

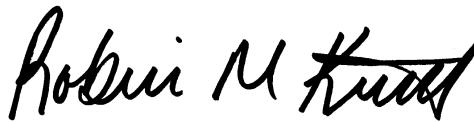
## ANALYTICAL REPORT

Job Number: 510-72805-1

Job Description: South Bend Former Studebaker Foundry

For:

Weaver Boos Consultants LLC  
4085 Meghan Beeler Court  
South Bend, IN 46628  
Attention: Jodi Slough



Approved for release.  
Robin M Kintz  
Project Manager I  
12/9/2011 4:40 PM

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12/09/2011

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Valparaiso Certifications and IDs: New Hampshire (283711), Illinois (200065), Indiana DW (C-64-01), Indiana DW Micro (M-64-4), Washington (C842), Kentucky UST (57) and Foreign Soil Permit (P330-11-00073).

**TestAmerica Laboratories, Inc.**

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**Job Narrative**  
**510-72805-1**

**Comments**

No additional comments.

**Receipt**

All samples were received in good condition within temperature requirements.

**Metals**

Method(s) 6020: The serial dilution performed for the following sample(s) associated with batch 90598 was outside control limits for nickel; however, the sample concentration was less than 100x the reporting limit. Data is acceptable. SAND (510-72805-1)

Method(s) 7471A: The initial calibration verification (ICV) standard was prepared with an expired reagent. The standard met acceptance criteria showing that no degradation of the reagent had occurred. The data is being reported. (ICV 510-90526/7)

No other analytical or quality issues were noted.

**General Chemistry**

No analytical or quality issues were noted.

## SAMPLE SUMMARY

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Client Matrix</b>	<b>Date/Time Sampled</b>	<b>Date/Time Received</b>
510-72805-1	SAND	Solid	11/29/2011 1155	11/30/2011 1230

## EXECUTIVE SUMMARY - Detections

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

Lab Sample ID	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
<b>510-72805-1</b>	<b>SAND</b>					
Arsenic		1.8		0.52	mg/Kg	6020
Chromium		4.2		2.6	mg/Kg	6020
Nickel		4.9		2.6	mg/Kg	6020
Percent Moisture		4.4		0.10	%	Moisture
Percent Solids		96		0.10	%	Moisture

## METHOD SUMMARY

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

<b>Description</b>	<b>Lab Location</b>	<b>Method</b>	<b>Preparation Method</b>
<b>Matrix Solid</b>			
Metals (ICP/MS)	TAL VAL	SW846 6020	
Preparation, Metals	TAL VAL		SW846 3050B
Mercury (CVAA)	TAL VAL	SW846 7471A	
Preparation, Mercury	TAL VAL		SW846 7471A
Percent Moisture	TAL VAL	EPA Moisture	

### Lab References:

TAL VAL = TestAmerica Valparaiso

### Method References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## METHOD / ANALYST SUMMARY

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

<b>Method</b>	<b>Analyst</b>	<b>Analyst ID</b>
SW846 6020	Tharpe, Matt	MT
SW846 7471A	Tharpe, Matt	MT
EPA Moisture	Tran, Kevin	KT



# Analytical Data

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

**Client Sample ID: SAND**

Lab Sample ID: 510-72805-1

Date Sampled: 11/29/2011 1155

Client Matrix: Solid

% Moisture: 4.4

Date Received: 11/30/2011 1230

---

## 6020 Metals (ICP/MS)

Analysis Method: 6020

Analysis Batch: 510-90598

Instrument ID: MICPMSB

Prep Method: 3050B

Prep Batch: 510-90474

Lab File ID: 016SMPL.d

Dilution: 5.0

Initial Weight/Volume: 1.0146 g

Analysis Date: 12/02/2011 2105

Final Weight/Volume: 50 mL

Prep Date: 12/01/2011 1359

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Antimony		<0.77		0.77
Arsenic		1.8		0.52
Barium		<26		26
Cadmium		<0.26		0.26
Chromium		4.2		2.6
Copper		<13		13
Lead		<13		13
Nickel		4.9		2.6
Selenium		<0.52		0.52
Silver		<10		10
Thallium		<0.26		0.26

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## 7471A Mercury (CVAA)

Analysis Method: 7471A

Analysis Batch: 510-90526

Instrument ID: MHGC

Prep Method: 7471A

Prep Batch: 510-90483

Lab File ID: 12111bhg.PRN

Dilution: 1.0

Initial Weight/Volume: 0.5173 g

Analysis Date: 12/01/2011 1646

Final Weight/Volume: 50 mL

Prep Date: 12/01/2011 1435

---

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	RL
Mercury		<0.020		0.020

---

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

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**General Chemistry**

**Client Sample ID: SAND**

Lab Sample ID: 510-72805-1

Date Sampled: 11/29/2011 1155

Client Matrix: Solid

Date Received: 11/30/2011 1230

Analyte	Result	Qual	Units	RL	Dil	Method
Percent Moisture	4.4		%	0.10	1.0	Moisture
	Analysis Batch: 510-90417	Analysis Date: 11/30/2011	1417			DryWt Corrected: N
Percent Solids	96		%	0.10	1.0	Moisture
	Analysis Batch: 510-90417	Analysis Date: 11/30/2011	1417			DryWt Corrected: N

## Quality Control Results

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

**Method Blank - Batch: 510-90474**

**Method: 6020**  
**Preparation: 3050B**

Lab Sample ID: MB 510-90474/1-A ^5	Analysis Batch: 510-90598	Instrument ID: MICPMSB
Client Matrix: Solid	Prep Batch: 510-90474	Lab File ID: 013SMPL.d
Dilution: 5.0	Leach Batch: N/A	Initial Weight/Volume: 1.0 g
Analysis Date: 12/02/2011 2054	Units: mg/Kg	Final Weight/Volume: 50 mL
Prep Date: 12/01/2011 1359		
Leach Date: N/A		

Analyte	Result	Qual	RL
Antimony	<0.75		0.75
Arsenic	<0.50		0.50
Barium	<25		25
Cadmium	<0.25		0.25
Chromium	<2.5		2.5
Copper	<13		13
Lead	<13		13
Nickel	<2.5		2.5
Selenium	<0.50		0.50
Silver	<10		10
Thallium	<0.25		0.25

**Lab Control Sample - Batch: 510-90474**

**Method: 6020**  
**Preparation: 3050B**

Lab Sample ID: LCS 510-90474/2-A ^5	Analysis Batch: 510-90598	Instrument ID: MICPMSB
Client Matrix: Solid	Prep Batch: 510-90474	Lab File ID: 014SMPL.d
Dilution: 5.0	Leach Batch: N/A	Initial Weight/Volume: 1.0040 g
Analysis Date: 12/02/2011 2058	Units: mg/Kg	Final Weight/Volume: 50 mL
Prep Date: 12/01/2011 1359		
Leach Date: N/A		

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	106	90.0	85	0 - 200	
Arsenic	109	115	106	82 - 118	
Barium	206	214	104	82 - 118	
Cadmium	80.2	88.0	110	84 - 116	
Chromium	117	112	96	81 - 118	
Copper	117	103	88	84 - 117	
Lead	76.2	79.1	104	83 - 117	
Nickel	71.2	77.4	109	85 - 115	
Selenium	127	134	106	78 - 122	
Silver	45.4	42.8	94	66 - 134	
Thallium	266	274	103	81 - 119	

## Quality Control Results

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 510-90474**

**Method: 6020  
Preparation: 3050B**

MS Lab Sample ID: 510-72805-1  
Client Matrix: Solid  
Dilution: 5.0  
Analysis Date: 12/02/2011 2108  
Prep Date: 12/01/2011 1359  
Leach Date: N/A

Analysis Batch: 510-90598  
Prep Batch: 510-90474  
Leach Batch: N/A

Instrument ID: MICPMSB  
Lab File ID: 017SMPL.d  
Initial Weight/Volume: 1.0182 g  
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 510-72805-1  
Client Matrix: Solid  
Dilution: 5.0  
Analysis Date: 12/02/2011 2112  
Prep Date: 12/01/2011 1359  
Leach Date: N/A

Analysis Batch: 510-90598  
Prep Batch: 510-90474  
Leach Batch: N/A

Instrument ID: MICPMSB  
Lab File ID: 018SMPL.d  
Initial Weight/Volume: 1.0102 g  
Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Antimony	87	88	75 - 125	1	20		
Arsenic	110	110	75 - 125	1	20		
Barium	107	104	75 - 125	2	20		
Cadmium	110	110	75 - 125	1	20		
Chromium	103	103	75 - 125	0	20		
Copper	101	99	75 - 125	1	20		
Lead	107	107	75 - 125	1	20		
Nickel	113	112	75 - 125	1	20		
Selenium	107	107	75 - 125	0	20		
Silver	102	100	75 - 125	1	20		
Thallium	105	103	75 - 125	0	20		

## Quality Control Results

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

**Matrix Spike/  
Matrix Spike Duplicate Recovery Report - Batch: 510-90474**

**Method: 6020  
Preparation: 3050B**

MS Lab Sample ID: 510-72805-1  
 Client Matrix: Solid  
 Dilution: 5.0  
 Analysis Date: 12/02/2011 2108  
 Prep Date: 12/01/2011 1359  
 Leach Date: N/A

Units: mg/Kg

MSD Lab Sample ID: 510-72805-1  
 Client Matrix: Solid  
 Dilution: 5.0  
 Analysis Date: 12/02/2011 2112  
 Prep Date: 12/01/2011 1359  
 Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Antimony	<0.77	51.3	51.7	44.8	45.3
Arsenic	1.8	51.3	51.7	58.1	58.6
Barium	<26	103	103	120	117
Cadmium	<0.26	51.3	51.7	56.6	57.0
Chromium	4.2	51.3	51.7	57.3	57.4
Copper	<13	51.3	51.7	54.5	54.2
Lead	<13	51.3	51.7	57.5	57.9
Nickel	4.9	51.3	51.7	63.2	62.8
Selenium	<0.52	51.3	51.7	55.4	55.5
Silver	<10	103	103	105	104
Thallium	<0.26	51.3	51.7	53.7	53.4

**Serial Dilution - Batch: 510-90474**

**Method: 6020  
Preparation: 3050B**

Lab Sample ID: 510-72805-1  
 Client Matrix: Solid  
 Dilution: 25  
 Analysis Date: 12/02/2011 2122  
 Prep Date: 12/01/2011 1359  
 Leach Date: N/A

Analysis Batch: 510-90598  
 Prep Batch: 510-90474  
 Leach Batch: N/A  
 Units: mg/Kg

Instrument ID: MICPMSB  
 Lab File ID: 021SMPL.d  
 Initial Weight/Volume: 1.0146 g  
 Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	%Diff	Limit	Qual
Antimony	<0.77	<3.9	NC	10	
Arsenic	1.8	<2.6	NC	10	
Barium	<26	<130	2.3	10	
Cadmium	<0.26	<1.3	NC	10	
Chromium	4.2	<13	NC	10	
Copper	<13	<64	NC	10	
Lead	<13	<64	NC	10	
Nickel	4.9	13.7	179	10	V
Selenium	<0.52	<2.6	NC	10	
Silver	<10	<52	NC	10	
Thallium	<0.26	<1.3	NC	10	

## Quality Control Results

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

**Method Blank - Batch: 510-90483**

Lab Sample ID: MB 510-90483/9-A  
 Client Matrix: Solid  
 Dilution: 1.0  
 Analysis Date: 12/01/2011 1642  
 Prep Date: 12/01/2011 1435  
 Leach Date: N/A

Analysis Batch: 510-90526  
 Prep Batch: 510-90483  
 Leach Batch: N/A  
 Units: mg/Kg

**Method: 7471A  
 Preparation: 7471A**

Instrument ID: MHGC  
 Lab File ID: 12111bhg.PRN  
 Initial Weight/Volume: 1.0 g  
 Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Mercury	<0.010		0.010

**Lab Control Sample - Batch: 510-90483**

Lab Sample ID: LCS 510-90483/10-A ^5  
 Client Matrix: Solid  
 Dilution: 5.0  
 Analysis Date: 12/01/2011 1644  
 Prep Date: 12/01/2011 1435  
 Leach Date: N/A

Analysis Batch: 510-90526  
 Prep Batch: 510-90483  
 Leach Batch: N/A  
 Units: mg/Kg

**Method: 7471A  
 Preparation: 7471A**

Instrument ID: MHGC  
 Lab File ID: 12111bhg.PRN  
 Initial Weight/Volume: 0.1045 g  
 Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	8.61	8.97	104	72 - 128	

**Matrix Spike/  
 Matrix Spike Duplicate Recovery Report - Batch: 510-90483**

**Method: 7471A  
 Preparation: 7471A**

MS Lab Sample ID: 510-72805-1  
 Client Matrix: Solid  
 Dilution: 1.0  
 Analysis Date: 12/01/2011 1648  
 Prep Date: 12/01/2011 1435  
 Leach Date: N/A

Analysis Batch: 510-90526  
 Prep Batch: 510-90483  
 Leach Batch: N/A

Instrument ID: MHGC  
 Lab File ID: 12111bhg.PRN  
 Initial Weight/Volume: 0.5102 g  
 Final Weight/Volume: 50 mL

MSD Lab Sample ID: 510-72805-1  
 Client Matrix: Solid  
 Dilution: 1.0  
 Analysis Date: 12/01/2011 1651  
 Prep Date: 12/01/2011 1435  
 Leach Date: N/A

Analysis Batch: 510-90526  
 Prep Batch: 510-90483  
 Leach Batch: N/A

Instrument ID: MHGC  
 Lab File ID: 12111bhg.PRN  
 Initial Weight/Volume: 0.5080 g  
 Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Mercury	115	118	75 - 125	3	25		

# Quality Control Results

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

## Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 510-90483

Method: 7471A  
Preparation: 7471A

MS Lab Sample ID: 510-72805-1                      Units: mg/Kg  
Client Matrix: Solid  
Dilution: 1.0  
Analysis Date: 12/01/2011 1648  
Prep Date: 12/01/2011 1435  
Leach Date: N/A

MSD Lab Sample ID: 510-72805-1  
Client Matrix: Solid  
Dilution: 1.0  
Analysis Date: 12/01/2011 1651  
Prep Date: 12/01/2011 1435  
Leach Date: N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Mercury	<0.020	0.512	0.515	0.590	0.608

# Quality Control Results

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

## Method Blank - Batch: 510-90417

### Method: Moisture Preparation: N/A

Lab Sample ID:	MB 510-90417/1	Analysis Batch:	510-90417	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2011 1417	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	RL
Percent Moisture	100		0.10
Percent Solids	0.022		0.10

## Duplicate - Batch: 510-90417

### Method: Moisture Preparation: N/A

Lab Sample ID:	510-72805-1	Analysis Batch:	510-90417	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	11/30/2011 1417	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	4.4	4.5	2	20	
Percent Solids	96	96	0.1	20	



**DATA REPORTING QUALIFIERS**

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

<b>Lab Section</b>	<b>Qualifier</b>	<b>Description</b>
Metals	V	Serial Dilution exceeds the control limits

## Quality Control Results

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

### QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
<b>Metals</b>					
<b>Prep Batch: 510-90474</b>					
LCS 510-90474/2-A ^5	Lab Control Sample	T	Solid	3050B	
MB 510-90474/1-A ^5	Method Blank	T	Solid	3050B	
510-72805-1	SAND	T	Solid	3050B	
510-72805-1MS	Matrix Spike	T	Solid	3050B	
510-72805-1MSD	Matrix Spike Duplicate	T	Solid	3050B	
<b>Prep Batch: 510-90483</b>					
LCS 510-90483/10-A ^5	Lab Control Sample	T	Solid	7471A	
MB 510-90483/9-A	Method Blank	T	Solid	7471A	
510-72805-1	SAND	T	Solid	7471A	
510-72805-1MS	Matrix Spike	T	Solid	7471A	
510-72805-1MSD	Matrix Spike Duplicate	T	Solid	7471A	
<b>Analysis Batch:510-90526</b>					
LCS 510-90483/10-A ^5	Lab Control Sample	T	Solid	7471A	510-90483
MB 510-90483/9-A	Method Blank	T	Solid	7471A	510-90483
510-72805-1	SAND	T	Solid	7471A	510-90483
510-72805-1MS	Matrix Spike	T	Solid	7471A	510-90483
510-72805-1MSD	Matrix Spike Duplicate	T	Solid	7471A	510-90483
<b>Analysis Batch:510-90598</b>					
LCS 510-90474/2-A ^5	Lab Control Sample	T	Solid	6020	510-90474
MB 510-90474/1-A ^5	Method Blank	T	Solid	6020	510-90474
510-72805-1	SAND	T	Solid	6020	510-90474
510-72805-1MS	Matrix Spike	T	Solid	6020	510-90474
510-72805-1MSD	Matrix Spike Duplicate	T	Solid	6020	510-90474

**Report Basis**

T = Total

**General Chemistry**

<b>Analysis Batch:510-90417</b>					
MB 510-90417/1	Method Blank	T	Solid	Moisture	
510-72805-1	SAND	T	Solid	Moisture	
510-72805-1DU	Duplicate	T	Solid	Moisture	

**Report Basis**

T = Total

# Quality Control Results

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

## Laboratory Chronicle

Lab ID: 510-72805-1

Client ID: SAND

Sample Date/Time: 11/29/2011 11:55 Received Date/Time: 11/30/2011 12:30

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	AnalYZed				
P:3050B	510-72805-A-1-A		510-90598	510-90474	12/01/2011	13:59	5	TAL VAL	LWN
A:6020	510-72805-A-1-A		510-90598	510-90474	12/02/2011	21:05	5	TAL VAL	MT
P:7471A	510-72805-A-1-D		510-90526	510-90483	12/01/2011	14:35	1	TAL VAL	LWN
A:7471A	510-72805-A-1-D		510-90526	510-90483	12/01/2011	16:46	1	TAL VAL	MT
A:Moisture	510-72805-A-1		510-90417		11/30/2011	14:17	1	TAL VAL	KT

Lab ID: 510-72805-1 MS

Client ID: SAND

Sample Date/Time: 11/29/2011 11:55 Received Date/Time: 11/30/2011 12:30

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	AnalYZed				
P:3050B	510-72805-A-1-B MS		510-90598	510-90474	12/01/2011	13:59	5	TAL VAL	LWN
A:6020	510-72805-A-1-B MS		510-90598	510-90474	12/02/2011	21:08	5	TAL VAL	MT
P:7471A	510-72805-A-1-E MS		510-90526	510-90483	12/01/2011	14:35	1	TAL VAL	LWN
A:7471A	510-72805-A-1-E MS		510-90526	510-90483	12/01/2011	16:48	1	TAL VAL	MT

Lab ID: 510-72805-1 MSD

Client ID: SAND

Sample Date/Time: 11/29/2011 11:55 Received Date/Time: 11/30/2011 12:30

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	AnalYZed				
P:3050B	510-72805-A-1-C MSD		510-90598	510-90474	12/01/2011	13:59	5	TAL VAL	LWN
A:6020	510-72805-A-1-C MSD		510-90598	510-90474	12/02/2011	21:12	5	TAL VAL	MT
P:7471A	510-72805-A-1-F MSD		510-90526	510-90483	12/01/2011	14:35	1	TAL VAL	LWN
A:7471A	510-72805-A-1-F MSD		510-90526	510-90483	12/01/2011	16:51	1	TAL VAL	MT

Lab ID: 510-72805-1 DU

Client ID: SAND

Sample Date/Time: 11/29/2011 11:55 Received Date/Time: 11/30/2011 12:30

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	AnalYZed				
A:Moisture	510-72805-A-1 DU		510-90417		11/30/2011	14:17	1	TAL VAL	KT

Lab ID: 510-72805-1 SD

Client ID: SAND

Sample Date/Time: 11/29/2011 11:55 Received Date/Time: 11/30/2011 12:30

Method	Bottle ID	Run	Analysis		Date Prepared /		Dil	Lab	Analyst
			Batch	Prep Batch	AnalYZed				
P:3050B	510-72805-A-1-A SD		510-90598	510-90474	12/01/2011	13:59	25	TAL VAL	LWN
A:6020	510-72805-A-1-A SD		510-90598	510-90474	12/02/2011	21:22	25	TAL VAL	MT

