1083.3979	14237.8070	6682.4551	72793.6110	632121.7300	182598.9300	178845.4100	91562.1220	197819.1200
2	09:34:40	1476.7866	60826.1450	1113.4015	14705.2170	7212.8603	73966.3540	646970.3500	184649.7300	183894.6600	96917.2060	204293.2900
3	09:34:54	1393.4401	62507.4920	1213.4143	14918.8980	6952.6577	77663.6630	662322.2300	189828.1000	185221.1800	99009.5720	208844.9800
x		1402.3306	61164.0090	1136.7379	14620.6410	6949.3243	74807.8760	647138.1000	185692.2500	182653.7500	95829.6340	203652.4700
σ		70.4329	1210.4480	68.0772	348.3333	265.2183	2541.7455	15100.9480	3725.6343	3364.1511	3840.9946	5540.7969
%RSD		5.0226	1.9790	5.9888	2.3825	3.8165	3.3977	2.3335	2.0063	1.8418	4.0081	2.7207

Q114036-DUP1@MH1J05D 10/19/2016 09:38:28

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	09:38:28	94731.0100	166.6682	131527.9800	43905.7690	36524.5590	7569.1498	1028.7249	53852.3670	6849.2459	73.3336	118.8897	66.6669	130.0009	7693.2539	12562.0070	13850.5430	7880.0804	19631.1730
2	09:38:42	94960.0470	140.0011	135383.9700	45366.2470	36191.8990	7716.6070	1038.0593	56149.5350	7122.7893	66.6669	112.2229	66.6669	150.0012	7856.7269	12765.6230	14297.9010	8076.9198	20516.4580
3	09:38:56	95579.8250	160.0014	139502.2000	46059.7210	36507.8250	7524.4460	1048.0604	56042.2090	7396.3409	63.3336	114.4452	73.3336	133.3343	8150.3186	13680.2860	14641.7820	8130.3006	21121.1740
x		95090.2940	155.5569	135471.3800	45110.5790	36408.0940	7603.4009	1038.2815	55348.0370	7122.7920	67.7780	115.1859	68.8892	137.7788	7900.0998	13002.6380	14263.4090	8029.1003	20422.9350
σ		439.1412	13.8780	3987.8283	1099.5007	187.4175	100.5550	9.6697	1296.3997	273.5475	5.0918	3.3945	3.8490	10.7153	231.5987	595.6250	396.7454	131.7861	749.3901
%RSD		0.4618	8.9215	2.9437	2.4373	0.5148	1.3225	0.9313	2.3423	3.8405	7.5124	2.9470	5.5873	7.7772	2.9316	4.5808	2.7816	1.6414	3.6694

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:38:28	580.0185	16458.2180	323.3391	4874.6399	13446.6040	18899.6250	126024.1700	179151.3500	176398.2900	3710.7572	209919.3100
2	09:38:42	570.0179	17109.4180	310.0053	4958.0183	13944.0190	19173.5310	131443.4400	182918.5900	181347.5900	3607.3823	217835.6500
3	09:38:56	673.3583	17653.7910	350.0067	5268.1927	14147.6570	19828.2670	132884.1500	186377.8000	183194.0600	3664.0716	222076.4200
x		607.7982	17073.8090	327.7837	5033.6170	13846.0970	19300.4750	130117.2500	182815.9100	180313.3100	3660.7370	216610.4600
σ		56.9964	598.5815	20.3677	207.3821	360.6437	477.1580	3617.1702	3614.3205	3513.9598	51.7581	6170.4684
%RSD		9.3775	3.5058	6.2138	4.1199	2.6047	2.4723	2.7799	1.9770	1.9488	1.4141	2.8486

SEQ-SRD1@MH1J05L@5X 10/19/2016 09:42:29

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:42:29	94148.3370	66.6669	123300.5300	8520.6579	6948.6546	1469.4521	201.3356	10602.8460	2023.5585	20.0000	30.0000	23.3334	156.6680	1320.0958	2063.5675	2527.0178	1476.7866	3620.7209	40654.0320
2	09:42:43	95286.7730	66.6669	126314.8300	8844.3001	6939.9813	1474.7863	202.0022	10943.2490	1933.5389	3.3333	28.8889	20.0000	143.3345	1480.1205	2283.6201	2730.4100	1453.4495	3594.0436	40312.5160
3	09:42:57	97398.9810	43.3334	129221.9300	9157.9437	6907.2898	1460.7840	182.0018	10225.7480	1880.1944	16.6667	25.5556	20.0000	126.6676	1573.4695	2206.9345	2673.7265	1423.4448	3640.7289	41092.6640
x		95611.3630	58.8891	126279.1000	8840.9672	6931.9752	1468.3408	195.1132	10590.6140	1945.7640	13.3333	28.1482	21.1111	142.2233	1457.8953	2184.7074	2643.7181	1451.2270	3618.4978	40686.4040
σ		1649.4516	13.4716	2960.8576	318.6560	21.8137	7.0670	11.3597	358.9070	72.4597	8.8192	2.3130	1.9245	15.0311	128.1406	111.6975	104.9641	26.7403	23.4219	391.0801
%RSD		1.7252	22.8762	2.3447	3.6043	0.3147	0.4813	5.8221	3.3889	3.7240	66.1438	8.2171	9.1161	10.5686	8.7894	5.1127	3.9703	1.8426	0.6473	0.9612

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:42:29	240.0032	3133.8734	46.6668	946.7160	2206.9345	2523.6836	21014.2600	174420.6800	171356.5600	813.3697	126368.9000
2	09:42:43	216.6693	3427.3126	86.6671	883.3763	2123.5813	2637.0491	21271.5240	178675.4500	177040.5900	933.3813	132082.6000
3	09:42:57	206.6690	3457.3240	100.0006	916.7129	2313.6277	2360.3064	21685.8340	181418.9900	180252.8000	843.3725	134379.2200
x		221.1138	3339.5033	77.7781	915.6017	2214.7145	2507.0130	21323.8730	178171.7000	176216.6500	863.3745	130943.5800
σ		17.1058	178.7118	27.7558	31.6845	95.2618	139.1225	338.8338	3526.2470	4504.9913	62.4560	4124.8437
%RSD		7.7362	5.3514	35.6858	3.4605	4.3013	5.5493	1.5890	1.9791	2.5565	7.2339	3.1501

6100170-02@MH1J06 10/19/2016 09:46:30

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	09:46:30	95377.7190	123.3342	133154.7400	11523.9660	25743.0640	4768.5837	663.3575	36814.3910	4361.0458	60.0002	98.8894	60.0002	160.0014	5244.8459	8587.3873	9952.1111	5241.5106	14074.2200
2	09:46:44	95259.8260	156.6680	136338.0700	12184.8270	25827.9710	4813.2739	662.6908	36821.0850	4814.6079	70.0003	96.6672	43.3334	136.6677	5411.6102	9134.5869	10239.0960	5965.2898	14815.3960
3	09:46:58	95798.7780	146.6679	137285.5000	12311.6640	25671.5290	4783.2580	706.6941	38236.9110	4564.4789	66.6669	110.0007	40.0001	146.6679	5641.7501	9364.8210	10826.4430	5825.1990	15206.0400
x		95478.7740	142.2234	135592.7700	12006.8190	25747.5210	4788.3719	677.5808	37290.7960	4580.0442	65.5558	101.8524	47.7779	147.7790	5432.7354	9028.9317	10339.2170	5677.3332	14698.5520
σ		283.3312	17.1056	2163.8864	422.9447	78.3163	22.7798	25.2151	819.3671	227.1813	5.0918	7.1435	10.7152	11.7065	199.2936	399.3408	445.6816	383.8780	574.8859
%RSD		0.2967	12.0273	1.5959	3.5225	0.3042	0.4757	3.7213	2.1972	4.9602	7.7671	7.0136	22.4272	7.9216	3.6684	4.4229	4.3106	6.7616	3.9112

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:46:30	256.6703	23944.8260	113.3340	1253.4197	1366.7694	73385.0040	154311.9800	173710.6100	172035.8700	3704.0878	156051.3000
2	09:46:44	236.6698	24726.9160	63.3336	1146.7390	1413.4432	75445.0980	162126.2300	179749.6500	177326.0800	4100.9248	162265.3400
3	09:46:58	306.6718	25963.6900	100.0006	1203.4130	1636.8140	78500.8070	163962.0500	182408.5000	180823.9800	4030.8934	163320.6600
x		266.6706	24878.4770	92.2227	1201.1906	1472.3422	75776.9700	160133.4200	178622.9200	176728.6400	3945.3020	160545.7600
σ		36.0566	1017.9297	25.8918	53.3751	144.3359	2573.9977	5124.3930	4457.0698	4424.4074	211.8120	3927.9268
%RSD		13.5210	4.0916	28.0753	4.4435	9.8031	3.3968	3.2001	2.4952	2.5035	5.3687	2.4466

6100170-03@MH1J07 10/19/2016 09:50:31

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	09:50:31	95502.3510	143.3345	133956.3900	49403.8770	40709.6130	8238.3979	1099.3998	42760.3290	7503.0950	53.3335	81.1115	53.3335	176.6684	7119.4533	9925.4153	11397.1400	6408.9250	16608.4910
2	09:50:45	98520.9740	193.3354	135526.0600	51766.9720	41325.7170	8493.9663	1104.7338	43004.8110	7870.0718	43.3334	83.3337	63.3336	156.6680	6875.9327	10803.0820	12234.8940	6885.9402	17613.7140
3	09:50:59	97547.2240	146.6679	138046.9000	52068.6870	41468.3640	8541.3439	1109.4010	44746.5200	7850.0545	40.0001	106.6673	40.0001	173.3350	7042.7269	11033.3580	12485.2340	7096.1018	17543.5780
x		97190.1830	161.1126	135843.1200	51079.8450	41167.8980	8424.5694	1104.5115	43503.8870	7741.0738	45.5557	90.3708	52.2224	168.8905	7012.7043	10587.2850	12039.0890	6796.9890	17255.2610
σ		1540.6591	27.9555	2063.6063	1459.2499	403.2442	162.9602	5.0043	1083.0727	206.3385	6.9389	14.1568	11.7063	10.7154	124.5054	584.6456	569.8614	352.1182	561.2159
%RSD		1.5852	17.3515	1.5191	2.8568	0.9795	1.9343	0.4531	2.4896	2.6655	15.2317	15.6653	22.4163	6.3446	1.7754	5.5221	4.7334	5.1805	3.2524

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:50:31	406.6758	9274.7287	183.3352	2537.0206	3390.6322	9868.6869	87832.2580	175035.6600	173037.9600	2923.8034	170215.4200
2	09:50:45	386.6749	10005.5030	180.0018	2573.6976	3420.6434	10068.9060	90700.2130	180409.1900	176568.2100	2643.7177	175973.5100
3	09:50:59	350.0067	10159.0060	180.0018	2577.0319	3367.2902	10496.0560	91979.6390	183653.1800	180089.6100	3087.1908	180048.8200
x		381.1191	9813.0794	181.1129	2562.5834	3392.8553	10144.5500	90170.7030	179699.3400	176565.2600	2884.9040	175412.5800
σ		28.7401	472.5007	1.9245	22.2007	26.7460	320.4518	2123.7883	4352.3939	3525.8281	224.2810	4940.6392
%RSD		7.5410	4.8150	1.0626	0.8663	0.7883	3.1589	2.3553	2.4220	1.9969	7.7743	2.8166

6100170-04@MH1J08 10/19/2016 09:54:32

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	09:54:32	100418.2300	63.3336	135245.2600	28815.5960	20875.9420	3990.2088	563.3508	29588.0720	4684.5400	50.0001	100.0006	43.3334	123.3342	3897.5020	6122.0607	7122.7893	3890.8324	10058.8950
2	09:54:46	100701.3400	86.6671	137285.5000	29327.2290	21163.9400	4136.2741	591.3526	30858.9530	4917.9966	33.3334	96.6672	66.6669	183.3352	┬13233.6200	6382.2395	7089.4299	4100.9248	10179.0290
3	09:55:00	99430.7990	123.3342	138429.3200	29327.2290	21168.6170	3926.1810	552.6835	31364.0100	4794.5973	36.6667	81.1115	40.0001	116.6674	4214.3099	6739.1636	7723.2793	4104.2596	10823.1060
x		100183.4600	91.1116	136986.6900	29156.6840	21069.5000	4017.5546	569.1289	30603.6780	4799.0446	40.0001	92.5931	50.0001	141.1123	┬7115.1440	6414.4880	7311.8328	4032.0056	10353.6770
σ		667.0126	30.2462	1612.9230	295.3910	167.6424	107.6830	19.9716	915.0756	116.7918	8.8192	10.0821	14.5297	36.7177	┬5301.1229	309.8128	356.7133	122.2709	410.9510
%RSD		0.6658	33.1969	1.1774	1.0131	0.7957	2.6803	3.5092	2.9901	2.4336	22.0480	10.8886	29.0594	26.0202	┬74.5048	4.8299	4.8786	3.0325	3.9691

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:54:32	240.0032	7539.7920	96.6672	736.6965	1296.7591	23727.5910	89734.0290	176377.9000	174396.8900	2590.3690	141076.2100
2	09:54:46	243.3366	8153.6549	56.6668	800.0352	1453.4495	24523.0310	93723.9860	181820.2200	178362.7300	2630.3805	144143.7700
3	09:55:00	250.0034	8290.4452	56.6668	793.3680	1333.4311	25622.7250	95185.7220	184680.3500	181640.0000	2520.3493	147693.4000
x		244.4477	7994.6307	70.0003	776.6999	1361.2133	24624.4490	92881.2460	180959.4900	178133.2100	2580.3663	144304.4600
σ		5.0919	399.7956	23.0942	34.8040	81.9564	951.6285	2821.8608	4217.6183	3627.0066	55.6934	3311.5207
%RSD		2.0830	5.0008	32.9916	4.4810	6.0208	3.8646	3.0381	2.3307	2.0361	2.1584	2.2948

6100170-05@MH1J09 10/19/2016 09:58:33

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	09:58:33	102288.9100	223.3361	140463.5000	36034.6090	36738.0830	9884.7043	1275.4228	75888.7680	10896.5260	80.0004	113.3340	96.6672	160.0014	5294.8748	7272.9081	8717.5111	4571.1490	12014.6010
2	09:58:47	102447.3500	273.3374	144556.9200	37564.1150	36604.2110	9920.7435	1332.0976	78917.7270	11617.4180	83.3337	116.6674	76.6670	153.3346	5561.7008	7526.4477	8707.5015	4847.9590	12047.9780
3	09:59:00	102609.1600	240.0032	147828.9100	38779.2010	36651.7360	9923.4131	1279.4234	80356.9190	12131.4220	90.0004	112.2229	70.0003	173.3350	5585.0484	7966.8227	9187.9740	4864.6345	12982.5970
x		102448.4700	245.5589	144283.1100	37459.3080	36664.6770	9909.6203	1295.6479	78387.8040	11548.4560	84.4448	114.0748	81.1115	162.2237	5480.5413	7588.7261	8870.9955	4761.2475	12348.3920
σ		160.1256	25.4595	3690.3323	1375.2943	67.8676	21.6191	31.6297	2280.7250	620.3296	5.0918	2.3130	13.8779	10.1837	161.2151	351.1244	274.5571	164.8412	549.4911
%RSD		0.1563	10.3680	2.5577	3.6714	0.1851	0.2182	2.4412	2.9095	5.3715	6.0297	2.0276	17.1097	6.2776	2.9416	4.6269	3.0950	3.4621	4.4499

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:58:33	453.3446	16264.5360	196.6688	2753.7503	13192.8990	40021.2330	420871.9100	186143.0600	180704.9800	3067.1840	269908.1600
2	09:58:47	460.0116	16755.4270	246.6700	2747.0817	13416.5600	42234.5460	437713.2200	189307.4100	187738.7100	3130.5389	279309.1600
3	09:59:00	400.0088	17192.9090	200.0022	2830.4406	13930.6650	43594.2750	451920.3300	192973.2800	189232.5400	3163.8838	285139.3700
x		437.7884	16737.6240	214.4470	2777.0909	13513.3750	41950.0180	436835.1500	189474.5800	185892.0800	3120.5356	278118.9000
σ		32.8874	464.4423	27.9557	46.3224	378.2916	1803.4340	15542.8240	3418.1789	4553.8295	49.1199	7685.0465
%RSD		7.5122	2.7748	13.0362	1.6680	2.7994	4.2990	3.5581	1.8040	2.4497	1.5741	2.7632

6100170-06@MH1J10 10/19/2016 10:02:34

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:02:34	102700.1800	66.6669	136456.4900	37547.3800	27729.5600	4311.6889	635.3555	24101.9070	5048.0678	13.3333	47.7779	33.3334	163.3348	3644.0635	5621.7377	6976.0089	3494.0046	9067.8535
2	10:02:48	100472.1500	113.3340	139688.3600	38645.2990	27860.6260	4371.7176	635.3555	25181.4940	5164.8001	23.3334	60.0002	30.0000	180.0018	3900.8367	5818.5281	7172.8286	3637.3942	9601.7345
3	10:03:02	102794.5700	133.3343	140741.0700	38645.2990	27477.4630	4311.6889	570.0179	25626.0670	5248.1811	26.6667	57.7780	60.0002	190.0020	4127.6035	6105.3828	7232.8762	3490.6700	9878.6978
x		101988.9700	104.4451	138961.9700	38279.3260	27689.2160	4331.6985	613.5763	24969.8230	5153.6830	21.1111	55.1854	41.1112	177.7795	3890.8346	5848.5495	7127.2379	3540.6896	9516.0953
σ		1314.4457	34.2110	2232.7418	633.8843	194.7416	34.6576	37.7227	783.8173	100.5188	6.9389	6.5106	16.4430	13.4718	241.9251	243.2162	134.3655	83.7652	412.1501
%RSD		1.2888	32.7551	1.6067	1.6559	0.7033	0.8001	6.1480	3.1391	1.9504	32.8684	11.7976	39.9964	7.5778	6.2178	4.1586	1.8852	2.3658	4.3311

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:02:34	200.0022	6502.3246	30.0000	393.3418	2400.3168	13049.3590	53480.1790	179239.7300	175739.0400	1726.8307	150668.2900
2	10:02:48	186.6686	6675.7836	50.0001	480.0127	2226.9394	13496.6780	54523.0130	182027.6400	177482.4200	1856.8563	155257.8800
3	10:03:02	163.3348	6722.4846	46.6668	410.0093	2353.6380	13720.3460	55133.3440	182792.7700	181687.6100	1893.5305	157801.1100
x		183.3352	6633.5309	42.2223	427.7879	2326.9647	13422.1280	54378.8450	181353.3800	178303.0200	1825.7392	154575.7600
σ		18.5596	116.0025	10.7152	45.9893	89.7136	341.6492	835.9586	1870.0248	3058.0085	87.5980	3615.0054
%RSD		10.1233	1.7487	25.3781	10.7505	3.8554	2.5454	1.5373	1.0311	1.7151	4.7979	2.3387

6100170-07@MH1J11 10/19/2016 10:06:36

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:06:36	100910.3000	156.6680	139810.2100	48070.0890	32370.8640	7724.6138	1051.3941	38514.7470	6428.9391	56.6668	98.8894	46.6668	106.6673	5588.3838	8420.5647	9514.9768	5208.1581	13540.0760
2	10:06:49	100364.3100	130.0009	141787.1400	48810.6860	32330.7210	7857.3942	1055.3946	39843.7900	6892.6120	50.0001	76.6670	56.6668	103.3339	5711.7938	8740.8668	9785.2635	5601.7253	13546.7520
3	10:07:03	102808.0500	143.3345	144848.1700	50587.0240	32487.2780	7762.6461	1091.3988	40412.9610	7032.7192	43.3334	74.4447	56.6668	163.3348	5628.4085	8644.1077	10028.8620	5701.7875	14444.8000
x		101360.8900	143.3345	142148.5100	49155.9330	32396.2880	7781.5514	1066.0625	39590.4990	6784.7567	50.0001	83.3337	53.3335	124.4453	5642.8620	8601.8464	9776.3675	5503.8903	13843.8760
σ		1282.6714	13.3335	2538.3449	1293.4981	81.3159	68.3792	22.0329	974.1256	316.0098	6.6667	13.5174	5.7735	33.7205	62.9618	164.2799	257.0581	260.9526	520.4261
%RSD		1.2655	9.3024	1.7857	2.6314	0.2510	0.8787	2.0668	2.4605	4.6576	13.3334	16.2208	10.8253	27.0966	1.1158	1.9098	2.6294	4.7412	3.7593

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:06:36	670.0247	19691.3030	440.0107	5535.0178	70811.3810	17139.4750	132329.4800	179375.7100	176979.4200	2396.9826	177699.9400
2	10:06:49	663.3575	20048.7500	376.6745	6412.2606	73892.4230	18074.6170	137491.9200	183435.5200	181333.9900	2396.9826	185136.1400
3	10:07:03	773.3662	20252.5340	396.6753	6255.4848	76332.4590	19049.9390	140517.6600	185731.4400	184789.1900	2517.0151	187306.6000
x		702.2495	19997.5290	404.4535	6067.5878	73678.7540	18088.0100	136779.6900	182847.5500	181034.2000	2436.9934	183380.8900
σ		61.6791	284.0998	32.3766	467.8330	2766.7341	955.3022	4140.2900	3218.4018	3913.5066	69.3008	5038.1193
%RSD		8.7831	1.4207	8.0050	7.7104	3.7551	5.2814	3.0270	1.7602	2.1617	2.8437	2.7474

6100170-08@MH1J12 10/19/2016 10:10:37

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:10:37	104281.3600	506.6808	140558.2800	12068.0050	18026.5220	6551.6933	894.7107	64333.4980	7616.5226	96.6672	85.5560	76.6670	206.6690	3817.4680	5518.3410	6525.6746	3367.2902	9194.6474
2	10:10:50	105731.3000	460.0116	140842.6300	12401.7870	18231.5970	6400.9193	839.3721	64957.9150	7910.1065	106.6673	78.8892	46.6668	163.3348	4037.5631	5735.1418	6549.0248	3774.1166	9468.2614
3	10:11:04	105043.3900	460.0116	144187.7900	12688.8490	18085.3050	6565.7034	877.3757	67650.7810	8427.2375	86.6671	87.7782	73.3336	230.0029	4147.6126	6062.0205	6922.6348	3637.3942	9775.2527
x		105018.6800	475.5680	141862.9000	12386.2140	18114.4740	6506.1054	870.4862	65647.3980	7984.6222	96.6672	84.0745	65.5558	200.0022	4000.8812	5771.8344	6665.7780	3592.9337	9479.3872
σ		725.2843	26.9444	2018.4298	310.7151	105.6034	91.3627	28.3053	1762.8479	410.4621	10.0001	4.6260	16.4431	33.8304	168.1013	273.6907	222.7506	207.0253	290.4625
%RSD		0.6906	5.6657	1.4228	2.5086	0.5830	1.4043	3.2517	2.6853	5.1407	10.3449	5.5022	25.0825	16.9150	4.2016	4.7418	3.3417	5.7620	3.0641

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:10:37	566.6843	13640.2250	210.0024	3157.2148	950.0496	6472.3032	136453.1100	189174.6900	185700.8200	3427.3126	140206.2400
2	10:10:50	576.6850	14124.2970	230.0029	2940.4755	1070.0630	7026.0474	141313.1800	193725.7000	190794.6900	3317.2718	143781.4300
3	10:11:04	610.0205	14721.9110	180.0018	3197.2288	1023.3909	7019.3756	143852.5400	197744.1800	193044.7800	3627.3902	146799.0900
x		584.4633	14162.1440	206.6690	3098.3064	1014.5012	6839.2420	140539.6100	193548.1900	189846.7600	3457.3249	143595.5900
σ		22.6910	541.8350	25.1667	138.1420	60.4985	317.7959	3759.8833	4287.5035	3762.6252	157.2225	3300.3521
%RSD		3.8824	3.8259	12.1773	4.4586	5.9634	4.6467	2.6753	2.2152	1.9819	4.5475	2.2984

6100170-09@MH1J13 10/19/2016 10:14:38

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:14:38	105242.3400	640.0225	141018.6600	59286.0210	26749.2960	10987.9700	1465.4514	219604.1100	20740.2990	113.3340	116.6674	76.6670	200.0022	5868.5603	7232.8762	8480.6205	4491.1091	11564.0170
2	10:14:52	105437.9200	593.3527	141817.6100	61342.9330	26677.7530	10742.3430	1434.7799	224761.2100	21024.2830	136.6677	93.3338	100.0006	186.6686	5941.9412	7913.4427	8637.4347	4897.9858	11740.9100
3	10:15:06	106041.5500	710.0277	144157.3200	61638.2540	26774.7040	11080.0810	1402.1081	228037.9800	21478.6770	153.3346	117.7785	96.6672	210.0024	6252.1492	7830.0372	8700.8284	4824.6132	12762.2850
x		105573.9300	647.8010	142331.2000	60755.7360	26733.9180	10936.7980	1434.1131	224134.4300	21081.0860	134.4455	109.2599	91.1116	198.8911	6020.8836	7658.7854	8606.2945	4737.9027	12022.4040
σ		416.6031	58.7252	1631.1396	1281.3473	50.2717	174.5872	31.6769	4251.7273	372.4521	20.0927	13.8036	12.6199	11.7065	203.6149	371.1982	113.3586	216.8553	646.8314
%RSD		0.3946	9.0653	1.1460	2.1090	0.1880	1.5963	2.2088	1.8970	1.7668	14.9449	12.6337	13.8511	5.8859	3.3818	4.8467	1.3172	4.5770	5.3802

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:14:38	2633.7148	15423.0720	1630.1461	24880.6680	2943.8099	8096.9376	313114.2700	194924.2500	190481.5500	6072.0271	164603.4800
2	10:14:52	2543.6892	15877.1860	1840.1862	26207.7220	3113.8665	8440.5832	323760.9700	201730.3400	193991.2800	6525.6746	169750.1700
3	10:15:06	2820.4374	16434.8420	1903.5326	26575.4540	3287.2609	8944.3980	325867.6000	202633.4300	196310.2700	6605.7324	175110.4100
x		2665.9471	15911.7000	1791.2883	25887.9480	3114.9791	8493.9729	320914.2800	199762.6700	193594.3700	6401.1447	169821.3600
σ		141.1616	506.7675	143.1024	891.4969	171.7282	426.2454	6836.6326	4214.4545	2934.5576	287.8213	5253.8265
%RSD		5.2950	3.1849	7.9888	3.4437	5.5130	5.0182	2.1304	2.1097	1.5158	4.4964	3.0937

6100170-10@MH1J14 10/19/2016 10:18:40

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:18:40	106550.7800	130.0009	148479.3800	55052.8580	32579.6080	6552.3605	854.0401	40483.2720	6385.5752	56.6668	72.2225	56.6668	190.0020	6158.7521	9401.5255	10973.2850	5828.5345	15039.0960
2	10:18:53	104611.7900	86.6671	148994.3700	55941.5920	32573.5860	6393.5808	890.7103	41869.5300	6412.2606	56.6668	84.4448	53.3335	186.6686	6165.4233	9157.9437	11033.3580	6175.4301	15576.6670
3	10:19:07	106796.9800	130.0009	149655.0900	56290.4020	32500.6590	6386.2423	900.7113	41116.1030	6752.5069	50.0001	91.1116	33.3334	236.6698	6602.3967	10002.1660	11183.5410	6208.7861	16030.7880
x		105986.5200	115.5563	149042.9500	55761.6180	32551.2840	6444.0612	881.8206	41156.3020	6516.7809	54.4446	82.5930	47.7779	204.4468	6308.8574	9520.5451	11063.3950	6070.9169	15548.8500
σ		1196.8952	25.0188	589.3587	638.1002	43.9459	93.8617	24.5727	694.0025	204.5802	3.8490	9.5797	12.6199	27.9556	254.2344	434.5136	108.2985	210.5708	496.4311
%RSD		1.1293	21.6508	0.3954	1.1443	0.1350	1.4566	2.7866	1.6863	3.1393	7.0696	11.5987	26.4136	13.6738	4.0298	4.5640	0.9789	3.4685	3.1927

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:18:40	790.0343	20362.7800	416.6762	6465.6318	9892.0456	10863.1530	77505.6560	183898.0600	180432.9900	2650.3863	180426.1900
2	10:18:53	763.3654	20757.0030	423.3432	6782.5292	10289.1530	11483.9160	78742.8870	188289.9300	185775.6600	2813.7687	185564.7500
3	10:19:07	813.3697	21328.3230	383.3414	6609.0682	10078.9170	12094.7070	82243.6790	191036.3500	187786.3400	2770.4221	187531.1600
x		788.9231	20816.0350	407.7869	6619.0764	10086.7050	11480.5920	79497.4080	187741.4500	184665.0000	2744.8590	184507.3700
σ		25.0207	485.4711	21.4313	158.6856	198.6681	615.7835	2457.4767	3600.6139	3800.4128	84.6378	3668.6087
%RSD		3.1715	2.3322	5.2555	2.3974	1.9696	5.3637	3.0913	1.9179	2.0580	3.0835	1.9883

6100170-11@MH1J15 10/19/2016 10:22:45

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:22:59	104416.2300	136.6677	145224.0900	52075.3920	34340.0690	6751.8397	886.7099	48140.4590	6005.3162	60.0002	123.3342	83.3337	150.0012	8620.7522	13770.4210	15680.1780	8467.2747	22394.2150
2	10:23:13	105211.9900	140.0011	146558.5900	52444.1700	34570.2730	6667.7777	922.7135	47889.1370	6148.7454	43.3334	103.3339	43.3334	210.0024	8747.5399	13970.7270	15783.6900	8610.7427	22731.7180
3	10:23:27	105485.1300	146.6679	147466.4300	52977.2470	34734.8980	6697.7998	934.0480	49289.9280	6005.3162	40.0001	107.7784	83.3337	160.0014	9024.4770	14524.9280	16117.6080	8550.6861	22825.2850
x		105037.7800	141.1122	146416.3700	52498.9360	34548.4130	6705.8057	914.4905	48439.8410	6053.1259	47.7779	111.4822	70.0003	173.3350	8797.5897	14088.6920	15860.4920	8542.9012	22650.4060
σ		555.3364	5.0918	1127.9111	453.4150	198.3201	42.5990	24.7171	746.8438	82.8089	10.7152	10.5019	23.0942	32.1461	206.4635	390.8411	228.6052	72.0501	226.7467
%RSD		0.5287	3.6084	0.7703	0.8637	0.5740	0.6353	2.7028	1.5418	1.3680	22.4272	9.4203	32.9915	18.5457	2.3468	2.7741	1.4413	0.8434	1.0011

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:22:59	556.6837	16558.4000	330.0060	4611.1692	11163.5170	21161.2670	98322.1720	187469.9100	184316.4000	2783.7595	246113.6300
2	10:23:13	553.3502	17182.8900	373.3410	4841.2888	11340.4020	21605.6440	100151.9800	190461.1300	188252.5000	2777.0908	255884.5800
3	10:23:27	553.3502	16675.2800	353.3402	4547.8039	11223.5910	21598.9610	102022.6100	191839.6700	188657.4400	2917.1346	255833.1700
x		554.4614	16805.5230	352.2291	4666.7539	11242.5030	21455.2910	100165.5900	189923.5700	187075.4500	2825.9950	252610.4600
σ		1.9246	331.9935	21.6889	154.4364	89.9465	254.6539	1850.2577	2233.9246	2397.9646	78.9997	5626.4799
%RSD		0.3471	1.9755	6.1576	3.3093	0.8001	1.1869	1.8472	1.1762	1.2818	2.7955	2.2273

6100170-12@MH1J16 10/19/2016 10:27:04

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:27:18	103441.8500	500.0138	163979.0200	78884.1030	33613.3610	7413.0212	1023.3909	142782.5400	9007.7938	96.6672	134.4454	96.6672	160.0014	8680.8093	13897.2810	15496.5300	8527.3308	22009.9450
2	10:27:32	106318.0800	630.0218	166894.6900	80639.4030	33575.8890	7543.7954	1035.3923	145877.7700	9147.9337	40.0001	137.7788	103.3339	206.6690	8510.6485	14247.8230	15743.6210	8974.4275	22805.2350
3	10:27:45	105267.4900	586.6856	166263.2800	80377.0960	33838.1930	7431.7031	1036.0590	146907.4900	9635.1032	53.3335	117.7785	70.0003	186.6686	8854.3098	13887.2660	15760.3160	8917.7051	22811.9190
x		105342.4700	572.2404	165712.3300	79966.8680	33675.8140	7462.8399	1031.6141	145189.2600	9263.6103	63.3336	130.0009	90.0005	184.4463	8681.9225	14010.7900	15666.8220	8806.4878	22542.3660
σ		1646.1840	66.1969	1533.9341	946.8288	141.8664	70.7290	7.1293	2146.9331	329.2644	29.6275	10.7153	17.6385	23.4130	171.8334	205.3378	147.7135	243.4149	461.1023
%RSD		1.5627	11.5680	0.9257	1.1840	0.4213	0.9477	0.6911	1.4787	3.5544	46.7801	8.2425	19.5982	12.6937	1.9792	1.4656	0.9428	2.7640	2.0455

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:27:18	436.6772	9698.5039	143.3345	1703.4929	1240.0846	5108.1014	115877.1700	189566.0500	187010.6000	2670.3921	177604.7700
2	10:27:32	376.6745	9878.6978	156.6680	1723.4967	1350.1002	5421.6162	120699.3100	194168.3300	190964.8700	2720.4070	178573.4800
3	10:27:45	393.3418	9985.4810	143.3345	1510.1254	1390.1063	5404.9396	121432.3100	196695.1200	192830.3000	2930.4722	182547.9200
x		402.2312	9854.2276	147.7790	1645.7050	1326.7637	5311.5524	119336.2600	193476.5000	190268.5900	2773.7571	179575.3900
σ		30.9733	145.0450	7.6981	117.8406	77.6857	176.3909	3017.9966	3614.5391	2971.6727	138.0040	2619.4560
%RSD		7.7004	1.4719	5.2092	7.1605	5.8553	3.3209	2.5290	1.8682	1.5618	4.9753	1.4587

6100170-13@MH1J17 10/19/2016 10:31:23

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:31:37	106830.7000	256.6703	151807.0000	95576.4570	38313.2320	9243.3635	1226.7494	74880.4580	8247.0724	83.3337	118.8897	73.3336	190.0020	8146.9822	14514.9120	15503.2080	8554.0225	22611.4190
2	10:31:51	107903.2600	316.6722	153186.5200	97523.6400	38925.8260	9468.2614	1243.4184	75465.2640	8477.2840	76.6670	101.1117	66.6669	173.3350	8647.4442	14514.9120	15927.2730	8747.5399	23450.2060
3	10:32:05	107238.8000	296.6715	155593.5500	98082.9420	38674.7580	9334.1228	1222.7489	77297.2260	8263.7542	113.3340	135.5566	56.6668	200.0022	8677.4728	14635.1040	16361.3770	8617.4157	23440.1800
x		107324.2500	290.0047	153529.0200	97061.0130	38637.9380	9348.5826	1230.9722	75880.9830	8329.3702	91.1116	118.5193	65.5558	187.7797	8490.6331	14554.9760	15930.6190	8639.6594	23167.2680
σ		541.3603	30.5515	1916.3693	1315.7261	307.9523	113.1441	10.9627	1260.8762	128.3684	19.5318	17.2254	8.3888	13.4718	297.9888	69.3932	429.0941	98.6576	481.4062
%RSD		0.5044	10.5348	1.2482	1.3556	0.7970	1.2103	0.8906	1.6616	1.5412	21.4372	14.5339	12.7964	7.1742	3.5096	0.4768	2.6935	1.1419	2.0780

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:31:37	380.0079	13586.8120	146.6679	1930.2049	2850.4468	9831.9805	136747.4800	186639.7600	183530.7500	2577.0319	183078.4300
2	10:31:51	326.6725	14661.8140	130.0009	1980.2156	2830.4406	10128.9730	140152.0800	190682.3700	187534.5600	2903.7970	183265.4800
3	10:32:05	423.3432	14064.2040	133.3343	2190.2638	3030.5050	10179.0290	141881.9400	193596.3200	189103.2200	2753.7503	186660.1700
x		376.6746	14104.2770	136.6677	2033.5615	2903.7975	10046.6610	139593.8300	190306.1500	186722.8400	2744.8597	184334.6900
σ		48.4215	538.6200	8.8193	137.9927	110.1870	187.5956	2612.3526	3493.5088	2873.5487	163.5639	2016.0939
%RSD		12.8550	3.8188	6.4531	6.7858	3.7946	1.8672	1.8714	1.8357	1.5389	5.9589	1.0937

6100170-14@MH1J18 10/19/2016 10:35:17

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:35:31	106065.1500	253.3369	142985.7000	9087.8735	13632.2130	3986.2071	612.0206	28437.7430	4567.8139	70.0003	93.3338	70.0003	153.3346	2467.0014	3077.1874	3797.4596	1986.8838	4978.0292
2	10:35:45	106587.8800	230.0029	145430.6900	9518.3136	13692.9710	4084.2506	602.6866	29491.0910	4457.7593	70.0003	100.0006	70.0003	213.3358	2380.3116	3183.8908	3760.7777	1866.8583	5138.1183
3	10:35:59	106732.9000	253.3369	146084.3800	9514.9768	13684.9590	4180.2942	586.0189	29300.4760	4797.9324	43.3334	88.8893	50.0001	183.3352	±10061.5920	3247.2465	3740.7695	2196.9321	5421.6162
x		106461.9800	245.5589	144833.5900	9373.7213	13670.0480	4083.5840	600.2420	29076.4360	4607.8352	61.1113	94.0746	63.3336	183.3352	±4969.6350	3169.4416	3766.3356	2016.8914	5179.2546
σ		351.2266	13.4719	1633.3582	247.5571	33.0097	97.0453	13.1721	561.2760	173.5820	15.3961	5.5925	11.5471	30.0006	±4409.9772	85.9454	28.7508	167.0704	224.6364
%RSD		0.3299	5.4862	1.1277	2.6410	0.2415	2.3765	2.1945	1.9303	3.7671	25.1935	5.9448	18.2322	16.3638	±88.7385	2.7117	0.7634	8.2836	4.3372

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:35:31	443.3441	18655.7890	146.6679	2176.9273	5048.0678	20362.7800	189171.2800	188858.2100	185421.8800	3914.1758	193143.5100
2	10:35:45	353.3402	18655.7890	156.6680	2196.9321	5008.0457	21064.3760	191894.1300	190760.6500	185962.7600	3834.1417	194781.2300
3	10:35:59	380.0079	18722.5930	170.0016	2246.9443	5281.5338	21558.8660	191431.1900	193211.6000	188429.4500	3904.1715	198152.9400
x		392.2308	18678.0570	157.7792	2206.9346	5112.5491	20995.3410	190832.2000	190943.4900	186604.7000	3884.1630	195359.2300
σ		46.2301	38.5692	11.7065	36.0643	147.7068	601.0242	1456.9034	2182.4481	1603.2545	43.6076	2554.2410
%RSD		11.7865	0.2065	7.4195	1.6341	2.8891	2.8627	0.7634	1.1430	0.8592	1.1227	1.3075

6100170-15@MH1J19 10/19/2016 10:39:36

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:39:50	105286.1700	86.6671	141743.1300	10609.5210	21654.4260	5207.4911	688.6928	19935.1670	3247.2465	43.3334	135.5566	53.3335	203.3356	3073.8529	4911.3263	5785.1735	3117.2010	8086.9286
2	10:40:04	105910.0300	80.0004	143381.8600	10045.5470	21703.8770	5206.1570	731.3628	19841.6290	3190.5598	73.3336	120.0008	76.6670	103.3339	3240.5775	4877.9750	5741.8127	3040.5084	8126.9643
3	10:40:17	106193.3000	56.6668	145887.9300	10345.8840	21742.6360	5269.5268	781.3669	20179.0370	3137.2079	43.3334	145.5567	70.0003	153.3346	3380.6285	5254.8516	6058.6849	3310.6027	8390.5369
x		105796.5000	74.4448	143670.9700	10333.6500	21700.3130	5227.7249	733.8075	19985.2780	3191.6714	53.3335	133.7047	66.6669	153.3347	3231.6863	5014.7177	5861.8904	3156.1040	8201.4766
σ		464.0965	15.7528	2087.4698	282.1857	44.2129	36.2076	46.3854	174.1964	55.0277	17.3206	12.8782	12.0186	50.0008	153.5809	208.6296	171.8025	139.1863	164.9502
%RSD		0.4387	21.1604	1.4530	2.7307	0.2037	0.6926	6.3212	0.8716	1.7241	32.4761	9.6318	18.0278	32.6090	4.7523	4.1603	2.9308	4.4101	2.0112

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:39:50	436.6772	92090.7550	223.3361	3113.8665	9371.4945	63007.5940	296025.8400	182813.1700	179708.8600	4624.5093	410887.0100
2	10:40:04	463.3451	94421.1440	236.6698	3310.6027	9418.2095	64356.9970	299655.2200	185421.8800	181912.0300	4594.4941	418886.6300
3	10:40:17	466.6786	92464.5200	220.0027	3357.2865	9675.1457	63645.3460	303909.6800	184952.4600	184017.1000	5108.1014	422403.9000
x		455.5670	92992.1400	226.6695	3260.5852	9488.2832	63669.9790	299863.5800	184395.8400	181879.3300	4775.7016	417392.5100
σ		16.4438	1251.5853	8.8194	129.1883	163.5046	675.0388	3946.0475	1390.5802	2154.3078	288.2576	5902.0328
%RSD		3.6095	1.3459	3.8909	3.9621	1.7232	1.0602	1.3159	0.7541	1.1845	6.0359	1.4140

6100170-16@MH1J20 10/19/2016 10:43:56

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:44:09	105859.4400	240.0032	141089.7500	8527.3308	11766.2760	3560.6972	506.0141	36724.0260	6555.6962	80.0004	110.0007	70.0003	153.3346	2016.8904	2643.7177	3227.2394	1630.1461	4361.0458
2	10:44:23	106331.5700	280.0043	144445.1600	8750.8764	11774.9540	3516.6801	509.3476	37728.1260	6525.6746	76.6670	116.6674	60.0002	113.3340	1996.8860	2607.0404	3157.2148	1703.4929	4467.7642
3	10:44:37	107737.9800	306.6718	143855.9300	9177.9639	11869.0760	3502.0077	527.3486	38641.9520	6595.7252	70.0003	95.5561	50.0001	203.3356	2100.2426	2767.0877	3143.8769	1766.8383	4414.4049
x		106643.0000	275.5598	143130.2800	8818.7237	11803.4360	3526.4617	514.2368	37698.0350	6559.0320	75.5559	107.4081	60.0002	156.6681	2038.0063	2672.6153	3176.1104	1700.1591	4414.4050
σ		977.2263	33.5558	1791.5428	330.5803	57.0120	30.5430	11.4769	959.3167	35.1442	5.0918	10.7918	10.0001	45.0933	54.8184	83.8456	44.7784	68.4071	53.3592
%RSD		0.9164	12.1773	1.2517	3.7486	0.4830	0.8661	2.2318	2.5447	0.5358	6.7391	10.0475	16.6667	28.7827	2.6898	3.1372	1.4099	4.0236	1.2088

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:44:09	526.6819	13019.3160	273.3374	3637.3942	2923.8034	18632.4080	152051.0300	187922.4500	183489.9400	3387.2976	169719.6100
2	10:44:23	590.0192	13479.9870	213.3358	3640.7289	3080.5218	18348.4980	154986.6500	192374.1200	186493.4700	3140.5424	171404.1100
3	10:44:37	636.6890	13700.3160	243.3366	3544.0240	3037.1739	18836.1610	157048.2400	192060.9300	189971.0400	3393.9668	172382.3500
x		584.4633	13399.8730	243.3366	3607.3824	3013.8331	18605.6890	154695.3100	190785.8300	186651.4800	3307.2689	171168.6900
σ		55.2136	347.4965	30.0008	54.8953	80.9244	244.9267	2511.3153	2484.7046	3243.4384	144.4279	1346.8882
%RSD		9.4469	2.5933	12.3289	1.5217	2.6851	1.3164	1.6234	1.3024	1.7377	4.3670	0.7869

6100170-17@MH1J21 10/19/2016 10:47:28

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:47:41	107076.9100	73.3336	146531.4900	5364.9159	17965.0670	3673.4087	554.6836	38337.3330	3393.9668	53.3335	143.3345	76.6670	173.3350	2667.0578	4371.0506	5084.7549	2653.7206	6759.1785
2	10:47:55	107859.4100	90.0004	146209.7000	5244.8459	17940.3510	3720.0943	571.3513	38310.5540	3233.9084	66.6669	142.2233	76.6670	190.0020	2707.0697	4311.0219	4958.0183	2673.7265	7069.4143
3	10:48:09	108254.0600	93.3338	148218.5100	5154.7944	18067.2690	3714.0919	552.6835	38698.8600	3403.9705	86.6671	120.0008	103.3339	163.3348	2903.7970	4267.6681	5174.8057	2567.0290	6929.3065
x		107730.1300	85.5560	146986.5700	5254.8520	17990.8960	3702.5316	559.5728	38448.9150	3343.9486	68.8892	135.1862	85.5560	175.5573	2759.3082	4316.5802	5072.5263	2631.4920	6919.2998
σ		599.1305	10.7153	1078.9564	105.4175	67.2858	25.3991	10.2494	216.8719	95.4287	16.7775	13.1627	15.3962	13.4718	126.7202	51.9149	108.9098	56.7157	155.3598
%RSD		0.5561	12.5243	0.7341	2.0061	0.3740	0.6860	1.8316	0.5641	2.8538	24.3544	9.7367	17.9954	7.6737	4.5925	1.2027	2.1471	2.1553	2.2453

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:47:41	663.3575	16762.1060	406.6758	5331.5629	3243.9120	43580.8780	120591.2200	186507.0800	180806.9800	3680.7450	219699.7100
2	10:47:55	610.0205	17513.5200	333.3394	5658.4271	3277.2573	45761.5540	122155.2300	187755.7200	185017.0900	3774.1166	223633.9100
3	10:48:09	643.3561	17002.5520	380.0079	5471.6461	3320.6063	45872.1090	122756.5800	188579.1700	187241.9500	3764.1124	224443.5000
x		638.9114	17092.7260	373.3411	5487.2121	3280.5919	45071.5140	121834.3400	187613.9900	184355.3400	3739.6580	222592.3700
σ		26.9449	383.7375	37.1199	163.9871	38.4558	1292.1114	1117.7751	1043.2927	3268.1288	51.2648	2537.6152
%RSD		4.2173	2.2450	9.9426	2.9885	1.1722	2.8668	0.9175	0.5561	1.7727	1.3708	1.1400

6100170-18@MH1J22 10/19/2016 10:51:05

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo
1	10:51:05	106638.4700	193.3354	146456.9700	72581.9290	23260.3860	6343.5458	874.7088	29310.5080	4634.5144	60.0002	81.1115	96.6672	180.0018	4397.7301	6398.9179	7753.3048	4194.3007	10415.9640
2	10:51:19	107562.5900	223.3361	147517.2400	73788.2480	22976.3320	6361.5584	899.3778	30146.5690	4747.9062	40.0001	86.6671	56.6668	206.6690	4514.4540	6785.8650	8030.2117	4097.5899	10702.9630
3	10:51:33	108959.0700	176.6684	147744.2200	74759.4680	22931.5520	6293.5110	882.7095	30447.5690	4584.4890	46.6668	90.0004	43.3334	133.3343	4407.7350	6679.1194	8203.6999	4381.0554	11180.2040
x		107720.0400	197.7800	147239.4800	73709.8820	23056.0900	6332.8717	885.5987	29968.2150	4655.6365	48.8890	85.9263	65.5558	173.3350	4439.9730	6621.3008	7995.7388	4224.3153	10766.3770
σ		1168.2889	23.6492	687.1066	1090.8830	178.3366	35.2571	12.5858	589.1388	83.7311	10.1836	4.4905	27.7558	37.1191	64.6961	199.8481	227.1678	144.0966	386.0463
%RSD		1.0846	11.9573	0.4667	1.4800	0.7735	0.5567	1.4212	1.9659	1.7985	20.8299	5.2260	42.3391	21.4147	1.4571	3.0183	2.8411	3.4111	3.5857

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:51:05	293.3381	44213.9240	96.6672	1076.7304	11904.4560	9301.4226	124199.3100	189001.1300	185364.0500	2753.7503	340364.5600
2	10:51:19	306.6718	45248.9980	66.6669	1160.0740	12348.3810	9541.6714	123736.4000	189467.3500	189031.7600	2843.7781	344931.9600
3	10:51:33	333.3394	45835.2570	90.0004	1080.0642	12335.0290	9458.2510	125101.5600	191043.1600	187857.8000	2647.0520	351236.6000
x		311.1165	45099.3930	84.4448	1105.6229	12195.9550	9433.7817	124345.7500	189837.2100	187417.8700	2748.1935	345511.0400
σ		20.3677	820.9549	15.7529	47.1855	252.5342	121.9792	694.2621	1070.0757	1873.0114	98.4807	5459.1060
%RSD		6.5467	1.8203	18.6546	4.2678	2.0706	1.2930	0.5583	0.5637	0.9994	3.5835	1.5800

QJ14036-P51@MH1J05A 10/19/2016 10:54:12

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98M
1	10:54:12	105437.9200	183.3352	148160.9200	47483.6860	37930.2980	7932.1257	1094.7326	55079.6870	7459.7260	180.0018	494.4579	260.0037	220.0027	20666.7980	33143.6410	37018.5510	20322.6900	54231.27
2	10:54:26	108495.9300	136.6677	152420.4700	48814.0370	37849.9640	7880.0804	1110.7345	57259.7610	7589.8337	170.0016	490.0132	240.0032	203.3356	21749.3190	34458.5160	37647.7940	21321.6410	55109.86
3	10:54:39	108017.9400	146.6679	153535.6700	50033.9760	38412.3150	8109.6155	1064.7290	58390.2510	7960.1502	153.3346	472.2345	290.0046	150.0012	21585.5960	35077.5440	39063.7490	22283.9450	56837.12
x		107317.6000	155.5569	151372.3500	48777.2330	38064.1920	7973.9405	1090.0654	56909.9000	7669.9033	167.7793	485.5685	263.3372	191.1132	21333.9040	34226.5670	37910.0310	21309.4250	55392.75
σ		1645.3728	24.5708	2836.5312	1275.5434	304.1473	120.3451	23.3552	1682.7838	259.6429	13.4718	11.7595	25.1669	36.5663	583.5019	987.5957	1047.5138	980.6843	1325.75
%RSD		1.5332	15.7954	1.8739	2.6150	0.7990	1.5092	2.1425	2.9569	3.3852	8.0294	2.4218	9.5569	19.1333	2.7351	2.8855	2.7632	4.6021	2.39

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:54:12	1473.4527	16695.3160	866.7080	13156.1790	11607.4060	38692.1650	110305.1600	183711.0000	177771.3200	2687.0637	193981.0600
2	10:54:26	1420.1109	17506.8410	816.7034	13196.2370	11931.1580	39873.9210	111796.5500	187201.1200	182163.6600	2910.4658	201716.7100
3	10:54:39	1446.7818	18191.5160	860.0407	14251.1620	12331.6920	41233.2990	115647.6100	188711.8800	184775.5900	2940.4755	206614.8900
x		1446.7818	17464.5580	847.8173	13534.5260	11956.7520	39933.1280	112583.1100	186541.3400	181570.1900	2846.0017	200770.8800
σ		26.6709	748.9957	27.1509	620.9475	362.8207	1271.6011	2756.7075	2564.8969	3539.6483	138.4597	6369.7967
%RSD		1.8435	4.2887	3.2025	4.5879	3.0344	3.1843	2.4486	1.3750	1.9495	4.8651	3.1727

6100170-12RE1@MH1J16@2X 10/19/2016 10:57:52

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	1
1	10:57:52	107370.3400	266.6706	147571.4400	35024.0040	15525.9130	3416.6419	502.0139	64323.4270	4447.7544	53.3335	68.8892	63.3336	176.6684	3684.0797	6278.8342	7066.0784	3790.7902	9708.5146	4357
2	10:58:05	108496.9300	266.6706	150441.2400	36690.5580	15680.8460	3485.3347	490.6799	65149.2770	4537.7989	16.6667	57.7780	40.0001	156.6680	3877.4934	6422.2677	6976.0089	4100.9248	10005.5030	4268
3	10:58:19	108601.5000	286.6712	153491.6000	36968.3470	15624.7490	3490.0031	491.3466	65061.9880	4557.8089	50.0001	56.6668	33.3334	213.3358	4037.5631	6522.3389	7456.3900	4050.9023	10279.1410	4419
x		108156.2500	273.3375	150501.4300	36227.6370	15610.5030	3463.9932	494.6801	64844.8970	4514.4541	40.0001	61.1113	45.5557	182.2241	3866.3787	6407.8136	7166.1591	3980.8724	9997.7197	4348
σ		682.6299	11.5474	2960.5378	1051.5890	78.4425	41.0738	6.3599	453.7105	58.6237	20.2760	6.7587	15.7528	28.7395	177.0036	122.3941	255.3500	166.5053	285.3930	75
%RSD		0.6312	4.2246	1.9671	2.9027	0.5025	1.1857	1.2857	0.6997	1.2986	50.6897	11.0596	34.5792	15.7715	4.5780	1.9101	3.5633	4.1826	2.8546	

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:57:52	216.6693	4014.2194	50.0001	740.0301	660.0240	2406.9853	50432.8370	179491.2900	177356.6700	1166.7415	135634.3200
2	10:58:05	226.6695	4431.0796	70.0003	746.6973	650.0232	2423.6564	52440.8170	181701.2100	179290.7200	1090.0653	136791.4700
3	10:58:19	266.6706	4467.7642	86.6671	770.0326	686.6926	2266.9493	53017.4810	184163.3500	181463.1900	1303.4268	140656.4500
x		236.6698	4304.3544	68.8892	752.2534	665.5799	2365.8636	51963.7120	181785.2800	179370.1900	1186.7445	137694.0800
σ		26.4582	251.9329	18.3587	15.7540	18.9555	86.0669	1356.7674	2337.1657	2054.4159	108.0781	2629.9155
%RSD		11.1794	5.8530	26.6496	2.0942	2.8480	3.6379	2.6110	1.2857	1.1453	9.1071	1.9100

SEQ-CCV@CCV03 10/19/2016 11:01:56 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo
1	11:02:10	103576.7100	183462.7300	132058.9300	518471.4500	443375.9800	581032.9600	71607.5810	r3383617.3000	708211.7800	5324.8924	17357.6660	7906.7703	156.6680	1424737.1000	r2601668.7000	r2812755.900
2	11:02:24	104814.1000	186068.2200	134000.3600	529027.6500	447356.7200	581835.2500	71680.1490	r3429539.8000	721177.3200	5241.5106	17269.7210	8287.1088	150.0012	1461614.8000	r2627918.2000	r2866435.900
3	11:02:38	105397.4500	182911.7900	135383.9700	535511.2200	449348.0800	584259.5600	71663.3510	r3442431.4000	722816.8300	5635.0793	17513.5200	8116.9554	170.0016	1481076.4000	r2679426.2000	r2906615.000
x		104596.0900	184147.5800	133814.4200	527670.1100	446693.5900	582375.9200	71650.3600	r3418529.5000	717401.9800	5400.4941	17380.3030	8103.6115	158.8903	1455809.5000	r2636337.7000	r2861935.600
σ		929.7463	1685.9790	1670.3012	8600.6157	3040.7764	1679.8751	37.9884	r30914.3130	8001.0480	207.3904	123.4658	190.5201	10.1837	28614.7660	r39556.5520	r47091.088
%RSD		0.8889	0.9156	1.2482	1.6299	0.6807	0.2885	0.0530	r0.9043	1.1153	3.8402	0.7104	2.3511	6.4093	1.9656	r1.5004	r1.645

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	11:02:10	57370.4560	371644.4100	43919.1670	653607.4800	r2256927.0000	2306776.0000	790964.8900	182364.2900	179970.6200	r5749150.1000	116467.9800
2	11:02:24	58306.3820	377682.4300	44357.9560	669812.2500	2323945.9000	2344088.3000	803564.5500	187697.8800	184870.8300	r5819829.0000	121178.9600
3	11:02:38	58859.9320	382236.9900	44113.4370	677799.5700	2379601.2000	2386206.6000	818302.9200	188803.7600	187844.1900	r5882135.4000	123212.6900
x		58178.9230	377187.9400	44130.1670	667073.1000	r2320158.0000	2345690.3000	804277.4500	186288.6400	184228.5500	r5817038.2000	120286.5400
σ		752.8740	5313.5753	219.8737	12326.4590	r61424.7390	39739.5280	13682.9480	3443.2768	3975.8823	r66536.5490	3459.7791
%RSD		1.2941	1.4087	0.4982	1.8478	r2.6474	1.6942	1.7013	1.8484	2.1581	r1.1438	2.8763

SEQ-CCB@CCB03 10/19/2016 11:07:35 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	11:07:35	104733.1800	30.0000	132028.4900	96.6672	264.0038	194.0021	97.3339	286.6712	460.0116	0.0000	10.0000	6.6667	170.0016	183.3352	330.0060	356.6737	233.3363	546.6831	42482.3630
2	11:07:49	106523.8000	20.0000	134470.5600	136.6677	228.0029	192.6687	114.6674	173.3350	380.0079	3.3333	12.2222	6.6667	170.0016	223.3361	316.6722	383.3414	223.3361	540.0160	42760.3290
3	11:08:03	107383.8300	13.3333	135499.0000	120.0008	226.0028	171.3350	127.3342	160.0014	460.0116	3.3333	10.0000	16.6667	190.0020	266.6706	253.3369	296.6715	160.0014	460.0116	42445.5250
x		106213.6000	21.1111	133999.3500	117.7786	239.3365	186.0019	113.1118	206.6692	433.3437	2.2222	10.7407	10.0000	176.6684	224.4473	300.0050	345.5622	205.5579	515.5703	42562.7390
σ		1352.2798	8.3887	1782.5923	20.0926	21.3859	12.7194	15.0606	69.6038	46.1902	1.9245	1.2830	5.7735	11.5472	41.6788	40.9620	44.3905	39.7687	48.2305	172.1061
%RSD		1.2732	39.7360	1.3303	17.0597	8.9355	6.8383	13.3148	33.6788	10.6590	86.6025	11.9452	57.7351	6.5361	18.5695	13.6538	12.8459	19.3467	9.3548	0.4044

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	11:07:35	153.3346	40.0001	3.3333	26.6667	350.0067	236.6698	110.0007	172297.4200	170582.2000	650.0232	108459.8200
2	11:07:49	126.6676	33.3334	0.0000	40.0001	236.6698	216.6693	73.3336	177992.2400	177720.3300	510.0143	110153.3400
3	11:08:03	100.0006	16.6667	3.3333	36.6667	230.0029	160.0014	130.0009	178362.7300	175569.1300	370.0075	112923.6800
x		126.6676	30.0001	2.2222	34.4445	272.2265	204.4468	104.4451	176217.4700	174623.8900	510.0150	110512.2800
σ		26.6670	12.0185	1.9245	6.9389	67.4421	39.7687	28.7392	3399.9057	3661.7433	140.0079	2253.4734
%RSD		21.0528	40.0617	86.6025	20.1452	24.7743	19.4519	27.5161	1.9294	2.0969	27.4517	2.0391

Analyte ICPS

SEQ-CAL1@S01 10/19/2016 07:51:01

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	07:51:01	99.5%	27.3709	98.5%	-13.4089	-42.7531	4.6634	7.0579	-2.7074	77.0037	-2.2216	2.4493	4.3774	-1.0482	-2.9740	-0.1152	8.4280	3.7201	-5.5498	99.9%
2	07:51:19	99.9%	44.0320	99.2%	26.3735	13.1240	-20.9128	-5.8052	-2.8219	-51.3099	1.1231	-5.3233	-12.5654	6.0306	-3.2147	6.3697	-12.1616	-3.2945	-5.2130	99.7%
3	07:51:32	100.6%	23.3428	102.4%	-12.9646	-14.0622	3.8549	-1.2527	6.5841	-15.6009	1.0986	0.1859	8.1880	-4.9824	6.1886	-3.9375	3.7336	-0.4256	10.7628	100.4%
x		100.0%	31.5819	100.0%	0.0000	-14.5637	-4.1315	-0.0000	0.3516	3.3643	0.0000	-0.8961	0.0000	0.0000	0.0000	0.7723	0.0000	0.0000	0.0000	100.0%
σ		0.6%	10.9686	2.1%	22.8412	27.9419	14.5386	6.5224	5.3978	66.2258	1.9240	3.9977	11.0475	5.5808	5.3609	5.2106	10.7907	3.5266	9.3224	0.4%
%RSD		0.6	34.7307	2.1	0.0000	191.8593	351.8988	0.0000	1535.3760	1968.4776	0.0000	446.1391	0.0000	0.0000	0.0000	674.6645	0.0000	0.0000	0.0000	0.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	07:51:01	-19.6995	-6.9601	-1.1130	0.7734	5.5707	-9.3730	72.1430	98.5%	98.3%	89.8643	752.8404
2	07:51:19	-7.3540	3.0581	2.2260	4.0174	-5.5401	17.1558	30.8945	100.4%	100.6%	92.2467	-665.4678
3	07:51:32	27.0535	6.1550	-1.1130	-2.7123	-0.0306	3.4632	30.4228	101.1%	101.1%	128.2776	-87.3727
x		0.0000	0.7510	0.0000	0.6928	0.0000	3.7487	44.4868	100.0%	100.0%	103.4629	-0.0000
σ		24.2285	6.8552	1.9278	3.3655	5.5555	13.2667	23.9522	1.3%	1.5%	21.5232	713.1795
%RSD		0.0000	912.8118	0.0000	485.7663	0.0000	353.9016	53.8411	1.3	1.5	20.8028	0.0000

SEQ-CAL2@S02 10/19/2016 07:55:22

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	07:55:36	100.5%	75.3856	97.6%	-19.6067	765.3493	460.6437	17.6930	1427.9176	296.0504	11.0021	37.6150	47.9800	-25.3899	2044.6091	3618.2272	3909.7903	2346.7302	5640.3622	100.8%
2	07:55:50	101.3%	75.0656	98.0%	-19.9304	801.1896	424.2463	25.3777	1342.7725	319.4674	21.0470	34.5452	27.8596	-11.4759	2148.3429	3545.5608	3901.6576	2258.5789	5880.5339	100.3%
3	07:56:04	101.1%	103.9279	99.8%	-34.4735	834.8057	458.6693	16.7657	1280.1235	340.5777	10.9064	21.9642	-35.0001	62.4132	2090.7618	3737.3256	3881.5061	2403.2316	5964.2292	101.6%
x		101.0%	84.7931	98.5%	-24.6702	800.4482	447.8531	19.9455	1350.2712	318.6985	14.3185	31.3748	13.6132	8.5158	2094.5713	3633.7045	3897.6514	2336.1802	5828.3751	100.9%
σ		0.4%	16.5721	1.2%	8.4915	34.7342	20.4679	4.7273	74.1819	22.2736	5.8272	8.2931	43.2856	47.1921	51.9717	96.8148	14.5615	72.9011	168.1156	0.6%
%RSD		0.4	19.5441	1.2	34.4199	4.3393	4.5702	23.7009	5.4939	6.9889	40.6973	26.4324	317.9686	554.1713	2.4813	2.6644	0.3736	3.1205	2.8844	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	07:55:36	45.8850	1109.9339	28.8793	235.5499	6156.6078	1624.9367	2913.0296	102.1%	101.4%	2142.9106	578.1662
2	07:55:50	11.8066	1138.9576	28.6794	230.6301	6558.3322	1583.6493	3041.1892	103.0%	102.6%	2102.2266	2190.7953
3	07:56:04	-6.0215	1120.1761	21.7467	214.3459	6314.0100	1654.5088	2718.5450	104.0%	103.8%	2159.8017	809.6833
x		17.2234	1123.0225	26.4351	226.8419	6342.9834	1621.0316	2890.9213	103.0%	102.6%	2134.9796	1192.8816
σ		26.3738	14.7197	4.0615	11.0979	202.4234	35.5908	162.4543	0.9%	1.2%	29.5956	871.9369
%RSD		153.1281	1.3107	15.3641	4.8924	3.1913	2.1956	5.6195	0.9	1.1	1.3862	73.0950

SEQ-CAL3@S03 10/19/2016 07:59:41

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	07:59:41	97.9%	221.7408	94.7%	-6.9942	1976.2840	1134.7193	34.8758	3068.7664	1003.5030	28.5954	95.1973	32.2990	23.1427	4449.0317	7363.7274	7808.9028	4388.6244	11615.7780	97.3%
2	07:59:55	99.8%	167.8226	95.4%	2.9010	2023.2653	1062.3305	22.5298	3094.7378	1019.1707	24.8464	78.1757	76.6126	-19.3686	4390.5052	7125.1573	7720.7184	4622.5736	12032.6500	98.5%
3	08:00:09	100.4%	218.9382	96.0%	-18.4804	2080.8599	1173.4215	35.6606	3295.4551	1020.2662	15.0172	84.4219	34.3941	-10.2241	4314.2008	7330.3556	7795.7810	4429.2331	12285.8850	96.7%
x		99.4%	202.8339	95.4%	-7.5246	2026.8031	1123.4904	31.0220	3152.9864	1014.3133	22.8197	85.9316	47.7685	-2.1500	4384.5792	7273.0801	7775.1341	4480.1437	11978.1050	97.5%
σ		1.3%	30.3530	0.6%	10.7006	52.3777	56.3903	7.3650	124.0630	9.3780	7.0124	8.6107	25.0017	22.3762	67.6105	129.1870	47.5799	125.0079	338.3671	0.9%
%RSD		1.3	14.9645	0.7	142.2084	2.5843	5.0192	23.7412	3.9348	0.9246	30.7294	10.0204	52.3391	1040.7688	1.5420	1.7762	0.6119	2.7903	2.8249	1.0