## Quality Control Results

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

### Laboratory Chronicle

Lab ID: MB

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3050B	MB 510-90474/1-A ^5		510-90598	510-90474	12/01/2011 13:59	5	TAL VAL	LWN
A:6020	MB 510-90474/1-A ^5		510-90598	510-90474	12/02/2011 20:54	5	TAL VAL	MT
P:7471A	MB 510-90483/9-A		510-90526	510-90483	12/01/2011 14:35	1	TAL VAL	LWN
A:7471A	MB 510-90483/9-A		510-90526	510-90483	12/01/2011 16:42	1	TAL VAL	MT
A:Moisture	MB 510-90417/1		510-90417		11/30/2011 14:17	1	TAL VAL	KT

Lab ID: LCS

Client ID: N/A

Sample Date/Time: N/A

Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:3050B	LCS 510-90474/2-A ^5		510-90598	510-90474	12/01/2011 13:59	5	TAL VAL	LWN
A:6020	LCS 510-90474/2-A ^5		510-90598	510-90474	12/02/2011 20:58	5	TAL VAL	MT
P:7471A	LCS 510-90483/10-A ^5		510-90526	510-90483	12/01/2011 14:35	5	TAL VAL	LWN
A:7471A	LCS 510-90483/10-A ^5		510-90526	510-90483	12/01/2011 16:44	5	TAL VAL	MT

**Lab References:**

TAL VAL = TestAmerica Valparaiso

# **METALS**

COVER PAGE  
METALS

Lab Name: TestAmerica Valparaiso Job Number: 510-72805-1

SDG No.: \_\_\_\_\_

Project: South Bend Former Studebaker Foundry

Client Sample ID  
SAND

Lab Sample ID  
510-72805-1

Comments:

\_\_\_\_\_  
\_\_\_\_\_

1A-IN  
INORGANIC ANALYSIS DATA SHEET  
METALS

Client Sample ID: SAND

Lab Sample ID: 510-72805-1

Lab Name: TestAmerica Valparaiso

Job No.: 510-72805-1

SDG ID.:

Matrix: Solid

Date Sampled: 11/29/2011 11:55

Reporting Basis: DRY

Date Received: 11/30/2011 12:30

% Solids: 95.6

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-36-0	Antimony	<0.77	0.77	0.32	mg/Kg			5	6020
7440-38-2	Arsenic	1.8	0.52	0.11	mg/Kg			5	6020
7440-39-3	Barium	<26	26	0.075	mg/Kg			5	6020
7440-43-9	Cadmium	<0.26	0.26	0.097	mg/Kg			5	6020
7440-47-3	Chromium	4.2	2.6	0.19	mg/Kg			5	6020
7440-50-8	Copper	<13	13	0.13	mg/Kg			5	6020
7439-92-1	Lead	<13	13	0.063	mg/Kg			5	6020
7440-02-0	Nickel	4.9	2.6	0.098	mg/Kg			5	6020
7782-49-2	Selenium	<0.52	0.52	0.094	mg/Kg			5	6020
7440-22-4	Silver	<10	10	0.044	mg/Kg			5	6020
7440-28-0	Thallium	<0.26	0.26	0.070	mg/Kg			5	6020
7439-97-6	Mercury	<0.020	0.020	0.0058	mg/Kg			1	7471A

2A-IN  
 CALIBRATION VERIFICATIONS  
 METALS

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

ICV Source: MEicpmsbicv+\_00018 Concentration Units: ug/L

CCV Source: MEicpmsbicv+\_00018

Analyte	ICV 510-90598/7 12/02/2011 20:34				CCV 510-90598/19 12/02/2011 21:15				CCV 510-90598/22 12/02/2011 21:25			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
<b>Antimony</b>	51.9		50.0	104	50.7		50.0	101	50.2		50.0	100
<b>Arsenic</b>	52.1		50.0	104	51.5		50.0	103	50.6		50.0	101
<b>Barium</b>	51.2		50.0	102	51.8		50.0	104	50.1		50.0	100
<b>Cadmium</b>	52.8		50.0	106	53.0		50.0	106	51.5		50.0	103
<b>Chromium</b>	54.2		50.0	108	53.4		50.0	107	53.1		50.0	106
<b>Copper</b>	51.1		50.0	102	51.2		50.0	102	50.1		50.0	100
<b>Lead</b>	52.1		50.0	104	52.7		50.0	105	50.4		50.0	101
<b>Nickel</b>	51.8		50.0	104	51.5		50.0	103	51.2		50.0	102
<b>Selenium</b>	51.6		50.0	103	51.1		50.0	102	50.6		50.0	101
<b>Silver</b>	49.2		50.0	98	48.6		50.0	97	49.2		50.0	98
<b>Thallium</b>	53.2		50.0	106	54.0		50.0	108	52.0		50.0	104

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Italicized analytes were not requested for this sequence.



2A-IN  
 CALIBRATION VERIFICATIONS  
 METALS

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

ICV Source: MEhgicv\_00085 Concentration Units: mg/L

CCV Source: MEhgcal\_00088

Analyte	ICV 510-90526/7 12/01/2011 16:16				CCV 510-90526/14 12/01/2011 16:37				CCV 510-90526/21 12/01/2011 16:53			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
<b>Mercury</b>	0.00537		0.00556	97	0.00575		0.00500	115	0.00587		0.00500	117

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Italicized analytes were not requested for this sequence.

3-IN  
INSTRUMENT BLANKS  
METALS

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Concentration Units: ug/L

Analyte	RL	ICB 510-90598/8 12/02/2011 20:37		CCB 510-90598/20 12/02/2011 21:19		CCB 510-90598/23 12/02/2011 21:29		Found	C
		Found	C	Found	C	Found	C		
<b>Antimony</b>	3.0	<3.0		<3.0		<3.0			
<b>Arsenic</b>	2.0	<2.0		<2.0		<2.0			
<b>Barium</b>	0.50	<0.50		<0.50		<0.50			
<b>Cadmium</b>	1.0	<1.0		<1.0		<1.0			
<b>Chromium</b>	1.5	<1.5		<1.5		<1.5			
<b>Copper</b>	2.0	<2.0		<2.0		<2.0			
<b>Lead</b>	0.50	<0.50		<0.50		<0.50			
<b>Nickel</b>	1.0	<1.0		<1.0		<1.0			
<b>Selenium</b>	1.0	<1.0		<1.0		<1.0			
<b>Silver</b>	4.0	<4.0		<4.0		<4.0			
<b>Thallium</b>	1.0	<1.0		<1.0		<1.0			

Italicized analytes were not requested for this sequence.

3-IN  
METHOD BLANK  
METALS

Lab Name: TestAmerica Valparaiso

Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Concentration Units: mg/Kg

Lab Sample ID: MB 510-90474/1-A ^5

Instrument Code: MICPMSB

Batch No.: 90598

CAS No.	Analyte	Concentration	C	Q	Method
7440-36-0	Antimony	<0.75			6020
7440-38-2	Arsenic	<0.50			6020
7440-39-3	Barium	<25			6020
7440-43-9	Cadmium	<0.25			6020
7440-47-3	Chromium	<2.5			6020
7440-50-8	Copper	<13			6020
7439-92-1	Lead	<13			6020
7440-02-0	Nickel	<2.5			6020
7782-49-2	Selenium	<0.50			6020
7440-22-4	Silver	<10			6020
7440-28-0	Thallium	<0.25			6020

3-IN  
METHOD BLANK  
METALS

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Concentration Units: mg/Kg Lab Sample ID: MB 510-90483/9-A

Instrument Code: MHGC Batch No.: 90526

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	<0.010			7471A

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Valparaiso

Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICSA 510-90598/9

Instrument ID: MICPMSB

Lab File ID: 009SMPL.d

ICS Source: MEmsisa\_00085

Concentration Units: ug/L

Analyte	True	Found	Percent Recovery
	Solution A	Solution A	
<b>Antimony</b>		<b>-0.0770</b>	
<b>Arsenic</b>		<b>-0.335</b>	
<b>Barium</b>		<b>0.0670</b>	
<b>Cadmium</b>		<b>0.335</b>	
<b>Chromium</b>		<b>0.679</b>	
<b>Copper</b>		<b>0.632</b>	
<b>Lead</b>		<b>0.0620</b>	
<b>Nickel</b>		<b>0.672</b>	
<b>Selenium</b>		<b>0.143</b>	
<b>Silver</b>		<b>0.284</b>	
<b>Thallium</b>		<b>0.0110</b>	
<i>Aluminum</i>	<i>25000</i>	<i>25501</i>	<i>102</i>
<i>Beryllium</i>		<i>-0.0110</i>	
<i>Boron</i>		<i>16.5</i>	
<i>Calcium</i>	<i>75000</i>	<i>64235</i>	<i>86</i>
<i>Calcium</i>	<i>75000</i>	<i>64644</i>	<i>86</i>
<i>Cobalt</i>		<i>0.0670</i>	
<i>Iron</i>	<i>62500</i>	<i>60905</i>	<i>97</i>
<i>Lithium</i>		<i>0.0290</i>	
<i>Magnesium</i>	<i>25000</i>	<i>24173</i>	<i>97</i>
<i>Manganese</i>		<i>0.126</i>	
<i>Molybdenum</i>	<i>500</i>	<i>531</i>	<i>106</i>
<i>Molybdenum</i>	<i>500</i>	<i>513</i>	<i>103</i>
<i>Phosphorus as P</i>	<i>25000</i>	<i>25748</i>	<i>103</i>
<i>Potassium</i>	<i>25000</i>	<i>24060</i>	<i>96</i>
<i>Silicon</i>		<i>3.90</i>	
<i>Sodium</i>	<i>62500</i>	<i>59987</i>	<i>96</i>
<i>Strontium</i>		<i>0.272</i>	
<i>Tin</i>		<i>-0.155</i>	
<i>Titanium</i>	<i>500</i>	<i>529</i>	<i>106</i>
<i>Vanadium</i>		<i>0.248</i>	
<i>Zinc</i>		<i>1.03</i>	

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

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Valparaiso

Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICSAB 510-90598/10

Instrument ID: MICPMSB

Lab File ID: 010SMPL.d

ICS Source: MEmsisab\_00083

Concentration Units: ug/L

Analyte	True	Found	Percent Recovery
	Solution AB	Solution AB	
<b>Antimony</b>		<b>-0.249</b>	
<b>Arsenic</b>	<b>100</b>	<b>107</b>	<b>107</b>
<b>Barium</b>		<b>0.0750</b>	
<b>Cadmium</b>	<b>100</b>	<b>103</b>	<b>103</b>
<b>Chromium</b>	<b>200</b>	<b>203</b>	<b>101</b>
<b>Copper</b>	<b>200</b>	<b>192</b>	<b>96</b>
<b>Lead</b>		<b>0.0750</b>	
<b>Nickel</b>	<b>200</b>	<b>213</b>	<b>106</b>
<b>Selenium</b>	<b>100</b>	<b>109</b>	<b>109</b>
<b>Silver</b>	<b>50.0</b>	<b>49.2</b>	<b>98</b>
<b>Thallium</b>		<b>-0.0030</b>	
<i>Aluminum</i>	<i>25000</i>	<i>25444</i>	<i>102</i>
<i>Beryllium</i>		<i>-0.0140</i>	
<i>Boron</i>		<i>8.07</i>	
<i>Calcium</i>	<i>75000</i>	<i>63654</i>	<i>85</i>
<i>Calcium</i>	<i>75000</i>	<i>64119</i>	<i>85</i>
<i>Cobalt</i>	<i>200</i>	<i>194</i>	<i>97</i>
<i>Iron</i>	<i>62500</i>	<i>61231</i>	<i>98</i>
<i>Lithium</i>		<i>0.0420</i>	
<i>Magnesium</i>	<i>25000</i>	<i>23879</i>	<i>96</i>
<i>Manganese</i>	<i>200</i>	<i>199</i>	<i>99</i>
<i>Molybdenum</i>	<i>500</i>	<i>529</i>	<i>106</i>
<i>Molybdenum</i>	<i>500</i>	<i>508</i>	<i>102</i>
<i>Phosphorus as P</i>	<i>25000</i>	<i>25673</i>	<i>103</i>
<i>Potassium</i>	<i>25000</i>	<i>24107</i>	<i>96</i>
<i>Silicon</i>		<i>3.57</i>	
<i>Sodium</i>	<i>62500</i>	<i>59770</i>	<i>96</i>
<i>Strontium</i>		<i>0.304</i>	
<i>Tin</i>		<i>-0.206</i>	
<i>Titanium</i>	<i>500</i>	<i>523</i>	<i>105</i>
<i>Vanadium</i>	<i>200</i>	<i>202</i>	<i>101</i>
<i>Zinc</i>	<i>100</i>	<i>93.3</i>	<i>93</i>

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

5A-IN  
 MATRIX SPIKE SAMPLE RECOVERY  
 METALS

Client ID: SAND MS

Lab ID: 510-72805-1 MS

Lab Name: TestAmerica Valparaiso

Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Matrix: Solid

Concentration Units: mg/Kg

% Solids: 95.6

Analyte	SSR C	Sample Result (SR) C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Antimony	44.8	<0.77	51.3	87	75-125		6020
Arsenic	58.1	1.8	51.3	110	75-125		6020
Barium	120	<26	103	107	75-125		6020
Cadmium	56.6	<0.26	51.3	110	75-125		6020
Chromium	57.3	4.2	51.3	103	75-125		6020
Copper	54.5	<13	51.3	101	75-125		6020
Lead	57.5	<13	51.3	107	75-125		6020
Nickel	63.2	4.9	51.3	113	75-125		6020
Selenium	55.4	<0.52	51.3	107	75-125		6020
Silver	105	<10	103	102	75-125		6020
Thallium	53.7	<0.26	51.3	105	75-125		6020
Mercury	0.590	<0.020	0.512	115	75-125		7471A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Note - Results and Reporting Limits have been adjusted for dry weight.

5A-IN  
 MATRIX SPIKE DUPLICATE SAMPLE RECOVERY  
 METALS

Client ID: SAND MSD

Lab ID: 510-72805-1 MSD

Lab Name: TestAmerica Valparaiso

Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Matrix: Solid

Concentration Units: mg/Kg

% Solids: 95.6

Analyte	(SDR) C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Antimony	45.3	51.7	88	75-125	1	20		6020
Arsenic	58.6	51.7	110	75-125	1	20		6020
Barium	117	103	104	75-125	2	20		6020
Cadmium	57.0	51.7	110	75-125	1	20		6020
Chromium	57.4	51.7	103	75-125	0	20		6020
Copper	54.2	51.7	99	75-125	1	20		6020
Lead	57.9	51.7	107	75-125	1	20		6020
Nickel	62.8	51.7	112	75-125	1	20		6020
Selenium	55.5	51.7	107	75-125	0	20		6020
Silver	104	103	100	75-125	1	20		6020
Thallium	53.4	51.7	103	75-125	0	20		6020
Mercury	0.608	0.515	118	75-125	3	25		7471A

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Note - Results and Reporting Limits have been adjusted for dry weight.



7A-IN  
LAB CONTROL SAMPLE  
METALS

Lab ID: LCS 510-90474/2-A ^5

Lab Name: TestAmerica Valparaiso

Job No.: 510-72805-1

Sample Matrix: Solid

LCS Source: MELCSSOIL\_00019

Analyte	Solid(mg/Kg)							
	True	Found	C	%R	Limits		Q	Method
Antimony	106	90.0		85	0	200		6020
Arsenic	109	115		106	82	118		6020
Barium	206	214		104	82	118		6020
Cadmium	80.2	88.0		110	84	116		6020
Chromium	117	112		96	81	118		6020
Copper	117	103		88	84	117		6020
Lead	76.2	79.1		104	83	117		6020
Nickel	71.2	77.4		109	85	115		6020
Selenium	127	134		106	78	122		6020
Silver	45.4	42.8		94	66	134		6020
Thallium	266	274		103	81	119		6020

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

FORM VIIA - IN

7A-IN  
LAB CONTROL SAMPLE  
METALS

Lab ID: LCS 510-90483/10-A ^5

Lab Name: TestAmerica Valparaiso

Job No.: 510-72805-1

Sample Matrix: Solid

LCS Source: MELCSSOIL\_00019

Analyte	Solid(mg/Kg)						
	True	Found	C	%R	Limits	Q	Method
Mercury	8.61	8.97		104	72	128	7471A

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

FORM VIIA - IN

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

Lab ID: 510-72805-1

SDG No: \_\_\_\_\_

Lab Name: TestAmerica Valparaiso

Job No: 510-72805-1

Matrix: Solid

Concentration Units: mg/Kg

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Difference	Q	Method
Antimony	<0.77	<3.9	NC		6020
Arsenic	1.8	<2.6	NC		6020
Barium	<26	<130	2.3		6020
Cadmium	<0.26	<1.3	NC		6020
Chromium	4.2	<13	NC		6020
Copper	<13	<64	NC		6020
Lead	<13	<64	NC		6020
Nickel	4.9	13.7	179	V	6020
Selenium	<0.52	<2.6	NC		6020
Silver	<10	<52	NC		6020
Thallium	<0.26	<1.3	NC		6020

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

FORM VIII-IN

9-IN  
DETECTION LIMITS  
METALS

Lab Name: TestAmerica Valparaiso

Job Number: 510-72805-1

SDG Number: \_\_\_\_\_

Matrix: Solid

Instrument ID: MICPMSB

Method: 6020

MDL Date: 02/26/2009 13:54

Prep Method: 3050B

Analyte	Wavelength/ Mass	RL (mg/Kg)	MDL (ug/Kg)
Antimony	121	0.15	62
Arsenic	75	0.1	21.9
Barium	137	5	14.6
Cadmium	111	0.05	18.8
Chromium	52	0.5	37.1
Copper	65	2.5	24.6
Lead	208	2.5	12.3
Nickel	60	0.5	19
Selenium	78	0.1	18.2
Silver	107	2	8.55
Thallium	205	0.05	13.6

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
METALS

Lab Name: TestAmerica Valparaiso

Job Number: 510-72805-1

SDG Number: \_\_\_\_\_

Matrix: Solid

Instrument ID: MICPMSB

Method: 6020

XMDL Date: 02/26/2009 13:39

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Antimony	121	3	1.24
Arsenic	75	2	0.437
Barium	137	0.5	0.291
Cadmium	111	1	0.162
Chromium	52	1.5	0.741
Copper	65	2	0.31
Lead	208	0.5	0.246
Nickel	60	1	0.38
Selenium	78	1	0.363
Silver	107	4	0.171
Thallium	205	1	0.272

9-IN  
DETECTION LIMITS  
METALS

Lab Name: TestAmerica Valparaiso

Job Number: 510-72805-1

SDG Number: \_\_\_\_\_

Matrix: Solid

Instrument ID: MHGC

Method: 7471A

MDL Date: 01/26/2009 09:31

Prep Method: 7471A

Analyte	Wavelength/ Mass	RL (mg/Kg)	MDL (mg/Kg)
Mercury		0.02	0.00571

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
METALS

Lab Name: TestAmerica Valparaiso Job Number: 510-72805-1  
SDG Number: \_\_\_\_\_  
Matrix: Solid Instrument ID: MHGC  
Method: 7471A XMDL Date: 01/26/2009 09:31

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Mercury		0.0002	0.0000571

11-IN  
LINEAR RANGES  
METALS

Lab Name: TestAmerica Valparaiso

Job No: 510-72805-1

SDG No.: \_\_\_\_\_

Instrument ID: MICPMSB

Date: 07/19/2011 10:45

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony		50000	6020
Arsenic		50000	6020
Barium		50000	6020
Cadmium		50000	6020
Chromium		50000	6020
Copper		50000	6020
Lead		50000	6020
Nickel		20000	6020
Selenium		50000	6020
Silver		5000	6020
Thallium		50000	6020



12-IN  
PREPARATION LOG  
METALS

Lab Name: TestAmerica Valparaiso

Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Prep Method: 3050B

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 510-90474/1-A ^5	12/01/2011 13:59	90474	1.0		50
LCS 510-90474/2-A ^5	12/01/2011 13:59	90474	1.0040		50
510-72805-1	12/01/2011 13:59	90474	1.0146		50
510-72805-1 MS	12/01/2011 13:59	90474	1.0182		50
510-72805-1 MSD	12/01/2011 13:59	90474	1.0102		50