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	07:59:41	26.3015	2513.6906	40.1316	626.2265	12488.4150	3811.6926	6655.5358	98.9%	98.7%	5066.5681	959.0122
2	07:59:55	61.9283	2604.4490	42.9478	600.3629	12556.2990	4069.4790	6741.4356	100.9%	100.5%	5066.5028	970.7340
3	08:00:09	30.4141	2422.9656	56.0642	565.3515	13062.9740	3879.7868	6664.9550	101.8%	102.2%	5165.3974	1637.1987
x		39.5480	2513.7017	46.3812	597.3137	12702.5630	3920.3195	6687.3088	100.5%	100.5%	5099.4895	1188.9817
σ		19.4907	90.7417	8.5031	30.5518	313.9653	133.5875	47.1112	1.5%	1.8%	57.0780	388.2116
%RSD		49.2837	3.6099	18.3331	5.1149	2.4717	3.4076	0.7045	1.5	1.7	1.1193	32.6508

SEQ-CAL4@S04 10/19/2016 08:03:44

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	08:03:44	100.0%	346.5850	94.3%	-3.0762	3911.2002	2127.0290	59.2130	5955.7755	1416.0144	38.0733	178.2571	137.7159	-6.8329	10265.8510	17858.8270	19326.6390	11073.5900	28681.8210	99.3%
2	08:03:58	99.2%	395.2887	95.3%	-14.5005	4057.6802	2212.5132	41.6140	6055.5426	1287.8301	45.6545	174.8586	89.9427	-7.8419	10652.1280	17869.2430	19726.4140	11363.9660	29231.7310	97.5%
3	08:04:12	100.2%	423.1677	96.9%	-43.2234	4078.7998	2089.6120	52.5419	6169.5542	1213.2235	48.1216	158.0252	87.5016	-0.1864	10404.3580	17995.9280	20228.4840	11135.9370	29457.2140	99.3%
x		99.8%	388.3471	95.5%	-20.2667	4015.8934	2143.0514	51.1230	6060.2908	1305.6893	43.9498	170.3803	105.0534	-4.9537	10440.7790	17907.9990	19760.5120	11191.1640	29123.5890	98.7%
σ		0.5%	38.7604	1.4%	20.6854	91.2798	62.9977	8.8849	106.9684	102.5683	5.2366	10.8339	28.3129	4.1593	195.6972	76.3265	451.8888	152.8630	398.8477	1.1%
%RSD		0.5	9.9809	1.4	102.0661	2.2730	2.9396	17.3795	1.7651	7.8555	11.9149	6.3587	26.9509	83.9641	1.8744	0.4262	2.2868	1.3659	1.3695	1.1

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:03:44	91.5091	4958.4374	84.7302	1084.1972	31026.0710	7736.7291	13562.6880	99.5%	99.7%	9828.7408	2813.8453
2	08:03:58	160.6052	5052.6313	83.7152	1027.1284	30996.6870	7812.4883	13149.4250	100.8%	100.8%	9858.8848	1798.3245
3	08:04:12	105.2446	5074.1169	95.1768	1103.9837	31131.0960	7630.0078	13239.6810	103.4%	102.8%	9886.4707	1109.8602
x		119.1196	5028.3952	87.8741	1071.7698	31051.2850	7726.4084	13317.2650	101.2%	101.1%	9858.0321	1907.3433
σ		36.5781	61.5303	6.3447	39.9063	70.6630	91.6770	217.2808	2.0%	1.6%	28.8744	857.2077
%RSD		30.7070	1.2237	7.2202	3.7234	0.2276	1.1865	1.6316	2.0	1.5	0.2929	44.9425

SEQ-CAL5@S05 10/19/2016 08:07:46

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	08:07:46	100.2%	3401.2880	94.8%	9930.9702	8144.9192	11291.4480	107.0554	61687.9580	12718.8920	73.8922	335.0022	188.7879	-58.2185	25090.4200	44344.1370	48302.9690	28347.4720	72018.0230	96.3%
2	08:08:00	100.1%	3390.0174	95.7%	10026.1240	8094.1172	11072.2050	95.8016	62586.5560	13192.8180	100.6170	290.7097	141.1328	-14.3856	25589.7740	45049.8160	49126.1870	28733.7080	73060.2420	97.2%
3	08:08:13	101.8%	3416.3977	95.9%	9822.1882	7932.5014	11044.9520	138.7773	62767.1220	13238.5490	87.1582	299.5815	63.5452	58.1572	25679.9370	45217.2190	49612.8210	28570.2020	74522.1710	97.0%
x		100.7%	3402.5677	95.5%	9926.4273	8057.1793	11136.2020	113.8781	62347.2120	13050.0860	87.2224	308.4311	131.1553	-4.8156	25453.3770	44870.3910	49013.9920	28550.4610	73200.1450	96.9%
σ		1.0%	13.2367	0.6%	102.0436	110.9218	135.1364	22.2854	578.0249	287.7324	13.3625	23.4349	63.2147	58.7751	317.5461	463.3712	662.0943	193.8732	1257.9224	0.5%
%RSD		1.0	0.3890	0.6	1.0280	1.3767	1.2135	19.5695	0.9271	2.2048	15.3200	7.5981	48.1984	1220.5134	1.2476	1.0327	1.3508	0.6791	1.7185	0.5

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:07:46	1087.5459	6512.5975	730.9035	11305.1550	38491.6430	37978.3030	13954.6270	98.0%	98.0%	99477.2780	1715.1595
2	08:08:00	1077.2583	6472.4900	798.4820	11681.1850	39612.3070	38518.1460	13295.7530	99.9%	100.7%	98017.4940	427.5742
3	08:08:13	1044.4565	6661.3742	721.2249	11807.4840	40151.2730	39365.4310	13825.0620	101.2%	101.7%	98502.2590	626.4985
x		1069.7536	6548.8206	750.2035	11597.9420	39418.4080	38620.6270	13691.8140	99.7%	100.2%	98665.6770	923.0774
σ		22.5037	99.5158	42.0896	261.3061	846.6348	699.2197	349.0628	1.6%	1.9%	743.4861	693.1365
%RSD		2.1036	1.5196	5.6104	2.2530	2.1478	1.8105	2.5494	1.6	1.9	0.7535	75.0898

SEQ-CAL6@S06 10/19/2016 08:11:47

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98M
1	08:11:47	100.4%	17549.3940	93.7%	49336.2890	40502.6710	55111.5710	546.5267	304704.1900	64095.4020	532.5193	1618.6488	876.4858	7.1025	125785.0400	220254.3900	238910.3200	138348.1500	357590.89
2	08:12:01	100.6%	17490.7890	94.9%	49214.9520	40295.3760	54907.8620	656.0418	307172.7600	65019.6480	562.3993	1587.7362	853.2433	-44.8385	126949.6000	222388.9400	242185.2100	140541.8100	363285.39
3	08:12:15	100.3%	17404.4130	94.3%	49919.5860	39110.2860	53948.4400	600.5453	310972.6400	65674.2910	539.6600	1582.0706	831.7578	-22.6448	129587.5000	228896.8900	245106.8500	142716.3000	370085.24
x		100.4%	17481.5320	94.3%	49490.2760	39969.4440	54655.9580	601.0379	307616.5300	64929.7800	544.8595	1596.1519	853.8290	-20.1269	127440.7100	223846.7400	242067.7900	140535.4200	363653.83
σ		0.2%	72.9325	0.6%	376.7115	751.2374	621.1361	54.7592	3157.6963	793.2714	15.6039	19.6878	22.3697	26.0619	1948.2265	4501.8963	3099.9592	2184.0850	6255.322
%RSD		0.2	0.4172	0.7	0.7612	1.8795	1.1364	9.1108	1.0265	1.2217	2.8638	1.2335	2.6199	129.4876	1.5287	2.0112	1.2806	1.5541	1.72

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:11:47	4950.6964	31960.9990	3621.4535	56574.7930	189202.9300	190846.9100	66158.0870	99.3%	99.1%	496532.9800	1205.3621
2	08:12:01	4953.9452	33194.1820	3957.1808	57006.8920	192233.5200	192652.9300	67163.5750	101.5%	101.1%	496523.7100	1563.4654
3	08:12:15	5280.9112	33422.8220	3996.5985	58391.2570	197734.3900	195370.8000	68861.5610	103.0%	104.4%	492630.6400	-65.6245
x		5061.8509	32859.3340	3858.4109	57324.3140	193056.9400	192956.8800	67394.4070	101.3%	101.6%	495229.1100	901.0677
σ		189.7187	786.3357	206.1554	948.9217	4324.9261	2277.2105	1366.4390	1.9%	2.7%	2250.3418	856.1132
%RSD		3.7480	2.3930	5.3430	1.6554	2.2402	1.1802	2.0275	1.8	2.6	0.4544	95.0110

SEQ-CAL7@S07 10/19/2016 08:15:49

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	
1	08:15:49	99.6%	173290.7400	93.3%	488279.3900	394325.7600	537259.3800	4500.3397	τ3117967.5000	652939.7700	4797.7065	15910.2670	7572.5990	19.8808	1290542.5000	2328181.4000	τ2554509.2000	1424
2	08:16:03	100.7%	172901.1000	95.6%	489470.3800	393936.9700	538141.7400	5046.7354	τ3102552.6000	649216.3300	4860.4143	16135.3710	7375.7100	-27.8522	1308850.7000	2339611.1000	τ2548565.8000	1439
3	08:16:16	100.3%	174210.9400	94.7%	496518.3700	388657.9800	535437.1800	4752.8787	τ3138508.7000	660896.5700	5000.4028	16140.9890	7569.8241	-5.3745	1317247.0000	2395730.1000	τ2581402.1000	1469
x		100.2%	173467.5900	94.5%	491422.7200	392306.9000	536946.1000	4766.6512	τ3119676.3000	654350.8900	4886.1745	16062.2090	7506.0444	-4.4486	1305546.7000	2354507.5000	τ2561492.4000	1444
σ		0.5%	672.5896	1.2%	4452.9676	3166.0325	1379.2272	273.4581	τ18038.8690	5966.6109	103.7745	131.6156	112.8814	23.8799	13655.3810	36154.3090	τ17496.5630	22
%RSD		0.5	0.3877	1.2	0.9061	0.8070	0.2569	5.7369	τ0.5782	0.9118	2.1238	0.8194	1.5039	536.7943	1.0460	1.5355	τ0.6831	

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:15:49	50995.8880	329267.6800	38016.4590	582925.4700	2020187.0000	2002114.0000	682472.5000	101.5%	102.9%	τ5108438.5000	3395.7243
2	08:16:03	50543.4990	330007.0900	38784.3550	582276.7500	2034271.7000	2025051.0000	690131.7400	104.8%	105.7%	τ5085652.0000	2699.1389
3	08:16:16	51535.4790	332287.1600	38586.1580	589180.5700	2075957.4000	2044677.5000	690125.2300	107.3%	107.5%	τ5093014.7000	5269.1670
x		51024.9550	330520.6400	38462.3240	584794.2600	2043472.0000	2023947.5000	687576.4900	104.5%	105.3%	τ5095701.7000	3788.0101
σ		496.6285	1573.8821	398.6444	3812.4724	29001.2000	21303.1940	4420.1864	2.9%	2.3%	τ11628.5100	1329.1641
%RSD		0.9733	0.4762	1.0365	0.6519	1.4192	1.0526	0.6429	2.8	2.2	τ0.2282	35.0887

SEQ-CAL8@S08 10/19/2016 08:19:52

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo
1	08:19:52	96.5%	μ359884.8200	87.6%	986060.9100	μ803052.7600	μ1094760.6000	8022.7480	τ6169932.5000	1305417.0000	9922.2297	μ32154.3440	14629.0600	25.0608	τ2648068.6000	τκ4660633.2000
2	08:20:06	97.2%	μ353556.5700	89.5%	988443.3200	774177.6900	1062928.7000	8427.6895	τ6128748.5000	1297294.9000	9817.6934	31247.8410	14622.6890	8.5433	τ2685295.1000	τκ4725610.5000
3	08:20:21	97.4%	μ355712.8100	89.4%	1005680.6000	μ793220.7600	μ1080630.6000	8805.5446	τκ6239406.5000	μ1325639.1000	9402.8279	31892.4490	15377.5330	10.2477	τ2689710.2000	τκ4739946.8000
x		97.1%	μ356384.7300	88.8%	993394.9500	μ790150.4000	μ1079440.0000	8418.6607	τκ6179362.5000	μ1309450.4000	9714.2503	μ31764.8780	14876.4270	14.6173	τ2674358.0000	τκ4708730.1000
σ		0.5%	μ3217.1846	1.0%	10706.1730	μ14680.3470	μ15949.3220	391.4764	τκ55928.4490	μ14596.2000	274.7179	μ466.5215	433.9822	9.0844	τ22874.0440	τκ42265.4970
%RSD		0.5	μ0.9027	1.2	1.0777	μ1.8579	μ1.4776	4.6501	τκ0.9051	μ1.1147	2.8280	μ1.4687	2.9172	62.1485	τ0.8553	τκ0.8976

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:19:52	100548.3400	653268.7200	76864.4960	μ1171226.5000	τ3991373.1000	τκ3946251.9000	τκ1386380.3000	102.0%	101.5%	τκ10510036.0000	7771.9111
2	08:20:06	101734.1400	659214.0600	77076.3040	μ1175943.7000	τ4002412.3000	τκ4000915.7000	τκ1382226.5000	105.0%	106.7%	τκ10325739.0000	6362.8324
3	08:20:21	102135.8700	μ663707.0400	77440.5890	μ1200636.6000	τ4048284.1000	τκ4007245.8000	τκ1395086.5000	106.9%	107.5%	τκ10377535.0000	6170.7527
x		101472.7900	μ658729.9400	77127.1300	μ1182602.3000	τ4014023.2000	τκ3984804.5000	τκ1387897.8000	104.6%	105.2%	τκ10404437.0000	6768.4987
σ		825.4037	μ5235.9726	291.3900	μ15795.3030	τ30179.9130	τκ33537.1440	τκ6562.9133	2.5%	3.2%	τκ95047.8040	874.2717
%RSD		0.8134	μ0.7949	0.3778	μ1.3356	τ0.7519	τκ0.8416	τκ0.4729	2.3	3.1	τκ0.9135	12.9168

SEQ-ICV@ICV01 10/19/2016 08:23:58 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98
1	08:24:12	96.5%	37344.1710	85.1%	91.7242	79665.5920	106855.3800	1107.4461	634791.3000	133858.2300	1920.3190	6616.2069	3129.1780	4.6054	10855.5710	19362.5320	21099.4070	11976.6360	31421.4
2	08:24:25	96.0%	37249.6650	85.8%	113.4325	79309.1650	107204.3500	1071.1203	634849.0300	132825.3300	2070.5926	6585.5369	3196.2731	-14.6322	11042.6040	19499.2980	21327.6290	12539.8260	31794.2
3	08:24:44	97.6%	36680.3240	87.0%	114.6903	78764.5850	106516.8200	1135.8749	638825.4900	133147.4000	2091.4034	6708.4055	3195.8873	-36.4418	11206.1770	19376.9530	21362.9920	12172.3060	31979.1
x		96.7%	108.288%	86.0%	106.6157	100.101%	101.307%	1104.8137	103.547%	104.111%	2027.4383	103.127%	3173.7795	-15.4895	11034.7840	19412.9280	21263.3430	12229.5890	31731.6
σ		0.8%	n/a	0.9%	12.9117	n/a	n/a	32.4574	n/a	n/a	93.3498	n/a	38.6265	20.5370	175.4340	75.1459	143.0689	285.9318	284.0
%RSD		0.9	0.9682	1.1	12.1105	0.5726	0.3217	2.9378	0.3635	0.3965	4.6043	0.9636	1.2171	132.5862	1.5898	0.3871	0.6728	2.3380	0.8

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:24:12	10250.3410	526632.1900	7701.3577	120259.9400	709.3866	789560.5300	139544.5700	101.8%	103.0%	τ2213471.8000	4658.1867
2	08:24:25	10131.2150	522572.3300	7834.6237	119160.5500	668.9965	796390.6500	137714.8300	104.9%	105.7%	τ2189331.1000	3345.3966
3	08:24:44	10713.4490	521234.0100	7802.9388	118031.3900	780.7029	799302.7300	138856.5900	105.7%	107.2%	τ2162954.5000	3200.0353
x		10365.0020	104.248%	7779.6401	103.200%	719.6953	101.841%	101.118%	104.1%	105.3%	τ106.325%	3734.5395
σ		307.5865	n/a	69.6209	n/a	56.5622	n/a	n/a	2.1%	2.2%	τn/a	803.1971
%RSD		2.9675	0.5370	0.8949	0.9352	7.8592	0.6290	0.6663	2.0	2.0	τ1.1545	21.5073

SEQ-ICB@ICB01 10/19/2016 08:28:28 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	08:28:28	96.8%	45.6936	86.3%	-3.0955	-8.5017	-1.7151	-0.3579	86.1954	9.7770	4.6448	-2.9460	68.0928	-62.2605	81.6931	131.1682	155.7522	48.7427	187.1182	97.1%
2	08:28:42	98.8%	26.0165	87.9%	-19.8031	29.5931	82.3941	12.5834	91.7546	-68.5734	1.3395	-0.3586	6.4451	-2.4663	83.3713	96.5693	127.5206	47.4574	183.3353	93.6%
3	08:28:56	98.1%	21.9569	89.5%	-9.8582	27.0198	60.8008	4.4777	93.5399	-48.8537	8.3246	7.7373	-19.5496	23.9188	88.6103	122.6390	135.3090	77.6415	218.1845	94.8%
x		97.9%	31.2223	87.9%	-10.9189	16.0371	47.1599	5.5678	90.4967	-35.8834	4.7697	1.4776	18.3295	-13.6027	84.5582	116.7922	139.5273	57.9472	196.2127	95.2%
σ		1.0%	12.6958	1.6%	8.4042	21.2901	43.6823	6.5391	3.8305	40.7538	3.4942	5.5733	45.0136	44.1558	3.6081	18.0252	14.5809	17.0679	19.1220	1.8%
%RSD		1.0	40.6626	1.8	76.9685	132.7553	92.6259	117.4465	4.2327	113.5729	73.2591	377.1926	245.5806	324.6110	4.2670	15.4336	10.4502	29.4542	9.7455	1.9

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:28:28	-8.5312	113.9052	2.4368	8.0944	127.2504	346.4094	38.6210	101.2%	101.3%	358.4234	2740.8091
2	08:28:42	24.8653	59.3895	-1.1130	14.8047	182.2291	353.7377	34.4584	102.9%	102.5%	416.7785	4149.0801
3	08:28:56	9.1306	78.9377	5.7495	17.8789	188.3695	341.1416	53.5731	104.4%	105.9%	433.3361	3071.1461
x		8.4883	84.0775	2.3578	13.5927	165.9497	347.0962	42.2175	102.8%	103.2%	402.8460	3320.3451
σ		16.7075	27.6189	3.4319	5.0036	33.6549	6.3261	10.0521	1.6%	2.4%	39.3518	736.4658
%RSD		196.8314	32.8493	145.5581	36.8110	20.2802	1.8226	23.8102	1.6	2.3	9.7684	22.1804

SEQ-IFA@ICSA01 10/19/2016 08:32:35 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98M
1	08:32:35	93.4%	137.1410	92.3%	842202.5000	-374.8490	23542.0780	155.6016	7937.2418	7516.2451	-2.2216	-3.8138	-56.5685	80.6516	2172710.0000	±3947960.8000	±4310139.1000	2426314.4000	±6401395.70
2	08:32:49	96.7%	106.7393	97.0%	842959.1900	-427.8468	23009.2260	174.3976	7829.6777	7430.4559	4.9058	-1.5406	-42.5369	47.5231	2186212.4000	±3948223.3000	±4285676.1000	±2466898.4000	±6400810.70
3	08:33:05	95.3%	102.9800	100.8%	841681.3500	-643.4154	23452.2280	236.2666	7908.8472	7286.7636	-2.2216	-3.9168	-105.3815	111.6493	±2225636.1000	±3908915.5000	±4251361.6000	±2451688.6000	±6321856.40
x		95.2%	1.#IO%	96.7%	842281.0100	-121.778%	103.237%	188.7553	127.172%	94.559%	0.1542	-32.174%	-68.1623	79.9413	±2194852.8000	±3935033.2000	±4282392.2000	±2448300.5000	±6374687.60
σ		1.7%	n/a	4.3%	642.5311	n/a	n/a	42.2057	n/a	n/a	4.1150	n/a	32.9875	32.0690	±27500.6650	±22619.0160	±29526.0040	±20503.0370	±45754.09
%RSD		1.7	16.2015	4.4	0.0763	29.5097	1.2225	22.3600	0.7063	1.5646	2668.9959	43.4625	48.3955	40.1156	±1.2530	±0.5748	±0.6895	±0.8374	±0.71

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:32:35	-0.2996	58.9716	1677.4337	556.7314	4455.0536	4711.8809	2793.4562	99.5%	100.9%	270.4285	-1137.0312
2	08:32:49	44.5543	49.1743	1536.7374	578.7783	586.6463	4427.4322	2800.6194	104.5%	105.0%	217.4722	-567.8136
3	08:33:05	-11.6285	69.3445	1463.7332	292.3746	612.7468	4338.4751	2700.1785	108.5%	109.7%	228.4460	-3440.7412
x		10.8754	1.#IO%	1559.3014	58.303%	1884.8156	75.959%	167.962%	104.2%	105.2%	1.#IO%	-1715.1953
σ		29.7118	n/a	108.6224	n/a	2225.9297	n/a	n/a	4.5%	4.4%	n/a	1521.2277
%RSD		273.2014	17.0485	6.9661	33.4843	118.0980	4.3415	2.0268	4.3	4.2	11.7054	88.6912

SEQ-IFB@ICSAB01 10/19/2016 08:36:38 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	
1	08:36:38	89.4%	6936.6354	102.2%	821541.1700	17235.1740	47242.5250	464.0159	126173.5800	31330.7970	163.1933	650.5575	213.5893	79.0859	±2194684.3000	±3869107.4000	±4192643.8000	2381104.3000	±6
2	08:36:52	89.3%	6781.7568	104.3%	833198.2100	17040.4030	46772.3200	442.7745	128358.7000	31990.6850	212.2685	662.6895	130.7801	163.9497	2160970.2000	±3848596.6000	±4168035.8000	±2417020.4000	±6
3	08:37:06	89.4%	6431.8332	105.8%	830510.3600	16926.1080	46638.9610	404.3819	127726.3600	31330.4040	159.4159	622.3322	257.8366	48.9894	2185035.3000	±3885292.4000	±4218974.7000	±2417392.9000	±6
x		89.4%	102.175%	104.1%	828416.5800	113.466%	108.899%	437.0575	102.663%	100.639%	178.2926	106.060%	200.7353	97.3417	±2180229.9000	±3867665.5000	±4193218.1000	±2405172.5000	±6
σ		0.1%	n/a	1.8%	6104.0645	n/a	n/a	30.2253	n/a	n/a	29.4846	n/a	64.4962	59.6148	±17363.1500	±18390.3870	±25474.2670	±20844.5210	
%RSD		0.1	3.8502	1.8	0.7368	0.9156	0.6763	6.9156	0.8824	1.2079	16.5372	3.2094	32.1300	61.2428	±0.7964	±0.4755	±0.6075	±0.8667	

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:36:38	1935.3816	92644.7220	3042.8312	21482.2380	571.4600	80570.5630	30260.7030	106.9%	106.5%	195037.3700	-1936.1276
2	08:36:52	1835.3909	93458.9530	2886.6347	22441.6150	579.0809	82102.2990	31506.5580	109.4%	109.1%	197444.2400	-2219.3090
3	08:37:06	1865.3102	93201.0140	3016.0605	22885.8780	652.0338	83720.6200	31651.1540	111.0%	111.8%	196464.7100	-3634.5936
x		1878.6942	101.974%	2981.8421	95.479%	600.8582	94.680%	103.187%	109.1%	109.1%	93.102%	-2596.6767
σ		51.3214	n/a	83.5315	n/a	44.4829	n/a	n/a	2.1%	2.6%	n/a	909.9459
%RSD		2.7318	0.4470	2.8013	3.2214	7.4032	1.9179	2.4550	1.9	2.4	0.6165	35.0427

SEQ-CCV@CCV01 10/19/2016 08:40:44 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	
1	08:40:58	97.5%	172016.4300	111.9%	488199.6100	399950.2300	544514.9200	4822.8119	±3127440.0000	651319.5400	5301.6801	16532.7410	8116.2484	-9.9133	1307024.9000	±2349740.8000	±2555471.0000	143
2	08:41:12	96.5%	172494.6200	113.2%	489255.2100	399285.4500	546474.4900	4713.6436	±3114392.8000	652469.9700	5060.3734	16364.2470	7508.9353	38.4354	1315870.5000	±2366147.1000	±2571183.3000	146
3	08:41:25	96.9%	172057.8000	114.1%	490539.5500	394471.1900	537840.7200	4762.5553	±3086614.1000	648480.2500	5026.4648	16313.2930	7457.5916	44.3535	1314956.4000	±2350061.0000	±2556842.9000	145
x		96.9%	99.536%	113.1%	489331.4600	100.523%	100.888%	4766.3369	±100.213%	99.636%	5129.5061	102.466%	7694.2584	24.2919	1312617.3000	±2355316.3000	±2561165.7000	144
σ		0.5%	n/a	1.1%	1171.6284	n/a	n/a	54.6823	±n/a	n/a	150.0678	n/a	366.3546	29.7700	4864.6317	±9381.1012	±8702.5418	1
%RSD		0.5	0.1539	1.0	0.2395	0.7514	0.8337	1.1473	±0.6706	0.3156	2.9256	0.7002	4.7614	122.5511	0.3706	±0.3983	±0.3398	

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:40:58	51898.2920	334167.9100	39270.8830	596032.4400	2061802.2000	2099555.7000	701691.2400	118.8%	119.4%	±5069908.5000	-569.7460
2	08:41:12	52872.5760	335346.4500	39754.5620	600240.3700	2082145.3000	2092450.7000	707255.8400	121.0%	121.5%	±5015984.2000	1740.3520
3	08:41:25	52578.8940	335134.0800	39534.8150	598525.0700	2079714.6000	2082818.2000	706138.7600	121.9%	122.6%	±4971502.5000	1294.5748
x		52449.9210	101.574%	39520.0870	102.599%	2074554.1000	106.092%	102.795%	120.6%	121.2%	±99.973%	821.7269
σ		499.7828	n/a	242.1753	n/a	11110.0660	n/a	n/a	1.6%	1.6%	±n/a	1225.4905
%RSD		0.9529	0.1876	0.6128	0.3537	0.5355	0.4016	0.4175	1.3	1.3	±0.9818	149.1360

SEQ-CCB@CCB01 10/19/2016 08:45:01 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	08:45:01	94.9%	45.5434	103.9%	5.0364	-25.7465	63.0694	29.5383	280.0359	29.2153	-2.2216	2.8691	-19.3804	25.8275	261.7779	487.0556	512.0954	258.1598	812.6299	105.9%
2	08:45:15	96.5%	61.0100	105.0%	-11.8002	-3.0948	50.9054	24.1268	270.2383	46.0416	0.8789	-2.4669	-4.8828	20.3381	368.4195	516.2250	500.4607	312.2302	922.4537	107.5%
3	08:45:28	95.6%	22.7891	106.0%	34.6801	-41.4468	59.1069	31.8325	227.2830	123.4503	0.9393	-5.5071	-13.9264	17.0958	276.8442	585.9466	600.7332	349.6466	952.5780	105.5%
x		95.7%	43.1141	105.0%	9.3054	-23.4294	57.6939	28.4992	259.1857	66.2357	-0.1345	-1.7016	-12.7299	21.0871	302.3472	529.7424	537.7631	306.6789	895.8872	106.3%
σ		0.8%	19.2259	1.0%	23.5324	19.2807	6.2039	3.9566	28.0595	50.2584	1.8078	4.2402	7.3225	4.4138	57.7140	50.8124	54.8431	45.9953	73.6593	1.1%
%RSD		0.8	44.5930	1.0	252.8889	82.2928	10.7531	13.8830	10.8260	75.8781	1344.4380	249.1888	57.5222	20.9312	19.0887	9.5919	10.1984	14.9979	8.2219	1.0

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	08:45:01	-10.3311	42.8417	1.9981	37.3039	286.8731	206.1409	101.3553	109.9%	111.1%	769.2743	-901.7517
2	08:45:15	-11.7848	35.8854	5.0041	36.5446	228.7412	232.3668	111.1693	112.4%	112.2%	866.4594	-929.3313
3	08:45:28	33.2769	26.4824	4.9640	60.5087	296.3742	273.0651	134.4215	112.9%	114.3%	833.7357	-9.1801
x		3.7203	35.0698	3.9887	44.7857	270.6629	237.1909	115.6487	111.7%	112.5%	823.1565	-613.4210
σ		25.6070	8.2101	1.7241	13.6218	36.6147	33.7219	16.9822	1.6%	1.6%	49.4487	523.4697
%RSD		688.2983	23.4106	43.2238	30.4155	13.5278	14.2172	14.6843	1.5	1.4	6.0072	85.3361

SEQ-CCV@CCV02 10/19/2016 09:14:02 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	
1	09:14:16	99.5%	175113.8400	106.5%	488044.1500	401657.0300	546378.1400	4509.6068	±3150392.6000	658509.6400	5091.2417	16273.0170	7857.8474	-3.2726	1297837.9000	±2353921.3000	±2545617.0000	14
2	09:14:29	99.4%	172760.5200	108.0%	482954.9000	396668.9500	541257.6700	4952.5352	±3088807.0000	648391.3300	5108.3824	16372.9960	7761.4408	24.4040	1294499.2000	±2335989.9000	±2529295.9000	14
3	09:14:43	99.2%	176496.2000	105.9%	494325.7400	399938.3800	544391.7700	4703.8127	±3133937.3000	655078.5400	5069.0083	16343.7750	7713.4010	-62.8045	1316826.3000	±2370790.2000	±2561701.2000	14
x		99.4%	101.039%	106.8%	488441.6000	100.906%	101.086%	4721.9849	±100.694%	100.132%	5089.5441	102.007%	7777.5631	-13.8910	1303054.4000	±2353567.1000	±2545538.0000	14
σ		0.2%	n/a	1.1%	5695.8325	n/a	n/a	222.0227	±n/a	n/a	19.7418	n/a	73.5604	44.5634	12043.0130	±17402.8360	±16202.7820	
%RSD		0.2	1.0806	1.0	1.1661	0.6344	0.4745	4.7019	±1.0206	0.7868	0.3879	0.3148	0.9458	320.8070	0.9242	±0.7394	±0.6365	

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:14:16	51751.0570	332006.2400	38397.4670	590774.2900	2050882.3000	2060525.4000	706175.8100	115.0%	115.7%	±5033215.2000	-755.9304
2	09:14:29	51696.7040	334063.0800	39153.1030	595629.6300	±2014336.0000	2083591.6000	704688.4900	116.4%	117.3%	±5006869.6000	929.4098
3	09:14:43	52816.1470	340322.3700	40126.3780	598854.4800	2087997.3000	2125992.8000	709364.2400	117.7%	119.9%	±4969109.0000	1092.1589
x		52087.9690	101.751%	39225.6490	102.054%	±2051071.9000	106.013%	103.045%	116.4%	117.7%	±99.653%	421.8794
σ		631.2056	n/a	866.7356	n/a	±36831.0200	n/a	n/a	1.3%	2.1%	±n/a	1023.2540
%RSD		1.2118	1.2912	2.2096	0.6835	±1.7957	1.5888	0.3380	1.2	1.8	±0.6440	242.5466

SEQ-CCB@CCB02 10/19/2016 09:18:19 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:18:19	96.2%	45.9287	94.3%	28.5190	-40.3996	36.3915	20.6779	245.3423	35.5052	1.1301	-5.3163	-16.1458	9.6841	310.6157	633.2643	550.1416	343.1920	888.5418	99.5%
2	09:18:33	96.7%	41.8652	95.8%	37.1965	-45.7610	23.6901	22.4320	282.6463	-22.6180	-2.2216	-5.3270	-22.1682	19.2386	265.7428	520.6232	574.5158	403.9439	811.9601	99.8%
3	09:18:46	97.1%	47.9579	97.8%	44.8068	-12.9735	49.5719	20.3527	212.5691	-54.0447	1.0680	-2.0889	35.0875	-32.5247	259.9874	571.7331	474.6443	366.2393	905.6383	101.3%
x		96.7%	45.2506	96.0%	36.8408	-33.0447	36.5512	21.1542	246.8525	-13.7191	-0.0079	-4.2441	-1.0755	-1.2006	278.7819	575.2069	533.1006	371.1250	868.7134	100.2%
σ		0.4%	3.1024	1.7%	8.1498	17.5877	12.9416	1.1185	35.0630	45.4333	1.9174	1.8665	31.4625	27.5448	27.7186	56.4008	52.0709	30.6692	49.8877	1.0%
%RSD		0.4	6.8561	1.8	22.1216	53.2239	35.4069	5.2875	14.2040	331.1676	24359.9140	43.9783	2925.3655	2294.1710	9.9427	9.8053	9.7675	8.2639	5.7427	1.0

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:18:19	32.4637	29.6676	-1.1130	66.7224	316.3977	239.8903	107.2635	105.5%	106.1%	771.4830	2025.1661
2	09:18:33	10.8155	29.1183	5.4402	55.8719	304.0810	236.0002	95.9717	107.1%	109.1%	779.0913	417.0101
3	09:18:46	5.4644	28.4088	-1.1130	61.0417	306.3049	196.1557	93.9692	109.2%	108.5%	706.3469	3570.4199
x		16.2478	29.0649	1.0714	61.2120	308.9279	224.0154	99.0681	107.3%	107.9%	752.3071	2004.1987
σ		14.2959	0.6311	3.7835	5.4273	6.5639	24.2055	7.1677	1.8%	1.6%	39.9840	1576.8094
%RSD		87.9865	2.1713	353.1373	8.8663	2.1247	10.8053	7.2351	1.7	1.5	5.3149	78.6753

QJ14036-BLK1@PBS01@MH1J05@46282 10/19/2016 09:22:24 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:22:24	97.2%	24.8354	93.8%	-16.9178	-48.8979	-90.6169	-23.7978	36.3219	272.1682	1.0917	-5.3547	11.6844	-8.5712	27.3810	67.3059	75.6464	37.2427	112.6043	100.6%
2	09:22:38	97.1%	31.0083	97.4%	-19.5630	-39.7170	-87.6096	-23.6713	41.2578	184.4521	4.3820	-4.2656	-0.6558	14.0932	52.2859	97.8565	75.9505	45.4663	158.0925	101.0%
3	09:22:52	97.4%	20.9554	96.0%	-25.4742	-32.0069	-82.8164	-22.8985	55.6616	304.4784	-2.2216	-5.2877	15.9493	-12.7180	75.6931	88.4196	112.5713	62.1441	145.5386	98.6%
x		97.2%	25.5997	95.7%	-20.6517	-40.2073	-87.0143	-23.4559	44.4138	253.6996	1.0840	-4.9693	8.9927	-2.3987	51.7867	84.5273	88.0561	48.2844	138.7451	100.1%
σ		0.1%	5.0699	1.8%	4.3808	8.4562	3.9342	0.4868	10.0487	62.1079	3.3018	0.6104	8.6236	14.4321	24.1599	15.6428	21.2313	12.6876	23.4927	1.3%
%RSD		0.1	19.8044	1.9	21.2130	21.0314	4.5213	2.0754	22.6251	24.4809	304.5898	12.2827	95.8961	601.6662	46.6528	18.5062	24.1112	26.2769	16.9323	1.3

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:22:24	2.4814	16.3497	2.2133	-2.7050	151.4677	46.0570	3.8313	106.1%	105.8%	213.0100	1985.6684
2	09:22:38	19.5464	9.2862	-1.1130	3.6818	146.6218	12.5800	13.1092	107.4%	107.8%	228.5555	1197.1863
3	09:22:52	9.9242	9.3025	-1.1130	23.1151	114.1139	28.5128	16.1094	108.7%	108.7%	226.9968	2410.7447
x		10.6507	11.6461	-0.0042	8.0307	137.4011	29.0499	11.0166	107.4%	107.4%	222.8541	1864.5331
σ		8.5557	4.0734	1.9205	13.4482	20.3124	16.7450	6.4009	1.3%	1.5%	8.5608	615.7811
%RSD		80.3303	34.9768	45360.8470	167.4603	14.7833	57.6421	58.1022	1.2	1.4	3.8414	33.0260

QJ14036-BS1@LCS01 10/19/2016 09:26:25 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:26:25	100.1%	830.3796	95.6%	-25.1981	8308.6675	4409.5167	60.7959	12573.2010	2628.2605	102.4165	297.6200	193.5843	15.8957	8437.1698	14664.6370	15957.7990	9054.5110	23727.7500	101.9%
2	09:26:39	100.4%	767.2206	96.9%	-26.0784	8596.8359	4508.0981	52.7660	12899.5720	2694.2110	98.6345	312.3404	160.7202	15.1194	8173.4985	15201.0840	16021.8880	9448.1802	24295.9600	102.5%
3	09:26:52	99.3%	816.2377	100.1%	-28.0274	8657.6783	4496.8029	56.6828	12333.9060	2818.3517	105.5717	340.8485	180.3182	9.1992	8325.9486	14908.2830	16134.8810	9381.8441	24110.4290	102.0%
x		99.9%	116.278%	97.5%	-26.4346	107.634%	103.859%	56.7482	101.537%	103.869%	102.2076	98.989%	178.2076	13.4047	8312.2057	14924.6680	16038.1890	9294.8451	24044.7130	102.1%
σ		0.6%	n/a	2.3%	1.4479	n/a	n/a	4.0153	n/a	n/a	3.4733	n/a	16.5334	3.6627	132.3718	268.5988	89.6594	210.7617	289.7491	0.3%
%RSD		0.6	4.1194	2.4	5.4772	2.1879	1.2066	7.0757	2.2532	3.5568	3.3983	6.9344	9.2776	27.3240	1.5925	1.7997	0.5590	2.2675	1.2050	0.3

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:26:25	179.1313	10208.6570	179.6793	2476.1892	129.5656	15764.1490	27638.7430	106.7%	106.3%	18839.7920	982.8272
2	09:26:39	223.9477	10509.8610	203.0627	2450.6626	190.9115	15939.4420	28235.0360	108.2%	106.6%	20033.6810	2418.6013
3	09:26:52	204.8903	10394.3920	208.6689	2550.8657	139.0970	16254.1970	28417.3510	109.1%	109.7%	19763.8150	349.2215
x		202.6564	102.234%	197.1370	106.865%	153.1913	101.356%	102.416%	108.0%	107.5%	97.330%	1250.2166
σ		22.4916	n/a	15.3764	n/a	33.0124	n/a	n/a	1.2%	1.9%	n/a	1060.2858
%RSD		11.0984	1.4653	7.7999	2.0891	21.5498	1.5533	1.4494	1.1	1.7	3.2033	84.8082

6100170-01@MH1J05 10/19/2016 09:30:25

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:30:25	101.7%	156.9926	111.2%	41216.0700	35417.9750	7385.5974	79.4155	47739.7010	5702.0290	46.9320	102.7472	10.7385	42.4392	7246.0907	10197.7340	11265.1180	6457.0122	16308.1190	101.7%
2	09:30:39	102.5%	143.4568	114.9%	41776.8430	35202.8470	7350.8708	73.2706	48650.2930	5681.4802	49.5504	102.4265	-16.5825	56.3547	7102.8932	10564.5610	11795.0900	6116.0981	16825.8180	103.0%
3	09:30:53	102.3%	195.6279	114.9%	41393.4210	35769.1500	7257.5967	44.4463	49104.5600	5825.1624	30.4002	104.4215	24.2507	38.3672	7333.7097	10508.5420	11743.7160	6605.1130	17163.0760	102.2%
x		102.2%	165.3591	113.6%	41462.1120	35463.3240	7331.3550	65.7108	48498.1850	5736.2238	42.2942	103.1984	6.1356	45.7204	7227.5645	10423.6120	11601.3080	6392.7411	16765.6710	102.3%
σ		0.4%	27.0731	2.1%	286.6276	285.8624	66.1944	18.6701	695.0273	77.7053	10.3834	1.0713	20.8021	9.4319	116.5181	197.6115	292.2802	250.7628	430.6408	0.7%
%RSD		0.4	16.3723	1.9	0.6913	0.8061	0.9029	28.4126	1.4331	1.3546	24.5504	1.0381	339.0408	20.6296	1.6121	1.8958	2.5194	3.9226	2.5686	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:30:25	474.6879	14898.4390	301.4574	4232.7302	10168.8480	11237.7660	96254.0080	111.4%	110.4%	2781.9362	74526.9630
2	09:30:39	432.9409	14951.1130	319.5405	4244.7603	9936.5408	11785.2820	97604.4750	113.9%	113.9%	2788.4348	77155.1600
3	09:30:53	441.5041	14945.6790	366.9183	4450.5678	10121.2580	12108.5820	99679.6690	115.1%	115.0%	2861.5935	78836.5460
x		449.7110	14931.7430	329.3054	4309.3528	10075.5490	11710.5430	97846.0510	113.5%	113.1%	2810.6548	76839.5560
σ		22.0503	28.9704	33.8053	122.4436	122.7136	440.1924	1725.5599	1.9%	2.4%	44.2337	2172.0570
%RSD		4.9032	0.1940	10.2656	2.8413	1.2179	3.7589	1.7635	1.7	2.1	1.5738	2.8267

QJ14036-MS1@MH1J055 10/19/2016 09:34:26 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98M
1	09:34:26	99.2%	3084.1466	109.0%	35119.6700	105240.6900	45297.7330	416.1742	555026.6300	111260.1700	199.4073	644.4018	296.0040	10.0688	170782.3400	303419.3200	329249.0800	186181.7800	486951.39
2	09:34:40	99.2%	3019.5402	110.1%	34955.5180	106464.6200	45873.4670	444.2977	565053.6900	112447.5400	217.3740	692.9301	313.5867	0.7215	172615.7700	307084.3700	333614.5300	190776.6600	499454.89
3	09:34:54	100.7%	2924.8131	111.6%	35502.1590	106279.5600	45496.9770	541.5565	561792.0300	112001.8500	227.4121	630.7187	276.8341	24.3018	172587.0800	305682.2100	331203.1400	191205.3800	499307.38
x		99.7%	82.204%	110.3%	35192.4490	89.093%	88.785%	467.3428	82.525%	81.275%	214.7311	86.331%	295.4749	11.6974	171995.0600	81.538%	331355.5800	189387.9400	495237.89
σ		0.9%	n/a	1.3%	280.4938	n/a	n/a	65.7912	n/a	n/a	14.1882	n/a	18.3820	11.8742	1050.3464	n/a	2186.7134	2784.8794	7176.70
%RSD		0.9	2.6629	1.2	0.7970	0.6224	0.6418	14.0777	0.9123	0.5360	6.6074	4.9834	6.2212	101.5118	0.6107	0.6055	0.6599	1.4705	1.44

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:34:26	1113.0062	54458.8990	979.5562	12752.4820	5963.5237	65686.9640	568594.7300	111.7%	110.7%	82731.6100	74365.3010
2	09:34:40	1225.5427	54475.6830	995.9497	13031.4360	6372.4738	66025.2070	575595.1900	113.0%	113.9%	85164.3470	75146.2660
3	09:34:54	1124.8776	54809.1630	1062.6252	12937.4260	6001.6390	67757.0420	574770.3400	116.1%	114.7%	86379.1740	77830.1010
x		1154.4755	78.170%	1012.7104	73.723%	6112.5455	69.464%	86.596%	113.6%	113.1%	81.613%	75780.5560
σ		61.8316	n/a	43.9978	n/a	225.9098	n/a	n/a	2.3%	2.1%	n/a	1817.4028
%RSD		5.3558	0.3620	4.3446	1.0996	3.6958	1.6701	0.6677	2.0	1.8	2.1914	2.3982

QJ14036-DUP1@MH1J05D 10/19/2016 09:38:28

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:38:28	97.3%	165.5579	105.2%	41637.4310	36347.9860	7463.6319	98.0931	50943.3380	6071.9742	71.7894	111.3199	67.0857	-6.5902	7165.6680	11717.2530	12897.6770	7332.1716	18292.4680	99.1%
2	09:38:42	97.5%	136.4060	108.2%	41802.8670	36702.8660	7756.7640	93.5042	51653.0150	6145.5227	66.3079	106.6903	45.8020	16.4001	7133.5741	11608.0380	12981.0920	7327.6415	18641.2690	97.3%
3	09:38:56	98.2%	150.5203	111.5%	41195.1700	37235.9600	7623.4602	127.9299	50098.7450	6205.7721	63.4220	109.9515	68.9555	0.4056	7216.0887	12131.8700	12964.6950	7194.0449	18720.7080	96.5%
x		97.7%	150.8281	108.3%	41545.1560	36762.2710	7614.6187	106.5091	50898.3660	6141.0897	67.1731	109.3206	60.6144	3.4052	7171.7769	11819.0540	12947.8210	7284.6193	18551.4820	97.6%
σ		0.5%	14.5784	3.2%	314.1816	446.9572	146.7659	18.6924	778.1106	67.0090	4.2503	2.3784	12.8620	11.7850	41.5951	276.3557	44.1937	78.4724	227.8020	1.3%
%RSD		0.5	9.6656	2.9	0.7562	1.2158	1.9274	17.5500	1.5288	1.0912	6.3274	2.1756	21.2193	346.0893	0.5800	2.3382	0.3413	1.0772	1.2279	1.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:38:28	442.1144	15299.9840	299.4988	4516.4016	12383.7060	17468.5140	115920.0800	109.6%	109.2%	3446.5414	87921.7450
2	09:38:42	419.8970	15519.2860	280.1246	4483.3606	12540.7750	17308.5560	118224.3500	111.9%	112.3%	3261.7594	89726.4910
3	09:38:56	499.1830	15634.2780	308.9325	4653.1630	12435.8500	17500.6330	117041.5700	114.0%	113.4%	3279.3550	91509.7440
x		453.7315	15484.5160	296.1853	4550.9751	12453.4430	17425.9010	117062.0000	111.8%	111.6%	3329.2186	89719.3270
σ		40.8997	169.8378	14.6870	90.0261	79.9989	102.8849	1152.2708	2.2%	2.2%	101.9847	1794.0102
%RSD		9.0141	1.0968	4.9587	1.9782	0.6424	0.5904	0.9843	2.0	1.9	3.0633	1.9996

SEQ-SRD1@MH1J05L@5X 10/19/2016 09:42:29

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:42:29	97.5%	74.6892	98.6%	8544.8152	6744.0009	1274.4890	-35.7882	10639.8420	1625.3112	17.5126	20.9334	-0.0906	16.7944	1272.1294	2006.5390	2440.7662	1422.8100	3517.9137	101.3%
2	09:42:43	98.6%	73.0753	101.0%	8658.8902	6792.4332	1292.0802	-35.4476	10719.5630	1488.5713	1.0953	20.0785	8.5067	4.8361	1394.5313	2168.9355	2576.2866	1366.0233	3407.9575	100.5%
3	09:42:57	100.8%	49.0045	103.3%	8766.3501	6685.2283	1250.5505	-54.0525	9798.3831	1396.4613	14.0481	16.2788	26.7270	-14.1416	1454.5964	2054.5209	2472.5806	1311.1027	3385.7133	102.4%
x		99.0%	65.5897	101.0%	8656.6852	6740.5541	1272.3732	-41.7628	10385.9290	1503.4480	10.8853	19.0969	11.7144	2.4963	1373.7524	2076.6651	2496.5445	1366.6453	3437.1948	101.4%
σ		1.7%	14.3858	2.4%	110.7839	53.6855	20.8455	10.6446	510.3888	115.1480	8.6536	2.4777	13.6935	15.6001	92.9912	83.4322	70.8671	55.8563	70.7838	1.0%
%RSD		1.7	21.9330	2.3	1.2797	0.7965	1.6383	25.4883	4.9142	7.6589	79.4978	12.9743	116.8950	624.9321	6.7691	4.0176	2.8386	4.0871	2.0593	1.0

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:42:29	136.0337	3040.6682	44.2379	911.3061	2057.4858	2410.7427	19999.2280	106.7%	106.1%	815.7558	14831.4660
2	09:42:43	108.3000	3246.5836	81.1026	829.3983	1928.2094	2459.3955	19761.6790	109.3%	109.6%	900.6215	16219.8140
3	09:42:57	95.1285	3213.9068	91.9895	845.0543	2068.1909	2159.9389	19811.3260	111.0%	111.6%	804.8029	16130.3360
x		113.1541	3167.0529	72.4433	861.9196	2017.9620	2343.3591	19857.4110	109.0%	109.1%	840.3934	15727.2050
σ		20.8802	110.6651	25.0258	43.4805	77.9121	160.6984	125.3009	2.2%	2.8%	52.4457	777.0220
%RSD		18.4529	3.4943	34.5454	5.0446	3.8609	6.8576	0.6310	2.0	2.6	6.2406	4.9406

6100170-02@MH1J06 10/19/2016 09:46:30

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:46:30	98.4%	122.9153	106.5%	10737.6040	25799.8130	4673.5456	52.5330	34573.2190	3690.5046	58.7902	91.8887	29.9475	24.9071	4907.2647	8055.8692	9320.4466	4904.2853	13206.3610	98.3%
2	09:46:44	98.2%	150.7916	109.0%	11089.1960	25321.0740	4608.9506	44.0700	33728.4630	4004.9734	67.3586	87.4190	38.3236	-1.9445	4922.8644	8331.2167	9321.3969	5427.5860	13511.6400	100.6%
3	09:46:58	98.8%	140.6886	109.8%	11126.1740	24914.5390	4558.2997	90.5092	34751.6400	3742.7321	63.7551	100.1938	25.7203	7.3574	5080.7304	8453.9510	9756.1186	5244.3260	13723.4300	101.0%
x		98.5%	138.1318	108.4%	10984.3250	25345.1420	4613.5987	62.3707	34351.1070	3812.7367	63.3013	93.1672	31.3304	10.1067	4970.2865	8280.3457	9465.9874	5192.0658	13480.4770	100.0%
σ		0.3%	14.1129	1.7%	214.4649	443.1275	57.7634	24.7333	546.5555	168.5175	4.3022	6.4826	6.4144	13.6353	95.9647	203.8583	251.2615	265.5358	259.9394	1.5%
%RSD		0.3	10.2170	1.6	1.9525	1.7484	1.2520	39.6553	1.5911	4.4199	6.7963	6.9581	20.4735	134.9133	1.9308	2.4620	2.6544	5.1143	1.9283	1.5

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:46:30	143.8069	22507.4900	105.4525	1169.4010	1213.0922	68996.7170	145152.4400	106.3%	106.5%	3526.4296	42225.9210
2	09:46:44	118.5860	22570.4820	56.7106	1037.4093	1217.2292	68792.8510	147681.1700	110.0%	109.8%	3784.1139	43514.9860
3	09:46:58	179.4314	23437.7090	89.1723	1076.6573	1403.3957	70720.8290	147399.6200	111.6%	112.0%	3649.3166	41598.7560
x		147.2748	22838.5600	83.7785	1094.4892	1277.9057	69503.4650	146744.4100	109.3%	109.4%	3653.2867	42446.5540
σ		30.5706	519.8330	24.8146	67.7786	108.6972	1059.1841	1385.8540	2.7%	2.7%	128.8880	976.9818
%RSD		20.7575	2.2761	29.6193	6.1927	8.5059	1.5239	0.9444	2.5	2.5	3.5280	2.3017

6100170-03@MH1J07 10/19/2016 09:50:31

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:50:31	98.0%	140.8970	107.1%	46042.6120	40185.8180	8056.5468	90.8052	39911.6000	6599.0547	51.0703	72.3803	8.6725	38.7389	6624.9242	9251.4108	10607.2080	5961.3805	15483.9660	100.1%
2	09:50:45	101.1%	185.4940	108.4%	47674.6370	40750.4190	8286.5102	66.6103	39585.6990	6839.1319	40.9485	74.3516	38.5197	18.2855	6273.0113	9873.7445	11164.3060	6279.0453	16092.6550	100.4%
3	09:50:59	100.0%	139.9515	110.4%	47076.2200	41551.3500	8470.2952	68.0454	40440.0920	6689.2723	38.2673	99.3029	-3.0746	37.6614	6309.6153	9902.7245	11187.7820	6354.5459	15739.7250	98.8%
x		99.7%	155.4475	108.6%	46931.1560	40829.1960	8271.1174	75.1536	39979.1300	6709.1529	43.4287	82.0116	14.7058	31.5619	6402.5169	9675.9599	10986.4320	6198.3239	15772.1150	99.7%
σ		1.6%	26.0253	1.6%	825.6267	686.1660	207.3032	13.5737	431.1809	121.2670	6.7523	15.0071	21.4435	11.5104	193.4779	367.9557	328.6275	208.6426	305.6342	0.8%
%RSD		1.6	16.7422	1.5	1.7592	1.6806	2.5064	18.0612	1.0785	1.8075	15.5479	18.2988	145.8161	36.4692	3.0219	3.8028	2.9912	3.3661	1.9378	0.8

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:50:31	282.2368	8654.0245	170.0904	2359.4558	3094.0626	9196.3081	82014.6950	107.1%	107.1%	2778.0318	54597.3060
2	09:50:45	255.8646	9135.8373	163.3419	2340.3297	3047.8905	9160.3622	82468.2300	110.4%	109.3%	2467.2868	56687.7100
3	09:50:59	216.6126	9109.5746	160.3925	2301.1957	2944.3023	9378.8362	82144.4570	112.3%	111.5%	2817.7021	57195.0750
x		251.5714	8966.4788	164.6083	2333.6604	3028.7518	9245.1688	82209.1270	109.9%	109.3%	2687.6736	56160.0300
σ		33.0221	270.9118	4.9714	29.6972	76.6926	117.1463	233.5815	2.7%	2.2%	191.8885	1376.9296
%RSD		13.1263	3.0214	3.0202	1.2726	2.5322	1.2671	0.2841	2.4	2.0	7.1396	2.4518

6100170-04@MH1J08 10/19/2016 09:54:32

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:54:32	103.6%	65.6334	108.1%	26562.9070	19909.3590	3692.6196	35.9413	27355.0570	3926.6104	46.2479	88.2712	53.2202	-18.2334	3584.5538	5650.1270	6558.0897	3578.5065	9286.7200	103.2%
2	09:54:46	103.8%	86.0220	109.8%	26626.1840	20232.5360	3849.5212	47.3844	28053.9480	4065.9934	30.2147	85.3977	18.4203	40.6093	±11965.4450	5764.1462	6385.4577	3690.4938	9191.3816	102.8%
3	09:55:00	102.5%	118.5008	110.7%	26402.2790	20016.4790	3595.4598	31.7388	28252.8020	3913.6586	32.9949	69.2354	56.9867	-25.7389	3751.2998	6017.8546	6879.3473	3650.6642	9661.5151	104.1%
x		103.3%	90.0521	109.5%	26530.4570	20052.7910	3712.5335	38.3548	27887.2690	3968.7542	36.4858	80.9681	42.8757	-1.1210	±6433.7661	5810.7093	6607.6316	3639.8881	9379.8723	103.3%
σ		0.7%	26.6631	1.3%	115.4257	164.6202	128.1960	8.0972	471.5112	84.4603	8.5677	10.2619	21.2626	36.3338	±4791.2997	188.2338	250.6442	56.7660	248.5244	0.7%
%RSD		0.7	29.6085	1.2	0.4351	0.8209	3.4531	21.1114	1.6908	2.1281	23.4823	12.6740	49.5913	3241.2123	±74.4712	3.2394	3.7933	1.5596	2.6496	0.7

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:54:32	124.6879	6974.1393	88.3929	673.9036	1128.6639	21955.5620	83121.8740	107.9%	108.0%	2447.9896	26374.8950
2	09:54:46	122.6097	7368.4608	50.1392	715.0412	1240.7820	22126.5650	84471.8950	111.2%	110.4%	2430.8815	26247.6270
3	09:55:00	125.9044	7400.9845	49.5126	700.0076	1116.8648	22817.6260	84581.8710	113.0%	112.5%	2290.0773	27048.8220
x		124.4007	7247.8615	62.6816	696.3175	1162.1036	22299.9180	84058.5470	110.7%	110.3%	2389.6494	26557.1140
σ		1.6660	237.6075	22.2688	20.8156	68.3925	456.4282	813.0442	2.6%	2.2%	86.6553	430.5595
%RSD		1.3393	3.2783	35.5269	2.9894	5.8852	2.0468	0.9672	2.3	2.0	3.6263	1.6213

6100170-05@MH1J09 10/19/2016 09:58:33

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	09:58:33	104.8%	205.9370	112.3%	31992.9500	33793.5270	9031.8713	69.0733	67447.5710	9278.6113	72.2963	96.8993	72.3675	11.2446	4663.7544	6420.1691	7679.3076	4021.5543	10604.8820	107.4%
2	09:58:47	105.0%	243.5699	115.6%	32414.0150	34065.2070	9215.1465	121.0687	68251.6270	9642.4418	76.6588	101.7648	58.7130	7.3485	4784.8465	6489.5079	7491.8534	4167.5120	10389.0340	105.6%
3	09:59:00	105.1%	210.1304	118.2%	32724.4470	34671.7490	9330.3470	72.6012	67984.5560	9859.0934	83.9911	98.8320	32.7157	28.2482	4704.6524	6727.2152	7742.5208	4094.8491	10965.3790	104.4%
x		105.0%	219.8791	115.4%	32377.1370	34176.8280	9192.4549	87.5811	67894.5850	9593.3822	77.6487	99.1653	54.5987	15.6137	4717.7511	6545.6307	7637.8939	4094.6385	10653.0980	105.8%
σ		0.1%	20.6237	3.0%	367.1406	449.6256	150.5261	29.0548	409.5094	293.3342	5.9099	2.4498	20.1435	11.1138	61.5995	161.0331	130.3643	72.9791	291.1822	1.5%
%RSD		0.1	9.3796	2.6	1.1340	1.3156	1.6375	33.1747	0.6032	3.0577	7.6111	2.4704	36.8938	71.1795	1.3057	2.4602	1.7068	1.7823	2.7333	1.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	09:58:33	303.1862	14367.5770	172.6809	2424.0066	11571.8990	35290.5210	370590.8200	113.9%	111.9%	2790.3937	136955.0000
2	09:58:47	300.0698	14474.8160	212.0809	2365.5524	11521.4310	36474.7340	378103.4300	115.8%	116.2%	2742.1928	136004.5500
3	09:59:00	241.1348	14549.3250	168.2195	2387.7888	11723.3820	36894.5540	382722.7800	118.1%	117.2%	2749.3919	139083.6000
x		281.4636	14463.9060	184.3271	2392.4492	11605.5710	36219.9360	377139.0100	115.9%	115.1%	2760.6595	137347.7200
σ		34.9605	91.3639	24.1388	29.5045	105.1018	831.8185	6123.2076	2.1%	2.8%	26.0009	1576.6401
%RSD		12.4210	0.6317	13.0956	1.2332	0.9056	2.2966	1.6236	1.8	2.4	0.9418	1.1479

6100170-06@MH1J10 10/19/2016 10:02:34

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:02:34	106.0%	68.1690	109.1%	34326.3520	26622.7900	4031.4919	71.1166	22062.7120	4217.1234	10.7878	37.9490	4.7252	21.5743	3309.7371	5124.6157	6344.4218	3171.9862	8267.0987	102.5%
2	10:02:48	103.7%	108.5420	111.7%	34517.7460	26625.3490	4066.9121	63.7135	22539.8680	4219.4054	20.4213	49.5567	-13.6886	36.8832	3473.9807	5199.6452	6395.4965	3237.9696	8583.9557	103.0%
3	10:03:02	105.1%	125.5577	112.5%	34260.8050	26748.9710	4060.1236	7.6870	22775.6350	4260.9596	23.9742	48.0898	4.4072	48.8553	3654.8449	5423.7918	6410.3829	3087.7072	8779.5998	101.8%
x		105.3%	100.7562	111.1%	34368.3010	26665.7030	4052.8425	47.5724	22459.4050	4232.4961	18.3944	45.1985	-1.5187	35.7710	3479.5209	5249.3509	6383.4337	3165.8877	8543.5514	102.4%
σ		1.4%	29.4760	1.8%	133.5081	72.1230	18.7991	34.5673	363.2086	24.6765	6.8229	6.3209	10.5407	13.6745	172.6206	155.6585	34.5955	75.3166	258.6286	0.6%
%RSD		1.3	29.2547	1.6	0.3885	0.2705	0.4639	72.6625	1.6172	0.5830	37.0922	13.9848	694.0464	38.2278	4.9610	2.9653	0.5420	2.3790	3.0272	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:02:34	85.3057	5936.8996	26.3092	351.4524	2120.8352	11901.6260	48812.5300	109.6%	108.8%	1636.0932	34192.0950
2	10:02:48	69.8801	5980.1347	43.7301	422.4626	1925.5122	12089.1240	48926.6180	111.4%	109.9%	1738.8226	37008.3340
3	10:03:02	48.1166	5987.7237	40.5037	357.5345	2027.8331	12224.7530	49235.8320	111.8%	112.5%	1732.3147	35999.1020
x		67.7674	5968.2527	36.8477	377.1498	2024.7268	12071.8340	48991.6600	110.9%	110.4%	1702.4102	35733.1770
σ		18.6844	27.4164	9.2681	39.3597	97.6985	162.2559	219.0184	1.1%	1.9%	57.5243	1426.8276
%RSD		27.5713	0.4594	25.1524	10.4361	4.8253	1.3441	0.4471	1.0	1.7	3.3790	3.9930

6100170-07@MH1J11 10/19/2016 10:06:36

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:06:36	103.7%	147.2221	111.8%	42931.0790	30816.4860	7299.3975	95.9883	34518.9430	5358.5644	52.6129	87.0238	72.3848	-34.5738	5016.2743	7577.7845	8547.7369	4675.6033	12192.9710	103.3%
2	10:06:49	103.1%	121.7429	113.4%	42978.7380	30703.2900	7401.5662	84.6751	35176.2850	5681.4888	45.9943	65.2631	85.3719	-38.1455	5037.4600	7728.1975	8635.8720	4941.1874	11981.6320	103.7%
3	10:07:03	105.7%	130.8332	115.8%	43609.3850	30124.4600	7165.4153	125.9644	34963.1730	5681.1499	38.7572	61.7317	30.5979	16.6678	4877.0666	7510.1729	8698.9347	4943.3731	12559.4420	105.7%
x		104.2%	133.2661	113.6%	43173.0670	30548.0780	7288.7930	102.2093	34886.1330	5573.7344	45.7681	71.3395	62.7849	-18.6839	4976.9336	7605.3850	8627.5145	4853.3879	12244.6810	104.3%
σ		1.3%	12.9126	2.0%	378.6133	371.2048	118.4321	21.3360	335.3743	186.3427	6.9301	13.6972	28.6211	30.6675	87.1337	111.6020	75.9446	153.9699	292.3554	1.3%
%RSD		1.3	9.6894	1.8	0.8770	1.2151	1.6249	20.8749	0.9613	3.3432	15.1352	19.2001	45.5859	164.1389	1.7508	1.4674	0.8803	3.1724	2.3876	1.2

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:06:36	507.8714	17787.9240	396.5857	4996.1598	64033.3860	15504.3940	120156.9200	109.7%	109.6%	2236.5123	57889.1640
2	10:06:49	490.8447	17777.0620	333.0415	5680.8538	65537.1690	16033.2830	122276.3400	112.2%	112.3%	2183.9853	60617.9680
3	10:07:03	577.1525	17664.1640	345.0594	5452.7927	66653.0890	16641.1440	123212.2800	113.6%	114.4%	2248.9735	59431.8090
x		525.2896	17743.0500	358.2289	5376.6021	65407.8820	16059.6070	121881.8500	111.9%	112.1%	2223.1570	59312.9800
σ		45.7144	68.5326	33.7571	348.6477	1314.6283	568.8319	1565.4190	2.0%	2.4%	34.4912	1368.2773
%RSD		8.7027	0.3863	9.4233	6.4845	2.0099	3.5420	1.2844	1.8	2.2	1.5514	2.3069