12-IN  
PREPARATION LOG  
METALS

Lab Name: TestAmerica Valparaiso

Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Prep Method: 7471A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight (g)	Initial Volume	Final Volume (mL)
MB 510-90483/9-A	12/01/2011 14:35	90483	1.0		50
LCS 510-90483/10-A ^5	12/01/2011 14:35	90483	0.1045		50
510-72805-1	12/01/2011 14:35	90483	0.5173		50
510-72805-1 MS	12/01/2011 14:35	90483	0.5102		50
510-72805-1 MSD	12/01/2011 14:35	90483	0.5080		50

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Instrument ID: MICPMSB Method: 6020

Start Date: 12/02/2011 20:13 End Date: 12/02/2011 21:29

Lab Sample ID	D / F	Type	Time	Analytes																			
				A g	A s	B a	C d	C r	C u	N i	P b	S b	S e	T l									
ZZZZZZ			20:13																				
ZZZZZZ			20:17																				
ZZZZZZ			20:20																				
ZZZZZZ			20:23																				
ZZZZZZ			20:27																				
ZZZZZZ			20:30																				
ICV 510-90598/7	1		20:34	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICB 510-90598/8	1		20:37	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICSA 510-90598/9	1		20:41	X	X	X	X	X	X	X	X	X	X	X	X	X							
ICSAB 510-90598/10	1		20:44	X	X	X	X	X	X	X	X	X	X	X	X	X							
RINSE 510-90598/11			20:47																				
RINSE 510-90598/12			20:51																				
MB 510-90474/1-A ^5	5	T	20:54	X	X	X	X	X	X	X	X	X	X	X	X	X							
LCS 510-90474/2-A ^5	5	T	20:58	X	X	X	X	X	X	X	X	X	X	X	X	X							
ZZZZZZ			21:01																				
510-72805-1	5	T	21:05	X	X	X	X	X	X	X	X	X	X	X	X	X							
510-72805-1 MS	5	T	21:08	X	X	X	X	X	X	X	X	X	X	X	X	X							
510-72805-1 MSD	5	T	21:12	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCV 510-90598/19	1		21:15	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCB 510-90598/20	1		21:19	X	X	X	X	X	X	X	X	X	X	X	X	X							
510-72805-1 SD	25	T	21:22	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCV 510-90598/22	1		21:25	X	X	X	X	X	X	X	X	X	X	X	X	X							
CCB 510-90598/23	1		21:29	X	X	X	X	X	X	X	X	X	X	X	X	X							

Prep Types  
T = Total/NA

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Instrument ID: MHGC Method: 7471A

Start Date: 12/01/2011 15:58 End Date: 12/01/2011 16:55

Lab Sample ID	D / F	Type	Time	Analytes																			
				Hg																			
STD01REP1 510-90526/1 IC			15:58	X																			
STD02REP1 510-90526/2 IC			16:00	X																			
STD03REP1 510-90526/3 IC			16:03	X																			
STD04REP1 510-90526/4 IC			16:05	X																			
STD05REP1 510-90526/5 IC			16:07	X																			
STD06REP1 510-90526/6 IC			16:09	X																			
ICV 510-90526/7	1		16:16	X																			
CCV 510-90526/8			16:22																				
CCB 510-90526/9			16:25																				
ZZZZZZ			16:27																				
ZZZZZZ			16:29																				
ZZZZZZ			16:32																				
ZZZZZZ			16:34																				
CCV 510-90526/14	1		16:37	X																			
CCB 510-90526/15	1		16:39	X																			
MB 510-90483/9-A	1	T	16:42	X																			
LCS 510-90483/10-A ^5	5	T	16:44	X																			
510-72805-1	1	T	16:46	X																			
510-72805-1 MS	1	T	16:48	X																			
510-72805-1 MSD	1	T	16:51	X																			
CCV 510-90526/21	1		16:53	X																			
CCB 510-90526/22	1		16:55	X																			

Prep Types  
T = Total/NA

15-IN  
 ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY  
 METALS

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

ICP-MS Instrument ID: MICPMSB Start Date: 12/02/2011 End Date: 12/02/2011

Lab Sample ID	Time	Internal Standards %RI For:											
		Element Li-6	Q	Element Sc	Q	Element Rh	Q	Element In	Q	Element Tb	Q		
ICV 510-90598/7	20:34	98		96		95		96		97			
ICB 510-90598/8	20:37	100		102		101		102		102			
ICSA 510-90598/9	20:41	96		99		93		95		101			
ICSAB 510-90598/10	20:44	98		100		93		97		99			
MB 510-90474/1-A ^5	20:54	94		95		96		95		95			
LCS 510-90474/2-A	20:58	94		104		90		91		94			
510-72805-1	21:05	91		97		93		93		96			
510-72805-1 MS	21:08	84		98		91		91		96			
510-72805-1 MSD	21:12	88		100		91		93		97			
CCV 510-90598/19	21:15	94		99		98		98		99			
CCB 510-90598/20	21:19	97		100		99		99		99			
510-72805-1 SD	21:22	97		101		99		99		99			
CCV 510-90598/22	21:25	96		100		98		98		100			
CCB 510-90598/23	21:29	96		100		99		100		100			

15-IN  
 ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY  
 METALS

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

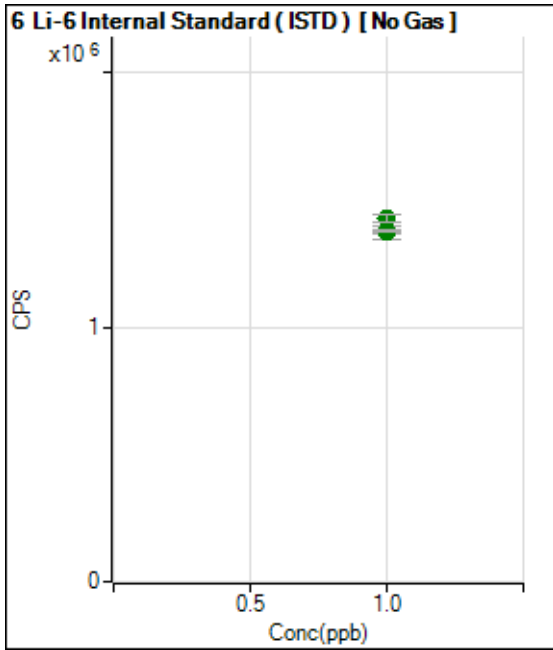
ICP-MS Instrument ID: MICPMSB Start Date: 12/02/2011 End Date: 12/02/2011

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Bi	Q	Element	Q	Element	Q	Element	Q	Element	Q
ICV 510-90598/7	20:34										
ICB 510-90598/8	20:37										
ICSA 510-90598/9	20:41										
ICSAB 510-90598/10	20:44										
MB 510-90474/1-A ^5	20:54										
LCS 510-90474/2-A	20:58										
510-72805-1	21:05										
510-72805-1 MS	21:08										
510-72805-1 MSD	21:12										
CCV 510-90598/19	21:15										
CCB 510-90598/20	21:19										
510-72805-1 SD	21:22										
CCV 510-90598/22	21:25										
CCB 510-90598/23	21:29										

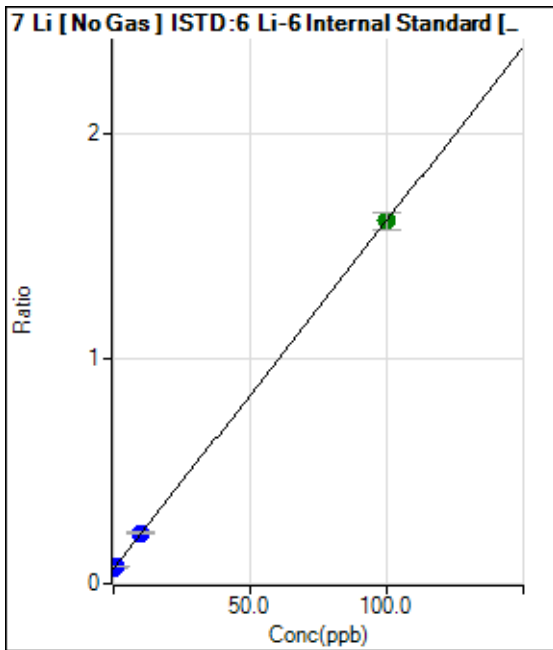
Calibration for 001CALB.d

Batch Folder: D:\Agilent\ICPMH\1\Data\12211e6020.b\  
 Analysis File: 12211e6020.batch.bin  
 DA Date-Time: 12/5/2011 11:25:58 AM  
 Calibration Title:  
 Calibration Method: External Calibration  
 VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	002CALB.d	calb	12/2/2011 8:17:05 PM
2	003CALS.d	0.1	12/2/2011 8:20:31 PM
3	004CALS.d	1	12/2/2011 8:23:57 PM
4	005CALS.d	10	12/2/2011 8:27:23 PM
5	006CALS.d	100	12/2/2011 8:30:49 PM



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000000		1373138.42		A	0.6
2	<input type="checkbox"/>	1.000000		1371421.83		A	4.2
3	<input type="checkbox"/>	1.000000		1424380.07		A	2.0
4	<input type="checkbox"/>	1.000000		1372885.53		A	1.4
5	<input type="checkbox"/>	1.000000		1376575.34		A	0.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	89801.73	0.0654	P	1.1
2	<input type="checkbox"/>	0.100000	0.056093	90877.11	0.0663	P	1.6
3	<input type="checkbox"/>	1.000000	0.717507	108905.61	0.0765	P	2.8
4	<input type="checkbox"/>	10.000000	10.305029	308206.78	0.2246	P	3.6
5	<input type="checkbox"/>	100.000000	99.972366	2215254.03	1.6095	A	5.1

$y = 0.0154 * x + 0.0654$

R = 1.0000

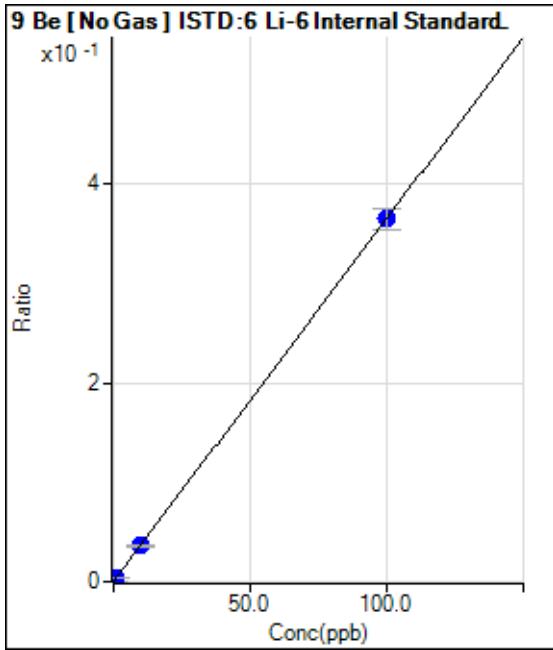
DL = 0.1446

BEC = 4.234

Weight: <None>

Min Conc: 0





	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	276.68	0.0002	P	5.9
2	<input type="checkbox"/>	0.100000	0.092298	736.71	0.0005	P	6.3
3	<input type="checkbox"/>	1.000000	0.947558	5200.90	0.0037	P	8.4
4	<input type="checkbox"/>	10.000000	9.924391	49893.68	0.0364	P	5.7
5	<input type="checkbox"/>	100.000000	100.008093	501782.44	0.3646	P	5.9

$y = 0.0036 * x + 2.0153E-004$

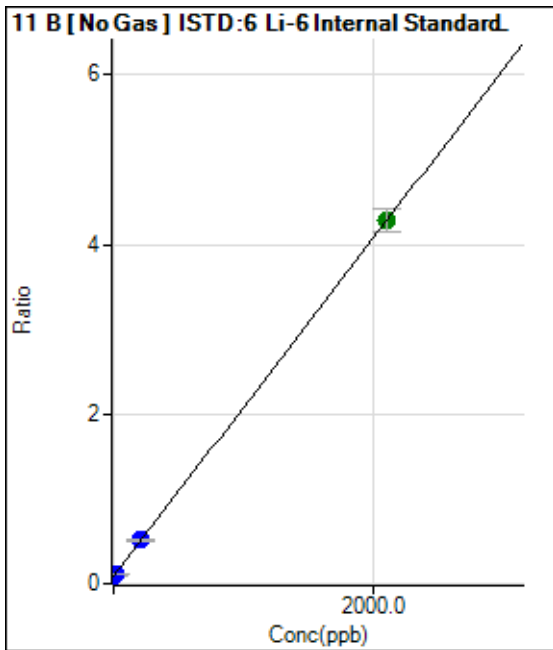
R = 1.0000

DL = 0.009815

BEC = 0.05531

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	120671.91	0.0879	P	0.8
2	<input type="checkbox"/>	2.100000	0.261746	121065.67	0.0884	P	5.2
3	<input type="checkbox"/>	21.000000	16.273817	171389.63	0.1204	P	2.7
4	<input type="checkbox"/>	210.000000	213.034594	704266.76	0.5132	P	6.3
5	<input type="checkbox"/>	2100.000000	2099.745641	5889884.70	4.2796	A	6.3

$y = 0.0020 * x + 0.0879$

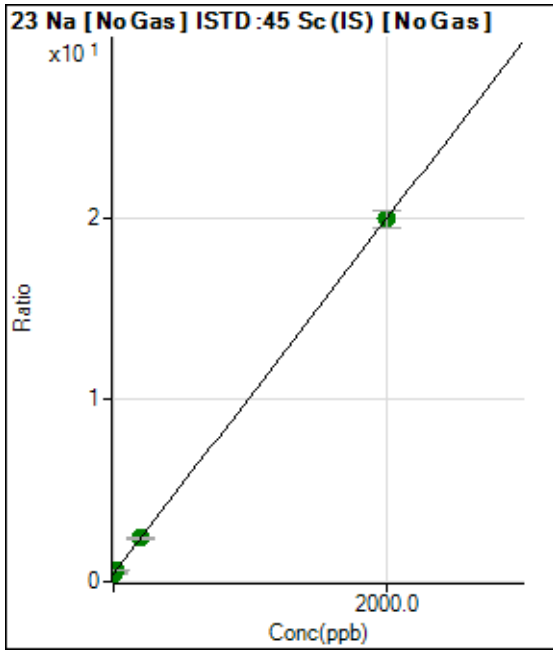
R = 1.0000

DL = 1.06

BEC = 44.02

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	1489329.72	0.4298	A	1.1
2	<input type="checkbox"/>	2.000000	3.846791	1547526.12	0.4672	A	4.5
3	<input type="checkbox"/>	20.000000	19.491736	2174235.07	0.6197	A	1.0
4	<input type="checkbox"/>	200.000000	201.497353	8352100.50	2.3938	A	3.5
5	<input type="checkbox"/>	2000.000000	1999.853501	70267158.96	19.9224	A	5.0

$y = 0.0097 * x + 0.4298$

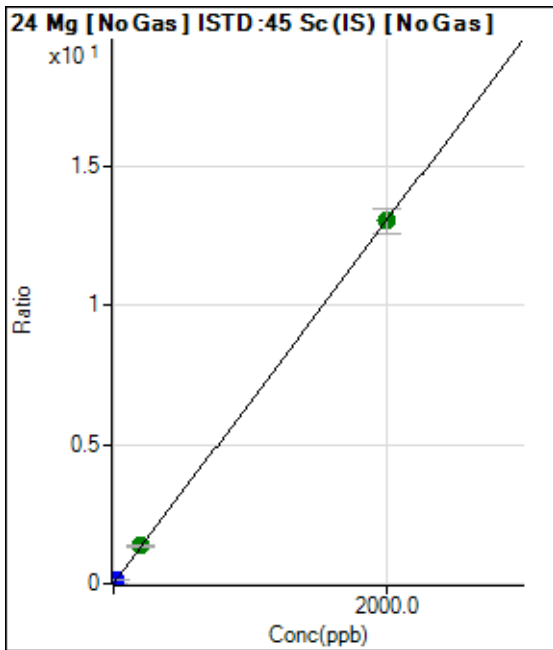
R = 1.0000

DL = 1.399

BEC = 44.09

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	13431.77	0.0039	P	4.2
2	<input type="checkbox"/>	2.000000	2.650551	69918.34	0.0211	P	8.0
3	<input type="checkbox"/>	20.000000	21.565917	506419.87	0.1443	P	4.2
4	<input type="checkbox"/>	200.000000	207.614406	4731021.18	1.3561	A	5.9
5	<input type="checkbox"/>	2000.000000	1999.222250	45929982.65	13.0252	A	6.7

$y = 0.0065 * x + 0.0039$

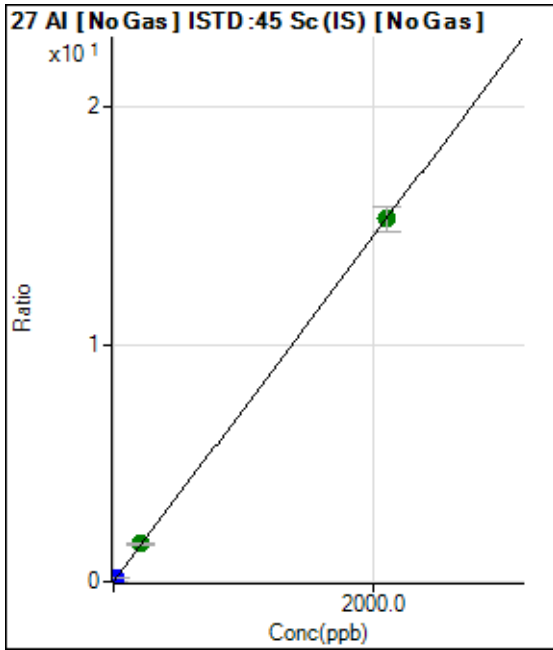
R = 1.0000

DL = 0.07582

BEC = 0.5951

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	20194.46	0.0058	P	8.8
2	<input type="checkbox"/>	2.100000	2.584145	81489.24	0.0246	P	7.9
3	<input type="checkbox"/>	21.000000	22.530457	595833.48	0.1698	P	6.0
4	<input type="checkbox"/>	210.000000	218.221033	5561588.98	1.5943	A	7.1
5	<input type="checkbox"/>	2100.000000	2099.162108	53900670.86	15.2859	A	6.8

$y = 0.0073 * x + 0.0058$

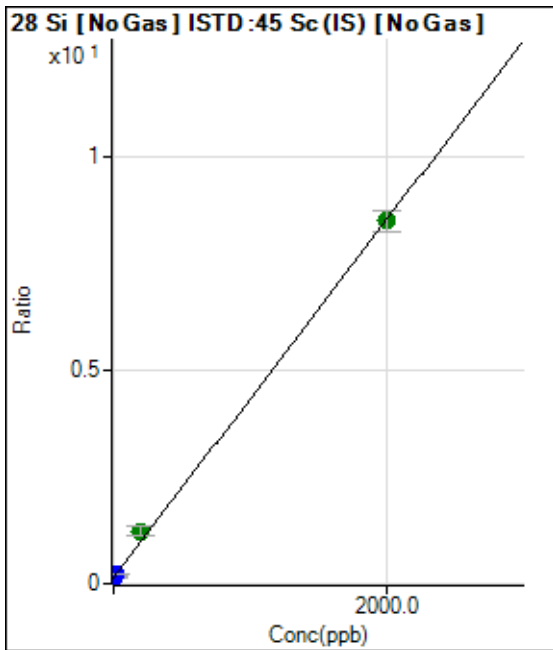
R = 1.0000

DL = 0.2115

BEC = 0.8005

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	493131.05	0.1423	P	0.6
2	<input type="checkbox"/>	2.000000	3.814207	523738.42	0.1583	P	6.7
3	<input type="checkbox"/>	20.000000	21.870057	820532.10	0.2339	P	3.7
4	<input type="checkbox"/>	200.000000	258.954074	4286189.52	1.2270	A	19.2
5	<input type="checkbox"/>	2000.000000	1994.084078	29957572.88	8.4949	A	6.0

$y = 0.0042 * x + 0.1423$

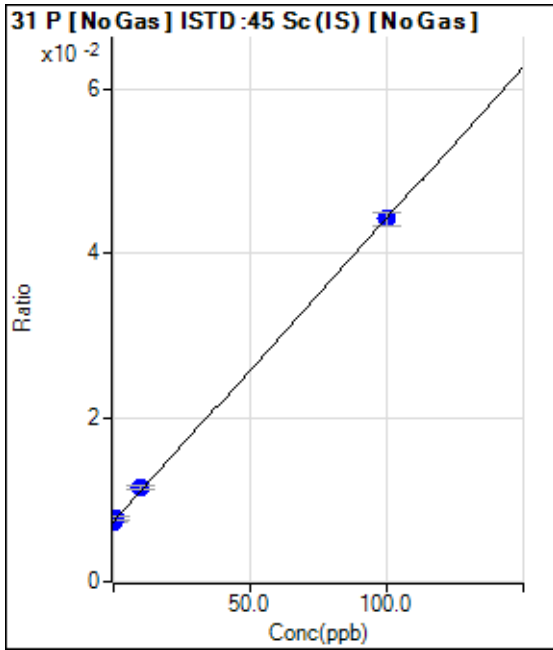
R = 0.9996

DL = 0.5802

BEC = 33.97

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	25457.41	0.0073	P	2.1
2	<input type="checkbox"/>	0.100000	0.842884	25307.27	0.0077	P	10.0
3	<input type="checkbox"/>	1.000000	1.199159	27320.03	0.0078	P	5.1
4	<input type="checkbox"/>	10.000000	11.378095	40295.94	0.0115	P	3.2
5	<input type="checkbox"/>	100.000000	99.859456	155959.63	0.0442	P	4.0

$y = 3.6918E-004 * x + 0.0073$

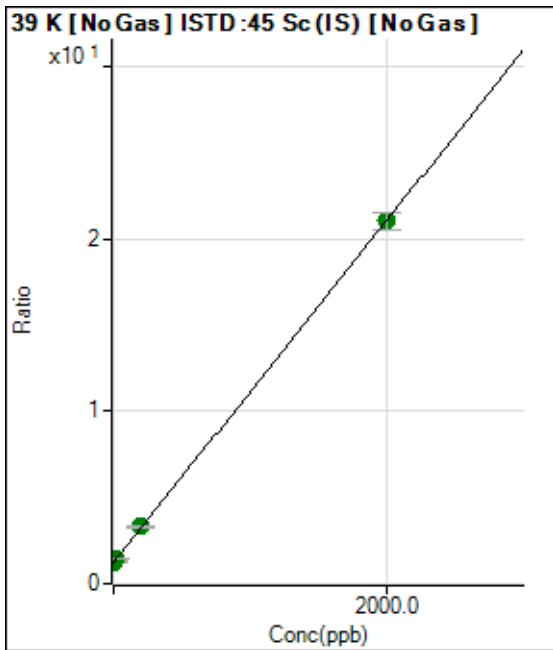
R = 0.9999

DL = 1.266

BEC = 19.9

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	4256263.06	1.2282	A	0.2
2	<input type="checkbox"/>	2.000000	12.154404	4464965.04	1.3487	A	5.6
3	<input type="checkbox"/>	20.000000	19.942448	5002814.20	1.4260	A	1.1
4	<input type="checkbox"/>	200.000000	208.658454	11506920.66	3.2977	A	2.6
5	<input type="checkbox"/>	2000.000000	1999.124576	74273738.89	21.0564	A	4.4

$y = 0.0099 * x + 1.2282$

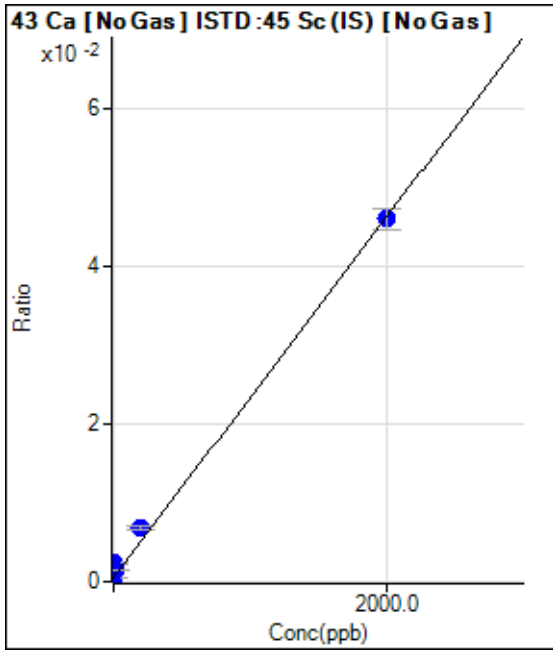
R = 1.0000

DL = 0.9012

BEC = 123.8

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	1763.49	0.0005	P	10.5
2	<input type="checkbox"/>	2.000000	81.163108	7825.26	0.0024	P	7.7
3	<input type="checkbox"/>	20.000000	43.287077	5254.27	0.0015	P	5.1
4	<input type="checkbox"/>	200.000000	278.958439	23999.17	0.0069	P	5.7
5	<input type="checkbox"/>	2000.000000	1991.792122	162190.63	0.0460	P	6.2

$y = 2.2836E-005 * x + 5.0885E-004$

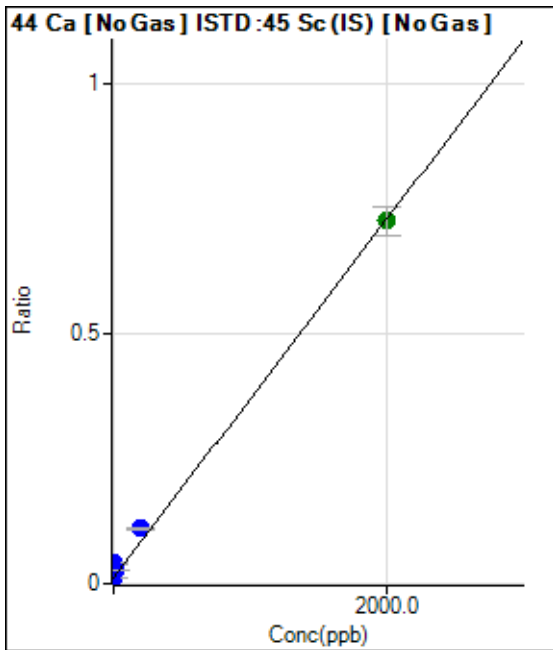
R = 0.9991

DL = 7.001

BEC = 22.28

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	39374.47	0.0114	P	2.4
2	<input type="checkbox"/>	2.000000	83.675991	137009.91	0.0414	P	7.6
3	<input type="checkbox"/>	20.000000	43.745251	94969.70	0.0271	P	1.9
4	<input type="checkbox"/>	200.000000	275.071245	384269.30	0.1101	P	4.7
5	<input type="checkbox"/>	2000.000000	1992.173747	2562231.32	0.7268	A	7.9

$y = 3.5910E-004 * x + 0.0114$

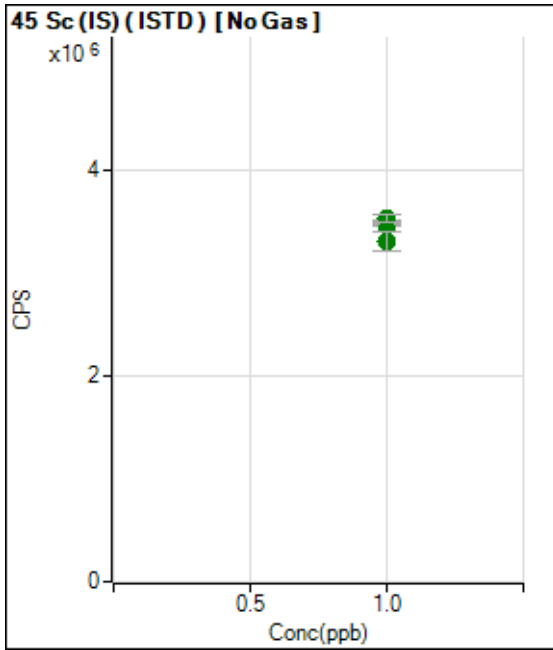
R = 0.9991

DL = 2.233

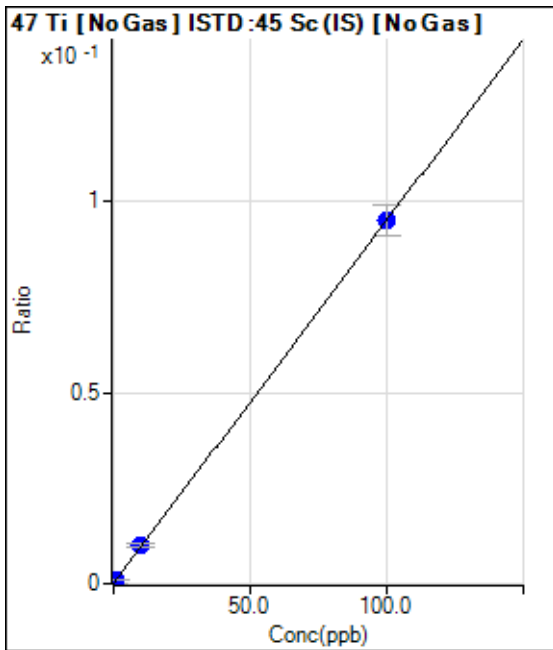
BEC = 31.64

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000000		3465540.68		A	0.1
2	<input type="checkbox"/>	1.000000		3317679.01		A	5.8
3	<input type="checkbox"/>	1.000000		3508460.05		A	0.7
4	<input type="checkbox"/>	1.000000		3489770.37		A	0.8
5	<input type="checkbox"/>	1.000000		3529665.68		A	2.2



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	230.01	0.0001	P	34.4
2	<input type="checkbox"/>	0.100000	0.082666	480.03	0.0001	P	10.0
3	<input type="checkbox"/>	1.000000	1.012859	3603.84	0.0010	P	7.2
4	<input type="checkbox"/>	10.000000	10.483525	34926.31	0.0100	P	8.0
5	<input type="checkbox"/>	100.000000	99.951536	334519.71	0.0949	P	8.4

$y = 9.4870E-004 * x + 6.6362E-005$

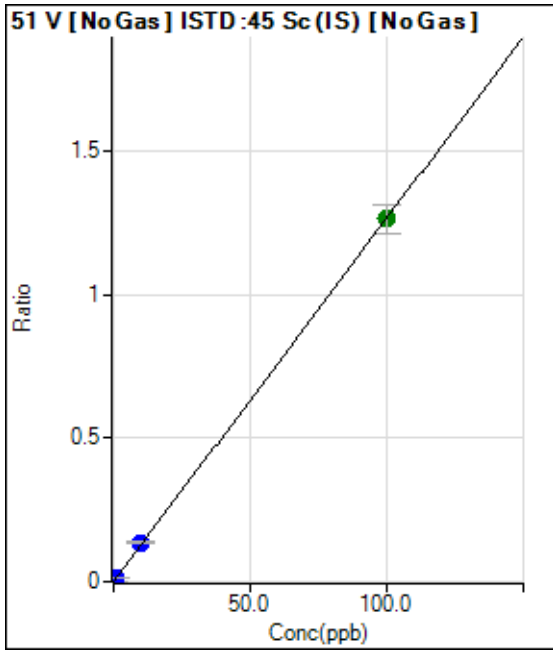
R = 1.0000

DL = 0.07229

BEC = 0.06995

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	-1967.37	-0.0006	P	-186.4
2	<input type="checkbox"/>	0.100000	0.177922	5472.57	0.0017	P	54.7
3	<input type="checkbox"/>	1.000000	1.045984	44476.43	0.0127	P	8.8
4	<input type="checkbox"/>	10.000000	10.691566	470392.93	0.1348	P	6.4
5	<input type="checkbox"/>	100.000000	99.930306	4459755.49	1.2650	A	8.2

$y = 0.0127 * x - 5.6805E-004$

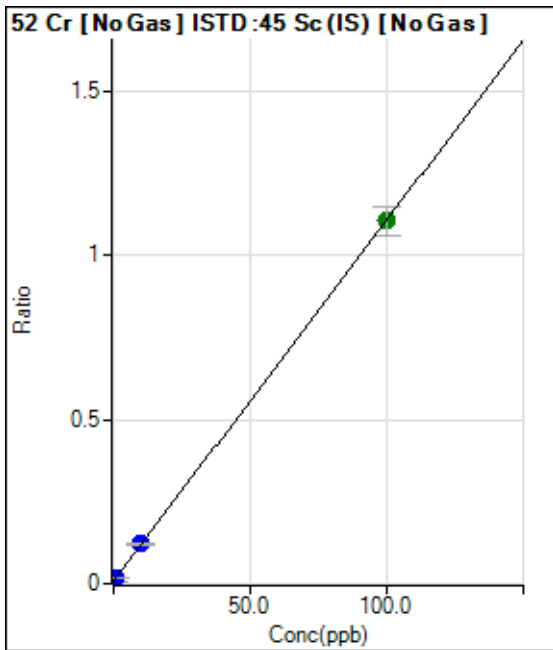
R = 1.0000

DL = 0.2508

BEC = -0.04485

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	25421.16	0.0073	P	3.1
2	<input type="checkbox"/>	0.100000	0.117841	28605.41	0.0086	P	3.4
3	<input type="checkbox"/>	1.000000	1.002905	64405.44	0.0184	P	2.8
4	<input type="checkbox"/>	10.000000	10.458508	426579.59	0.1223	P	5.7
5	<input type="checkbox"/>	100.000000	99.954102	3898653.59	1.1058	A	8.1

$y = 0.0110 * x + 0.0073$

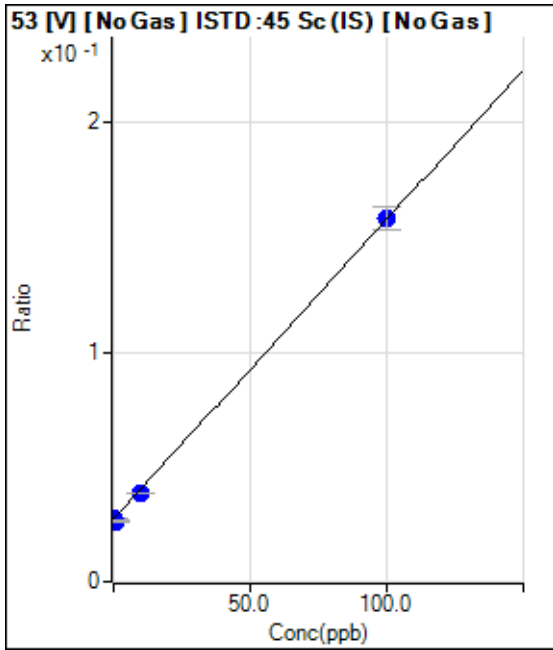
R = 1.0000

DL = 0.06204

BEC = 0.6675

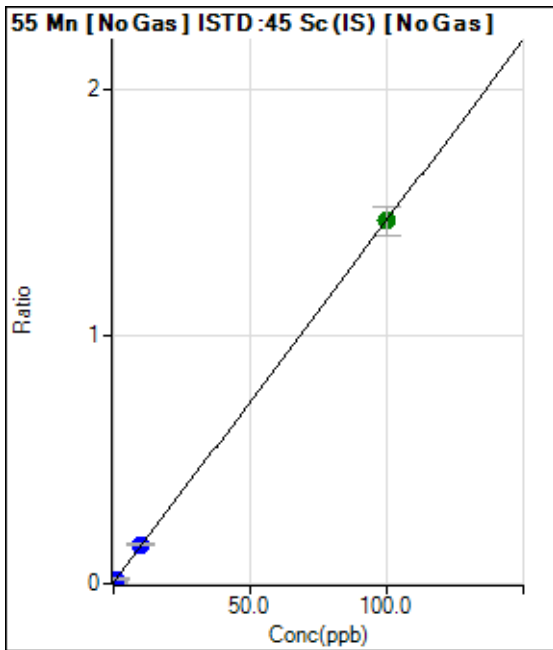
Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	94606.37	0.0273	P	1.4
2	<input type="checkbox"/>	0.100000	-0.558399	88015.57	0.0266	P	4.1
3	<input type="checkbox"/>	1.000000	-0.833405	91960.48	0.0262	P	1.3
4	<input type="checkbox"/>	10.000000	8.524864	134051.02	0.0384	P	1.7
5	<input type="checkbox"/>	100.000000	100.166506	556855.17	0.1579	P	6.3

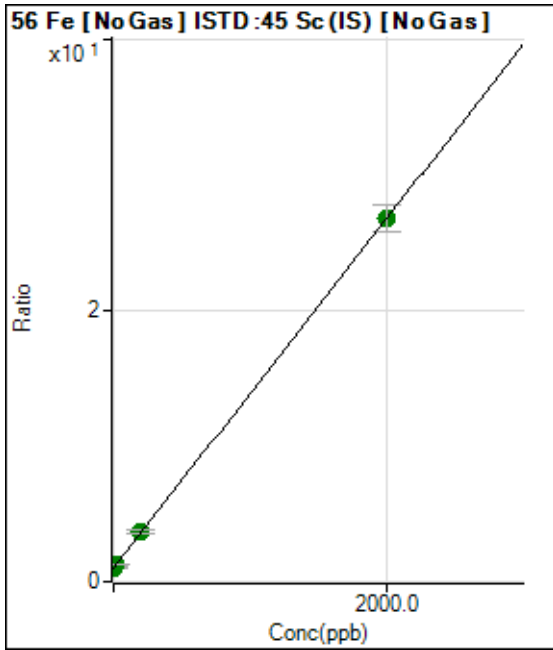
$y = 0.0013 * x + 0.0273$   
 R = 0.9999  
 DL = 0.8872  
 BEC = 20.94  
 Weight: <None>  
 Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	13145.03	0.0038	P	5.2
2	<input type="checkbox"/>	0.100000	0.143219	19514.00	0.0059	P	3.3
3	<input type="checkbox"/>	1.000000	1.047642	67098.50	0.0191	P	5.1
4	<input type="checkbox"/>	10.000000	10.592262	554077.48	0.1588	P	5.8
5	<input type="checkbox"/>	100.000000	99.940254	5170273.99	1.4665	A	8.0

$y = 0.0146 * x + 0.0038$   
 R = 1.0000  
 DL = 0.04065  
 BEC = 0.2592  
 Weight: <None>  
 Min Conc: 0





	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	3520381.93	1.0158	A	0.6
2	<input type="checkbox"/>	2.000000	7.557306	3682888.49	1.1130	A	6.9
3	<input type="checkbox"/>	20.000000	21.352349	4527340.98	1.2905	A	1.4
4	<input type="checkbox"/>	200.000000	206.472372	12809718.98	3.6716	A	5.2
5	<input type="checkbox"/>	2000.000000	1999.333682	94255831.93	26.7328	A	7.3

$y = 0.0129 * x + 1.0158$

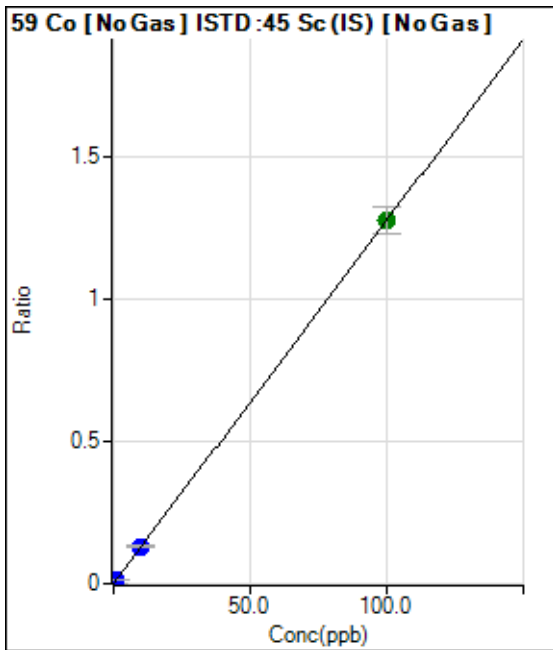
R = 1.0000

DL = 1.41

BEC = 78.97

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	423.36	0.0001	P	7.6
2	<input type="checkbox"/>	0.100000	0.108827	4994.20	0.0015	P	9.4
3	<input type="checkbox"/>	1.000000	1.002941	45311.51	0.0129	P	3.8
4	<input type="checkbox"/>	10.000000	10.299298	458737.58	0.1315	P	5.0
5	<input type="checkbox"/>	100.000000	99.970032	4496250.35	1.2752	A	7.4