6100170-08@MH1J12 10/19/2016 10:10:37

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:10:37	107.1%	457.9465	112.4%	10646.0480	16643.3500	6030.5500	70.7659	57030.8730	6345.1195	89.3448	72.3735	9.1537	57.9720	3331.5952	4831.3516	5696.3851	2933.6075	8046.3521	105.6%
2	10:10:50	108.6%	415.5899	112.6%	10916.8300	16936.6250	5884.3772	34.5741	57321.3880	6572.0555	98.7614	66.0172	21.0226	16.8387	3485.7170	4965.0721	5651.0177	3252.2805	8188.7479	105.6%
3	10:11:04	107.8%	406.1120	115.3%	10910.8480	16877.0400	6089.8977	53.7360	58332.9950	6858.4938	80.4806	75.0945	-16.7316	81.6887	3502.0535	5133.3038	5843.4800	3064.3974	8268.3691	104.8%
x		107.8%	426.5495	113.4%	10824.5750	16819.0050	6001.6083	53.0254	57561.7520	6591.8896	89.5289	71.1617	4.4815	52.1665	3439.7886	4976.5759	5730.2943	3083.4285	8167.8230	105.3%
σ		0.7%	27.6005	1.6%	154.6382	155.0118	105.7728	18.1064	683.5288	257.2612	9.1418	4.6584	19.3059	32.8125	94.0536	151.3044	100.6121	160.1867	112.4779	0.5%
%RSD		0.7	6.4706	1.4	1.4286	0.9216	1.7624	34.1467	1.1875	3.9027	10.2110	6.5462	430.7859	62.8996	2.7343	3.0403	1.7558	5.1951	1.3771	0.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:10:37	398.9474	11940.2130	182.7760	2754.5574	757.5113	5628.9086	118580.2700	115.7%	115.0%	3029.8455	17665.7550
2	10:10:50	400.9708	12196.8760	197.5274	2528.1239	847.7408	6012.9490	120441.1200	118.5%	118.1%	2857.1212	17436.5910
3	10:11:04	418.3447	12437.5460	150.9789	2690.0155	788.7916	5878.7561	120042.7400	121.0%	119.5%	3083.8369	18542.5760
x		406.0876	12191.5450	177.0941	2657.5656	798.0146	5840.2045	119688.0400	118.4%	117.6%	2990.2679	17881.6400
σ		10.6631	248.7092	23.7887	116.6524	45.8164	194.9011	979.8223	2.6%	2.3%	118.4263	583.7430
%RSD		2.6258	2.0400	13.4328	4.3894	5.7413	3.3372	0.8186	2.2	2.0	3.9604	3.2645

6100170-09@MH1J13 10/19/2016 10:14:38

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:14:38	107.6%	574.7456	112.7%	52449.7510	24328.7000	10067.4960	129.0598	193473.2400	17858.1010	103.4278	100.0888	17.1371	48.6491	5060.2368	6245.2148	7303.3894	3861.2510	9972.1658	107.3%
2	10:14:52	107.8%	530.3856	113.4%	53942.2110	24182.8380	9802.8003	125.8771	196255.8300	17939.1550	124.7249	78.0269	51.3453	35.5988	5034.7259	6714.2013	7306.0759	4136.7477	9939.4782	107.7%
3	10:15:06	108.4%	623.1268	115.3%	53330.9750	24710.9110	10217.2610	61.0212	196150.4100	18058.2380	141.6005	101.8038	26.0161	59.1824	5237.9965	6567.8604	7276.9958	4028.8797	10686.5660	106.6%
x		107.9%	576.0860	113.8%	53240.9790	24407.4830	10029.1860	105.3194	195293.1600	17951.8310	123.2511	93.3065	31.4995	47.8101	5110.9864	6509.0922	7295.4871	4008.9595	10199.4030	107.2%
σ		0.4%	46.3852	1.3%	750.2888	272.7092	209.8696	38.3963	1576.9773	100.6688	19.1290	13.2603	17.7511	11.8141	110.7311	239.9528	16.0701	138.8245	422.2116	0.5%
%RSD		0.4	8.0518	1.1	1.4092	1.1173	2.0926	36.4571	0.8075	0.5608	15.5203	14.2115	56.3536	24.7106	2.1665	3.6864	0.2203	3.4629	4.1396	0.5

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:14:38	2170.4464	13267.7840	1401.2732	21364.2260	2447.7566	6901.4216	265500.5400	119.2%	117.9%	5197.3742	35290.7720
2	10:14:52	2048.5445	13378.4000	1549.1103	22019.9740	2531.3639	7022.0007	266826.7600	123.4%	120.1%	5481.9012	37050.5320
3	10:15:06	2257.7911	13708.8210	1586.4716	22113.1900	2651.7975	7378.0381	266711.6900	124.0%	121.6%	5483.5871	39790.9130
x		2158.9273	13451.6680	1512.2850	21832.4630	2543.6394	7100.4868	266346.3300	122.2%	119.9%	5387.6208	37377.4060
σ		105.0979	229.4660	97.9372	408.1754	102.5728	247.8122	734.7296	2.6%	1.8%	164.7606	2267.8076
%RSD		4.8681	1.7059	6.4761	1.8696	4.0325	3.4901	0.2759	2.1	1.5	3.0581	6.0673

6100170-10@MH1J14 10/19/2016 10:18:40

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:18:40	109.7%	116.5739	118.7%	46331.7590	30366.5460	5995.0725	31.5800	34316.5690	5011.0024	51.1429	59.3456	6.3945	41.1373	5287.7229	8094.2130	9436.2079	5010.0263	12968.2580	106.2%
2	10:18:53	107.7%	79.8167	119.1%	46901.6390	30090.1600	5822.4393	82.5777	35279.3680	5000.0455	50.9381	70.5505	6.8002	37.3235	5228.3866	7785.9446	9368.1270	5241.5014	13258.0210	106.6%
3	10:19:07	109.9%	115.7136	119.6%	46977.7750	30192.3230	5855.7054	93.8295	34447.8770	5254.1881	44.9983	77.3774	-59.1791	85.7180	5551.2736	8429.7664	9410.8566	5222.1199	13521.0870	105.9%
x		109.1%	104.0347	119.2%	46737.0580	30216.3430	5891.0724	69.3291	34681.2710	5088.4120	49.0264	69.0912	-15.3281	54.7263	5355.7944	8103.3080	9405.0638	5157.8825	13249.1220	106.2%
σ		1.2%	20.9778	0.5%	353.0569	139.7500	91.5897	33.1722	522.1109	143.6708	3.4899	9.1040	37.9766	26.9073	171.8700	322.0072	34.4081	128.4134	276.5216	0.4%
%RSD		1.1	20.1642	0.4	0.7554	0.4625	1.5547	47.8475	1.5055	2.8235	7.1185	13.1769	247.7574	49.1670	3.2090	3.9738	0.3658	2.4897	2.0871	0.3

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:18:40	587.6297	17660.9490	360.5890	5611.2497	8555.0572	9468.0455	68188.4700	112.5%	111.7%	2421.4608	57225.5740
2	10:18:53	555.0083	17741.6320	360.9795	5797.2092	8754.1256	9840.4382	67915.8710	115.2%	115.0%	2495.2704	57048.3100
3	10:19:07	590.9241	18049.4470	323.4880	5590.4290	8479.8458	10249.3390	70048.7810	116.9%	116.3%	2431.8001	57012.1930
x		577.8540	17817.3430	348.3522	5666.2960	8596.3429	9852.6076	68717.7080	114.9%	114.3%	2449.5104	57095.3590
σ		19.8535	205.0163	21.5339	113.8512	141.7242	390.7889	1160.7734	2.2%	2.4%	39.9651	114.2064
%RSD		3.4357	1.1507	6.1816	2.0093	1.6487	3.9663	1.6892	1.9	2.1	1.6316	0.2000

6100170-11@MH1J15 10/19/2016 10:22:45

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:22:59	107.4%	124.7708	116.1%	44773.5000	32373.2000	6257.7813	42.2224	41509.3270	4773.6594	54.9472	108.8460	67.7177	5.1307	7441.1481	11907.6110	13544.3240	7310.5632	19373.5380	105.0%
2	10:23:13	108.2%	126.5438	117.2%	44674.7870	32859.6550	6255.4363	87.5537	40882.8150	4844.4718	39.5722	90.9945	-28.3157	64.7491	7460.3674	11935.7120	13468.9430	7344.3540	19425.8860	103.7%
3	10:23:27	108.5%	131.4630	117.9%	44850.6340	32454.4340	6178.4938	92.4904	41814.6830	4689.7034	35.7248	93.5770	58.6850	13.9949	7646.3403	12327.7410	13663.3870	7244.4854	19376.3490	105.4%
x		108.0%	127.5925	117.1%	44766.3070	32562.4300	6230.5705	74.0888	41402.2750	4769.2782	43.4147	97.8058	32.6957	27.9582	7515.9520	12057.0210	13558.8840	7299.8009	19391.9240	104.7%
σ		0.6%	3.4672	0.9%	88.1442	260.5898	45.1150	27.7073	475.0682	77.4772	10.1709	9.6479	53.0301	32.1687	113.3278	234.8703	98.0365	50.7967	29.4450	0.9%
%RSD		0.5	2.7174	0.8	0.1969	0.8003	0.7241	37.3974	1.1474	1.6245	23.4274	9.8643	162.1931	115.0597	1.5078	1.9480	0.7230	0.6959	0.1518	0.9

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:22:59	385.1128	14350.5740	285.0610	3989.2358	9618.9605	18356.8300	85520.8480	114.7%	114.1%	2468.3420	111379.3900
2	10:23:13	376.1526	14702.6900	318.5065	4134.4980	9641.1271	18489.0680	85854.4190	116.5%	116.6%	2431.6211	115252.9300
3	10:23:27	372.9752	14172.2580	299.3491	3856.7542	9475.5479	18356.7220	86846.9760	117.4%	116.8%	2546.3926	114737.7400
x		378.0802	14408.5070	300.9722	3993.4960	9578.5452	18400.8730	86074.0810	116.2%	115.8%	2488.7852	113790.0200
σ		6.2942	269.9197	16.7817	138.9209	89.8842	76.3790	689.8132	1.4%	1.5%	57.3870	2103.4999
%RSD		1.6648	1.8733	5.5758	3.4787	0.9384	0.4151	0.8014	1.2	1.3	2.3058	1.8486

6100170-12@MH1J16 10/19/2016 10:27:04

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:27:18	105.8%	388.4619	131.1%	60214.2900	31269.1990	6834.7876	99.3499	110627.7900	6581.0713	89.1930	118.4722	71.5140	13.5155	6968.9522	11189.1230	12473.6880	6867.6225	17778.8950	105.7%
2	10:27:32	108.8%	479.2342	133.4%	60471.9660	31543.4570	7027.2604	98.1969	110955.9000	6559.3846	35.9698	122.8811	33.6645	59.5324	6692.5084	11237.5510	12413.3400	7080.2630	18044.4770	104.7%
3	10:27:45	108.8%	448.4254	132.9%	60485.4610	31778.1860	6925.3302	111.1657	111912.7700	6940.6076	48.7369	103.8658	20.4748	40.5642	6937.0031	10909.2130	12375.2540	7005.2734	17970.0620	104.7%
x		107.8%	438.7072	132.5%	60390.5720	31530.2810	6929.1261	102.9042	111165.4900	6693.6878	57.9666	115.0730	41.8845	37.8707	6866.1546	11111.9620	12420.7610	6984.3863	17931.1440	105.0%
σ		1.7%	46.1599	1.2%	152.8137	254.7496	96.2925	7.1779	667.6383	214.1135	27.7861	9.9529	26.4939	23.1264	151.2281	177.2478	49.6345	107.8481	137.0014	0.6%
%RSD		1.6	10.5218	0.9	0.2530	0.8080	1.3897	6.9753	0.6006	3.1987	47.9347	8.6492	63.2547	61.0666	2.2025	1.5951	0.3996	1.5441	0.7640	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:27:18	258.7891	7915.2101	116.0941	1386.8962	952.6253	4215.5048	97683.2610	116.0%	115.8%	2355.2985	49108.8590
2	10:27:32	203.3773	7892.5907	124.2944	1373.2338	1019.4135	4377.4980	99447.6920	118.8%	118.2%	2349.8439	46752.1270
3	10:27:45	214.9399	7932.3072	112.9486	1194.4300	1043.5693	4330.1737	99059.1950	120.3%	119.4%	2503.5231	48619.8680
x		225.7021	7913.3693	117.7790	1318.1867	1005.2027	4307.7255	98730.0490	118.4%	117.8%	2402.8885	48160.2850
σ		29.2316	19.9221	5.8576	107.3939	47.1080	83.2970	927.1227	2.2%	1.8%	87.1948	1243.7683
%RSD		12.9514	0.2518	4.9734	8.1471	4.6864	1.9337	0.9390	1.9	1.6	3.6287	2.5826

6100170-13@MH1J17 10/19/2016 10:31:23

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:31:37	109.2%	218.5418	121.4%	78744.2970	35633.1560	8542.2754	93.8653	62154.5680	6443.9867	76.3731	103.4607	21.9310	41.4050	6870.7352	12272.1690	13097.4480	7226.7991	19149.3490	106.0%
2	10:31:51	110.3%	265.6302	122.5%	79608.6200	36851.6320	8905.9697	88.0249	61977.6290	6559.9814	71.3129	88.3124	29.3960	28.4609	7188.7074	12093.6270	13259.2090	7281.5065	19565.8160	104.3%
3	10:32:05	109.7%	245.5518	124.4%	78826.2940	36323.7070	8703.3751	81.6142	62503.6180	6279.8149	105.5841	120.2762	-4.1579	52.4543	7103.1293	12007.3050	13412.9070	7062.9249	19258.3960	105.1%
x		109.7%	243.2412	122.7%	79059.7370	36269.4990	8717.2067	87.8348	62211.9380	6427.9277	84.4234	104.0164	15.7230	40.7734	7054.1906	12124.3670	13256.5210	7190.4101	19324.5200	105.1%
σ		0.5%	23.6291	1.5%	477.1113	611.0444	182.2412	6.1278	267.6462	140.7719	18.4996	15.9891	17.6173	12.0092	164.5382	135.0809	157.7464	113.7436	215.9640	0.9%
%RSD		0.5	9.7143	1.2	0.6035	1.6847	2.0906	6.9765	0.4302	2.1900	21.9128	15.3717	112.0479	29.4535	2.3325	1.1141	1.1900	1.5819	1.1176	0.8

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:31:37	226.1157	11570.7540	123.9337	1637.3556	2370.9813	8421.3119	118386.9700	114.2%	113.6%	2316.8701	56833.6360
2	10:31:51	176.3212	12289.2210	107.9592	1652.6835	2312.6447	8525.9090	119034.4200	116.6%	116.1%	2549.8589	53555.2120
3	10:32:05	251.9509	11608.3040	109.0517	1801.1654	2442.4097	8437.7193	118680.4500	118.4%	117.1%	2400.9696	55145.2060
x		218.1293	11822.7590	113.6482	1697.0681	2375.3453	8461.6467	118700.6100	116.4%	115.6%	2422.5662	55178.0180
σ		38.4421	404.4034	8.9242	90.4760	64.9925	56.2541	324.1962	2.1%	1.8%	117.9862	1639.4585
%RSD		17.6236	3.4205	7.8525	5.3313	2.7361	0.6648	0.2731	1.8	1.5	4.8703	2.9712

6100170-14@MH1J18 10/19/2016 10:35:17

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:35:31	109.7%	228.6728	114.3%	7860.5718	12397.0500	3583.4899	79.4046	24828.4120	3583.2662	63.7875	79.3442	52.6897	6.8000	2125.0271	2662.3805	3270.7108	1706.3760	4307.0638	106.0%
2	10:35:45	110.3%	204.8783	116.3%	8098.0229	12534.1030	3682.6253	60.2854	25336.7840	3425.1038	63.9020	85.7945	-2.9864	63.7292	2020.7326	2716.9334	3193.6663	1579.5935	4385.8503	105.9%
3	10:35:59	110.4%	223.9721	116.8%	8057.4216	12399.2470	3709.0170	32.5129	25035.0770	3694.6698	38.0451	73.9306	7.8890	32.5686	±8547.7381	2748.8570	3150.3600	1847.5263	4591.2240	107.6%
x		110.2%	219.1744	115.8%	8005.3387	12443.4670	3658.3774	57.4010	25066.7580	3567.6799	55.2449	79.6898	19.1974	34.3660	±4231.1660	2709.3903	3204.9124	1711.1653	4428.0460	106.5%
σ		0.4%	12.6019	1.3%	127.0048	78.5015	66.1834	23.5785	255.6624	135.4572	14.8955	5.9395	29.5104	28.5071	±3738.6248	43.7289	60.9584	134.0306	146.7041	1.0%
%RSD		0.3	5.7497	1.1	1.5865	0.6309	1.8091	41.0769	1.0199	3.7968	26.9628	7.4532	153.7209	82.9517	±88.3592	1.6140	1.9020	7.8327	3.3131	0.9

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:35:31	288.1131	16219.1530	126.4414	1885.6476	4313.8723	17668.1640	164065.1400	115.5%	114.8%	3458.3835	63957.1400
2	10:35:45	205.7742	16006.3420	133.3595	1878.4255	4224.9082	18053.0350	164544.9000	116.7%	115.1%	3378.9613	64890.1420
3	10:35:59	225.7770	15920.2220	143.4910	1903.5655	4415.5240	18293.4880	162326.9400	118.2%	116.7%	3395.3936	65565.5670
x		239.8881	16048.5720	134.4306	1889.2129	4318.1015	18004.8960	163645.6600	116.8%	115.5%	3410.9128	64804.2830
σ		42.9449	153.8748	8.5751	12.9437	95.3783	315.4291	1166.9658	1.3%	1.0%	41.9238	807.6439
%RSD		17.9020	0.9588	6.3789	0.6851	2.2088	1.7519	0.7131	1.1	0.9	1.2291	1.2463

6100170-15@MH1J19 10/19/2016 10:39:36

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:39:50	108.9%	83.5388	113.3%	9276.4986	20639.6300	4857.1624	22.6184	17603.9070	2463.4475	39.6565	122.3360	-12.6535	58.7147	2704.6844	4342.1422	5099.8144	2744.0443	7154.4847	103.5%
2	10:40:04	109.6%	76.8489	114.6%	8676.9810	20681.7980	4884.8571	64.7693	17315.0850	2380.1195	69.0574	107.9707	104.4697	-37.3532	2816.4971	4258.0162	4997.0184	2641.8390	7099.1696	102.9%
3	10:40:17	109.9%	55.6446	116.6%	8786.9578	20387.8290	4895.0258	104.5877	17349.7700	2293.5591	39.4748	131.3901	51.1453	9.7502	2913.5440	4549.1853	5230.5557	2854.9455	7271.5631	103.9%
x		109.5%	72.0108	114.9%	8913.4792	20569.7520	4879.0151	63.9918	17422.9210	2379.0420	49.3962	120.5656	47.6538	10.3706	2811.5752	4383.1146	5109.1295	2746.9429	7175.0724	103.4%
σ		0.5%	14.5629	1.7%	319.1568	158.9551	19.5961	40.9901	157.6953	84.9493	17.0273	11.8097	58.6396	48.0370	104.5167	149.8463	117.0470	106.5828	88.0214	0.5%
%RSD		0.4	20.2232	1.5	3.5806	0.7728	0.4016	64.0553	0.9051	3.5707	34.4709	9.7952	123.0533	463.2045	3.7174	3.4187	2.2909	3.8801	1.2268	0.5

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:39:50	290.5519	81844.3940	197.4137	2761.1894	8267.8546	56073.1810	264016.5600	111.8%	111.3%	4205.1276	264987.1800
2	10:40:04	308.9612	82835.4470	206.5534	2898.0012	8199.4105	56518.4800	263628.4700	113.4%	112.6%	4128.1464	267617.0800
3	10:40:17	309.1874	80598.1280	190.7233	2921.9807	8386.6829	55669.6850	267039.3900	113.1%	113.9%	4532.2478	266449.7700
x		302.9002	81759.3230	198.2302	2860.3905	8284.6493	56087.1150	264894.8100	112.8%	112.6%	4288.5073	266351.3400
σ		10.6945	1121.0830	7.9466	86.7432	94.7591	424.5687	1867.3710	0.9%	1.3%	214.5661	1317.7110
%RSD		3.5307	1.3712	4.0088	3.0326	1.1438	0.7570	0.7049	0.8	1.2	5.0033	0.4947

6100170-16@MH1J20 10/19/2016 10:43:56

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:44:09	109.5%	219.8301	112.8%	7469.4917	10691.4320	3148.4835	24.2443	32466.1060	5390.5077	72.4589	94.0179	53.4506	5.3463	1750.3301	2307.4036	2801.4531	1409.4460	3807.1837	107.1%
2	10:44:23	110.0%	249.5260	115.5%	7487.4634	10653.6970	3100.4997	31.8288	32579.4000	5229.9657	69.1970	100.0127	80.8095	-32.2165	1692.0133	2221.9973	2675.5317	1439.1923	3809.4273	107.3%
3	10:44:37	111.4%	273.7061	115.0%	7889.4018	10470.3320	3020.9496	47.7470	33495.7910	5312.0087	61.6697	78.5489	-7.8613	47.7985	1786.2969	2366.6488	2672.1951	1498.1059	3774.8507	109.6%
x		110.3%	247.6874	114.4%	7615.4523	10605.1530	3089.9776	34.6067	32847.0990	5310.8274	67.7752	90.8598	42.1329	6.9761	1742.8801	2298.6832	2716.3933	1448.9147	3797.1539	108.0%
σ		1.0%	26.9850	1.4%	237.4174	118.2736	64.4148	11.9951	564.6327	80.2776	5.5333	11.0749	45.4059	40.0324	47.5813	72.7190	73.6829	45.1225	19.3477	1.3%
%RSD		0.9	10.8948	1.3	3.1176	1.1152	2.0846	34.6611	1.7190	1.5116	8.1643	12.1890	107.7682	573.8484	2.7300	3.1635	2.7125	3.1142	0.5095	1.2

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:44:09	364.6997	11417.1530	238.6935	3182.6748	2488.6032	16291.7390	132743.8300	115.0%	113.6%	3030.5402	45111.5320
2	10:44:23	408.2815	11547.1780	181.7138	3111.6348	2563.3433	15671.0120	132173.1900	117.7%	115.5%	2768.8374	44164.4630
3	10:44:37	449.8133	11768.5390	207.9970	3036.8845	2532.8295	16127.7240	134214.6900	117.5%	117.6%	2934.4966	42278.9000
x		407.5982	11577.6230	209.4681	3110.3980	2528.2587	16030.1580	133043.9000	116.7%	115.6%	2911.2914	43851.6320
σ		42.5609	177.6606	28.5184	72.9030	37.5791	321.6597	1053.3128	1.5%	2.0%	132.3856	1441.9946
%RSD		10.4419	1.5345	13.6147	2.3438	1.4864	2.0066	0.7917	1.3	1.7	4.5473	3.2883

6100170-17@MH1J21 10/19/2016 10:47:28

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:47:41	110.8%	69.6581	117.1%	4493.6924	16428.9690	3264.4239	58.0772	32815.5540	2500.2076	47.7210	125.5536	41.1050	24.5228	2279.4867	3757.8523	4356.7056	2269.4958	5816.1018	106.8%
2	10:47:55	111.6%	84.0541	116.9%	4400.3343	16628.9470	3362.3505	70.8453	32828.6080	2365.9222	61.1782	126.5856	24.2136	42.8988	2310.1683	3699.5637	4239.4790	2282.4205	6072.2039	105.2%
3	10:48:09	112.0%	85.8236	118.5%	4264.1758	16421.2660	3276.8791	50.9684	32749.5770	2475.7425	78.3370	102.8750	75.6453	14.0307	2455.7835	3627.2659	4384.4125	2169.7523	5896.0795	107.6%
x		111.5%	79.8452	117.5%	4386.0675	16493.0610	3301.2178	59.9636	32797.9130	2447.2908	62.4121	118.3380	46.9880	27.1508	2348.4795	3694.8940	4326.8657	2240.5562	5928.1284	106.5%
σ		0.6%	8.8666	0.9%	115.4215	117.7439	53.3075	10.0718	42.3659	71.5211	15.3452	13.4014	26.2157	14.6124	94.1857	65.4183	76.9366	61.6576	131.0245	1.2%
%RSD		0.5	11.1047	0.7	2.6315	0.7139	1.6148	16.7965	0.1292	2.9225	24.5870	11.3246	55.7923	53.8194	4.0105	1.7705	1.7781	2.7519	2.2102	1.2

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:47:41	476.8202	14509.3420	351.1575	4614.0106	2744.1970	37844.7700	105151.2300	114.1%	112.0%	3336.8943	91971.5570
2	10:47:55	429.2735	15119.6650	286.8403	4882.7791	2763.1460	39590.4380	105985.1500	114.9%	114.6%	3343.5850	90940.1990
3	10:48:09	453.2812	14553.1680	324.3831	4682.5988	2778.7040	39392.3800	105855.2800	115.4%	115.9%	3295.8110	89318.9550
x		453.1250	14727.3920	320.7936	4726.4628	2762.0157	38942.5290	105663.8900	114.8%	114.2%	3325.4301	90743.5700
σ		23.7738	340.4249	32.3085	139.6502	17.2813	955.8316	448.6994	0.6%	2.0%	25.8681	1337.1881
%RSD		5.2466	2.3115	10.0714	2.9546	0.6257	2.4545	0.4246	0.6	1.8	0.7779	1.4736

6100170-18@MH1J22 10/19/2016 10:51:05

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:51:05	110.0%	172.1765	117.1%	61913.2430	21473.2070	5800.7761	73.5217	25054.9150	3557.5994	54.3042	67.7466	53.2633	31.7865	3753.0378	5478.3042	6623.6499	3579.4794	8922.8553	106.1%
2	10:51:19	111.0%	196.4274	117.9%	62495.6950	21248.7050	5848.0660	95.6569	25599.7340	3627.9443	35.6528	73.3936	-9.7365	57.8946	3833.3231	5780.8701	6826.5692	3478.7363	9123.6319	105.6%
3	10:51:33	112.4%	156.6276	118.1%	63214.8180	20933.5710	5700.0318	85.0273	25794.2640	3479.6115	41.3454	75.3542	46.8477	-13.3143	3725.4205	5663.9658	6942.8372	3703.7010	9486.8462	107.1%
x		111.1%	175.0771	117.7%	62541.2520	21218.4940	5782.9580	84.7353	25482.9710	3555.0517	43.7675	72.1648	30.1248	25.4556	3770.5938	5641.0467	6797.6854	3587.3055	9177.7778	106.3%
σ		1.2%	20.0578	0.5%	651.9822	271.0831	75.6085	11.0705	383.2550	74.1992	9.5587	3.9499	34.6697	36.0241	56.0527	152.5795	161.5421	112.6864	285.8676	0.8%
%RSD		1.1	11.4566	0.5	1.0425	1.2776	1.3074	13.0648	1.5040	2.0871	21.8395	5.4734	115.0868	141.5174	1.4866	2.7048	2.3764	3.1413	3.1148	0.7

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:51:05	154.6968	38014.1580	82.0237	918.1396	10177.2860	7991.5063	107149.3800	115.6%	114.8%	2448.4103	192278.0100
2	10:51:19	164.9364	38725.0580	55.9609	985.2879	10515.3780	8165.3419	106390.6800	115.9%	117.0%	2478.7747	190426.4200
3	10:51:33	186.2899	39022.4360	75.5308	911.7707	10441.9850	8044.8357	106814.9400	116.9%	116.3%	2324.8328	197688.1300
x		168.6410	38587.2170	71.1718	938.3994	10378.2160	8067.2279	106785.0000	116.1%	116.0%	2417.3393	193464.1900
σ		16.1191	518.0796	13.5672	40.7313	177.8378	89.0549	380.2321	0.7%	1.2%	81.5389	3773.3727
%RSD		9.5582	1.3426	19.0626	4.3405	1.7136	1.1039	0.3561	0.6	1.0	3.3731	1.9504

QJ14036-PS1@MH1J05A 10/19/2016 10:54:12

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:54:12	108.3%	161.8351	118.5%	40034.8250	35322.6700	7326.8706	110.8714	46789.0660	5935.0244	168.0264	458.9968	170.3759	70.2894	17828.1320	28624.8040	31969.6680	17555.2390	46905.0470	105.7%
2	10:54:26	111.4%	119.2132	121.9%	40012.9830	35032.2520	7245.4174	130.7508	47339.6010	5873.5180	157.8728	452.7889	166.7412	53.6939	18315.4050	29053.7670	31743.2240	17984.2660	46544.3050	106.2%
3	10:54:39	110.9%	126.5453	122.7%	40716.0770	35514.3560	7407.9159	61.8531	47919.1870	6131.4353	141.1626	432.9215	262.1042	2.4751	18039.1560	29351.1070	32687.6330	18653.7220	47637.9350	106.9%
x		110.2%	135.8646	121.0%	40254.6280	35289.7590	7326.7346	101.1584	47349.2850	5979.9925	155.6873	448.2357	199.7404	42.1528	18060.8980	29009.8930	32133.5080	18064.4090	47029.0960	106.3%
σ		1.7%	22.7880	2.3%	399.7752	242.7312	81.2493	35.4609	565.1225	134.7105	13.5646	13.6209	54.0392	35.3496	244.3629	365.1337	493.0615	553.6098	557.2678	0.6%
%RSD		1.5	16.7726	1.9	0.9931	0.6878	1.1089	35.0549	1.1935	2.2527	8.7127	3.0388	27.0547	83.8605	1.3530	1.2587	1.5344	3.0646	1.1849	0.6

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:54:12	1182.2788	14500.8670	752.3819	11435.9320	10065.3940	33819.8320	97168.0340	112.4%	110.1%	2490.3004	71957.8300
2	10:54:26	1107.7581	14859.6260	692.7978	11212.7280	10120.1200	34098.6530	96475.9070	114.5%	112.8%	2629.5014	74566.8240
3	10:54:39	1120.9744	15322.4340	724.0041	12016.9520	10380.6530	34987.7420	99014.1180	115.4%	114.4%	2619.2563	76320.0540
x		1137.0038	14894.3090	723.0613	11555.2040	10188.7230	34302.0760	97552.6860	114.1%	112.4%	2579.6860	74281.5690
σ		39.7623	411.8803	29.8032	415.1665	168.4538	609.9499	1312.0961	1.6%	2.2%	77.5795	2195.0572
%RSD		3.4971	2.7654	4.1218	3.5929	1.6533	1.7782	1.3450	1.4	1.9	3.0073	2.9550

6100170-12RE1@MH1J16@2X 10/19/2016 10:57:52

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	10:57:52	110.7%	233.0878	118.0%	29634.9990	13970.1040	2969.8807	34.3907	54998.6210	3399.5185	46.8765	54.7505	27.2989	24.8468	3199.0826	5478.3677	6152.7685	3298.6520	8488.0262	108.6%
2	10:58:05	111.8%	228.7761	120.3%	30459.1860	14459.3150	3099.5729	18.5250	54692.0180	3406.2308	13.4393	45.6233	21.6975	9.4218	3314.0329	5514.3823	5976.9579	3513.6365	8610.3241	106.4%
3	10:58:19	112.0%	240.6685	122.7%	30082.4000	13915.5910	2992.3683	15.6644	53579.3440	3350.4138	43.1625	42.7673	-31.1311	55.8487	3392.8767	5505.6398	6282.7579	3411.8520	8697.1228	110.2%
x		111.5%	234.1775	120.3%	30058.8620	14115.0040	3020.6073	22.8600	54423.3280	3385.3877	34.4928	47.7137	5.9551	30.0391	3301.9974	5499.4633	6137.4948	3408.0469	8598.4911	108.4%
σ		0.7%	6.0206	2.4%	412.5971	299.4257	69.3044	10.0878	746.8149	30.4737	18.3272	6.2591	32.2394	23.6450	97.4560	18.7849	153.4711	107.5428	105.0494	1.9%
%RSD		0.6	2.5709	2.0	1.3726	2.1213	2.2944	44.1283	1.3722	0.9002	53.1334	13.1180	541.3771	78.7139	2.9514	0.3416	2.5005	3.1556	1.2217	1.7

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	10:57:52	93.4289	3533.0937	43.0087	646.0496	513.8337	2121.8240	45305.3330	109.8%	109.8%	1111.6020	19239.2890
2	10:58:05	99.1943	3841.3251	59.7224	642.0530	496.5609	2105.6888	46477.0240	111.2%	111.0%	1031.0731	18949.3000
3	10:58:19	130.1447	3810.2730	72.9902	651.6551	519.2775	1937.6096	46304.4470	112.7%	112.4%	1209.2079	20913.9330
x		107.5893	3728.2306	58.5738	646.5859	509.8907	2055.0408	46028.9340	111.2%	111.1%	1117.2943	19700.8410
σ		19.7451	169.7052	15.0237	4.8234	11.8605	102.0179	632.5703	1.4%	1.3%	89.2038	1060.5274
%RSD		18.3523	4.5519	25.6492	0.7460	2.3261	4.9643	1.3743	1.3	1.1	7.9839	5.3832

SEQ-CCV@CCV03 10/19/2016 11:01:56 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	
1	11:02:10	107.4%	173774.8800	105.6%	490547.0300	409273.3200	556360.2100	5063.1636	r3163854.2000	665681.4000	5098.1644	16617.1700	7554.7270	12.2706	1318383.6000	r2406324.1000	r2600291.7000	146
2	11:02:24	108.6%	173689.3300	107.1%	493173.3300	401923.3600	541997.7200	4906.2015	r3175093.1000	666872.5100	4881.9897	16083.8240	7713.5998	1.9841	1325085.3000	r2381024.8000	r2595544.4000	146
3	11:02:38	109.3%	168998.1200	108.2%	494149.5800	409666.2900	551075.6100	4691.8632	r3156051.0000	661913.2100	5314.4964	16515.4030	7629.5688	22.6051	1331420.5000	r2407339.6000	r2609959.9000	148
x		108.4%	99.515%	107.0%	492623.3100	102.809%	102.164%	4887.0761	r102.218%	101.790%	5098.2168	102.478%	7632.6319	12.2866	1324963.2000	r2398229.5000	r2601932.0000	147
σ		1.0%	n/a	1.3%	1863.1887	n/a	n/a	186.3876	rn/a	n/a	216.2533	n/a	79.4807	10.3105	6519.3188	r14908.3750	r7346.3978	1
%RSD		0.9	1.5878	1.2	0.3782	1.0717	1.3212	3.8139	r0.4482	0.3894	4.2417	1.7260	1.0413	83.9170	0.4920	r0.6216	r0.2823	

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	11:02:10	52684.1950	341746.2100	40366.0790	598911.1400	r2064261.5000	2106820.6000	716755.0900	111.6%	111.4%	r5159188.7000	246.0210
2	11:02:24	52379.0840	339705.7100	39873.0410	600053.3900	2076204.4000	2090388.0000	709530.7200	114.8%	114.5%	r5084184.3000	1591.1824
3	11:02:38	52455.3960	341077.5000	39340.4810	602482.9300	2109984.6000	2112239.5000	717667.9500	115.5%	116.3%	r5057276.8000	1664.0507
x		52506.2250	103.382%	39859.8670	102.979%	r2083483.5000	106.678%	104.198%	114.0%	114.1%	r101.588%	1167.0847
σ		158.7793	n/a	512.9258	n/a	r23714.7480	n/a	n/a	2.1%	2.5%	rn/a	798.4962
%RSD		0.3024	0.3052	1.2868	0.3038	r1.1382	0.5410	0.6238	1.8	2.2	r1.0355	68.4180

SEQ-CCB@CCB03 10/19/2016 11:07:35 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.00

Run	Time	6Li	9Be	45Sc	47Ti	51V	52Cr	53Cl O	59Co	60Ni	77Se	78Se	82Se	83Kr	94Mo	95Mo	96Mo	97Mo	98Mo	103Rh
1	11:07:35	108.6%	35.4812	105.6%	3.7004	23.9157	7.7474	1.8925	255.3858	28.8461	-2.2216	0.7745	-22.6373	22.7316	150.5162	295.8012	302.5568	197.8502	492.9920	105.9%
2	11:07:49	110.4%	25.6633	107.5%	39.2155	-59.3028	5.3057	17.8342	144.7351	-54.1524	0.9054	2.7978	-21.6556	21.6881	183.3331	275.8898	318.9910	183.1902	474.0849	106.6%
3	11:08:03	111.3%	19.3681	108.3%	22.8788	-104.3511	-13.5156	32.7490	131.3227	17.2034	0.9286	0.7826	-31.8414	41.7726	222.1292	216.0868	237.4175	123.8638	397.9571	105.8%
x		110.1%	26.8375	107.1%	21.9316	-46.5794	-0.1541	17.4919	177.1479	-2.7009	-0.1292	1.4516	-25.3781	28.7307	185.3261	262.5926	286.3218	168.3014	455.0113	106.1%
σ		1.4%	8.1205	1.4%	17.7765	65.0731	11.6356	15.4311	68.0871	44.9369	1.8121	1.1658	5.6188	11.3066	35.8481	41.4874	43.1421	39.1759	50.3066	0.4%
%RSD		1.3	30.2580	1.3	81.0543	139.7035	7548.4729	88.2186	38.4352	1663.7469	1402.3997	80.3102	22.1405	39.3537	19.3432	15.7992	15.0677	23.2772	11.0561	0.4

Run	Time	106Cd	107Ag	108Cd	111Cd	118Sn	121Sb	137Ba	159Tb	165Ho	205Tl	209Bi
1	11:07:35	47.8502	30.9647	2.0474	19.1720	259.6427	204.9069	95.2814	105.4%	105.6%	664.5853	-1583.5395
2	11:07:49	19.4976	23.8323	-1.1130	30.8301	146.1082	180.3152	58.4640	108.9%	110.0%	512.6357	-4168.9563
3	11:08:03	-5.5700	8.3651	1.9518	27.6264	139.0915	127.4688	110.2581	109.1%	108.7%	389.5263	-394.0925
x		20.5926	21.0540	0.9621	25.8762	181.6142	170.8970	88.0011	107.8%	108.1%	522.2491	-2048.8628
σ		26.7269	11.5531	1.7977	6.0229	67.6657	39.5689	26.6535	2.1%	2.3%	137.7813	1929.9724
%RSD		129.7889	54.8738	186.8573	23.2758	37.2580	23.1536	30.2876	1.9	2.1	26.3823	94.1973

PREPARATION BENCH SHEET

QJ14036

Bonner Analytical Testing Co.