$y = 0.0128 * x + 1.2216E-004$

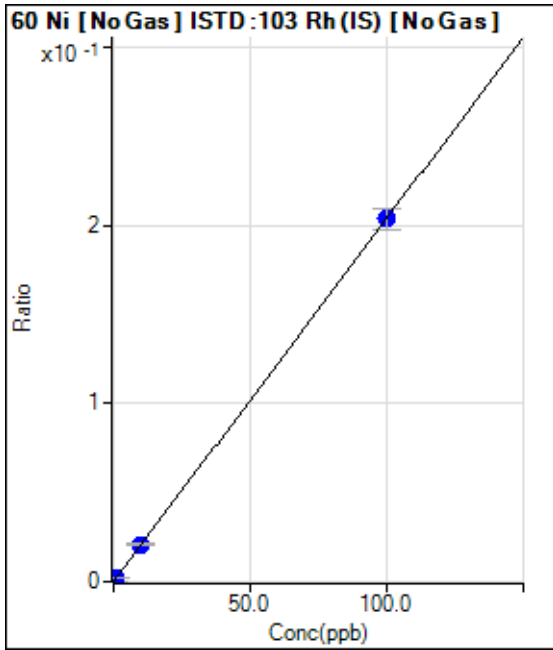
R = 1.0000

DL = 0.002186

BEC = 0.009578

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	403.36	0.0001	P	19.1
2	<input type="checkbox"/>	0.100000	0.120186	1543.47	0.0003	P	13.7
3	<input type="checkbox"/>	1.000000	1.012572	10539.98	0.0021	P	7.0
4	<input type="checkbox"/>	10.000000	10.292928	102110.21	0.0210	P	4.7
5	<input type="checkbox"/>	100.000000	99.970561	976320.48	0.2036	P	6.0

$y = 0.0020 * x + 8.3100E-005$

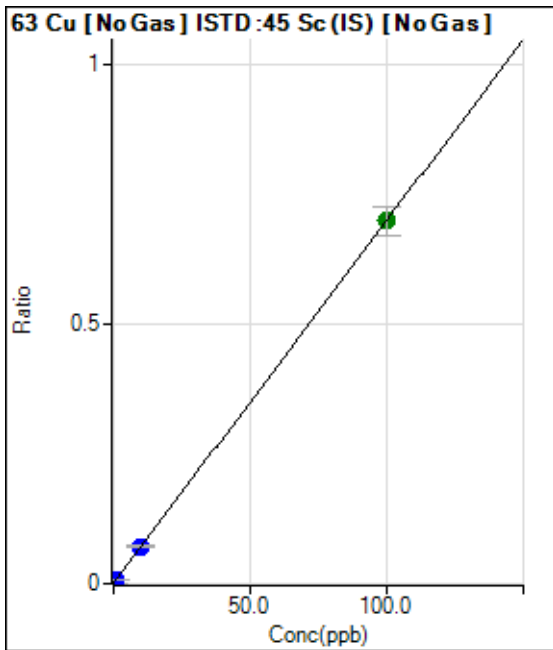
R = 1.0000

DL = 0.02335

BEC = 0.04083

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	2610.30	0.0008	P	3.4
2	<input type="checkbox"/>	0.100000	0.108341	4990.85	0.0015	P	10.5
3	<input type="checkbox"/>	1.000000	0.999342	27150.48	0.0077	P	3.3
4	<input type="checkbox"/>	10.000000	10.184239	250973.93	0.0719	P	4.9
5	<input type="checkbox"/>	100.000000	99.981574	2466408.40	0.6996	A	7.8

$y = 0.0070 * x + 7.5321E-004$

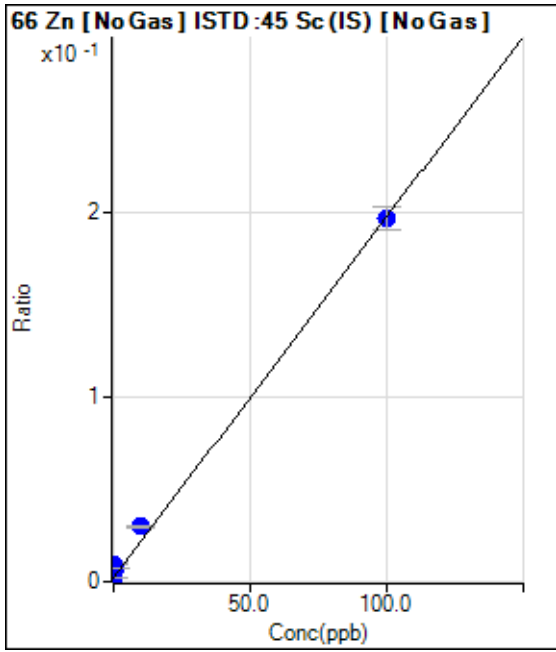
R = 1.0000

DL = 0.01098

BEC = 0.1078

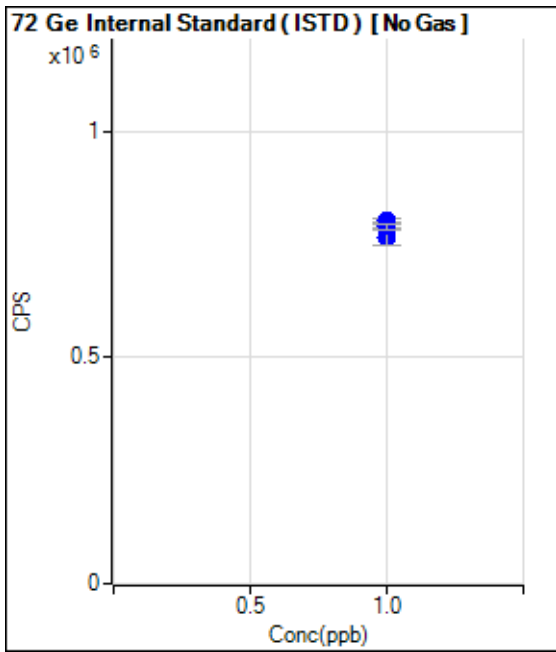
Weight: <None>

Min Conc: 0

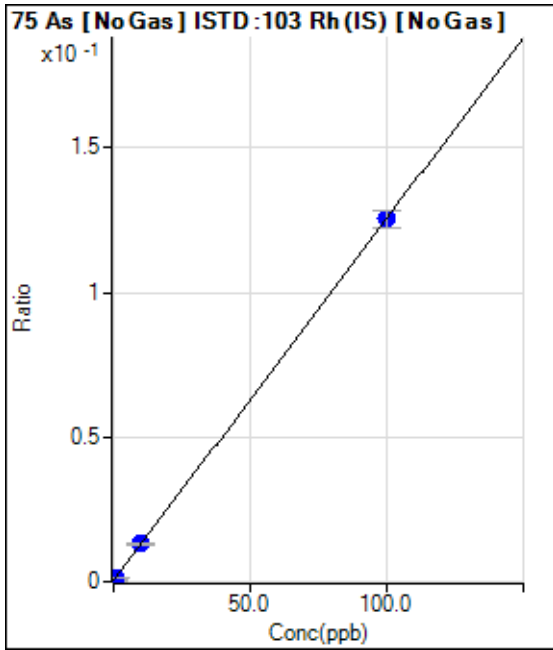


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	7151.62	0.0021	P	6.1
2	<input type="checkbox"/>	0.100000	3.870515	31874.54	0.0096	P	8.1
3	<input type="checkbox"/>	1.000000	2.758843	26182.24	0.0075	P	4.7
4	<input type="checkbox"/>	10.000000	14.168100	103924.66	0.0298	P	5.1
5	<input type="checkbox"/>	100.000000	99.561831	694283.87	0.1969	P	6.4

$y = 0.0020 * x + 0.0021$   
 $R = 0.9992$   
 $DL = 0.1941$   
 $BEC = 1.055$   
 Weight: <None>  
 Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000000		786173.35		P	0.4
2	<input type="checkbox"/>	1.000000		765754.18		P	4.4
3	<input type="checkbox"/>	1.000000		802718.30		P	1.1
4	<input type="checkbox"/>	1.000000		799486.21		P	0.3
5	<input type="checkbox"/>	1.000000		789749.91		P	1.4



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	1876.32	0.0004	P	74.0
2	<input type="checkbox"/>	0.100000	0.084448	2276.50	0.0005	P	134.7
3	<input type="checkbox"/>	1.000000	0.792871	6788.43	0.0014	P	6.3
4	<input type="checkbox"/>	10.000000	10.169752	63636.52	0.0131	P	5.3
5	<input type="checkbox"/>	100.000000	99.985112	601683.54	0.1255	P	5.1

$y = 0.0013 * x + 3.8757E-004$

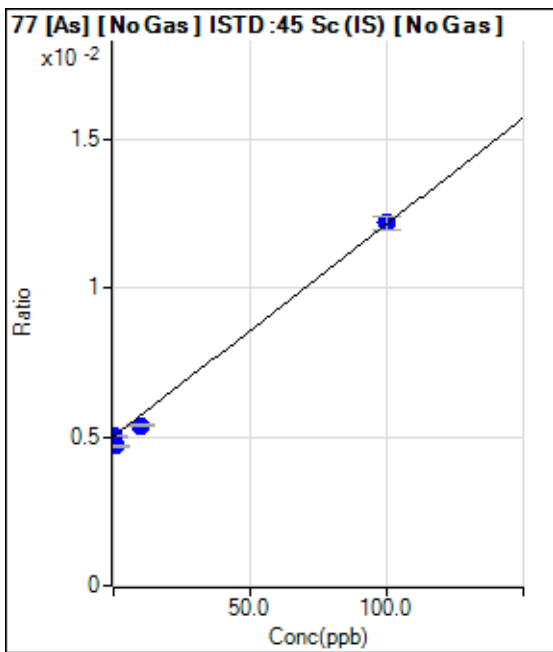
R = 1.0000

DL = 0.6876

BEC = 0.3098

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	17388.52	0.0050	P	2.3
2	<input type="checkbox"/>	0.100000	-2.142221	16120.92	0.0049	P	6.9
3	<input type="checkbox"/>	1.000000	-4.246567	16537.86	0.0047	P	1.5
4	<input type="checkbox"/>	10.000000	5.129888	18790.08	0.0054	P	0.7
5	<input type="checkbox"/>	100.000000	100.541719	43050.50	0.0122	P	3.8

$y = 7.1470E-005 * x + 0.0050$

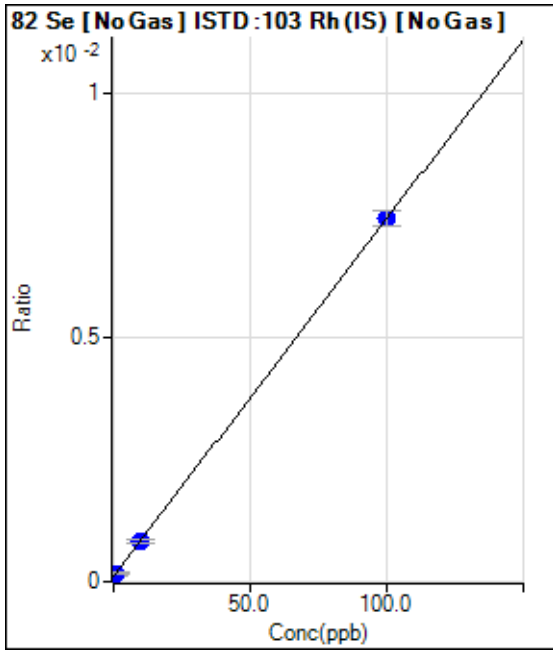
R = 0.9988

DL = 4.844

BEC = 70.2

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	540.68	0.0001	P	4.6
2	<input type="checkbox"/>	0.100000	0.053024	543.68	0.0001	P	8.7
3	<input type="checkbox"/>	1.000000	0.867559	858.69	0.0002	P	10.9
4	<input type="checkbox"/>	10.000000	9.781414	4011.77	0.0008	P	5.6
5	<input type="checkbox"/>	100.000000	100.023230	35602.82	0.0074	P	4.2

$y = 7.3099E-005 * x + 1.1135E-004$

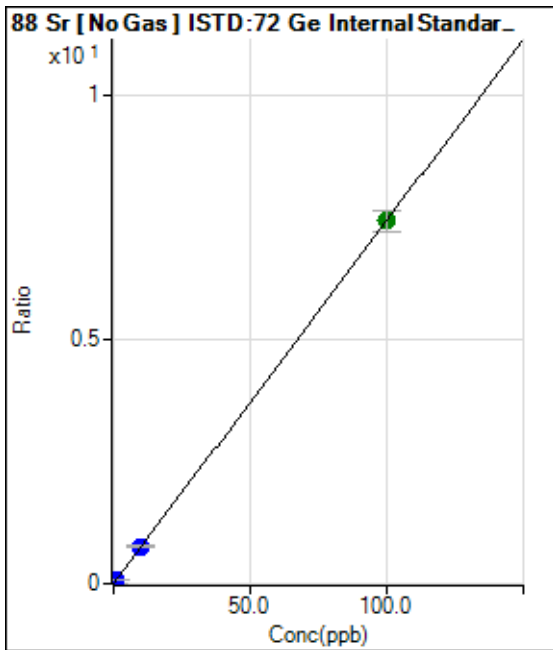
R = 1.0000

DL = 0.2113

BEC = 1.523

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	886.73	0.0011	P	9.3
2	<input type="checkbox"/>	0.100000	0.124572	7935.38	0.0104	P	3.6
3	<input type="checkbox"/>	1.000000	1.009572	61021.52	0.0760	P	6.1
4	<input type="checkbox"/>	10.000000	10.108286	600580.75	0.7513	P	5.3
5	<input type="checkbox"/>	100.000000	99.989051	5857812.20	7.4214	A	6.0

$y = 0.0742 * x + 0.0011$

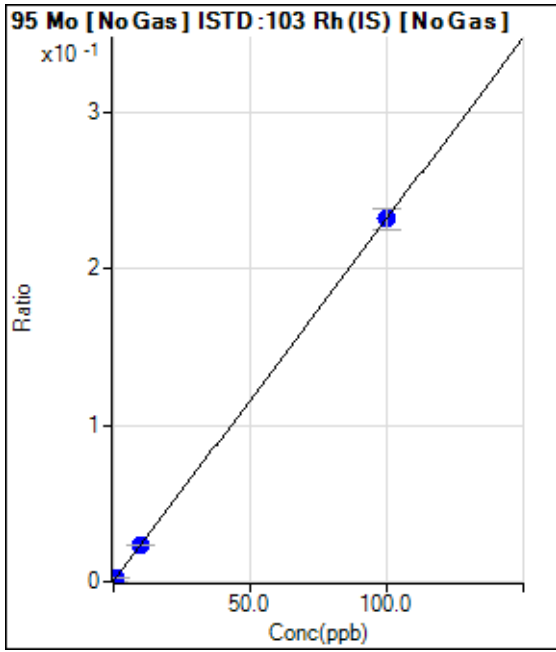
R = 1.0000

DL = 0.00426

BEC = 0.0152

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	1096.75	0.0002	P	22.8
2	<input type="checkbox"/>	0.100000	0.075542	1896.86	0.0004	P	2.1
3	<input type="checkbox"/>	1.000000	0.936870	11780.98	0.0024	P	11.6
4	<input type="checkbox"/>	10.000000	9.983946	113410.82	0.0234	P	4.8
5	<input type="checkbox"/>	100.000000	100.002261	1112456.31	0.2320	P	5.7

$y = 0.0023 * x + 2.2612E-004$

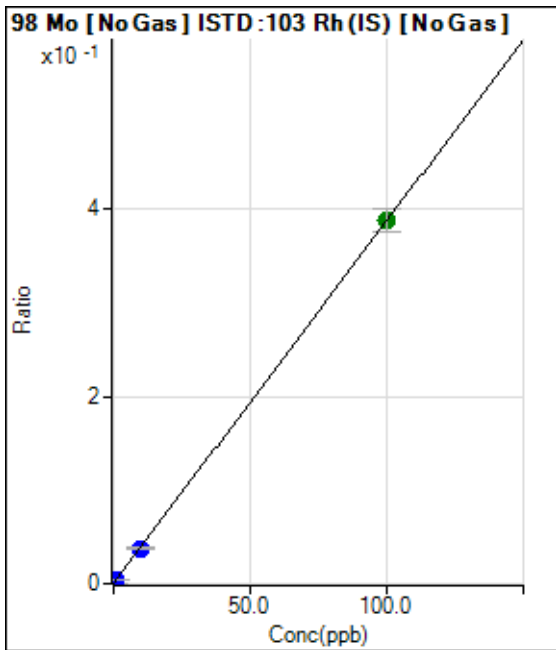
R = 1.0000

DL = 0.06667

BEC = 0.09758

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	1597.15	0.0003	P	28.0
2	<input type="checkbox"/>	0.100000	0.099434	3362.74	0.0007	P	13.8
3	<input type="checkbox"/>	1.000000	0.914571	19020.40	0.0039	P	6.2
4	<input type="checkbox"/>	10.000000	9.531540	180624.16	0.0372	P	4.9
5	<input type="checkbox"/>	100.000000	100.047701	1857950.85	0.3874	A	6.2

$y = 0.0039 * x + 3.2937E-004$

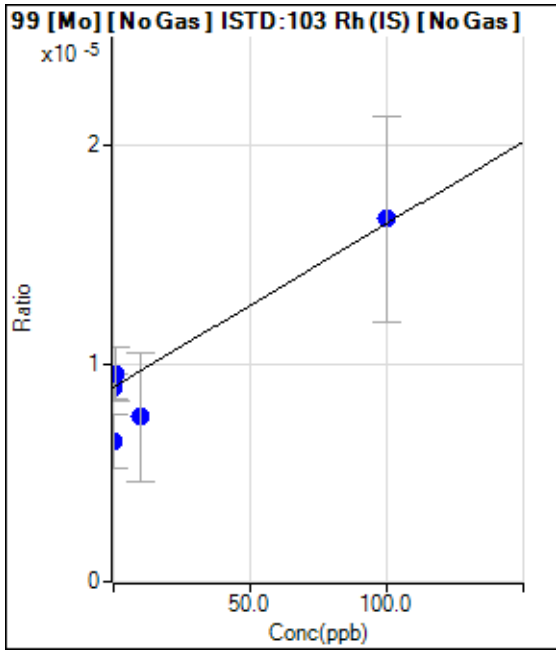
R = 1.0000

DL = 0.07151

BEC = 0.08513

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	43.33	0.0000	P	12.9
2	<input type="checkbox"/>	0.100000	-33.383843	30.00	0.0000	P	38.5
3	<input type="checkbox"/>	1.000000	7.887508	46.67	0.0000	P	26.4
4	<input type="checkbox"/>	10.000000	-18.437289	36.67	0.0000	P	78.4
5	<input type="checkbox"/>	100.000000	102.808338	80.00	0.0000	P	56.7

$y = 7.4903E-008 * x + 8.9224E-006$

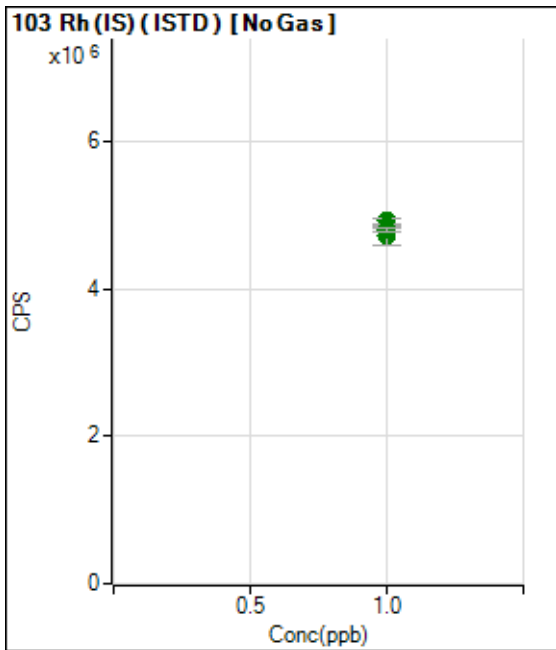
R = 0.9429

DL = 46.17

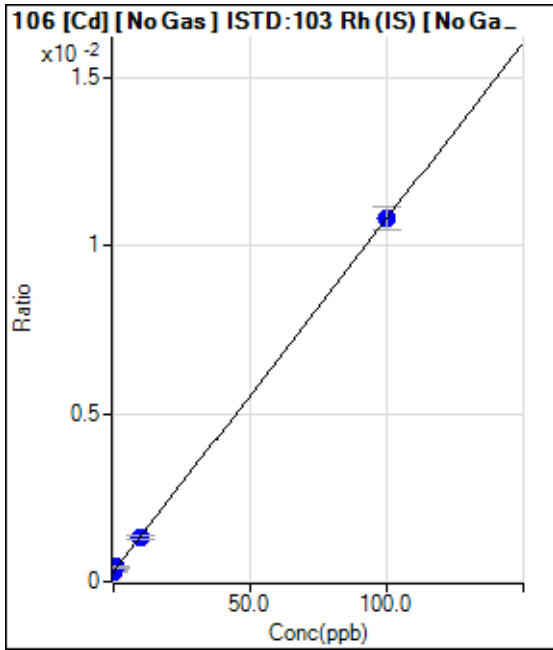
BEC = 119.1

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000000		4855178.05		A	0.7
2	<input type="checkbox"/>	1.000000		4731929.20		A	5.5
3	<input type="checkbox"/>	1.000000		4918808.16		A	1.6
4	<input type="checkbox"/>	1.000000		4853916.91		A	0.5
5	<input type="checkbox"/>	1.000000		4797587.43		A	1.3