Matrix: Soil
Analysis: ISM023 - ICPMS (2658.0)
Prepared: 10/17/2016 11:50 using METALS - 200.8

Case: 46282
SDG: MH1J05
Work Order: 6100170

Lab Number	Sample ID	Initial (g)	Final (mL)	Spike ID	Spike Amount (uL)	Spike ID	Spike Amount (uL)
6100170-01	MH1J05	1	500				
6100170-02	MH1J06	1	500				
6100170-03	MH1J07	1	500				
6100170-04	MH1J08	1	500				
6100170-05	MH1J09	1	500				
6100170-06	MH1J10	1	500				
6100170-07	MH1J11	1	500				
6100170-08	MH1J12	1	500				
6100170-09	MH1J13	1	500				
6100170-10	MH1J14	1	500				
6100170-11	MH1J15	1	500				
6100170-12	MH1J16	1	500				
6100170-12RE1	MH1J16	1	500				
6100170-13	MH1J17	1	500				
6100170-14	MH1J18	1	500				
6100170-15	MH1J19	1	500				
6100170-16	MH1J20	1	500				
6100170-17	MH1J21	1	500				
6100170-18	MH1J22	1	500				
QJ14036-PS1	MH1J05A	1	500	B6J0153	500000		
QJ14036-MS1	MH1J05S	1	500	B6B0062	1000	B6H0062	1000
QJ14036-BS1	LCS01	1	500	B6A0009	1000	B6H0062	40
QJ14036-DUP1	MH1J05D	1	500				
QJ14036-BLK1	PBS01	1	500				

Table 1: Quality Controls (QC), Reagents (R) and Standards (Std)

LIMS ID	Description	Vendor	LotNum	Expiration
B3E0023	R - Distilled Water	In-House	NA	04/25/20
B6A0009	QC - BAT-11	Inorganic Ventures	J2-MEB613056	02/01/17
B6B0062	QC - CLP-MS-SPK-REV1	Inorganic Ventures	K2-MEB619110	09/10/17
B6D0003	R - Hydrochloric Acid - 1:4	In House	NA	09/28/18
B6H0062	Std - Molybdenum - 100ppm	Inorganic Ventures	H2-MO02073	02/10/17
B6H0063	R - Nitric Acid - 1:1	In House	NA	08/15/17
B6J0153	PS-MH1J05	In House	NA	02/19/17

Table 2: Metals Apparatus

Balance ID		Satorius BP601	
Dig. Block ID		4	
Start Temp	Stop Temp	95.0	94.0
Start Time	Stop Time	1150	1220

Comments:

LEM — Perpared By
10/17/2016 — Date

Preparation Reviewed By — Date 10/28/2016

Bonner Analytical Testing Company
Analytical Run Log

Instrument ID: ICPMS01 **Case:** 46282 **FileID:** M101916A **Std. Prep Date:** 10/18/16

Analyst: LEM **SDG:** MH1J05 **Calibration ID:** B643026 **Std. Log Page No.:** 5

Lab Number	EPA ID	Analyzed Date/Time	STD ID	ISTD ID	DF	Elements list are used per QC/sample
BJ62109-TUN1	TUNE01	10/19/16 7:39	B6G0089	B6G0072	1	
BJ62109-CAL1	S01	10/19/16 7:51	B6I0135	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-CAL2	S02	10/19/16 7:55	B6A0044	B6G0072	1	MO
BJ62109-CAL3	S03	10/19/16 7:59	B6A0043	B6G0072	1	BA MO
BJ62109-CAL4	S04	10/19/16 8:03	B6A0042	B6G0072	1	AG BE CD CO CR MO NI SB SE TL V
BJ62109-CAL5	S05	10/19/16 8:07	B6A0041	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-CAL6	S06	10/19/16 8:11	B6A0040	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-CAL7	S07	10/19/16 8:15	B6A0039	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-CAL8	S08	10/19/16 8:19	B6A0038	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-ICV1	ICV01	10/19/16 8:23	B6J0139	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-ICB1	ICB01	10/19/16 8:28	B6I0135	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-IFA1	ICSA01	10/19/16 8:32	B6A0093	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-IFB1	ICSAB01	10/19/16 8:36	B6A0095	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-CCV1	CCV01	10/19/16 8:40	B6A0045	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-CCB1	CCB01	10/19/16 8:45	B6I0135	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-CCV2	CCV02	10/19/16 9:14	B6A0045	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-CCB2	CCB02	10/19/16 9:18	B6I0135	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
QJ14036-BLK1	PBS01	10/19/16 9:22		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
QJ14036-BS1	LCS01	10/19/16 9:26		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-01	MH1J05	10/19/16 9:30		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
QJ14036-MS1	MH1J05S	10/19/16 9:34		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
QJ14036-DUP1	MH1J05D	10/19/16 9:38		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-SRD1	MH1J05L	10/19/16 9:42		B6G0072	5	AG BA BE CD CO CR MO NI SB SE TL V
6100170-02	MH1J06	10/19/16 9:46		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-03	MH1J07	10/19/16 9:50		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-04	MH1J08	10/19/16 9:54		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-05	MH1J09	10/19/16 9:58		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-06	MH1J10	10/19/16 10:02		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-07	MH1J11	10/19/16 10:06		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-08	MH1J12	10/19/16 10:10		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-09	MH1J13	10/19/16 10:14		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-10	MH1J14	10/19/16 10:18		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-11	MH1J15	10/19/16 10:22		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V

Bonner Analytical Testing Company
Analytical Run Log

Instrument ID: ICPMS01 **Case:** 46282 **FileID:** M101916A **Std. Prep Date:** 10/18/16

Analyst: LEM **SDG:** MH1J05 **Calibration ID:** B643026 **Std. Log Page No.:** 5

Lab Number	EPA ID	Analyzed Date/Time	STD ID	ISTD ID	DF	Elements list are used per QC/sample
6100170-12	MH1J16	10/19/16 10:27		B6G0072	1	CR SE TL V
6100170-13	MH1J17	10/19/16 10:31		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-14	MH1J18	10/19/16 10:35		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-15	MH1J19	10/19/16 10:39		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-16	MH1J20	10/19/16 10:43		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-17	MH1J21	10/19/16 10:47		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
6100170-18	MH1J22	10/19/16 10:51		B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
QJ14036-PS1	MH1J05A	10/19/16 10:54		B6G0072	1	CD SB
6100170-12RE1	MH1J16	10/19/16 10:57		B6G0072	2	AG BA BE CD CO MO NI SB
BJ62109-CCV3	CCV03	10/19/16 11:01	B6A0045	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V
BJ62109-CCB3	CCB03	10/19/16 11:07	B6I0135	B6G0072	1	AG BA BE CD CO CR MO NI SB SE TL V

Bonner Analytical Testing Company
Instrument: ICPMS01
Serial No: X0494

ISM02.3 Calibration & QC Preparation Log
Standards & QC for ICPMS01 MA 2658.0 Prepared On: 10/18/2016

Description	EPA ID	Amount Spiked	Volume Made	Manufacturer	Lot Number	Date Lot Expires	LIMS ID
Initial Calibration High - CAL8	S08	NA	100 mL	In House	NA	2 Weeks	B6A0038
BONNER-16		2.5 mL	Composite	Inorganic Ventures	K2-MEB624149	Apr-17	B6F0009
BAISM-MIX1		2.0 mL			J2-MEB613059	Feb-17	B6A0011
BONNER-1		0.25 mL			J2-MEB613058	Feb-17	B6A0010
Initial Calibration Mid - CAL7	S07	NA	50 mL	In House	NA	2 Weeks	B6A0039
CAL8		25 mL		Inorganic Ventures			B6A0038
Initial Calibration Mid - CAL6	S06	NA	50 mL	In House	NA	2 Weeks	B6A0040
CAL8		2.5 mL		Inorganic Ventures			B6A0038
Initial Calibration Mid - CAL5	S05	NA	50 mL	In House	NA	2 Weeks	B6A0041
CAL8		0.5 mL		Inorganic Ventures			B6A0038
Initial Calibration Low - CAL4	S04	NA	50 mL	In House	NA	2 Weeks	B6A0042
BAT- 11		0.05 mL		Inorganic Ventures	J2-MEB613056	Feb-17	B6A0009
Molybdenum - 1 PPM		0.5 mL		In House	From Mo-1000 mg/L Lot No. H2-MO02073	Feb-17	B6H0092
Initial Calibration Low - CAL3	S03	NA	50 mL	In House	NA	2 Weeks	B6A0043
BAT- 11		0.025 mL		Inorganic Ventures	J2-MEB613056	Feb-17	B6A0009
Molybdenum - 1 PPM		0.2 mL		In House	From Mo-1000 mg/L Lot No. H2-MO02073	Feb-17	B6H0092
Initial Calibration Low - CAL2	S02	NA	50 mL	In House	NA	2 Weeks	B6A0044
BAT- 11		0.01 mL		Inorganic Ventures	J2-MEB613056	Feb-17	B6A0009
Molybdenum - 1 PPM		0.1 mL		In House	From Mo-1000 mg/L Lot No. H2-MO02073	Feb-17	B6H0092
Initial Calibration Low - CAL1	S01	NA	50 mL	In-House	NA	1 Year	B6I0135
Initial Calibration Blank	ICB						
Continuing Calibration Blank	CCB						
Initial Calibration Verification	ICV		50 mL	NA	NA	2 Weeks	B6A0064
ICV-1 (0307)		1.0 mL	Composite	EPA	ICV-1 (0307)	2 Weeks	B6J0139
Molybdenum - 10 PPM		0.05 mL		In House	From Mo-1000 mg/L Lot No. K2-MO02086	Oct-17	B6J0148
Interelement Check Standard A	ICSA	5.0 mL	50 mL	EPA	NA	2 Weeks	B4J0066
Interelement Check Standard AB	ICSAB		50 mL	EPA	ICSA-0803	2 Weeks	B4J0067
ICS PART A		5.0 mL	Composite	EPA	ICSB-0803	2 Weeks	B4J0066
ICS PART B		5.0 mL					B4J0067
Continuing Calibration Verificatio	CCV		50 mL	NA	NA	2 Weeks	B6A0045
Initial Calibration High - CAL8		25 mL	Composite	In-House	From S08		B6A0038
BONNER-1		0.2375 mL		Inorganic Ventures	J2-MEB613058	Feb-17	B6A0010
BAT-15		1.0 mL		Inorganic Ventures	K2-MEB650369	Jul-17	B6G0108
ISM TUNE	TUNE		50 mL	In-House	NA	2 Weeks	B6G0089
ISM Stock TUNE		0.5 mL				Jul-16	B6G0088
CLP-MS-SPK-REV1	Matrix Spike	1.0 mL	500 mL	Inorganic Ventures	K2-MEB619110	Sep-17	B6B0062
Molybdenum - 100 PPM		1.0 mL		In House	From Mo-1000 mg/L Lot No. H2-MO02073	Feb-17	B6H0062
BAT-11	LCS	1.0 mL	500 mL	Inorganic Ventures	J2-MEB613056	Feb-17	B6A0009
Molybdenum - 100 PPM		0.04 mL		In House	From Mo-1000 mg/L Lot No. H2-MO02073	Feb-17	B6H0062

* Dilutions of calibration standards, CCV, & ISM TUNE are made with the same acid water as the S0, ICB & CCB.
* Dilutions of ICV, ICSA, and ICSAB are made with 1% HNO3.
**Date Lot Expires reflects the date that the standard being used will expire.

Prepared By: Lauren Meadows Digitally signed by Lauren Meadows Reason: I am the author of this document Date: 2016.10.21 10:27:54-05'00' Analyst/Date

Reviewed By: Maxwell S. Bonner Digitally signed by Maxwell S. Bonner Reason: I have reviewed this document Date: 2016.10.21 10:29:35-05'00' Name/Date

REAGENTS PREPARATION LOG

Acidified Water

LIMS ID: B6I0135

Preparation Date: 09/27/2016

Prepared By: LEM

Reagents	Concentration (mg/L)	Amount	Supplier	Lot Number	Received Date	Expiration Date
Distilled Water	Neat	19700	BATCO	NA	NA	NA
Nitric Acid	Neat	200 mL	Fisher Scientific	1116020	08/2016	02/2017
Hydrochloric Acid	Neat	100 mL	Fisher Scientific	4116040	09/2016	05/2019

Balance ID: N/A

Instrument: ICPMS01

Final Volume: 20 Liters

Concentration: 1% HNO_3 / 0.5% HCl

Used For: Preparation of Standards and Controls

Expiration Date: 12 Months After Preparation Date

Comments:

Reviewed By: Maxwell S. Bonner Digitally signed by Maxwell S. Bonner Reason: I have reviewed this document Date: 2016.10.17 15:56:08-05'00'

Supervisor/Date

REAGENTS PREPARATION LOG

ICP-MS Internal Standard

LIMS ID: B6G0072

Preparation Date: 7/18/2016 Prepared By: LEM

Reagents	Concentration (mg/L)	Amount	Supplier	Lot Number	Received Date	Expiration Date
Distilled Water	Neat	19780 mL	BATCO	NA	NA	NA
Nitric Acid	Neat	200 mL	Fisher Scientific	1115060	12/1/2015	7/3/2017
6020ISS	10	20 mL	Inorganic Ventures	J2-MEB562038	1/14/2016	3/29/2017
^{6}Lithium	1000	1.2 mL	Inorganic Ventures	J2-LI03018	4/8/2016	4/8/2017
IS_Sc_In	1000/667	0.3 mL	BATCO	See Below	See Below	See Below

IS_Sc_In

LIMS ID: B6C0054

Reagents	Concentration (mg/L)	Amount	Supplier	Lot Number	Received Date	Expiration Date
Distilled Water	Neat	95 mL	BATCO	NA	NA	NA
Nitric Acid	Neat	5 mL	Fisher Scientific	1115060	12/1/2015	7/3/2017
Scandium(III) Oxide	Neat	100 mg	Aldrich Chemistry	751863-10	1/27/2016	1/27/2019
Indium(III) Chloride	Neat	66.7 mg	Aldrich Chemistry	MKBS6036V	8/4/2015	8/4/2018

Balance ID: Mettler IV

Instrument: ICPMS01

Final Volume: 20 Liters

Concentration: B, Ho, Rh, Tb, Y @ 10 ug/L; ^{6}Li @ 70 ug/L; Sc @ 25 ug/L; In @ 20 ug/L

Expiration Date: 12 Months After Preparation Date

Comments: 5% HNO_3 should be warm when adding Sc & In.

Reviewed By: Maxwell S. Bonner Digitally signed by Maxwell S. Bonner Reason: I have reviewed this document Date: 2016.10.17 15:55:55-05'00'

Supervisor/Date

TUNE PREPARATION LOG

200.8 Tune Standard

LIMS ID: B6G0073

Preparation Date: 7/18/2016

Prepared By: LEM

Reagents	Concentration (mg/L)	Amount	Supplier	Lot Number	Received Date	Expiration Date
Distilled Water	Neat	46.95 mL	BATCO	NA	NA	NA
Nitric Acid	Neat	0.5 mL	Fisher Scientific	1115060	12/1/2015	7/3/2017
Hydrochloric Acid	Neat	0.25 mL	Fisher Scientific	4115100	12/1/2015	11/16/2018
Beryllium	1000	0.5 mL	High Purity Standards	1525435	1/4/2016	6/29/2017
Cobalt	1000	0.5 mL	High Purity Standards	1519648	1/4/2016	6/29/2017
Indium (IS_Sc_In)	667	0.75 mL	BATCO	See Below	See Below	See Below
Lead	1000	0.5 mL	High Purity Standards	1528221	1/4/2016	6/29/2017
Magnesium	10000	0.05 mL	High Purity Standards	1510445	1/4/2016	6/29/2017

IS_Sc_In

LIMS ID: B6C0054

Reagents	Concentration (mg/L)	Amount	Supplier	Lot Number	Received Date	Expiration Date
Distilled Water	Neat	95 mL	BATCO	NA	NA	NA
Nitric Acid	Neat	5 mL	Fisher Scientific	1115060	12/1/2015	7/3/2017
Scandium(III) Ox	Neat	100 mg	Aldrich Chemistry	751863-10	1/27/2016	1/27/2019
Indium(III) Chlori	Neat	66.7 mg	Aldrich Chemistry	MKBS6036V	8/4/2015	8/4/2018

Balance ID: N/A

Instrument: ICPMS01

Final Volume: 50 mL

Concentration: 10 mg/L

Expiration Date: 12 Months After Preparation Date

Comments: Daily 200.8TS - 0.5 mL to 50 mL

Reviewed By: Maxwell S. Bonner Digitally signed by Maxwell S. Bonner Reason: I have reviewed this document Date: 2016.10.17 15:56:21-05'00'

Supervisor/Date

REAGENTS PREPARATION LOG

1% HNO_3

LIMS ID: B6G0132

Preparation Date: 07/29/2016

Prepared By: LEM

Reagents	Concentration (mg/L)	Amount	Supplier	Lot Number	Received Date	Expiration Date
Distilled Water	Neat	19800	BATCO	NA	NA	NA
Nitric Acid	Neat	200 mL	Fisher Scientific	1115060	12/1/2015	7/3/2017

Balance ID: N/A

Instrument: ICPMS01

Final Volume: 20 Liters

Concentration: 1% HNO_3

Used For: Preparation of Tunes, ICV, ICSA, ICSAB, Dilutions

Expiration Date: 12 Months After Preparation Date

Comments:

Reviewed By: Maxwell S. Bonner Digitally signed by Maxwell S. Bonner Reason: I have reviewed this document Date: 2016.10.17 15:56:33-05'00'

Supervisor/Date

Bonner Analytical Testing Company

ICP-MS ISM02.3 CLP Standard Concentration Page

Element	S02	S03	S04	S05	S06	S07	S08	S09	S10	ICV	LCS (ug/L)	LCS (mg/kg)	ICSA	ICSAB	CCV	MS (ug/L)	MS (mg/kg)	TUNE
Al	4	10	20	260	1300	13000	26000		125000	504	40		(100000)	(100000)	62500			
Ag	0.2	0.5	1	1.3	6.5	65	130			100	2	1	(0)	18	65	50	5	
As	0.2	0.5	1	10	50	500	1000			200	2	1	(0.1)	19	500	40	4	
B	0.5	1	2	12.5	62.5	625	1250			100					625			
Ba	2	5		10	50	500	1000	5000		99	20	10	(1.2)	22	2500	2000	200	
Be	0.2	0.5	1	10	50	500	1000			99	2	1	(0)	19	500	50	5	100
Ca	100	250	500	250	1250	12500	25000		125000	2005	1000		(100000)	(100000)	62500			
Cd	0.2	0.5	1	10	50	500	1000			99	2	1	(0.7)	20	500	50	5	
Co	0.2	0.5	1	10	50	500	1000			100	2	1	(1)	20	500	500	50	100
Cr	0.4	1	2	10	50	500	1000			98	4	2	21	40	500	200	20	
Cu	0.4	1	2	10	50	500	1000			98	4	2	8	25	500	250	25	
Fe	40	100	200	250	1250	12500	25000		125000	1016	400		(100000)	(100000)	62500			
Mg	100	250	500	250	1250	12500	25000		125000	1215	1000		(100000)	(100000)	62500			100
Mn	0.2	0.5	1	10	50	500	1000	5000		100	2	1	7	27	500	500	50	
Mo	0.5	1	2	25	125	1250	2500			100			2000	2000	1250			
Na	100	250	500	250	1250	12500	25000		125000	2019	1000		(100000)	(100000)	62500			
Ni	0.2	0.5	1	10	50	500	1000			101	2	1	6	24	500	500	50	
Pb	0.2	0.5	1	10	50	500	1000			200	2	1	4	25	500	20	2	100
K	100	250	500	250	1250	12500	25000		125000	2004	1000		(100000)	(100000)	62500			
Sb	0.4	1	2	10	50	500	1000			199	4	2	(1.5)	22	500	100	10	
Se	1	2.5	5	10	50	500	1000			206	10	5	(0.3)	19	500	100	10	
Sn	0.5	1	2	12.5	62.5	625	1250			100					625			
Sr	0.5	1	2	6.25	31.25	312.5	625			100					312.5			
Tl	0.2	0.5	1	10	50	500	1000			206	2	1	(0)	21	500	50	5	
U	0.2	0.5	1	2	10	100	200			50	2	NA	(0)	(0)	100	100	NA	
V	1	2.5	5	10	50	500	1000			100	10	5	(0.5)	19	500	500	50	
Zn	0.4	1	2	10	50	500	1000	5000		205	4	2	11	29	2500	500	50	

Units are in ug/L unless otherwise noted.

( ) Indicated analyte values that are less than the CRQL and the value is to be used as a set point for the ±CRQL acceptance criteria calculatio

In is also in the TUNE at 100 ug/L.

EPA SAMPLE NO.

MH1J05

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-01

% Solids: 86.6 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.038	J	10/18/2016	1043

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J06

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-02

% Solids: 65.7 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.057	J	10/18/2016	1050

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J07

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-03

% Solids: 83.9 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.013	J	10/18/2016	1053

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J08

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-04

% Solids: 81.9 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.035	J	10/18/2016	1055

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J09

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-05

% Solids: 89.7 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.061	J	10/18/2016	1058

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J10

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-06

% Solids: 57.0 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.030	J	10/18/2016	1100

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J11

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-07

% Solids: 95.6 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.038	J	10/18/2016	1103

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J12

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-08

% Solids: 85.2 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.0091	J	10/18/2016	1110

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J13

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-09

% Solids: 76.4 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.056	J	10/18/2016	1113

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J14

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-10

% Solids: 71.3 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.027	J	10/18/2016	1115

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J15

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-11

% Solids: 82.6 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.073	J	10/18/2016	1118

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J16

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-12

% Solids: 61.6 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.022	J	10/18/2016	1120

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J17

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-13

% Solids: 89.5 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.047	J	10/18/2016	1123

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J18

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-14

% Solids: 60.0 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.11	J	10/18/2016	1126

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J19

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-15

% Solids: 90.2 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.12		10/18/2016	1128

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J20

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-16

% Solids: 59.2 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.12	J	10/18/2016	1131

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J21

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-17

% Solids: 93.6 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.12		10/18/2016	1133

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

MH1J22

FORM 1-IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Lab Sample ID: 6100170-18

% Solids: 56.1 Date Received: 10/13/2016

Analytical method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg): mg/Kg

CAS NO.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.69		10/18/2016	1136

NOTE: Hardness (total) is reported in mg/L

Comments:

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: USEPA, Lot: EPA (0508)

Continuing Calibration Verification Source: In House, Lot: B6G0099

Run Batch: BJ62712H101816A Analytical method: CVAA

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID: ICV01				ID: CCV01				ID: CCV02		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Mercury	4.0000	3.9	98		3.0000	3.1	104		3.1	104	

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: USEPA, Lot: EPA (0508)

Continuing Calibration Verification Source: In House, Lot: B6G0099

Run Batch: BJ62712H101816A Analytical method: CVAA

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID:				ID: CCV03				ID: CCV04		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Mercury					3.0000	3.1	103		3.1	103	

FORM 2-IN
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Initial Calibration Verification Source: USEPA, Lot: EPA (0508)

Continuing Calibration Verification Source: In House, Lot: B6G0099

Run Batch: BJ62712H101816A Analytical method: CVAA

Concentration Units: ug/L

	Initial Calibration Verification				Continuing Calibration Verification						
	ID:				ID:CCV05				ID:		
Analyte	True	Found	%R	%RSD	True	Found	%R	%RSD	Found	%R	%RSD
Mercury					3.0000	3.1	105				

FORM 3-IN
BLANKS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Preparation Blank Matrix: Soil

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/kg

Analytical method: CVAA Preparation Batch: QJ14047

Run Batch: BJ62712H101816A Preparation Method: 7471B

	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction Blank	
Analyte	ID: ICB01	Q	ID: CCB01	Q	ID: CCB02	Q	ID: CCB03	Q	ID: PBS01	Q
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.10	U

NOTE: Hardness (total) is reported in mg/L

FORM 3-IN
BLANKS

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Preparation Blank Matrix: Soil

Preparation Blank Concentration Units (µg/L, mg/L, mg/kg dry weight, or µg): mg/kg

Analytical method: CVAA Preparation Batch: QJ14047

Run Batch: BJ62712H101816A Preparation Method: 7471B

	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank/Leachate Extraction Blank	
Analyte	ID:	Q	ID: CCB04	Q	ID: CCB05	Q	ID:	Q	ID:	Q
Mercury			0.20	U	0.20	U				

NOTE: Hardness (total) is reported in mg/L

EPA SAMPLE NO.

MH1J05S

FORM 5A-IN
MATRIX SPIKE SAMPLE RECOVERY

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Matrix: Soil Analytical Method: CVAA

% Solids: 86.6

Concentration Units (µg/L, mg/L or mg/kg dry weight): mg/kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	Q	Sample Result (SR)	Q	Spike Added (SA)	%R	Q
Mercury	75-125	0.63		0.038	J	0.577	103	

EPA SAMPLE NO.