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	1430.12	0.0003	P	11.1
2	<input type="checkbox"/>	0.100000	0.434824	1610.14	0.0003	P	7.1
3	<input type="checkbox"/>	1.000000	1.311413	2126.89	0.0004	P	4.8
4	<input type="checkbox"/>	10.000000	9.881223	6461.42	0.0013	P	8.2
5	<input type="checkbox"/>	100.000000	100.008429	51704.51	0.0108	P	6.5

$y = 1.0486E-004 * x + 2.9467E-004$

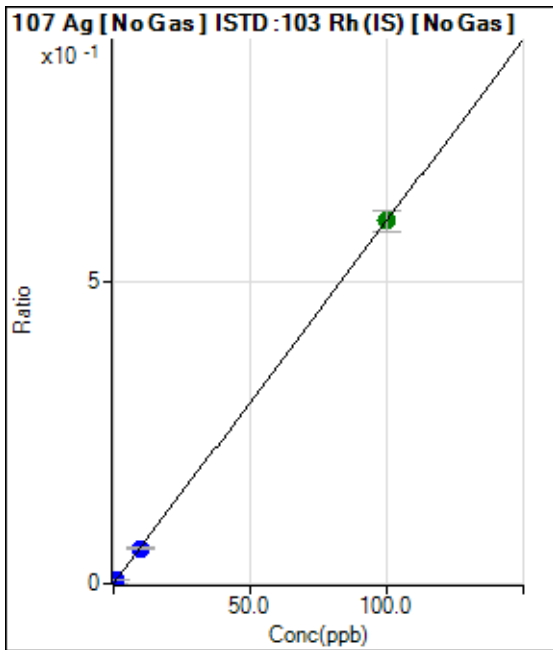
R = 1.0000

DL = 0.9344

BEC = 2.81

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	766.71	0.0002	P	8.6
2	<input type="checkbox"/>	0.100000	0.098698	3537.18	0.0008	P	14.9
3	<input type="checkbox"/>	1.000000	0.971184	29494.60	0.0060	P	2.3
4	<input type="checkbox"/>	10.000000	9.736859	284896.70	0.0587	P	2.8
5	<input type="checkbox"/>	100.000000	100.026604	2884369.33	0.6014	A	6.0

$y = 0.0060 * x + 1.5791E-004$

R = 1.0000

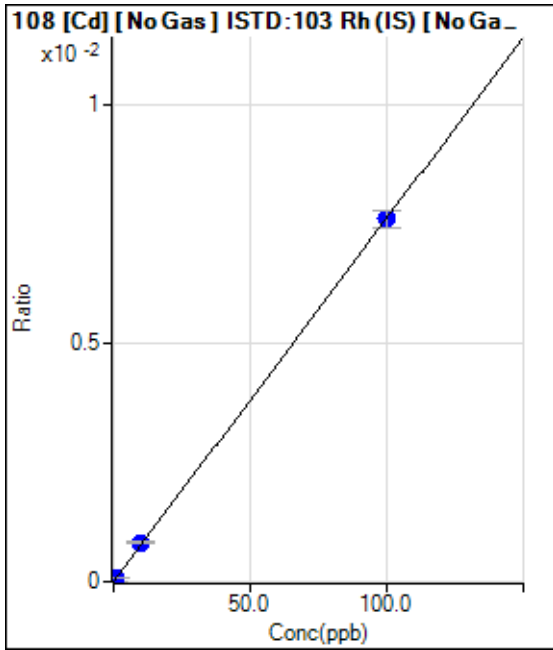
DL = 0.00678

BEC = 0.02627

Weight: <None>

Min Conc: 0





	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	10.00	0.0000	P	100.0
2	<input type="checkbox"/>	0.100000	0.177552	73.33	0.0000	P	13.8
3	<input type="checkbox"/>	1.000000	0.983087	380.02	0.0001	P	40.8
4	<input type="checkbox"/>	10.000000	10.647228	3947.30	0.0008	P	6.1
5	<input type="checkbox"/>	100.000000	99.935369	36521.17	0.0076	P	4.6

$y = 7.6175E-005 * x + 2.0514E-006$

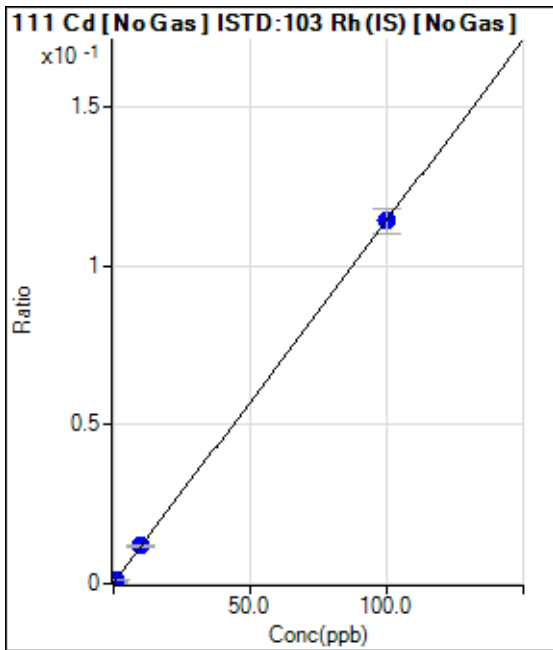
R = 1.0000

DL = 0.08075

BEC = 0.02693

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	1145.21	0.0002	P	12.0
2	<input type="checkbox"/>	0.100000	0.113406	1728.16	0.0004	P	1.5
3	<input type="checkbox"/>	1.000000	0.989405	6704.93	0.0014	P	1.5
4	<input type="checkbox"/>	10.000000	10.268582	57932.25	0.0119	P	5.7
5	<input type="checkbox"/>	100.000000	99.973234	547250.55	0.1141	P	7.0

$y = 0.0011 * x + 2.3595E-004$

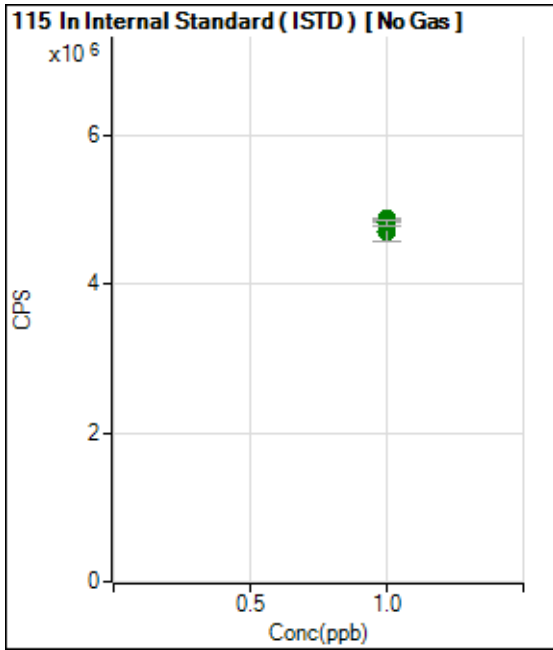
R = 1.0000

DL = 0.07473

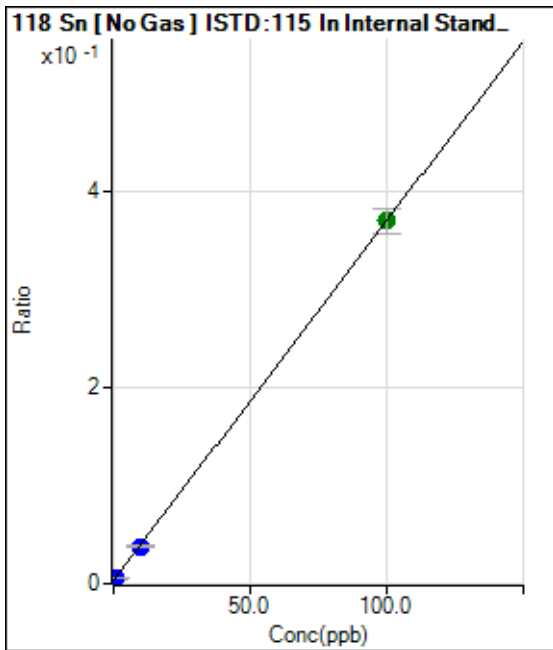
BEC = 0.2071

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000000		4847603.09		A	0.9
2	<input type="checkbox"/>	1.000000		4697471.01		A	5.5
3	<input type="checkbox"/>	1.000000		4873777.70		A	0.4
4	<input type="checkbox"/>	1.000000		4842234.70		A	0.8
5	<input type="checkbox"/>	1.000000		4820678.81		A	1.3



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	15297.02	0.0032	P	1.8
2	<input type="checkbox"/>	0.100000	0.061665	15837.57	0.0034	P	8.3
3	<input type="checkbox"/>	1.000000	0.832063	30249.86	0.0062	P	3.4
4	<input type="checkbox"/>	10.000000	9.497160	183894.32	0.0380	P	5.3
5	<input type="checkbox"/>	100.000000	100.052002	1783129.82	0.3701	A	6.7

$y = 0.0037 * x + 0.0032$

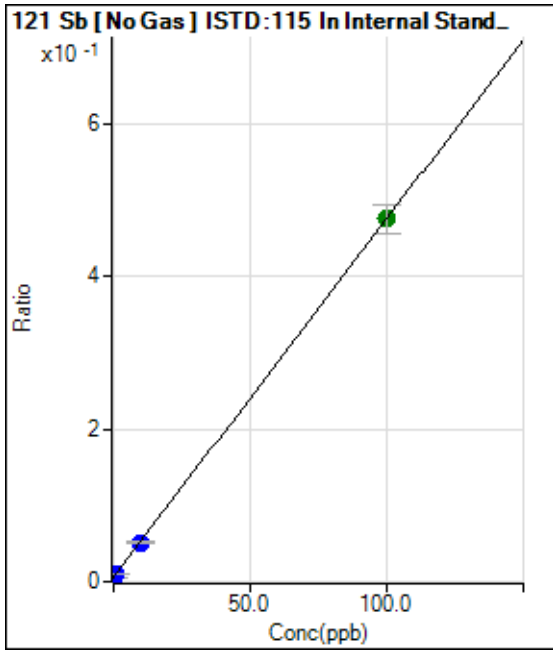
R = 1.0000

DL = 0.04741

BEC = 0.8604

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	29445.05	0.0061	P	3.5
2	<input type="checkbox"/>	0.100000	0.000808	28520.07	0.0061	P	3.7
3	<input type="checkbox"/>	1.000000	0.798381	47837.41	0.0098	P	3.9
4	<input type="checkbox"/>	10.000000	9.682542	249037.56	0.0514	P	6.1
5	<input type="checkbox"/>	100.000000	100.033861	2287424.03	0.4748	A	8.1

$y = 0.0047 * x + 0.0061$

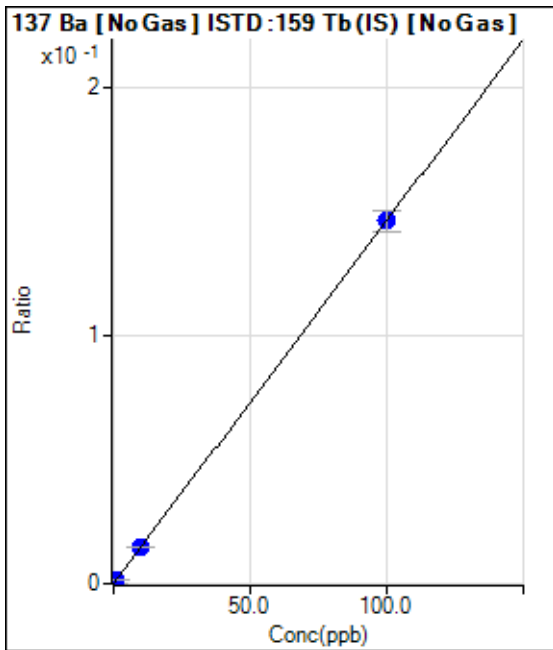
R = 1.0000

DL = 0.1349

BEC = 1.297

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	93.33	0.0000	P	23.0
2	<input type="checkbox"/>	0.100000	0.116900	1086.75	0.0002	P	8.9
3	<input type="checkbox"/>	1.000000	1.002678	8872.60	0.0015	P	10.3
4	<input type="checkbox"/>	10.000000	9.997206	87497.93	0.0147	P	2.9
5	<input type="checkbox"/>	100.000000	100.000236	870620.48	0.1464	P	5.7

$y = 0.0015 * x + 1.5748E-005$

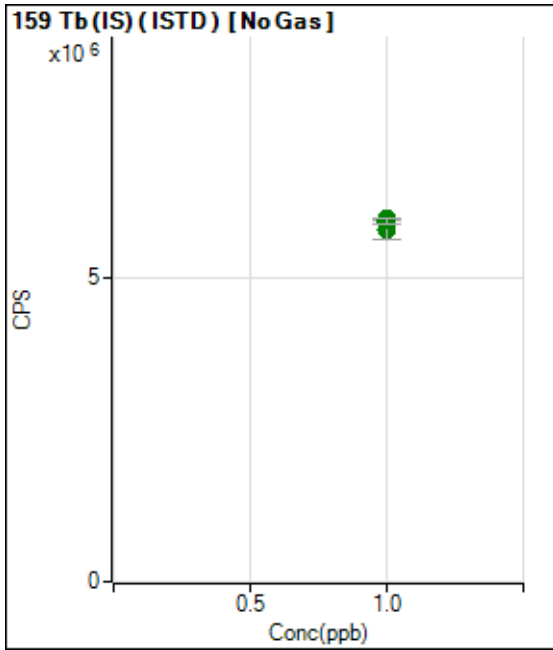
R = 1.0000

DL = 0.00743

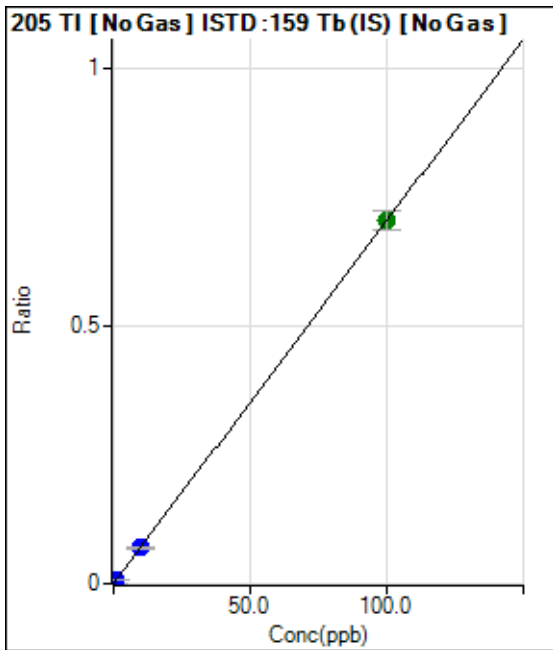
BEC = 0.01075

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000000		5933848.04		A	1.0
2	<input type="checkbox"/>	1.000000		5807285.12		A	5.8
3	<input type="checkbox"/>	1.000000		5980785.12		A	0.5
4	<input type="checkbox"/>	1.000000		5970975.33		A	0.1
5	<input type="checkbox"/>	1.000000		5948045.33		A	1.7



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	1116.75	0.0002	P	9.8
2	<input type="checkbox"/>	0.100000	0.097121	5044.32	0.0009	P	10.6
3	<input type="checkbox"/>	1.000000	0.958176	41465.63	0.0069	P	4.7
4	<input type="checkbox"/>	10.000000	9.806812	413294.78	0.0692	P	3.0
5	<input type="checkbox"/>	100.000000	100.019740	4186648.69	0.7042	A	5.4

$y = 0.0070 * x + 1.8829E-004$

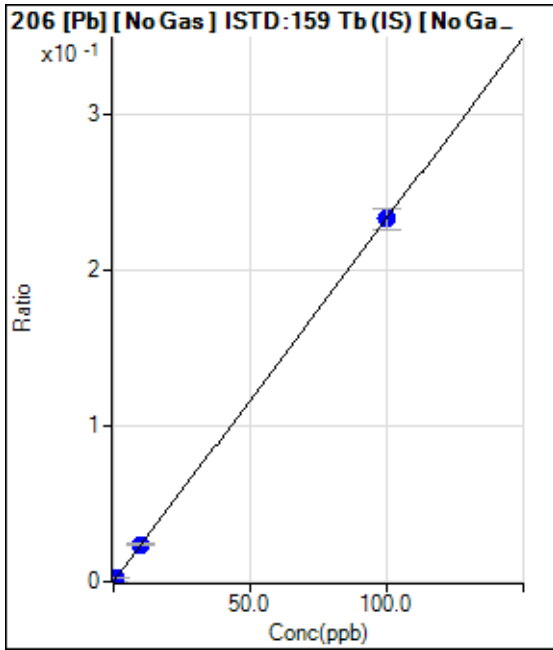
R = 1.0000

DL = 0.007849

BEC = 0.02675

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	440.03	0.0001	P	9.5
2	<input type="checkbox"/>	0.100000	0.101342	1790.17	0.0003	P	23.7
3	<input type="checkbox"/>	1.000000	1.016462	14626.93	0.0024	P	4.4
4	<input type="checkbox"/>	10.000000	10.288344	143755.88	0.0241	P	4.0
5	<input type="checkbox"/>	100.000000	99.971000	1387042.38	0.2333	P	5.7

$y = 0.0023 * x + 7.4111E-005$

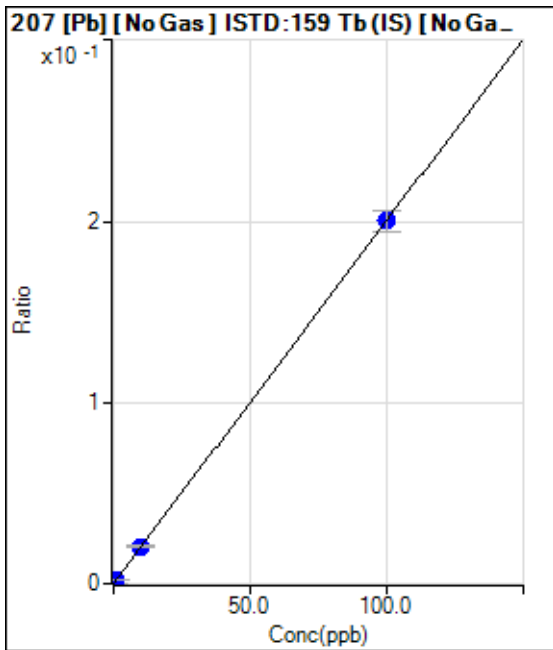
R = 1.0000

DL = 0.009055

BEC = 0.03177

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	420.03	0.0001	P	21.0
2	<input type="checkbox"/>	0.100000	0.099370	1563.48	0.0003	P	15.5
3	<input type="checkbox"/>	1.000000	1.031516	12775.41	0.0021	P	8.6
4	<input type="checkbox"/>	10.000000	10.219983	122598.27	0.0205	P	3.1
5	<input type="checkbox"/>	100.000000	99.977687	1190397.56	0.2002	P	5.9