FORM 6-IN
DUPLICATES

MH1J05D

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.:46282 MA No.: SDG No.: MH1J05

Matrix: Soil Analytical Method: CVAA

% Solids: 86.6

Concentration Units (µg/L, mg/L, or mg/kg dry weight): mg/Kg

Analyte	Control Limit	Sample (S)	Q	Duplicate (D)	Q	RPD	Q
Mercury		0.038	J	0.035	J	6	

NOTE: Hardness (total) is reported in mg/L

FORM 9-IN
METHOD DETECTION LIMIT

Lab Name: Bonner Analytical Testing Co. Contract: EPW14029

Lab Code: BON Case No.: 46282 MA No.: SDG No.: MH1J05

Analytical Method: CVAA Instrument ID: CETAC01

Preparation Method: 7471B

Concentration Units (µg/L, µg, or mg/kg): mg/Kg

Analyte	Wavelength/Mass	MDL	Date Analyzed
Mercury	257.00 nm	0.0032	01/14/2016

FORM 12-IN
ANALYSIS LOG

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: CETAC01
Analytical Method: CVAA
Start Date: 10/18/2016
End Date: 10/18/2016
Run Batch: BJ62712H101816A

EPA Sample NO.	D/F	Time	Analytes																								
			Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	CN	
S01	1.0	0909															X										
S02	1.0	0911															X										
S03	1.0	0914															X										
S04	1.0	0917															X										
S05	1.0	0919															X										
S06	1.0	0922															X										
S07	1.0	0924															X										
ICV01	1.0	0927															X										
ICB01	1.0	0929															X										
CCV01	1.0	0932															X										
CCB01	1.0	0934															X										
CCV02	1.0	1005															X										
CCB02	1.0	1007															X										
CCV03	1.0	1035															X										
CCB03	1.0	1037															X										
PBS01	1.0	1040															X										
MH1J05	1.0	1043															X										
MH1J05S	1.0	1045															X										
MH1J05D	1.0	1048															X										
MH1J06	1.0	1050															X										
MH1J07	1.0	1053															X										
MH1J08	1.0	1055															X										
MH1J09	1.0	1058															X										
MH1J10	1.0	1100															X										
MH1J11	1.0	1103															X										
CCV04	1.0	1105															X										
CCB04	1.0	1108															X										
MH1J12	1.0	1110															X										
MH1J13	1.0	1113															X										
MH1J14	1.0	1115															X										

FORM 12-IN
ANALYSIS LOG

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: CETAC01
Analytical Method: CVAA
Start Date: 10/18/2016
End Date: 10/18/2016
Run Batch: BJ62712H101816A

EPA Sample NO.	D/F	Time	Analytes																								
			Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	V	Zn	CN	
MH1J15	1.0	1118															X										
MH1J16	1.0	1120															X										
MH1J17	1.0	1123															X										
MH1J18	1.0	1126															X										
MH1J19	1.0	1128															X										
MH1J20	1.0	1131															X										
MH1J21	1.0	1133															X										
MH1J22	1.0	1136															X										
CCV05	1.0	1138															X										
CCB05	1.0	1141															X										

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: CETAC01
Start Date: 10/18/2016
Analytical method: CVAA
Run Batch: BJ62712H101816A
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Mercury	0.0	-0.012		0.10	0.085	15	0.20	0.19	7

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: CETAC01
Start Date: 10/18/2016
Analytical method: CVAA
Run Batch: BJ62712H101816A
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Mercury	0.50	0.50	0	1.0	0.99	1	3.0	3.1	-3

FORM 15-IN
INITIAL CALIBRATION

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: CETAC01
Start Date: 10/18/2016
Analytical method: CVAA
Run Batch: BJ62712H101816A
Concentration Units: ug/L

Analyte	True	Found	%D	True	Found	%D	True	Found	%D
Mercury	6.0	6.0	1						

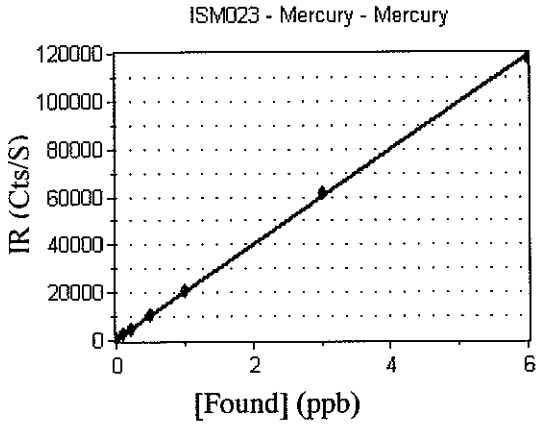
FORM 16-IN
INITIAL CALIBRATION SUMMARY

Lab Name: Bonner Analytical Testing Co.
Contract: EPW14029
Lab Code: BON
Case No.: 46282
MA No.:
SDG No.: MH1J05
Instrument ID: CETAC01
Start Date: 10/18/2016
Analytical method: CVAA
Run Batch: BJ62712H101816A

Analyte	Corr. Coeff.	Slope	Intercept	Calib. Type	Weighting
Mercury	0.9996229	19695.21	0.0460771	Lin. Reg	None

Bonner Analytical Testing Company

Instrument ID: CETAC01 Calibration ID: B644075 Calibration Date: 10/18/2016 **335**



Calibration Plot: Mercury
Calibration Type: Linear Regression
Corr. Coeff.: 0.9996229
Fit: [Y] = 19695.21 * [X] + 907.4979
[y-intercept] = -0.05

Sequence Std. Name	LIMS ID	True Conc. (ppb)	Found Conc. (ppb)	IR (Cts/S)	Difference (%)
BJ62712-CAL1	B6G0104	0	-0.01	665.8	0
BJ62712-CAL2	B6G0103	0.1	0.09	2586	15
BJ62712-CAL3	B6G0102	0.2	0.19	4579	7
BJ62712-CAL4	B6G0101	0.5	0.50	10710	0
BJ62712-CAL5	B6G0100	1	0.99	20500	1
BJ62712-CAL6	B6G0099	3	3.09	61820	-3
BJ62712-CAL7	B6G0098	6	5.96	118200	1

Bonner Analytical Testing Company

Report Generated By Teledyne Leeman QuickTrace

Analyst: caultman

Worksheet file: X:\2016\Worksheets\Hg 10-16 Worksheets\H101816A.wszf

Creation Date: 8/3/2016 10:18:10 AM

Comment:

Results

Sample Name		Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags	% Recovery
SEQ-CAL1@S01		STD	10/18/16 09:09:25 am	0.0000	666	0.00	-12.37		N/A
Replicates	665.8								
SEQ-CAL2@S02		STD	10/18/16 09:11:57 am	0.1000	2586	0.00	-14.84		N/A
Replicates	2586.4								
SEQ-CAL3@S03		STD	10/18/16 09:14:28 am	0.2000	4579	0.00	-13.64		N/A
Replicates	4579.4								
SEQ-CAL4@S04		STD	10/18/16 09:17:00 am	0.5000	10714	0.00	-2.12		N/A
Replicates	10714.2								
SEQ-CAL5@S05		STD	10/18/16 09:19:33 am	1.0000	20498	0.00	-5.29		N/A
Replicates	20498.4								
SEQ-CAL6@S06		STD	10/18/16 09:22:05 am	3.0000	61821	0.00	93.02		N/A
Replicates	61821.1								
SEQ-CAL7@S07		STD	10/18/16 09:24:38 am	6.0000	118188	0.00	-44.75		N/A
Replicates	118188.0								
SEQ-ICV@ICV01		ICV	10/18/16 09:27:11 am	3.9250	78210	0.00			98.13
Replicates	78209.8								
SEQ-ICB@ICB01		ICB	10/18/16 09:29:42 am	-0.0267	384	0.00			N/A
Replicates	384.0								
SEQ-CCV@CCV01		CCV	10/18/16 09:32:15 am	3.1190	62331	0.00			103.96
Replicates	62331.0								
SEQ-CCB@CCB01		CCB	10/18/16 09:34:46 am	-0.0197	521	0.00			N/A
Replicates	521.0								
QJ14052-BLK1@PBS01		UNK	10/18/16 09:37:18 am	-0.0102	708	0.00			N/A
Replicates	707.7								
6100156-01@MH1G23		UNK	10/18/16 09:39:49 am	0.0182	1268	0.00			N/A
Replicates	1268.0								
6100156-02@MH1G24		UNK	10/18/16 09:42:20 am	0.1098	3071	0.00			N/A
Replicates	3070.7								
6100156-03@MH1G25		UNK	10/18/16 09:44:52 am	0.0554	2001	0.00			N/A
Replicates	2001.2								
6100156-04@MH1G26		UNK	10/18/16 09:47:23 am	0.2004	4855	0.00			N/A
Replicates	4855.2								

10/21

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags	% Recovery
6100156-05@MH1G27	UNK	10/18/16 09:49:55 am	0.0324	1548	0.00			N/A
Replicates 1548.3								
6100156-06@MH1G28	UNK	10/18/16 09:52:28 am	0.0552	1996	0.00			N/A
Replicates 1995.8								
QJ14052-MS1@MH1G28S	UNK	10/18/16 09:55:00 am	2.6540	53177	0.00			N/A
Replicates 53176.9								
QJ14052-DUP1@MH1G28D	UNK	10/18/16 09:57:31 am	0.0494	1883	0.00			N/A
Replicates 1883.0								
6100156-07@MH1G29	UNK	10/18/16 10:00:02 am	0.0190	1283	0.00			N/A
Replicates 1282.8								
6100156-08@MH1G30	UNK	10/18/16 10:02:33 am	0.1419	3703	0.00			N/A
Replicates 3703.3								
SEQ-CCV@CCV2	UNK	10/18/16 10:05:06 am	3.1050	62048	0.00			N/A
Replicates 62047.9								
SEQ-CCB@CCB2	UNK	10/18/16 10:07:37 am	-0.0185	545	0.00			N/A
Replicates 545.5								
6100156-09@MH1G31	UNK	10/18/16 10:10:08 am	0.0398	1694	0.00			N/A
Replicates 1694.2								
6100156-10@MH1G32	UNK	10/18/16 10:12:40 am	0.1706	4269	0.00			N/A
Replicates 4269.1								
6100156-11@MH1G33	UNK	10/18/16 10:15:13 am	0.0148	1202	0.00			N/A
Replicates 1201.7								
6100156-12@MH1G34	UNK	10/18/16 10:17:45 am	0.0898	2679	0.00			N/A
Replicates 2678.7								
6100156-13@MH1G35	UNK	10/18/16 10:20:16 am	0.0231	1364	0.00			N/A
Replicates 1364.0								
6100156-14@MH1G36	UNK	10/18/16 10:22:47 am	0.1241	3354	0.00			N/A
Replicates 3354.1								
6100156-15@MH1G37	UNK	10/18/16 10:25:18 am	0.0071	1049	0.00			N/A
Replicates 1049.0								
6100156-16@MH1G38	UNK	10/18/16 10:27:50 am	0.2029	4905	0.00			N/A
Replicates 4904.8								
6100156-17@MH1G39	UNK	10/18/16 10:30:22 am	0.0264	1429	0.00			N/A
Replicates 1429.0								
6100156-18@MH1G40	UNK	10/18/16 10:32:54 am	0.0701	2290	0.00			N/A
Replicates 2290.2								
SEQ-CCV@CCV3	CCV	10/18/16 10:35:26 am	3.0760	61489	0.00			102.54
Replicates 61488.5								
SEQ-CCB@CCB3	CCB	10/18/16 10:37:57 am	-0.0187	540	0.00			N/A
Replicates 540.3								

10/27

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags	% Recovery
QJ14047-BLK1@PBS01	UNK	10/18/16 10:40:29 am	-0.0097	719	0.00			N/A
Replicates 718.8								
6100170-01@MH1J05	UNK	10/18/16 10:43:00 am	0.1636	4131	0.00			N/A
Replicates 4130.6								
QJ14047-MS1@MH1J05S	UNK	10/18/16 10:45:32 am	2.7100	54282	0.00			N/A
Replicates 54281.6								
QJ14047-DUP1@MH1J05D	UNK	10/18/16 10:48:03 am	0.1537	3935	0.00			N/A
Replicates 3935.4								
6100170-02@MH1J06	UNK	10/18/16 10:50:35 am	0.1859	4570	0.00			N/A
Replicates 4569.6								
6100170-03@MH1J07	UNK	10/18/16 10:53:08 am	0.0544	1981	0.00			N/A
Replicates 1981.2								
6100170-04@MH1J08	UNK	10/18/16 10:55:40 am	0.1419	3703	0.00			N/A
Replicates 3703.5								
6100170-05@MH1J09	UNK	10/18/16 10:58:12 am	0.2740	6306	0.00			N/A
Replicates 6305.8								
6100170-06@MH1J10	UNK	10/18/16 11:00:43 am	0.0849	2581	0.00			N/A
Replicates 2581.0								
6100170-07@MH1J11	UNK	10/18/16 11:03:15 am	0.1831	4515	0.00			N/A
Replicates 4514.8								
SEQ-CCV@CCV4	CCV	10/18/16 11:05:47 am	3.1040	62028	0.00			103.45
Replicates 62027.7								
SEQ-CCB@CCB4	CCB	10/18/16 11:08:19 am	-0.0163	588	0.00			N/A
Replicates 587.9								
6100170-08@MH1J12	UNK	10/18/16 11:10:50 am	0.0386	1670	0.00			N/A
Replicates 1669.8								
6100170-09@MH1J13	UNK	10/18/16 11:13:22 am	0.2148	5140	0.00			N/A
Replicates 5140.3								
6100170-10@MH1J14	UNK	10/18/16 11:15:54 am	0.0979	2838	0.00			N/A
Replicates 2838.2								
6100170-11@MH1J15	UNK	10/18/16 11:18:27 am	0.3010	6837	0.00			N/A
Replicates 6836.8								
6100170-12@MH1J16	UNK	10/18/16 11:20:59 am	0.0683	2254	0.00			N/A
Replicates 2254.2								
6100170-13@MH1J17	UNK	10/18/16 11:23:31 am	0.2110	5065	0.00			N/A
Replicates 5064.5								
6100170-14@MH1J18	UNK	10/18/16 11:26:03 am	0.3369	7545	0.00			N/A
Replicates 7544.8								
6100170-15@MH1J19	UNK	10/18/16 11:28:35 am	0.5252	11251	0.00			N/A
Replicates 11251.5								

Sample Name	Type	Date/Time	Conc (ppb)	µAbs	%RSD	Residual	Flags	% Recovery
6100170-16@MH1J20	UNK	10/18/16 11:31:07 am	0.3516	7834	0.00			N/A
Replicates 7833.6								
6100170-17@MH1J21	UNK	10/18/16 11:33:39 am	0.5473	11687	0.00			N/A
Replicates 11687.4								
6100170-18@MH1J22	UNK	10/18/16 11:36:11 am	1.9430	39172	0.00			N/A
Replicates 39171.7								
SEQ-CCV@CCV5	CCV	10/18/16 11:38:44 am	3.1410	62764	0.00			104.70
Replicates 62764.2								
SEQ-CCB@CCB5	CCB	10/18/16 11:41:39 am	-0.0259	399	0.00			N/A
Replicates 399.0								
QJ14042-BLK1@PBS01	UNK	10/18/16 11:51:44 am	-0.0049	813	0.00			N/A
Replicates 813.0								
6100165-01@MH1H14	UNK	10/18/16 11:54:17 am	0.3085	6984	0.00			N/A
Replicates 6984.0								
6100165-02@MH1H15	UNK	10/18/16 11:56:49 am	0.1570	4002	0.00			N/A
Replicates 4001.5								
6100165-03@MH1H16	UNK	10/18/16 11:59:21 am	0.5474	11690	0.00			N/A
Replicates 11689.7								
6100165-04@MH1H17	UNK	10/18/16 12:01:54 pm	0.4269	9316	0.00			N/A
Replicates 9315.6								
QJ14042-MS1@MH1H17S	UNK	10/18/16 12:04:26 pm	3.2610	65122	0.00			N/A
Replicates 65122.2								
QJ14042-DUP1@MH1H17D	UNK	10/18/16 12:06:58 pm	0.5477	11695	0.00			N/A
Replicates 11694.6								
6100165-05@MH1H18	UNK	10/18/16 12:09:31 pm	0.1293	3455	0.00			N/A
Replicates 3455.1								
6100165-06@MH1H19	UNK	10/18/16 12:12:03 pm	0.2792	6409	0.00			N/A
Replicates 6408.6								
6100165-07@MH1H20	UNK	10/18/16 12:14:36 pm	0.1545	3951	0.00			N/A
Replicates 3951.5								
SEQ-CCV@CCV6	CCV	10/18/16 12:17:08 pm	3.1560	63061	0.00			105.20
Replicates 63061.4								
SEQ-CCB@CCB6	CCB	10/18/16 12:19:39 pm	-0.0158	597	0.00			N/A
Replicates 597.2								
6100165-08@MH1H21	UNK	10/18/16 12:22:12 pm	0.1344	3557	0.00			N/A
Replicates 3556.9								
6100165-09@MH1H22	UNK	10/18/16 12:24:45 pm	0.2405	5645	0.00			N/A
Replicates 5644.9								
6100165-10@MH1H23	UNK	10/18/16 12:27:17 pm	0.2495	5823	0.00			N/A
Replicates 5822.7								

10/18/2016

PREPARATION BENCH SHEET

QJ14047

Bonner Analytical Testing Co.

Matrix: Soil
Analysis: ISM023 - Mercury
Prepared: 10/17/2016 13:00 using METALS - 7471B

Case: 46282
SDG: MH1J05
Work Order: 6100170

Lab Number	Sample ID	Initial (g)	Final (mL)	Spike ID	Spike Amount (uL)	Spike ID	Spike Amount (uL)
6100170-01	MH1J05	0.5	100				
6100170-02	MH1J06	0.5	100				
6100170-03	MH1J07	0.5	100				
6100170-04	MH1J08	0.5	100				
6100170-05	MH1J09	0.5	100				
6100170-06	MH1J10	0.5	100				
6100170-07	MH1J11	0.5	100				
6100170-08	MH1J12	0.5	100				
6100170-09	MH1J13	0.5	100				
6100170-10	MH1J14	0.5	100				
6100170-11	MH1J15	0.5	100				
6100170-12	MH1J16	0.5	100				
6100170-13	MH1J17	0.5	100				
6100170-14	MH1J18	0.5	100				
6100170-15	MH1J19	0.5	100				
6100170-16	MH1J20	0.5	100				
6100170-17	MH1J21	0.5	100				
6100170-18	MH1J22	0.5	100				
QJ14047-MS1	MH1J05S	0.5	100	B5I0091	2500		
QJ14047-DUP1	MH1J05D	0.5	100				
QJ14047-BLK1	PBS01	0.5	100				

Table 1: Quality Controls (QC), Reagents (R) and Standards (Std)

LIMS ID	Description	Vendor	LotNum
B3E0023	R - Distilled Water	In-House	NA
B5I0091	HG - S-WS (100ppb)	Inorganic Ventures	H2-HG02129
B6I0024	R - Potassium Persulfate	In-House	NA
B6J0126	R - Sodium Chloride Hydroxylam	In-House	NA
B6J0127	R - Stannous Chloride	In House	010SC505
B6J0128	R - Potassium Permanganate	In House	NA
B6J0177	R - Aqua Regia	na	na

Table 3: Hg Calibration Curve Procedure

EPA ID	Std. Discription	WATER		SOIL	
		Spike V. (uL)	F.V. (mL)	Spike V. (uL)	F.V. (mL)
S01/ICB/CCB	Cal Blank/ICB/CCB	0	50	0	100
S02	Cal Std 0.1 ppb	50	50	100	100
S03	Cal Std 0.2 ppb	100	50	200	100
S04	Cal Std 0.5 ppb	250	50	500	100
S05	Cal Std 1 ppb	500	50	1000	100
S06/CCV	Cal Std/CCV 3 ppb	1500	50	3000	100
S07	Cal Std 6 ppb	3000	50	6000	100
ICV	ICV 4.0 ppb	500	50	1000	100

These are the spike values used for Water and Soil calibration curves. These standards are associated to this batch only and were digested under the same conditions as the samples. See Matrix type to determine which spike volume (Spike V.) and final volume (F.V.) were used.

Table 2: Hg Digestion Apparatus

Balance ID		Mettler IV					
Dig. Block ID		1					
Start Temp	Stop Temp	95	97				
Start Time	Stop Time	1300	1340				

Comments:

VCT
10/28/2016

PREPARATION BENCH SHEET

QJ14047

Bonner Analytical Testing Co.

Matrix: Soil
Analysis: QC
Prepared: 10/17/2016 13:00 using METALS - 7471B

Case:
SDG: MH1J05
Work Order: 6100170

Lab Number	Sample ID	Initial (g)	Final (mL)	Spike ID	Spike Amount (uL)	Spike ID	Spike Amount (uL)

MSB2 10/17/2016

Perpared By Date

10/28/2016

Preparation Reviewed By Date

Bonner Analytical Testing Company
Analytical Run Log

Instrument ID: CETAC01 **Case:** 46282 **FileID:** H101816A **Std. Prep Date:** 101816

Analyst: NDP **SDG:** MH1J05 **Calibration ID:** B644075 **Std. Log Page No.:** 30

Lab Number	EPA ID	Analyzed Date/Time	STD ID	DF	Elements list are used per QC/sample
BJ62712-CAL1	S01	10/18/16 9:09	B6G0104	1	HG
BJ62712-CAL2	S02	10/18/16 9:11	B6G0103	1	HG
BJ62712-CAL3	S03	10/18/16 9:14	B6G0102	1	HG
BJ62712-CAL4	S04	10/18/16 9:17	B6G0101	1	HG
BJ62712-CAL5	S05	10/18/16 9:19	B6G0100	1	HG
BJ62712-CAL6	S06	10/18/16 9:22	B6G0099	1	HG
BJ62712-CAL7	S07	10/18/16 9:24	B6G0098	1	HG
BJ62712-ICV1	ICV01	10/18/16 9:27	B6G0105	1	HG
BJ62712-ICB1	ICB01	10/18/16 9:29	B6G0104	1	HG
BJ62712-CCV1	CCV01	10/18/16 9:32	B6G0099	1	HG
BJ62712-CCB1	CCB01	10/18/16 9:34	B6G0104	1	HG
BJ62712-CCV2	CCV02	10/18/16 10:05	B6G0099	1	HG
BJ62712-CCB2	CCB02	10/18/16 10:07	B6G0104	1	HG
BJ62712-CCV3	CCV03	10/18/16 10:35	B6G0099	1	HG
BJ62712-CCB3	CCB03	10/18/16 10:37	B6G0104	1	HG
QJ14047-BLK1	PBS01	10/18/16 10:40		1	HG
6100170-01	MH1J05	10/18/16 10:43		1	HG
QJ14047-MS1	MH1J05S	10/18/16 10:45		1	HG
QJ14047-DUP1	MH1J05D	10/18/16 10:48		1	HG
6100170-02	MH1J06	10/18/16 10:50		1	HG
6100170-03	MH1J07	10/18/16 10:53		1	HG
6100170-04	MH1J08	10/18/16 10:55		1	HG
6100170-05	MH1J09	10/18/16 10:58		1	HG
6100170-06	MH1J10	10/18/16 11:00		1	HG
6100170-07	MH1J11	10/18/16 11:03		1	HG
BJ62712-CCV4	CCV04	10/18/16 11:05	B6G0099	1	HG
BJ62712-CCB4	CCB04	10/18/16 11:08	B6G0104	1	HG
6100170-08	MH1J12	10/18/16 11:10		1	HG
6100170-09	MH1J13	10/18/16 11:13		1	HG
6100170-10	MH1J14	10/18/16 11:15		1	HG
6100170-11	MH1J15	10/18/16 11:18		1	HG
6100170-12	MH1J16	10/18/16 11:20		1	HG
6100170-13	MH1J17	10/18/16 11:23		1	HG

Bonner Analytical Testing Company
Analytical Run Log

Instrument ID: CETAC01 **Case:** 46282 **FileID:** H101816A **Std. Prep Date:** 10/18/16

Analyst: NDP **SDG:** MH1J05 **Calibration ID:** B644075 **Std. Log Page No.:** 30 10/20

Lab Number	EPA ID	Analyzed Date/Time	STD ID	DF	Elements list are used per QC/sample
6100170-14	MH1J18	10/18/16 11:26		1	HG
6100170-15	MH1J19	10/18/16 11:28		1	HG
6100170-16	MH1J20	10/18/16 11:31		1	HG
6100170-17	MH1J21	10/18/16 11:33		1	HG
6100170-18	MH1J22	10/18/16 11:36		1	HG
BJ62712-CCV5	CCV05	10/18/16 11:38	B6G0099	1	HG
BJ62712-CCB5	CCB05	10/18/16 11:41	B6G0104	1	HG

Bonner Analytical Testing Company
Instrument: CETAC01

Bonner Analytical Testing Company
ISM02.3 Hg Standard and Quality Control Log

Analyst: LEM Date: 10/18/16

Description	EPA ID	Amount Spiked	Volume Made	Vendor	Lot Number	Date Lot Expires	Final Conc.	LIMS ID
Mercury Working Standard	S-WS		50 mL	In House	NA	1 Day	100 ug/L	B6G0097
MSHG-10 PPM		0.5 mL		Inorganic Ventures	J2-HG02138	Jul-17		B6G0096
Initial Calibration High	S07		100 mL (Soil) 50 mL (Water)	In House	NA	1 Day	6.0 ug/L	B6G0098
Mercury Working Standard	S-WS	6.0 mL (Soil) 3.0 mL (Water)			From S-WS			B6G0097
Initial Calibration Mid/ Continuing Calibration Verification	S06/ CCV		100 mL (Soil) 50 mL (Water)	In House	NA	1 Day	3.0 ug/L	B6G0099
Mercury Working Standard	S-WS	3.0 mL (Soil) 1.5 mL (Water)			From S-WS			B6G0097
Initial Calibration Mid	S05		100 mL (Soil) 50 mL (Water)	In House	NA	1 Day	1.0 ug/L	B6G0100
Mercury Working Standard	S-WS	1.5 mL (Soil) 0.5 mL (Water)			From S-WS			B6G0097
Initial Calibration Low	S04		100 mL (Soil) 50 mL (Water)	In House	NA	1 Day	0.5 ug/L	B6G0101
Mercury Working Standard	S-WS	0.5 mL (Soil) 0.25 mL (Water)			From S-WS			B6G0097
Initial Calibration Low	S03		100 mL (Soil) 50 mL (Water)	In House	NA	1 Day	0.2 ug/L	B6G0102
Mercury Working Standard	S-WS	0.2 mL (Soil) 0.1 mL (Water)			From S-WS			B6G0097
Initial Calibration Low	S02		100 mL (Soil) 50 mL (Water)	In House	NA	1 Day	0.1 ug/L	B6G0103
Mercury Working Standard	S-WS	0.1 mL (Soil) 0.05 mL (Water)			From S-WS			B6G0097
Initial Calibration Blank	S01		100 mL (Soil) 50 mL (Water)	In House	NA	1 Day	NA	B6G0104
Initial Calibration Blank	ICB							
Continuing Calibration Blank	CCB							
Initial Calibration Verification	ICV		100 mL (Soil) 50 mL (Water)	In House	NA	1 Day	4.0 ug/L	B6G0105
ICV5 (0508)				USEPA (0508)	0508	NA		B6G0106
Matrix Spike	MS		100 mL (Soil) 50 mL (Water)	In House	NA	1 Day	1.0 ug/L	NA
Mercury Working Standard	S-WS	1.0 mL (Soil) 0.5 mL (Water)			From S-WS			B6G0097

Note: All standards and quality control are brought to final volume with the same water used for S01, ICB & CCB.

10/18/16

REAGENTS PREPARATION LOG

Sodium Chloride Hydroxylamine Sulfate Solution

LIMS ID: B6J0126

Preparation Date: 10/11/2016 Prepared By: LEM

Reagents	Conc. mg/L	Amount	Supplier	Lot Number	Received Date	Expiration Date
Distilled H2O	Neat	1000 mL	BATCO	NA	NA	NA
Hydroxylamine Sulfate	Neat	120g	ALFA AESAR	Z16A019	04/26/16	04/26/19
Sodium Chloride	Neat	120g	FISHER	140290	09/22/16	09/22/19

Balance ID MIV

Instrument Cetac M-7600

Final Volume 1 Liter

Concentration 24%

Used For Mercury Digestion

Expiration Date 6 months after preparation date

Comments: 120 g Hydroxylamine Sulfate and 120 g NaCl to 1 L of Distilled Water

Reviewed By: 10/11/16

Supervisor/Date

REAGENTS PREPARATION LOG

Potassium Persulfate Solution

Lims ID: B610024

Preparation Date: 09/06/2016

Prepared By: LFM

Reagents	Conc. mg/L	Amount	Supplier	Lot Number	Received Date	Expiration Date
Distilled H2O	Neat	1000 mL	BATCO	NA	NA	NA
Potassium Persulfate	Neat	50 g	ARCOS	A0367996	04/12/16	04/12/19

Balance ID _____

Instrument Cetac M-7600

Final Volume 1 Liter

Concentration 5%

Used For Mercury Digestion

Expiration Date 6 months after preparation date

Comments: 50 grams to 1000 mL of Distilled Water

Reviewed By: [signature] 9/9/16

Supervisor/Date

Bonner Analytical Testing Company

Reagents Preparation Log

Stannous Chloride

LIMS ID: BLJ0127

Preparation Date: 10/11/2016

Prepared By: LEM

Reagents	Concentration (mg/L)	Amount	Vendor	Lot Number	Date Received	Expiration Date
Distilled Water	Neat	900 mL	BATCO	NA	NA	NA
Stannous Chloride	Neat	100 g	BDH	01D6G505	06/09/16	11/2018
Hydrochloric Acid	Neat	100 mL	Fisher Scientific	4115100	02/10/16	11/16/2010

Balance ID: MIV

Instrument: CETAC01

Final Volume: 1 Liter

Concentration 10%

Used For: Mercury Analysis

Expiration Date: Six Months After Preparation Date

Reviewed By: 10/11/16
Supervisor/Date

Percent Solids/Moisture

Analyst: MSB2

Reviewer: VCJ

Batch ID: QJ18001

SDG: MH1J05
CASE: 46282

Oven	Date In	Time In	Date Out	Date Out
Oven#1	10/16/16	19:00	10/17/16	22:00

Volume

INST

A	B	C	D	E	F	G	H
SampID	Client ID	Pan #	PAN Weight (g)	Pan + Sample (g)	Pan + Dry Sample (g)	Value % Solids	Value % Moisture
QJ18001-DUP1	Duplicate	1	1.0100	8.0600	7.1200	86.6667	13.3333
6100170-01	MH1J05	2	1.0200	8.2800	7.3100	86.6391	13.3609
6100170-02	MH1J06	3	1.0100	7.1900	5.0700	65.6958	34.3042
6100170-03	MH1J07	4	0.9800	7.5800	6.5200	83.9394	16.0606
6100170-04	MH1J08	5	1.0100	7.2100	6.0900	81.9355	18.0645
6100170-05	MH1J09	6	1.0000	7.3200	6.6700	89.7152	10.2848
6100170-06	MH1J10	7	1.0100	7.6400	4.7900	57.0136	42.9864
6100170-07	MH1J11	8	1.0400	8.5600	8.2300	95.6117	4.3883
6100170-08	MH1J12	9	0.9800	7.1300	6.2200	85.2033	14.7967
6100170-09	MH1J13	10	1.0100	7.2300	5.7600	76.3666	23.6334
6100170-10	MH1J14	11	1.0100	8.0800	6.0500	71.2871	28.7129
6100170-11	MH1J15	12	1.0200	7.8500	6.6600	82.5769	17.4231
6100170-12	MH1J16	13	1.0100	7.3700	4.9300	61.6352	38.3648
6100170-13	MH1J17	14	1.0100	7.8000	7.0900	89.5434	10.4566
6100170-14	MH1J18	15	1.0100	7.6900	5.0200	60.0299	39.9701
6100170-15	MH1J19	16	1.0300	7.2300	6.6200	90.1613	9.8387
6100170-16	MH1J20	17	1.0000	7.6000	4.9100	59.2424	40.7576
6100170-17	MH1J21	18	1.0100	7.4300	7.0200	93.6137	6.3863
6100170-18	MH1J22	19	1.0100	7.6400	4.7300	56.1086	43.8914

ORIGIN ID:WHHA (303) 312-7726
SCOTT WALKER
TECHLAW
16194 WEST 45TH DRIVE

GOLDEN, CO 80403
UNITED STATES US

SHIP DATE: 12OCT16
ACTWGT: 50.00 LB
CAD: 102215893/INET3790
DIMS: 20x11x14 IN

BILL SENDER

TO CHADWELL SHANNON
BONNER ANALYTICAL TESTING COMPANY
2703 OAK GROVE ROAD

HATTIESBURG MS 39402
(601) 264-2854 REF: 0307240202B1AA8M500A119
INV:
PO: DEPT:

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BONNER ANALYTICAL TESTING COMPANY
2703 OAK GROVE ROAD

ORIGIN ID:WHHA (303) 312-7726
SCOTT WALKER
TECHLAW
16194 WEST 45TH DRIVE

GOLDEN, CO 80403
UNITED STATES US

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Signature: P. Ash

ORIGIN ID:WHHA (303) 312-7726
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TECHLAW
16194 WEST 45TH DRIVE

GOLDEN, CO 80403
UNITED STATES US

SHIP DATE: 12OCT16
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2703 OAK GROVE ROAD

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Signature: P. Ash

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UNITED STATES US

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SCOTT WALKER
TECHLAW
16194 WEST 45TH DRIVE

GOLDEN, CO 80403
UNITED STATES US

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TO CHADWELL SHANNON
BONNER ANALYTICAL TESTING COMPANY
2703 OAK GROVE ROAD

HATTIESBURG MS 39402
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Quality Environmental Containers
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DATE 10/12/16
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Signature: P. Ach

CUSTODY SEAL QEC
Quality Environmental Containers
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DATE 10/12/16
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ORIGIN ID:WHHA (303) 312-7726
SCOTT WALKER
TECHLAW
16194 WEST 45TH DRIVE

GOLDEN, CO 80403
UNITED STATES US

SHIP DATE: 12OCT16
ACTWGT: 25.00 LB
CAD: 102215893/INET3790
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BILL SENDER

TO CHADWELL SHANNON
BONNER ANALYTICAL TESTING COMPANY
2703 OAK GROVE ROAD

HATTIESBURG MS 39402
(601) 264-2854 REF: 03072402028 1AA8M500A119
INV:
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PRIORITY OVERNIGHT

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0263
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After printing this label:

P. Aich
10-13-16
0855
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CUSTODY SEAL QEC
Quality Environmental Containers
800-255-3950 · 304-255-3900
DATE 10/12/16
SIGNATURE

CUSTODY SEAL QEC
Quality Environmental Containers
800-255-3950 · 304-255-3900
DATE 10/12/16
SIGNATURE

COPY
ORIGINAL IN CSF: MHIG05
Signature: P. Aich

Bonner Analytical Testing Company

SAMPLE RECEIPT FORM

288

Client: CLP

Date: 10-13-16

Sample Type: Grab Composite

SDG#: MHIJ05

Case#: 46282

Matrix: SW (stormwater) GW (groundwater) WW (wastewater) DW (drinkingwater) SL (sludge)

SO (soil) AS (asbestos) PE (petroleum) other

1) Does this project fall under NPDES, RCRA, CLP, Litigation or other EPA guidelines?	NA	YES	NO
2) Did Cooler come with airbill/sticker? Circle carrier: UPS, FedEx, other:	NA	YES	NO
If YES, enter airbill number here: See below			
3) Are custody seals intact? Custody Seal#: N/A Custody Seal#: N/A	NA	YES	NO
4) Are all bottles sealed in separate plastic bags?	NA	YES	NO
5) Are samples requiring no headspace, headspace free?	NA	YES	NO
6) Packing Material: Bubblewrap, peanuts, vermiculite, ice, other:		YES	NO
7) Are chains of custody filled out properly? (ink, signed, dates, QC listed, etc.)		YES	NO
8) Are all bottle labels complete and agree with COC? (ID, time, date, preservation)		YES	NO
9) Were all bottles received intact?		YES	NO
10) Were correct containers used for the tests indicated? Who's: BATCO/Client		YES	NO
11) Was a sufficient aliquot of sample sent for tests indicated?		YES	NO
12) Are samples within holding times for requested analysis?		YES	NO
13) Sample Preservation?			
A) If samples were collected within 6 hours of receipt, has chilling begun?	NA	YES	NO
B) If samples were received beyond 6 hours of collection:			
1) Is there a temperature blank?	NA	YES	NO
2) Temperature 0°C All Coolers			
C) Were correct preservatives added to sample/s?	NA	YES	NO

14) Describe "NO" items for the above if # 1) response is NA or YES

No temp blanks 7774 5569 7187 / 7774 5569 6905 / 7774 5569 7132 7774 5569 7235 / 7774 5569 7740 / 7774 5569 7739 / 7774 5569 7522 7774 5569 7420 / 7774 5569 6548 / 7774 5569 7338

15) Is there a Corrective Action and/or Client Contact form attached? YES NO

Signature: P. Aick

COPY

ORIGINAL IN CSF: MHIF86

Signature: P. Aick

Rev No. 1.4

Date: 07/15/05

WORK ORDER

6100170

Bonner Analytical Testing Co.

Client: Environmental Protection Agency, Region 8
Case: 46282 SDG: MH1J05

Report To:
Environmental Protection Agency, Region 8
Don Goodrich
1595 Wynkoop Street
Denver, CO 80202-1129
Phone: (303)-312-6687
Fax: (303) 312-7517

Date Due: 11/03/2016 16:00 (15 day TAT)

Cooler ID: Cooler-132	Temp Received: 0.0°C	Airbill No.: 777455697132	TR/COC No.: 2016_OCT_Sed&Soil_4628
Cooler ID: Cooler-187	Temp Received: 0.0°C	Airbill No.: 777455697187	TR/COC No.: 2016_OCT_Sed&Soil_4628
Cooler ID: Cooler-235	Temp Received: 0.0°C	Airbill No.: 777455697235	TR/COC No.: 2016_OCT_Sed&Soil_4628
Cooler ID: Cooler-420	Temp Received: 0.0°C	Airbill No.: 777455697420	TR/COC No.: 2016_OCT_Sed&Soil_4628
Cooler ID: Cooler-522	Temp Received: 0.0°C	Airbill No.: 777455697522	TR/COC No.: 2016_OCT_Sed&Soil_4628
Cooler ID: Cooler-739	Temp Received: 0.0°C	Airbill No.: 777455697739	TR/COC No.: 2016_OCT_Sed&Soil_4628
Cooler ID: Cooler-740	Temp Received: 0.0°C	Airbill No.: 777455697740	TR/COC No.: 2016_OCT_Sed&Soil_4628

LAB ID	EPA ID	Matrix	Sampled Date/Time	Received Date/Time	Cooler ID	QC Source
6100170-01	MH1J05	[Soil]	09/27/2016 12:30	10/13/2016 08:55	Cooler-420	QC

Analysis: ISM023 - ICPAES (1-4)
Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - Mercury
Analysis: Solids, Dry Weight

6100170-02	MH1J06	[Soil]	09/27/2016 11:25	10/13/2016 08:55	Cooler-132	

Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - Mercury
Analysis: Solids, Dry Weight
Analysis: ISM023 - ICPAES (1-4)

6100170-03	MH1J07	[Soil]	09/27/2016 11:25	10/13/2016 08:55	Cooler-522	

Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - ICPAES (1-4)
Analysis: ISM023 - Mercury
Analysis: Solids, Dry Weight

WORK ORDER

6100170

Bonner Analytical Testing Co.

Client: Environmental Protection Agency, Region 8
Case: 46282 SDG: MH1J05

LAB ID	EPA ID	Matrix	Sampled Date/Time	Received Date/Time	Cooler ID	QC Source
6100170-04	MH1J08	[Soil]	09/27/2016 09:35	10/13/2016 08:55	Cooler-187	

Analysis: ISM023 - ICPAES (1-4)
Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - Mercury
Analysis: Solids, Dry Weight

6100170-05	MH1J09	[Soil]	09/27/2016 09:35	10/13/2016 08:55	Cooler-740	

Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - Mercury
Analysis: ISM023 - ICPAES (1-4)
Analysis: Solids, Dry Weight

6100170-06	MH1J10	[Soil]	09/27/2016 18:00	10/13/2016 08:55	Cooler-740	

Analysis: ISM023 - ICPAES (1-4)
Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - Mercury
Analysis: Solids, Dry Weight

6100170-07	MH1J11	[Soil]	09/27/2016 18:00	10/13/2016 08:55	Cooler-235	

Analysis: ISM023 - Mercury
Analysis: ISM023 - ICPAES (1-4)
Analysis: Solids, Dry Weight
Analysis: ISM023 - ICPMS (2658.0)

6100170-08	MH1J12	[Soil]	09/27/2016 16:30	10/13/2016 08:55	Cooler-132	

Analysis: Solids, Dry Weight
Analysis: ISM023 - Mercury
Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - ICPAES (1-4)

6100170-09	MH1J13	[Soil]	09/27/2016 16:30	10/13/2016 08:55	Cooler-187	

Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - ICPAES (1-4)
Analysis: ISM023 - Mercury
Analysis: Solids, Dry Weight

6100170-10	MH1J14	[Soil]	09/28/2016 13:00	10/13/2016 08:55	Cooler-739	

Analysis: Solids, Dry Weight
Analysis: ISM023 - ICPAES (1-4)
Analysis: ISM023 - Mercury
Analysis: ISM023 - ICPMS (2658.0)

6100170-11	MH1J15	[Soil]	09/28/2016 13:00	10/13/2016 08:55	Cooler-187	

Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - Mercury
Analysis: Solids, Dry Weight
Analysis: ISM023 - ICPAES (1-4)

WORK ORDER

6100170

Bonner Analytical Testing Co.

Client: Environmental Protection Agency, Region 8
Case: 46282 SDG: MH1J05

LAB ID	EPA ID	Matrix	Sampled Date/Time	Received Date/Time	Cooler ID	QC Source
6100170-12	MH1J16	[Soil]	09/28/2016 17:50	10/13/2016 08:55	Cooler-739	

Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - Mercury
Analysis: Solids, Dry Weight
Analysis: ISM023 - ICPAES (1-4)

6100170-13	MH1J17	[Soil]	09/28/2016 17:50	10/13/2016 08:55	Cooler-522	

Analysis: Solids, Dry Weight
Analysis: ISM023 - Mercury
Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - ICPAES (1-4)

6100170-14	MH1J18	[Soil]	09/29/2016 14:40	10/13/2016 08:55	Cooler-132	

Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - Mercury
Analysis: ISM023 - ICPAES (1-4)
Analysis: Solids, Dry Weight

6100170-15	MH1J19	[Soil]	09/29/2016 14:40	10/13/2016 08:55	Cooler-235	

Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - ICPAES (1-4)
Analysis: Solids, Dry Weight
Analysis: ISM023 - Mercury

6100170-16	MH1J20	[Soil]	09/29/2016 16:00	10/13/2016 08:55	Cooler-740	

Analysis: ISM023 - ICPAES (1-4)
Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - Mercury
Analysis: Solids, Dry Weight

6100170-17	MH1J21	[Soil]	09/29/2016 16:00	10/13/2016 08:55	Cooler-235	

Analysis: ISM023 - Mercury
Analysis: ISM023 - ICPMS (2658.0)
Analysis: ISM023 - ICPAES (1-4)
Analysis: Solids, Dry Weight

6100170-18	MH1J22	[Soil]	09/29/2016 17:30	10/13/2016 08:55	Cooler-187	

Analysis: ISM023 - ICPMS (2658.0)
Analysis: Solids, Dry Weight
Analysis: ISM023 - ICPAES (1-4)
Analysis: ISM023 - Mercury

P. Ail
Reviewed By

10-14-16
Date

Bonner Analytical Testing Co.
In-House Chain of Custody
for Samples

SDG Number: MH1J05 **Case No.:** 46282

Work Order No.: 6100170

1) MH1J05	7) MH1J11	13) MH1J17	19)
2) MH1J06	8) MH1J12	14) MH1J18	20)
3) MH1J07	9) MH1J13	15) MH1J19	21)
4) MH1J08	10) MH1J14	16) MH1J20	22)
5) MH1J09	11) MH1J15	17) MH1J21	23)
6) MH1J10	12) MH1J16	18) MH1J22	24)

Sample to be used for QC: MH1J05

Name: P. Aik	Signature: P. Aik	Date &Time: 10-13-16 1516	Purpose: S
Name: Will Thompson	Signature:	Date &Time: 10-16-16 1425	Purpose: W
Name: Will Thompson	Signature:	Date &Time: 10-16-16 1625	Purpose: S
Name:	Signature:	Date &Time:	Purpose:
Name:	Signature:	Date &Time:	Purpose:
Name:	Signature:	Date &Time:	Purpose:
Name:	Signature:	Date &Time:	Purpose:
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Name:	Signature:	Date &Time:	Purpose:
Name:	Signature:	Date &Time:	Purpose:
Name:	Signature:	Date &Time:	Purpose:

Purpose: S - Storage; A - Analyze; DP - Disposal; D - Digest; W - Weigh; P-Pour; T-TCLP;

Bonner Analytical Testing Co.
Digestate Chain of Custody
for Samples

SDG Number: MH1J05 **Case No.:** 46282

Work Order No.: 6100170 **Fraction:** AES

1) MH1J05	7) MH1J11	13) MH1J17	19)
2) MH1J06	8) MH1J12	14) MH1J18	20)
3) MH1J07	9) MH1J13	15) MH1J19	21)
4) MH1J08	10) MH1J14	16) MH1J20	22)
5) MH1J09	11) MH1J15	17) MH1J21	23)
6) MH1J10	12) MH1J16	18) MH1J22	24)

Sample to be used for QC: MH1J05

Name	Signature	Date &Time	Purpose
Will Thompson	[illegible]	10-16-16 1425	W
[illegible]	[illegible]	10/17/16 0800	S
[illegible]	[illegible]	10/17/16 1000	D
LMERRW	[illegible]	10/17/16 1630	S
[illegible]	[illegible]	10/17/16 1900	A
[illegible]	[illegible]	10/18/16 0900	S
M. Johnson	[illegible]	10/27/16 1000	A
M. John	[illegible]	10/27/16 1030	S

Purpose: S - Storage; A - Analyze; DP - Disposal; D - Digest; W - Weigh; P-Pour; T-TCLP;

Bonner Analytical Testing Co.
Digestate Chain of Custody
for Samples

SDG Number: MH1J05 **Case No.:** 46282

Work Order No.: 6100170 **Fraction:** _____

1) MH1J05	7) MH1J11	13) MH1J17	19)
2) MH1J06	8) MH1J12	14) MH1J18	20)
3) MH1J07	9) MH1J13	15) MH1J19	21)
4) MH1J08	10) MH1J14	16) MH1J20	22)
5) MH1J09	11) MH1J15	17) MH1J21	23)
6) MH1J10	12) MH1J16	18) MH1J22	24)

Sample to be used for QC: MH1J05

Name	Signature	Date &Time	Purpose
Will Thompson	[signature]	10-16-16 1425	W
M.R	[signature]	10/17/16 0500	S
M.R	[signature]	10/17/16 1152	D
M.R	[signature]	10/17/16 1220	S
L MEADOWS	[signature]	10/18/16 0900	I
L MEADOWS	[signature]	10/18/16 1700	S

Purpose: S - Storage; A - Analyze; DP - Disposal; D - Digest; W - Weigh; P-Pour; T-TCLP;

Bonner Analytical Testing Co.
Digestate Chain of Custody
for Samples

SDG Number: MH1J05 **Case No.:** 46282

Work Order No.: 6100170 **Fraction:** Ag

1) MH1J05	7) MH1J11	13) MH1J17	19)
2) MH1J06	8) MH1J12	14) MH1J18	20)
3) MH1J07	9) MH1J13	15) MH1J19	21)
4) MH1J08	10) MH1J14	16) MH1J20	22)
5) MH1J09	11) MH1J15	17) MH1J21	23)
6) MH1J10	12) MH1J16	18) MH1J22	24)

Sample to be used for QC: MH1J05

Name	Signature	Date &Time	Purpose
Will Thompson	Will T.	10-16-16 1425	W
M. A	[illegible]	10.16.17 1800	S
M. A	[illegible]	10.17.17 1300	D stored @ 1500
Nathan Pu	Nathan Pu	10-18-16 0909	A
M. Bu	[illegible]	10.19.16 1400	DP

Purpose: S - Storage; A - Analyze; DP - Disposal; D - Digest; W - Weigh; P-Pour; T-TCLP;

Tricia Aiken

From: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Sent: Monday, October 17, 2016 8:44 AM
To: 'Chris Bonner'; 'Max Bonner'; Tricia Aiken
Cc: "Goodrich, Donald"
Subject: Region 08 | Case 46282 | Lab BON | Issue Multiple | FINAL

Good morning,

Discrepancies with tags, jars, and/or COC
Issue 1: There is no relinquished time on any of the 24 pages of the COC.
Resolution 1: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Issue 2: The COC lists the Case as 46382 in the instruction box; however, these samples are for Case 46282.
Resolution 2: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Insufficient/inappropriate designation of laboratory QC
Issue 3: The COC states "QC to be determined by lab." The laboratory has provided the list below of SDGs and the sample selected for QC.

SDG	QC
MH1F86	MH1F87
MH1G05	MH1G06
MH1G23	MH1G28
MH1G77	MH1G80
MH1G59	MH1G59
MH1H14	MH1H17
MH1G95	MH1G96
MH1H50	MH1H52
MH1H32	MH1H35
MH1H68	MH1H71
MH1H86	MH1H86
MH1J05	MH1J05
MH1J23	MH1J23
MH1J41	MH1J51
MH1J59	MH1J59
MH1J77	MH1J77
MH1J95	MH1J95
MH1K14	MH1K16
MH1K32	MH1K35
MH1K50	MH1K51
MH1K68	MH1K71
MH1K86	MH1K97
MH1L05	MH1L08

Resolution 3: Per Region 8, the samples selected for QC are acceptable to the Region. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Missing temperature blank
Issue 4: There were no temperature blanks in any of the coolers. A thermometer was inserted directly into the cooler, allowed to stabilize, and the temperature was then recorded. All coolers were received at 0°C.
Resolution 4: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Non-standard matrix
Issue 5: The laboratory is asking if they should decant or homogenize the sediment samples.
Resolution 5: Per Region 8, the laboratory shall decant the sediment samples. The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Laboratory problems
Issue 6: Three of the 10 airbills were not removable. The laboratory took pictures of those labels and removed what parts of the label were possible.
Resolution 6: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Issue 7: The laboratory received 419 samples of the 500 that were scheduled and the shipping end date is tomorrow, 10/14/16. Please advise if this Case is complete.
Resolution 7: Per Region 8, shipping for this Case is complete. . The laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Please let me know if you have any questions. To waive any defect(s) associated with this issue, please contact your Regional CLP COR.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 1, 2, 7, and 8
CSRA, LLC
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 | Alexandra.Vanaman@csra.com
www.csra.com

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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Monday, October 17, 2016 9:06 AM
To: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Cc: Walker, Scott <Walker.Scott@epa.gov>
Subject: RE: Region 08 | Case 46282 | Lab BON | Issue Multiple

Ali, resolve the issues as following:

Issue 1: The laboratory shall make note of the issue and continue with sample analysis.
Issue 2: The laboratory shall make note of the issue and continue with sample analysis.
Issue 3: The samples selected for QC are acceptable to the Region.
Issue 4: The laboratory shall make note of the issue and continue with sample analysis.
Issue 5: The laboratory shall decant the sediment samples.
Issue 6: The laboratory shall make note of the issue and continue with sample analysis.
Issue 7: The case is complete.

Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Friday, October 14, 2016 8:50 AM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>
Cc: Walker, Scott <Walker.Scott@epa.gov>
Subject: Region 08 | Case 46282 | Lab BON | Issue Multiple

Good morning,

BON is reporting the following issues regarding Case 46282. Please advise.

Discrepancies with tags, jars, and/or COC
Issue 1: There is no relinquished time on any of the 24 pages of the COC.

Issue 2: The COC lists the Case as 46382 in the instruction box; however, these samples are for Case 46282.

Insufficient/inappropriate designation of laboratory QC
Issue 3: The COC states "QC to be determined by lab." The laboratory has provided the list below of SDGs and the sample selected for QC.

SDG	QC
MH1F86	MH1F87
MH1G05	MH1G06
MH1G23	MH1G28
MH1G77	MH1G80
MH1G59	MH1G59
MH1H14	MH1H17
MH1G95	MH1G96
MH1H50	MH1H52
MH1H32	MH1H35
MH1H68	MH1H71
MH1H86	MH1H86

MH1J05	MH1J05
MH1J23	MH1J23
MH1J41	MH1J51
MH1J59	MH1J59
MH1J77	MH1J77
MH1J95	MH1J95
MH1K14	MH1K16
MH1K32	MH1K35
MH1K50	MH1K51
MH1K68	MH1K71
MH1K86	MH1K97
MH1L05	MH1L08

Missing temperature blank
Issue 4: There were no temperature blanks in any of the coolers. A thermometer was inserted directly into the cooler, allowed to stabilize, and the temperature was then recorded. All coolers were received at 0°C.

Non-standard matrix
Issue 5: The laboratory is asking if they should decant or homogenize the sediment samples.

Laboratory problems
Issue 6: Three of the 10 airbills were not removable. The laboratory took pictures of those labels and removed what parts of the label were possible.

Issue 7: The laboratory received 419 samples of the 500 that were scheduled and the shipping end date is tomorrow, 10/14/16. Please advise if this Case is complete.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 1, 2, 7, and 8
CSRA LLC
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 | Alexandra.Vanaman@csra.com
www.csra.com

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From: Tricia Aiken [mailto:taiken@batco.com]
Sent: Thursday, October 13, 2016 4:44 PM
To: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Cc: Max Bonner <maxbonner@batco.com>; Chris Bonner <cmbonner@batco.com>
Subject: Region 8 | Case 46282 | Sample Receipt

Alexandra;

On October 13, 2016 we received 419 soils in 10 coolers via FedEx air bills listed below

- 7774 5569 7187
- 7774 5569 6905
- 7774 5569 7132
- 7774 5569 7235
- 7774 5569 7740
- 7774 5569 7739
- 7774 5569 7522
- 7774 5569 7420
- 7774 5569 6548
- 7774 5569 7338

Custody seals were present and intact, Samples were in good condition except for the following discrepancies.

1. There is no relinquished time on any of the 24 pages of the TR/COC. Please advise.
2. There were no temp blanks in any of the cooler's a thermometer was inserted directly into the cooler, allowed to stabilize and the temp was then recorded; therefore the temp for all coolers was 0°C.
3. Please advise if the lab should decant or homogenize the sediment samples.
4. The TR/COC states "QC to be determined by lab" below is a list of SDG's and the sample selected for QC.

SDG	QC
MH1F86	MH1F87
MH1G05	MH1G06
MH1G23	MH1G28
MH1G77	MH1G80
MH1G59	MH1G59
MH1H14	MH1H17
MH1G95	MH1G96
MH1H50	MH1H52
MH1H32	MH1H35
MH1H68	MH1H71
MH1H86	MH1H86
MH1J05	MH1J05
MH1J23	MH1J23
MH1J41	MH1J51
MH1J59	MH1J59
MH1J77	MH1J77
MH1J95	MH1J95
MH1K14	MH1K16
MH1K32	MH1K35
MH1K50	MH1K51
MH1K68	MH1K71
MH1K86	MH1K97
MH1L05	MH1L08

5. 3 of the 10 air bills were not removable, the lab took pictures of those labels and removed what parts of the label were possible.
6. The TR/COC states Case# 46382 in the instruction box; however this is Case 46282.
7. The lab received 419 samples of the 500 that were scheduled, the shipping end date is tomorrow 10/14/16 please advise if this case is complete.

Thanks and have a blessed day;
Patricia Aiken
Bonner Analytical Testing
(601)264-2854

Tricia Aiken

From: Danganan, Eloise B <Eloise.Danganan@csra.com>
Sent: Monday, October 17, 2016 10:53 AM
To: Max Bonner; cmbonner@batco.com; ' (taiken@batco.com)'
Cc: goodrich.donald@epa.gov; Vanaman, Alexandra
Subject: REGION 8 | CASE 46282 | LAB BON | SOW ISM02.3 | CONTRACT EPW14029 | ISSUE DASS SUPPORT | FINAL

Good morning Max,

Regarding the lab's issue involving Case 46282, please see the Region's response below. In addition, as soon as the lab determines which samples will require an analysis change, please provide the information to SMO as soon as possible so that scheduling information may be updated accordingly.

ISSUE: The lab requests to move the following analytes from ICP-MS to ICP-AES due to elevated concentrations, As, Pb, Cu, Mn, & Zn. Bonner will keep the original MA prices for 1-4 and 11+.

REGION: what concentration levels are the labs finding for the metals in question? Is the lab seeing the elevated levels in all samples?

LAB: "All analytes are above the aes crql. If we identify a sample that's below CRQL we will analyze by icpms. In terms of concentrations all analytes we choosen to protect the icpms. For example, a large portion on the samples are over 10ppm for pb, zn &mn. They're actually high enough that we are having to do dilutions on the icp aes"

REGION: the Region approves reporting the metals in question from the ICP-AES as described below.

Thank you,

ELOISE DANGANAN
DASS Environmental Coordinator - Team Leader
CSRA Inc.
6361 Walker Lane, Alexandria, VA 22310
Office: 703-461-2019 | Eloise.Danganan@csra.com
www.csra.com

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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Monday, October 17, 2016 11:26 AM
To: Danganan, Eloise B <Eloise.Danganan@csra.com>
Subject: RE: REGION 8 | CASE 46282 | LAB BON | SOW ISM02.3 | CONTRACT EPW14029 | ISSUE DASS SUPPORT

Hi Eloise, the Region approves reporting the metals in question from the ICP-AES as described below.

Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Danganan, Eloise B [mailto:Eloise.Danganan@csra.com]
Sent: Monday, October 17, 2016 9:16 AM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>
Subject: REGION 8 | CASE 46282 | LAB BON | SOW ISM02.3 | CONTRACT EPW14029 | ISSUE DASS SUPPORT

Hi Don,

Regarding the issue involving Case 46282, the lab has provided the following additional information.

LAB: "All analytes are above the aes crql. If we identify a sample that's below CRQL we will analyze by icpms. In terms of concentrations all analytes we choosen to protect the icpms. For example, a large portion on the samples are over 10ppm for pb, zn &mn. They're actually high enough that we are having to do dilutions on the icp aes"

Thank you,

ELOISE DANGANAN
DASS Environmental Coordinator - Team Leader
CSRA Inc.
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From: maxbonner@batco.com [mailto:maxbonner@batco.com]
Sent: Monday, October 17, 2016 11:14 AM
To: Danganan, Eloise B <Eloise.Danganan@csra.com>; ' (taiken@batco.com)' <taiken@batco.com>; 'Chris Bonner' <cmbonner@batco.com>
Cc: Brett Moody (moody.brett@epa.gov) <moody.brett@epa.gov>
Subject: Re: REGION 8 | CASE 46282 | LAB BON | SOW ISM02.3 | CONTRACT EPW14029 | ISSUE DASS SUPPORT

All analytes are above the aes crql. If we identify a sample that's below CRQL we will analyze by icpms. In terms of concentrations all analytes we choosen to protect the icpms. For example, a large portion on the

samples are over 10ppm for pb, zn &mn. They're actually high enough that we are having to do dilutions on the icp aes

Please give me a ring at the lab if you have any concerns.

Thanks,
Max

Maxwell S. Bonner, Ph.D., President
Bonner Analytical Testing Co.
2703 Oak Grove Rd.
Hattiesburg, MS 39402
(O) 601.264.2854
(C) 601.467.9172

sent from my droid

On Mon, Oct 17, 2016 at 10:07 AM -0500, "Danganan, Eloise B" <Eloise.Danganan@csra.com> wrote:

Hi Tricia,

Please see the Region's inquiry below requesting additional information in response to the lab's reported issue involving Case 46282.

REGION: what concentration levels are the labs finding for the metals in question? Is the lab seeing the elevated levels in all samples?

Please provide as much detailed information as possible.

Thank you,

ELOISE DANGANAN
DASS Environmental Coordinator - Team Leader
CSRA Inc.
6361 Walker Lane, Alexandria, VA 22310
Office: 703-461-2019 | Eloise.Danganan@csra.com
www.csra.com

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LEAVE ALERT: Friday, October 14th

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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Monday, October 17, 2016 11:04 AM

To: Danganan, Eloise B <Eloise.Danganan@csra.com>
Subject: RE: REGION 8 | CASE 46282 | LAB BON | SOW ISM02.3 | CONTRACT EPW14029 | ISSUE DASS SUPPORT

Eloise, what concentration levels are the labs finding for the metals in question? Is the lab seeing the elevated levels in all samples?
Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687
cell: 303-905-4024

From: Danganan, Eloise B [mailto:Eloise.Danganan@csra.com]
Sent: Monday, October 17, 2016 8:46 AM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>
Subject: REGION 8 | CASE 46282 | LAB BON | SOW ISM02.3 | CONTRACT EPW14029 | ISSUE DASS SUPPORT

Good morning Don,

BON is reporting the following issue for Case 46282. Please advise.

LAB: The lab requests to move the following analytes from ICP-MS to ICP-AES due to elevated concentrations, As, Pb, Cu, Mn, & Zn. Bonner will keep the original MA prices for 1-4 and 11+.

Thank you,

ELOISE DANGANAN
DASS Environmental Coordinator - Team Leader
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6361 Walker Lane, Alexandria, VA 22310
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www.csra.com

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From: Jarosz, Margaret T
Sent: Monday, October 17, 2016 10:10 AM
To: DASSsupport <DASSsupport@csra.com>
Cc: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Subject: FW: Region 8 | Case 46282 | Sample Receipt

From: Vanaman, Alexandra
Sent: Monday, October 17, 2016 9:49 AM
To: Baciocco, Kerrie <Kerrie.Baciocco@csra.com>; Jarosz, Margaret T <Margaret.Jarosz@csra.com>
Subject: FW: Region 8 | Case 46282 | Sample Receipt

From: Tricia Aiken [mailto:taiken@batco.com]
Sent: Monday, October 17, 2016 9:35 AM
To: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Cc: Chris Bonner <cmbonner@batco.com>; Max Bonner <maxbonner@batco.com>; moody.brett@epa.gov
Subject: FW: Region 8 | Case 46282 | Sample Receipt

Alexandra;

The lab requests to move the following analytes from ICP-MS to ICP-AES due to elevated concentrations, As, Pb, Cu, Mn, & Zn. Bonner will keep the original MA prices for 1-4 and 11+.

By chance are there any resolutions from Thursday's email?

Thanks and have a blessed day;
Patricia Aiken
Bonner Analytical Testing
(601)264-2854

From: Tricia Aiken [mailto:taiken@batco.com]
Sent: Thursday, October 13, 2016 3:44 PM
To: Alexandra Vanaman (alexandra.vanaman@csra.com)
Cc: Max Bonner; Chris Bonner (cmbonner@batco.com)
Subject: Region 8 | Case 46282 | Sample Receipt

Alexandra;

On October 13, 2016 we received 419 soils in 10 coolers via FedEx air bills listed below

- 7774 5569 7187
- 7774 5569 6905
- 7774 5569 7132
- 7774 5569 7235
- 7774 5569 7740
- 7774 5569 7739
- 7774 5569 7522
- 7774 5569 7420
- 7774 5569 6548
- 7774 5569 7338

Custody seals were present and intact, Samples were in good condition except for the following discrepancies.

1. There is no relinquished time on any of the 24 pages of the TR/COC. Please advise.
2. There were no temp blanks in any of the cooler's a thermometer was inserted directly into the cooler, allowed to stabilize and the temp was then recorded; therefore the temp for all coolers was 0°C.
3. Please advise if the lab should decant or homogenize the sediment samples.
4. The TR/COC states "QC to be determined by lab" below is a list of SDG's and the sample selected for QC.

SDG	QC
MH1F86	MH1F87

MH1G05	MH1G06
MH1G23	MH1G28
MH1G77	MH1G80
MH1G59	MH1G59
MH1H14	MH1H17
MH1G95	MH1G96
MH1H50	MH1H52
MH1H32	MH1H35
MH1H68	MH1H71
MH1H86	MH1H86
MH1J05	MH1J05
MH1J23	MH1J23
MH1J41	MH1J51
MH1J59	MH1J59
MH1J77	MH1J77
MH1J95	MH1J95
MH1K14	MH1K16
MH1K32	MH1K35
MH1K50	MH1K51
MH1K68	MH1K71
MH1K86	MH1K97
MH1L05	MH1L08

5. 3 of the 10 air bills were not removable, the lab took pictures of those labels and removed what parts of the label were possible.
6. The TR/COC states Case# 46382 in the instruction box; however this is Case 46282.
7. The lab received 419 samples of the 500 that were scheduled, the shipping end date is tomorrow 10/14/16 please advise if this case is complete.

Thanks and have a blessed day;
Patricia Aiken
Bonner Analytical Testing
(601)264-2854

Tricia Aiken

From: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Sent: Tuesday, October 18, 2016 3:25 PM
To: 'Chris Bonner'; 'Max Bonner'; Tricia Aiken
Cc: "Goodrich, Donald"
Subject: Region 08 | Case 46282 | Lab BON | Issue Discrepancies with tags, jars, and/or COC | FINAL

Good afternoon Tricia,

Issue: The COC received with the samples for Case 46282 does not list a station location.
Resolution: Per Region 8, the laboratory will note the issue in the SDG Narrative and proceed with analysis of the samples.

Please let me know if you have any questions. To waive any defect(s) associated with this issue, please contact your Regional CLP COR.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 1, 2, 7, and 8
CSRA, LLC
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 |Alexandra.Vanaman@csra.com
www.csra.com

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From: Goodrich, Donald [mailto:Goodrich.Donald@epa.gov]
Sent: Tuesday, October 18, 2016 4:20 PM
To: Vanaman, Alexandra <Alexandra.Vanaman@csra.com>
Cc: Walker, Scott <Walker.Scott@epa.gov>
Subject: RE: Region 08 | Case 46282 | Lab BON | Issue Discrepancies with tags, jars, and/or COC

Hi Ali, have the laboratory note the issue and continue with samples analysis.

Thanks,
Don

Don Goodrich
US EPA Region 8
office: 303-312-6687

cell: 303-905-4024

From: Vanaman, Alexandra [mailto:Alexandra.Vanaman@csra.com]
Sent: Tuesday, October 18, 2016 2:18 PM
To: Goodrich, Donald <Goodrich.Donald@epa.gov>
Cc: Walker, Scott <Walker.Scott@epa.gov>
Subject: Region 08 | Case 46282 | Lab BON | Issue Discrepancies with tags, jars, and/or COC

Good afternoon,

The following issue was noted during the SDG coversheet review process. Please advise.

Issue: The COC received with the samples for Case 46282 does not list a station location.

Thanks,

ALEXANDRA VANAMAN
Environmental Coordinator - Regions 1, 2, 7, and 8
CSRA, LLC
6361 Walker Lane, Alexandria, VA 22310
t: +1.703.461.2134 | Alexandra.Vanaman@csra.com
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CASE 46282 SDG MH1J05 ANALYSIS BY ICPAES COA# 8239

LAB ID	EPA ID	ANALYTE OVER LR	REANALYSIS DF
6100170-01	MH1J05	FE	3X
6100170-02	MH1J06	FE	2X
6100170-03	MH1J07	FE	3X
6100170-04	MH1J08	FE	2X
6100170-05	MH1J09	FE	2X
6100170-06	MH1J10	FE	3X
6100170-07	MH1J11	FE	3X
6100170-10	MH1J14	FE	4X
6100170-11	MH1J15	FE	3X
6100170-12	MH1J16	FE	2X
6100170-13	MH1J17	FE	3X
6100170-15	MH1J19	FE	3X
6100170-18	MH1J22	FE	3X
6100170-09	MH1J13	Mn	5X

*Post spike needed for As @ 2x parent

Reviewer

Bonner Analytical Testing Company

Corrective Action

8858

Topic: MHIJ05 4b282 Date: 10/24/16

Nature of Problem: 1. MHIJ16 OUTSIDE ACCEPTABLE RANGE FOR SC
2. MS FAILED FOR Sb & Cd

Action Requested:

1 New Sample Requested: YES (NO)

2 Retest or Reanalysis Necessary: (YES) NO

3 Other Action:

Submitter

Signature: [signature] Date: 10/24/16

Corrective Action Taken: 1. BE, Co, Ni, Mo, Ag, Cd, Sb, Ba REPORTED FROM 2x
2. B3 FOR Sb & 2x INDIGENOUS, Cd 2x Indigenous

Was the problem resolved: (YES) NO

Responder

Signature: [signature] Date: 10/28/16