$y = 0.0020 * x + 7.0828E-005$

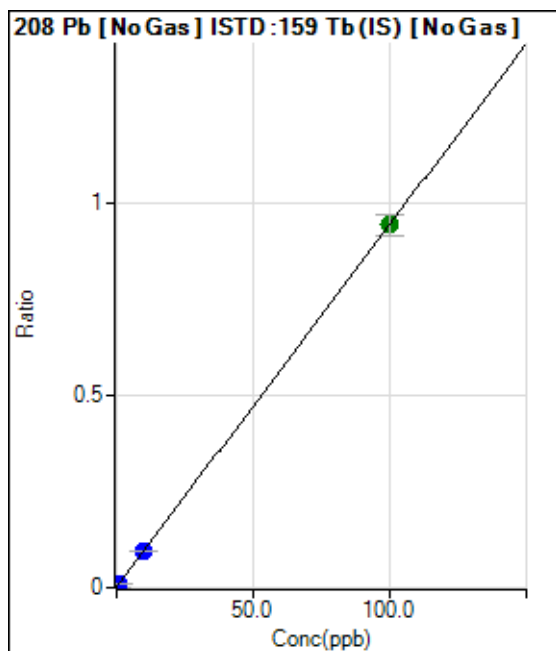
R = 1.0000

DL = 0.02227

BEC = 0.03538

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	0.000000	0.000000	7351.63	0.0012	P	4.9
2	<input type="checkbox"/>	0.100000	0.095817	12399.83	0.0021	P	6.6
3	<input type="checkbox"/>	1.000000	0.992265	63198.31	0.0106	P	4.9
4	<input type="checkbox"/>	10.000000	9.998764	568590.31	0.0952	P	3.4
5	<input type="checkbox"/>	100.000000	100.000205	5595782.08	0.9412	A	5.7

$y = 0.0094 * x + 0.0012$

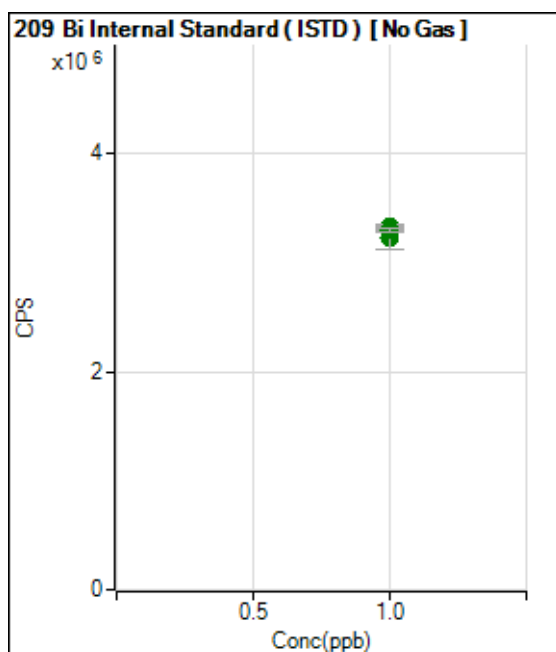
R = 1.0000

DL = 0.01946

BEC = 0.1318

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	<input type="checkbox"/>	1.000000					
2	<input type="checkbox"/>	1.000000		3224676.52		A	6.3
3	<input type="checkbox"/>	1.000000		3330335.26		A	1.4
4	<input type="checkbox"/>	1.000000		3307951.20		A	1.3
5	<input type="checkbox"/>	1.000000		3300340.57		A	1.2

## Batch Summary Report

Batch Folder: D:\Agilent\ICPMH\1\Data\12211e6020.b\  
 Analysis File: 12211e6020.batch.bin  
 Tune Step: #1 No Gas

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
1		12/2/2011 8:13:39 PM	001CALB.d	blk I.S /tune	CalBlk	1	1.0000
2		12/2/2011 8:17:05 PM	002CALB.d	calb	CalBlk	1	1.0000
3		12/2/2011 8:20:31 PM	003CALS.d	0.1	CalStd	2	1.0000
4		12/2/2011 8:23:57 PM	004CALS.d	1	CalStd	3	1.0000
5		12/2/2011 8:27:23 PM	005CALS.d	10	CalStd	4	1.0000
6		12/2/2011 8:30:49 PM	006CALS.d	100	CalStd	5	1.0000
7		12/2/2011 8:34:15 PM	007_ICV.d	icv	ICV		1.0000
8		12/2/2011 8:37:39 PM	008_ICB.d	icb	ICB		1.0000
9		12/2/2011 8:41:05 PM	009SMPL.d	icsa	Sample		1.0000
10		12/2/2011 8:44:31 PM	010SMPL.d	icsab	Sample		1.0000
11		12/2/2011 8:47:57 PM	011SMPL.d	rinse	Sample		1.0000
12		12/2/2011 8:51:23 PM	012SMPL.d	rinse	Sample		1.0000
13		12/2/2011 8:54:51 PM	013SMPL.d	MB 510-90474/1-A @5	Sample		1.0000
14		12/2/2011 8:58:19 PM	014SMPL.d	LCS 510-90474/2-A @5	Sample		1.0000
15		12/2/2011 9:01:47 PM	015SMPL.d	510-72760-A-1-A @5	Sample		1.0000
16		12/2/2011 9:05:15 PM	016SMPL.d	510-72805-A-1-A @5	Sample		1.0000
17		12/2/2011 9:08:43 PM	017SMPL.d	510-72805-A-1-B MS @5	Sample		1.0000
18		12/2/2011 9:12:11 PM	018SMPL.d	510-72805-A-1-C MSD @5	Sample		1.0000
19		12/2/2011 9:15:37 PM	019_CCV.d	ccv	CCV		1.0000
20		12/2/2011 9:19:01 PM	020_CCB.d	ccb	CCB		1.0000
21		12/2/2011 9:22:29 PM	021SMPL.d	510-72805-A-1-A sd @25	Sample		1.0000
22		12/2/2011 9:25:55 PM	022_CCV.d	ccv	CCV		1.0000
23		12/2/2011 9:29:19 PM	023_CCB.d	ccb	CCB		1.0000

## Batch Summary Report

Analyte Table

		7 Li [ No Ga...	9 Be [ No Ga...	11 B [ No Ga...	23 Na [ No...	24 Mg [ No...	27 Al [ No ...	28 Si [ No ...	31 P [ No Ga...	39 K [ No Ga...
	Sample Name	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
1	blk I.S. /tune	<0.000000	0.019178	1.956642	0.890187	0.166346	0.105446	1.705269	<0.000000	<0.000000
2	calb	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3	0.1	0.056093	0.092298	0.261746	3.846791	2.650551	2.584145	3.814207	0.842884	12.154404
4	1	0.717507	0.947558	16.273817	19.491736	21.565917	22.530457	21.870057	1.199159	19.942448
5	10	10.305029	9.924391	213.034594	201.497353	207.614406	218.221033	258.954074	11.378095	208.658454
6	100	99.972366	100.008093	2099.745641	1999.853501	1999.222250	2099.162108	1994.084078	99.859456	1999.124576
7	icv	49.495995	49.346668	1107.563113	1065.116645	1051.831016	1111.149989	963.541963	54.727476	521.643747
8	icb	0.025295	0.001868	21.343653	<0.000000	0.126396	0.154304	0.283156	0.725497	<0.000000
9	icsa	0.029445	<0.000000	16.454811	5.99871E+04	2.41734E+04	2.55015E+04	3.898081	2.57480E+04	2.40604E+04
10	icsab	0.042012	<0.000000	8.065914	5.97700E+04	2.38788E+04	2.54440E+04	3.570954	2.56732E+04	2.41072E+04
11	rinse	<0.000000	<0.000000	3.329107	12.169063	6.852561	4.133925	2.278898	2.022575	11.280025
12	rinse	<0.000000	0.004236	<0.000000	2.989580	4.631715	1.813841	2.290033	0.368598	6.257052
13	MB 510-90474/...	0.039337	<0.000000	7.515749	4.327663	0.764914	1.777555	15.276296	14.712033	20.490200
14	LCS 510-90474...	28.278433	356.346192	409.284698	1264.345357	8969.648806	2.69777E+04	1979.466022	2066.751348	1.03550E+04
15	510-72760-A-1-...	0.878147	0.558625	78.190995	2687.917641	1267.879202	3050.187191	1014.549815	1.03497E+04	976.950175
16	510-72805-A-1-...	21.395953	0.407734	7.181698	96.796515	3574.096152	7081.848364	1037.426290	480.944315	799.924020
17	510-72805-A-1-...	242.914861	234.461915	513.869196	2.28770E+04	2.55826E+04	9879.746233	1642.127402	714.257860	2.78349E+04
18	510-72805-A-1-...	233.343481	227.626715	491.057410	2.21183E+04	2.53494E+04	9914.290305	1653.806423	830.741922	2.70796E+04
19	ccv	52.171806	52.667183	1166.179796	1057.104954	1047.353334	1103.478738	964.874670	54.544196	527.282345
20	ccb	0.074933	0.029242	7.035506	<0.000000	0.614048	0.565932	2.526820	<0.000000	0.511728
21	510-72805-A-1-...	4.063306	0.104125	3.313947	27.132237	703.399731	1362.801796	201.832679	93.506982	169.590015
22	ccv	49.613493	50.908563	1129.509511	1015.294057	1024.258394	1068.055549	944.561934	53.417604	514.709729
23	ccb	0.083952	0.015147	8.213298	<0.000000	0.418305	0.346696	1.474337	0.145916	1.643561

		43 Ca [ No...	44 Ca [ No...	47 Ti [ No ...	51 V [ No ...	52 Cr [ No ...	53 [V] [ No...	55 Mn [ No...	56 Fe [ No ...	59 Co [ No...
	Sample Name	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
1	blk I.S. /tune	20.427968	15.475179	0.034545	0.166336	0.049902	<0.000000	0.008269	<0.000000	0.018374
2	calb	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3	0.1	81.163108	83.675991	0.082666	0.177922	0.117841	<0.000000	0.143219	7.557306	0.108827



## Batch Summary Report

Analyte Table

		43 Ca [No...]	44 Ca [No...]	47 Ti [No...]	51 V [No...]	52 Cr [No...]	53 [V] [No...]	55 Mn [No...]	56 Fe [No...]	59 Co [No...]
	Sample Name	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
4	1	43.287077	43.745251	1.012859	1.045984	1.002905	<0.000000	1.047642	21.352349	1.002941
5	10	278.958439	275.071245	10.483525	10.691566	10.458508	8.524864	10.592262	206.472372	10.299298
6	100	1991.792122	1992.173747	99.951536	99.930306	99.954102	100.166506	99.940254	1999.333682	99.970032
7	icv	1040.060162	1055.332967	52.544157	54.737463	54.231997	60.220948	54.377088	1080.145298	54.174910
8	icb	0.330733	<0.000000	<0.000000	<0.000000	0.071319	6.750013	<0.000000	<0.000000	0.005614
9	icsa	6.42346E+04	6.46440E+04	529.295481	0.247868	0.679341	<0.000000	0.126102	6.09053E+04	0.066713
10	icsab	6.36538E+04	6.41192E+04	523.325438	201.932032	202.504567	196.303641	198.716492	6.12312E+04	194.126116
11	rinse	15.365270	15.968400	0.994047	0.181238	<0.000000	<0.000000	0.716149	36.355546	0.026960
12	rinse	11.645001	9.375139	0.079689	0.120784	<0.000000	<0.000000	0.656034	28.845312	0.010269
13	MB 510-90474/...	38.798269	37.101693	0.116131	0.083368	0.473999	9.806629	0.136613	12.934060	1.039197
14	LCS 510-90474...	2.22397E+04	2.18332E+04	645.933973	314.166676	449.243901	470.043780	1338.432058	4.37633E+04	471.417322
15	510-72760-A-1-...	8384.496320	8334.903270	46.878433	3.139479	25.979911	32.408321	771.292436	1.06868E+04	5.164987
16	510-72805-A-1-...	3978.048254	3993.605983	298.774461	27.379529	16.436512	21.172487	550.402450	1.80328E+04	9.389800
17	510-72805-A-1-...	1.35070E+04	1.33093E+04	553.592760	238.886833	223.041614	235.944879	832.734215	2.01891E+04	215.482539
18	510-72805-A-1-...	1.43110E+04	1.41722E+04	553.596014	232.857616	221.941751	233.662360	747.022017	2.01246E+04	209.827560
19	ccv	1030.941214	1050.004854	52.135977	54.259069	53.374851	59.997830	54.143266	1081.058937	53.583393
20	ccb	0.081016	<0.000000	0.020747	<0.000000	0.084896	6.687770	0.041777	2.979389	0.012145
21	510-72805-A-1-...	1071.666698	1129.512886	57.811959	5.017834	4.824633	9.753549	110.014683	3497.395941	2.263034
22	ccv	1008.698707	1038.781321	50.986370	53.582250	53.073272	57.436240	53.439514	1057.711776	52.045078
23	ccb	<0.000000	<0.000000	0.011343	<0.000000	0.056863	6.971990	0.035479	3.003587	0.007358

		60 Ni [No...]	63 Cu [No...]	66 Zn [No...]	75 As [No...]	77 [As] [N...]	82 Se [No...]	88 Sr [No...]	95 Mo [No...]	98 Mo [No...]
	Sample Name	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
1	blk I.S. /tune	0.026149	0.015178	0.494482	0.162671	<0.000000	0.090481	0.025436	0.025401	0.051368
2	calb	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3	0.1	0.120186	0.108341	3.870515	0.084448	<0.000000	0.053024	0.124572	0.075542	0.099434
4	1	1.012572	0.999342	2.758843	0.792871	<0.000000	0.867559	1.009572	0.936870	0.914571
5	10	10.292928	10.184239	14.168100	10.169752	5.129888	9.781414	10.108286	9.983946	9.531540
6	100	99.970561	99.981574	99.561831	99.985112	100.541719	100.023230	99.989051	100.002261	100.047701

## Batch Summary Report

Analyte Table

		60 Ni [ No ...	63 Cu [ No...	66 Zn [ No...	75 As [ No...	77 [As] [ N...	82 Se [ No...	88 Sr [ No ...	95 Mo [ No...	98 Mo [ No...
	Sample Name	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
7	icv	51.808675	51.140832	49.771758	52.095678	81.952903	51.571256	51.832851	54.070261	51.986666
8	icb	0.001577	<0.000000	<0.000000	<0.000000	18.852890	<0.000000	0.001991	0.013462	0.040198
9	icsa	0.672281	0.631823	1.030347	<0.000000	9.861712	0.142715	0.272212	530.656145	513.274185
10	icsab	212.668506	191.698256	93.290293	106.897291	114.110709	109.061844	0.303653	529.319857	508.277165
11	rinse	0.052595	0.043061	0.166688	<0.000000	<0.000000	0.077684	0.020682	0.532732	0.517479
12	rinse	0.017846	0.022689	0.117619	0.017724	<0.000000	<0.000000	0.017325	0.149931	0.153755
13	MB 510-90474/...	0.044232	0.125619	2.333266	<0.000000	42.996289	0.119878	0.029994	0.164549	0.166900
14	LCS 510-90474...	310.938755	415.132604	913.217901	463.498612	538.258429	539.295997	611.342429	270.031504	256.431647
15	510-72760-A-1-...	13.418127	531.527175	502.446749	2.209933	42.621611	3.961580	31.951899	30.871201	29.820459
16	510-72805-A-1-...	19.107312	10.956831	39.061082	6.839637	34.200137	0.994488	11.372241	26.547998	25.401697
17	510-72805-A-1-...	246.123602	212.468943	243.560613	226.173367	266.219532	215.872060	216.227585	262.178734	251.713600
18	510-72805-A-1-...	242.722950	209.638897	234.287761	226.574795	267.357466	214.669141	216.444480	258.413632	245.382335
19	ccv	51.474182	51.211472	49.423580	51.467048	84.675227	51.052567	51.481599	53.447851	51.731740
20	ccb	0.015025	0.013731	<0.000000	<0.000000	24.411046	<0.000000	0.008808	0.048543	0.033860
21	510-72805-A-1-...	10.660455	2.687410	31.028845	0.727137	23.843505	0.053707	2.361122	5.020460	4.803674
22	ccv	51.149885	50.132659	48.108094	50.643368	81.143560	50.554321	50.831822	52.662545	50.949369
23	ccb	0.010270	0.003338	<0.000000	<0.000000	22.547576	<0.000000	0.003537	0.005156	0.029857

		99 [Mo] [ N...	106 [Cd] [ N...	107 Ag [ N...	108 [Cd] [ N...	111 Cd [ N...	118 Sn [ N...	121 Sb [ N...	137 Ba [ N...	205 Tl [ No...
	Sample Name	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
1	blk I.S /tune	<0.000000	0.447357	0.025659	0.026425	0.046675	0.052221	0.216799	0.033714	0.032543
2	calb	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
3	0.1	<0.000000	0.434824	0.098698	0.177552	0.113406	0.061665	0.000808	0.116900	0.097121
4	1	7.887508	1.311413	0.971184	0.983087	0.989405	0.832063	0.798381	1.002678	0.958176
5	10	<0.000000	9.881223	9.736859	10.647228	10.268582	9.497160	9.682542	9.997206	9.806812
6	100	102.808338	100.008429	100.026604	99.935369	99.973234	100.052002	100.033861	100.000236	100.019740
7	icv	<0.000000	53.420825	49.164064	52.644945	52.774396	49.676777	51.858335	51.209826	53.160501
8	icb	<0.000000	0.404179	0.005144	0.071024	0.025618	0.153771	<0.000000	0.008743	0.017923
9	icsa	<0.000000	0.620253	0.284338	3.455960	0.335380	<0.000000	<0.000000	0.066641	0.010790

## Batch Summary Report

Analyte Table

		99 [Mo] [ N...]	106 [Cd] [ N...]	107 Ag [ N...]	108 [Cd] [ N...]	111 Cd [ N...]	118 Sn [ N...]	121 Sb [ N...]	137 Ba [ N...]	205 Tl [ No...]
	Sample Name	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
10	icsab	185.646469	102.779719	49.220959	106.731155	103.167995	<0.000000	<0.000000	0.074922	<0.000000
11	rinse	37.119322	0.206427	0.008769	0.049570	0.030474	<0.000000	<0.000000	0.029900	0.008649
12	rinse	17.809111	0.156160	0.003687	0.127402	0.011650	<0.000000	<0.000000	0.026847	0.005698
13	MB 510-90474/...	4.782747	0.167835	0.031477	0.046658	0.012085	6.200221	<0.000000	0.081519	0.002252
14	LCS 510-90474...	618.879143	346.693136	171.684687	343.914249	353.375962	548.381348	361.420084	860.311272	1101.297296
15	510-72760-A-1-...	89.909370	20.090731	6.816955	24.056112	0.758561	53.553361	1.904382	206.893402	2.009827
16	510-72805-A-1-...	28.626804	1.724671	0.341304	1.144459	0.239734	6.690645	<0.000000	38.381587	0.255450
17	510-72805-A-1-...	62.495180	226.400263	410.296587	222.797591	220.455284	220.720132	174.617094	466.586882	209.064740
18	510-72805-A-1-...	101.488212	220.668789	401.985835	222.515875	220.218845	221.917159	175.089862	452.927335	206.567024
19	ccv	<0.000000	53.555912	48.590507	53.685747	52.970651	49.635931	50.687090	51.760353	54.048002
20	ccb	<0.000000	0.080828	0.006075	0.090721	0.010228	<0.000000	<0.000000	0.030953	0.077624
21	510-72805-A-1-...	<0.000000	0.569240	0.051367	0.109520	0.082767	1.434392	<0.000000	7.853801	0.084479
22	ccv	<0.000000	51.271413	49.220983	53.123404	51.526717	48.728761	50.169089	50.122451	51.978213
23	ccb	<0.000000	0.015203	0.006501	0.064196	0.001491	<0.000000	<0.000000	0.027243	0.037789

		206 [Pb] [ N...]	207 [Pb] [ N...]	208 Pb [ N...]
	Sample Name	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
1	blk I.S /tune	0.031268	0.019877	0.024064
2	calb	0.000000	0.000000	0.000000
3	0.1	0.101342	0.099370	0.095817
4	1	1.016462	1.031516	0.992265
5	10	10.288344	10.219983	9.998764
6	100	99.971000	99.977687	100.000205
7	icv	50.414879	53.851865	52.075637
8	icb	0.008013	0.001322	0.011041
9	icsa	0.077715	0.068483	0.061504
10	icsab	0.068990	0.080539	0.074531
11	rinse	0.049119	0.025981	0.047471
12	rinse	0.041913	0.026762	0.037679

## Batch Summary Report

Analyte Table

		206 [Pb] [ N...	207 [Pb] [ N...	208 Pb [ N...
	Sample Name	Conc. [ppb]	Conc. [ppb]	Conc. [ppb]
13	MB 510-90474/...	0.024743	0.024173	0.017028
14	LCS 510-90474...	331.367840	327.075672	317.535337
15	510-72760-A-1-...	17.748895	17.039048	16.974923
16	510-72805-A-1-...	11.372180	10.597474	10.749958
17	510-72805-A-1-...	225.993824	241.601460	224.013976
18	510-72805-A-1-...	224.779354	240.727133	223.759120
19	ccv	50.554347	54.838602	52.734765
20	ccb	0.024194	0.025597	0.021085
21	510-72805-A-1-...	2.395572	2.328743	2.296109
22	ccv	49.237930	52.605469	50.371965
23	ccb	0.007747	0.006465	0.006256

## Batch Summary Report

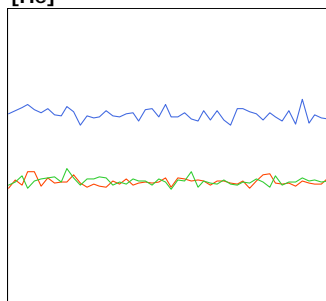
ISTD Table

		6 Li-6 In...	45 Sc (IS...	72 Ge I...	103 Rh (...)	115 In I...	159 Tb (...)	209 Bi I...
	Sample Name	Recove...	Recove...	Recove...	Recove...	Recove...	Recove...	Recove...
1	blk I.S. /tune	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2	calb	100.0	100.0	100.0	100.0	100.0	100.0	
3	0.1	99.9	95.7	97.4	97.5	96.9	97.9	
4	1	103.7	101.2	102.1	101.3	100.5	100.8	
5	10	100.0	100.7	101.7	100.0	99.9	100.6	
6	100	100.3	101.9	100.5	98.8	99.4	100.2	
7	icv	98.2	96.2	99.7	94.8	96.1	97.3	
8	icb	100.3	101.8	101.7	101.0	102.2	102.3	
9	icsa	96.4	98.8	99.6	92.7	95.3	101.1	
10	icsab	98.1	100.3	99.8	93.2	96.6	98.8	
11	rinse	94.9	94.9	93.7	94.4	94.0	92.5	
12	rinse	98.6	99.7	99.4	98.8	99.2	99.2	
13	MB 510-90474/...	94.2	95.3	103.6	96.2	95.3	95.4	
14	LCS 510-90474...	94.2	104.2	98.9	90.1	90.7	94.0	
15	510-72760-A-1-...	92.7	93.0	100.5	93.9	94.3	96.6	
16	510-72805-A-1-...	90.7	97.3	100.7	93.1	93.1	95.8	
17	510-72805-A-1-...	83.9	98.1	100.9	90.5	91.4	96.0	
18	510-72805-A-1-...	87.5	99.6	101.9	90.8	92.7	97.1	
19	ccv	94.4	99.0	103.3	98.4	98.1	98.7	
20	ccb	96.9	100.5	100.7	99.1	99.0	99.4	
21	510-72805-A-1-...	96.9	100.8	102.6	99.1	98.5	99.3	
22	ccv	95.6	99.9	102.3	98.4	98.3	99.7	
23	ccb	96.3	99.7	99.8	98.9	99.5	99.9	

# Tune Report

**Batch Folder** D:\Agilent\ICPMH\1\Data\12211tune.b  
**Report Comment**  
**Instrument Name** G3281A JP11040848

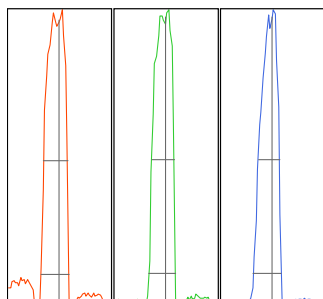
[He]



Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Res. Ratio (Actual)	Res. Ratio (Required)	Res. Ratio (Flag)
59	5000	2074				NaN	-	
89	5000	2085				NaN	-	
205	5000	3218				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
59	3.25					
89	3.15					
205	2.95					

**Ratio (oxide)** 156/140      0.255 %  
**Integration Time [sec]**      0.1      **Sampling Period [sec]**      0.3102



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
59	2087.82	59.000	58.9 - 59.1		0.689	0.800	0.900	
89	2043.80	89.000	88.9 - 89.1		0.649	0.760	0.900	
205	3182.91	205.000	204.9 - 205.1		0.614	0.812	0.900	

X = 10      **Integration Time [sec]**      0.1      **Acquisition Time [sec]**      22.56      **Y Axis** Linear

### Tune Parameters

#### ## Plasma Parameters ##

RF Power	1550 W	Carrier Gas	0.50 L/min	S/C Temp	2 °C
RF Matching	1.80 V	Optional Gas	0.0 %	Makeup/Dilution Gas	0.60 L/min
Smpl Depth	10.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	DilutionGas

#### ## Lenses Parameters ##

Extract 1	-7.0 V	Omega Lens	9.5 V	Deflect	3.2 V
Extract 2	-200.0 V	Cell Entrance	-34 V	Plate Bias	-80 V
Omega Bias	-85 V	Cell Exit	-68 V		

#### ## Cell Parameters ##

OctP Bias	-20.0 V	He Flow	3.5 mL/min	Energy Discrimination	5.0 V
OctP RF	180 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

[no gas]

# Tune Report

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Res. Ratio (Actual)	Res. Ratio (Required)	Res. Ratio (Flag)
7	5000	2654	2653.75	5000.00	[F]	0.28	0.2 - 1	
89	20000	9630	9630.06	10000.00	[F]	1.00	1 - 1	
205	10000	4970	4969.80	10000.00	[F]	0.52	0.5 - 1.5	
Mass	RSD%	RSD%	RSD%	Background (Actual)	Background (Required)	Background (Flag)		
7	2.90	5.00		5.70				
89	2.72	5.00		4.30				
205	2.70	5.00		17.30				
<b>Ratio (oxide)</b>	156/140	0.620 %		<b>Ratio (2+)</b>	70/140	17.086 %		

Integration Time [sec]      0.1      Sampling Period [sec]      0.3112

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
7	2652.44	7.100	6.9 - 7.1		0.738	0.839	0.900	
89	9531.26	89.000	88.9 - 89.1		0.657	0.781	0.900	
205	4878.94	204.950	204.9 - 205.1		0.638	0.828	0.900	

X = 10      Integration Time [sec]      0.1      Acquisition Time [sec]      22.76      Y Axis      Linear

### Tune Parameters

#### ## Plasma Parameters ##

RF Power	1550 W	Carrier Gas	0.50 L/min	S/C Temp	2 °C
RF Matching	1.80 V	Optional Gas	0.0 %	Makeup/Dilution Gas	0.60 L/min
Smpl Depth	10.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	DilutionGas

#### ## Lenses Parameters ##

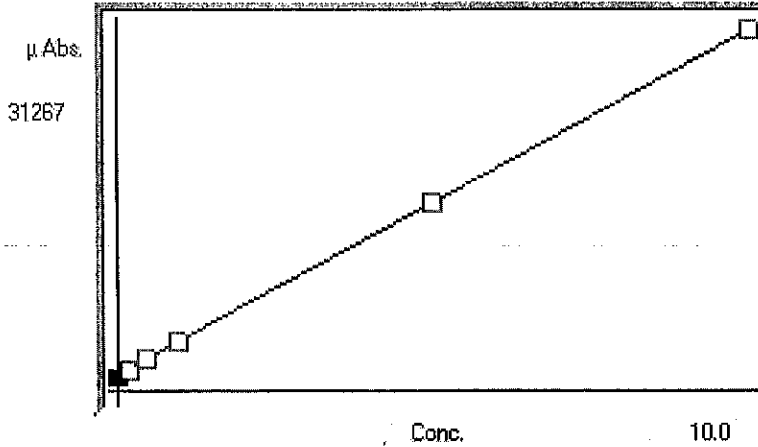
Extract 1	-7.0 V	Omega Lens	9.5 V	Deflect	15.4 V
Extract 2	-200.0 V	Cell Entrance	-28 V	Plate Bias	-50 V
Omega Bias	-85 V	Cell Exit	-60 V		

#### ## Cell Parameters ##

OctP Bias	-10.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	180 V	H2 Flow	0.0 mL/min		
Use Gas	false	3rd Gas Flow	0 %		

Protocol: hgppb1

Linear



Calibrated

Accepted

A

B 3.33679e-4

C -4.31441e-1

Rhc .999998

Accepted Date: 01-Dec-11 16:21

S	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
01	.00000	.000	.000	1294	0	1293				
02	.20000	.199	-.001	1891	0%	1890				
03	.50000	.491	-.009	2765	0%	2765				
04	1.0000	1.01	.013	4330	0%	4329				
05	5.0000	4.99	-.005	16263	0%	16262				
06	10.000	10.0	.002	31268	0%	31267				
07										
08										
09										
10										



\*\*\*POST-RUN REPORT\*\*\*

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Standard: 1 Rep: 1								
				Seq:	1965	15:58:20	01 Dec 11	HG
Hg	.000	ppb	1293					
*** Standard: 2 Rep: 1								
				Seq:	1966	16:00:56	01 Dec 11	HG
Hg	.200	ppb	1890					
*** Standard: 3 Rep: 1								
				Seq:	1967	16:03:15	01 Dec 11	HG
Hg	.500	ppb	2765					
*** Standard: 4 Rep: 1								
				Seq:	1968	16:05:24	01 Dec 11	HG
Hg	1.00	ppb	4329					
*** Standard: 5 Rep: 1								
				Seq:	1969	16:07:33	01 Dec 11	HG
Hg	5.00	ppb	16262					
*** Standard: 6 Rep: 1								
				Seq:	1970	16:09:45	01 Dec 11	HG
Hg	10.0	ppb	31267					
*** Check Standard: 3 Ck3 ICV								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		96.6	5.37	5.56	ppb	.000 %		
*** Check Standard: 2 Ck2 CCV								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		113.	5.67	5.00	ppb	.000 %		
*** Check Standard: 1 Ck1 CCB								
Line	Flag	Found	Range(+/-)	Units	SD/RSD			
Hg		.025	.200	ppb	.000 %			
*** Sample ID: 00792619 12111bhg Seq: 1974 16:27:48 01 Dec 11 HG								
								MB 510-90483/9-A
Hg	-.431	ppb	.000 %	-.431				
*** Sample ID: 00792620 12111bhg Seq: 1975 16:29:54 01 Dec 11 HG								
								LCS 510-90483/10-A
Hg	.018	ppb	.000 %	.018				
*** Sample ID: 00792621 12111bhg Seq: 1976 16:32:00 01 Dec 11 HG								
								510-72805-A-1-D
Hg	3.73	ppb	.000 %	3.73				
*** Sample ID: 00792623 12111bhg Seq: 1977 16:34:29 01 Dec 11 HG								
								510-72805-A-1-E MS
Hg	.047	ppb	.000 %	.047				
*** Check Standard: 2 Ck2 CCV								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		115.	5.75	5.00	ppb	.000 %		

\*\*\*POST-RUN REPORT\*\*\*

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Check Standard: 1 Ck1 CCB Seq: 1979 16:39:58 01 Dec 11 HG								
Line	Flag	Found	Range(+/-)	Units	SD/RSD			
Hg		.010	.200	ppb	.000 %			
*** Sample ID: <del>00792620</del> 12111bhg Seq: 1980 16:42:29 01 Dec 11 HG								
		<del>79269</del>	<del>LCS 510-90483/10-A</del>	<del>MSB 510-904839-A</del>				
Hg		.017	ppb	.000 %	.017			
*** Sample ID: <del>00792621</del> 12111bhg Seq: 1981 16:44:35 01 Dec 11 HG								
		<del>792625</del>	<del>510-72805-A-1-D</del>	<del>LCS 510 90483/10-A</del>				
Hg		3.75	ppb	.000 %	3.75			
*** Sample ID: <del>00792623</del> 12111bhg Seq: 1982 16:46:41 01 Dec 11 HG								
		<del>792621</del>	<del>510-72805-A-1-E MS</del>	<del>510-72805-A-1-D</del>				
Hg		.019	ppb	.000 %	.019			
*** Sample ID: <del>00792623</del> 12111bhg Seq: 1983 16:48:49 01 Dec 11 HG								
		<del>792621</del>	<del>510-72805-A-1-E MSD</del>	<del>510-72805-A-1-E MS</del>				
Hg		5.76	ppb	.000 %	5.76			
*** Sample ID: <del>00792623</del> 12111bhg Seq: 1984 16:51:18 01 Dec 11 HG								
		<del>792623</del>	<del>510-72805-A-1-F MS</del>					
Hg		5.91	ppb	.000 %	5.91			
*** Check Standard: 2 Ck2 CCV Seq: 1985 16:53:45 01 Dec 11 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		117.	5.87	5.00	ppb	.000 %		
*** Check Standard: 1 Ck1 CCB Seq: 1986 16:55:57 01 Dec 11 HG								
Line	Flag	Found	Range(+/-)	Units	SD/RSD			
Hg		.023	.200	ppb	.000 %			

Samples scanned into wrong spots, correct (yes) w/ 1/2/12  
 wrong names.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Batch Number: 90474 Batch Start Date: 12/01/11 13:59 Batch Analyst: Nelson, Larry W

Batch Method: 3050B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MeicpPspk 00111	MELCSSOIL 00019	MEQC23 00033	MEQC7 00041
MB 510-90474/1		3050B, 6020		1.0 g	50 mL				
LCS 510-90474/2		3050B, 6020		1.0040 g	50 mL		1.004 g		
510-72805-A-1	SAND	3050B, 6020	T	1.0146 g	50 mL				
510-72805-A-1 MS	SAND	3050B, 6020	T	1.0182 g	50 mL	2 mL		0.5 mL	1 mL
510-72805-A-1 MSD	SAND	3050B, 6020	T	1.0102 g	50 mL	2 mL		0.5 mL	1 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment				
MB 510-90474/1		3050B, 6020		12-01-1				
LCS 510-90474/2		3050B, 6020		12-01-1				
510-72805-A-1	SAND	3050B, 6020	T					
510-72805-A-1 MS	SAND	3050B, 6020	T					
510-72805-A-1 MSD	SAND	3050B, 6020	T					

Batch Notes	
Balance ID	P-214046002
Hydrogen peroxide lot number	MEH202-00017
Lot # of hydrochloric acid	MEMSHCL-00025
Logbook ID for diluted Nitric	MEMSHNO3-00056
Lot # of Nitric Acid	MEMSHNO3-00056
Hood ID or number	8
Hot Block ID number	C
Oven, Bath or Block Temperature 1	95.0 Degrees C
Temperature	95.0 Degrees C
ID number of the thermometer	15437
Digestion Tube/Cup Lot #	2103333

Basis	Basis Description
T	Total/NA

METALS BATCH WORKSHEET

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Batch Number: 90483 Batch Start Date: 12/01/11 14:13 Batch Analyst: Nelson, Larry W

Batch Method: 7471A Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MEhgicv 00085	MELCSSOIL 00019		
MB 510-90483/9		7471A, 7471A		1.0 g	50 mL				
LCS 510-90483/10		7471A, 7471A		0.1045 g	50 mL		0.1045 g		
510-72805-A-1	SAND	7471A, 7471A	T	0.5173 g	50 mL				
510-72805-A-1 MS	SAND	7471A, 7471A	T	0.5102 g	50 mL	0.25 mL			
510-72805-A-1 MSD	SAND	7471A, 7471A	T	0.5080 g	50 mL	0.25 mL			

Batch Notes	
Hydroxylamine Hydrochloride Lot	MEHYDHCLNA-00045
Aqua Regia Lot Number	MEAQUA-00067
Balance ID	P-214046002
Hood ID or number	8
Hot Block ID number	C
Potassium Permanganate Lot Number	MEHGKMNO4-00152
Oven, Bath or Block Temperature 1	95.0
ID number of the thermometer	15437
Digestion Tube/Cup Lot #	2103333

Basis	Basis Description
T	Total/NA

# **GENERAL CHEMISTRY**

COVER PAGE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Valparaiso Job Number: 510-72805-1

SDG No.: \_\_\_\_\_

Project: South Bend Former Studebaker Foundry

Client Sample ID  
SAND

Lab Sample ID  
510-72805-1

Comments:

\_\_\_\_\_  
\_\_\_\_\_

9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Valparaiso

Job Number: 510-72805-1

SDG Number: \_\_\_\_\_

Matrix: Solid

Instrument ID: NOEQUIP

Method: Moisture

RL Date: 11/15/2005 14:44

Analyte	Wavelength/ Mass	RL (%)	
Percent Moisture		0.1	
Percent Solids		0.1	

13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Instrument ID: NOEQUIP Method: Moisture

Start Date: 11/30/2011 14:17 End Date: 11/30/2011 14:17

Lab Sample ID	D / F	T y p e	Time	Analytes															
				% S o l	M o i s t														
MB 510-90417/1	1	T	14:17	X	X														
510-72805-1	1	T	14:17	X	X														
510-72805-1 DU	1	T	14:17	X	X														
ZZZZZZ			14:17																
ZZZZZZ			14:17																
ZZZZZZ			14:17																
ZZZZZZ			14:17																

Prep Types  
T = Total/NA



GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Valparaiso Job No.: 510-72805-1

SDG No.: \_\_\_\_\_

Batch Number: 90417 Batch Start Date: 11/30/11 14:17 Batch Analyst: Tran, Kevin

Batch Method: Moisture Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry		
MB 510-90417/1		Moisture		1	001.0240 g	011.0663 g	1.0262 g		
510-72805-A-1	SAND	Moisture	T	2	001.0110 g	011.2418 g	10.7967 g		
510-72805-A-1 DU	SAND	Moisture	T	3	001.0150 g	011.2482 g	10.7924 g		

Batch Notes	
Balance ID	GBALB No Unit
Date samples were placed in the oven	11/30/11
Oven Temp when samples are put in oven	103.2 Degrees C
Time samples were place in the oven	1530
Date samples were removed from oven	12/1/11
Oven Temp when samples removed from oven	103.2 Degrees C
Time Samples were removed from oven	0900
Oven ID	WC-OVN-1
ID number of the thermometer	14-986B-G
Uncorrected In Temperature	103.0 Celsius
Uncorrected Out Temperature	103.0 Celsius

Basis	Basis Description
T	Total/NA

# Shipping and Receiving Documents

**Chain of Custody Record**

10/1/2011 11:30 AM

<b>Client Information</b>		Sampler Kintz, Robin M		Camera Tracking No(s)		COC No 510-14134.1	
Client Contact Ed Stefanek/Jodi Slough		Phone robinm.kintz@testamencainc.com		E-Mail robinm.kintz@testamencainc.com		Page	
Company Weaver Boos Consultants LLC		Due Date Requested:		Analysis Requested		Job #	
Address 4085 Meghan Beeler Court		TAT Requested (days): ASAP		Field Filtered Sample (Yes or No)		Preservation Codes:	
City: South Bend		PO # 0058-373-01		8270C, 8270C_SIM - BNAs		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
State, Zip IN, 46628		WO #		8020, 7470 - Metals		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Phone 574-271-3447		Project # 51001692		8082 - PCBs		Special Instructions/Note:	
E-mail estefanek@weaverboos.com / jslough@weaverboos.com		SSOW#		8015 - TPH GRO			
Project Name: South Bend Former Studebaker Foundry		Sample Date 11/29/11		8015 - TPH ERO			
Site South Bend Former Studebaker Foundry		Sample Time 1155		8260B - VOCs			
Sample Identification 78805 SAND		Sample Type G		8260B - VOCs (Trip Blanks)			
		Preservation Code: S		Total/Free Cyanide			
		Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)		8015 - TPH ERO			
		Sample Date 11/29/11		8015 - TPH GRO			
		Sample Time 1155		8082 - PCBs			
		Sample Type G		8020, 7470 - Metals			
		Preservation Code: S		8270C, 8270C_SIM - BNAs			
		Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)		Field Filtered Sample (Yes or No)			
		Sample Date 11/29/11		8015 - TPH ERO			
		Sample Time 1155		8015 - TPH GRO			
		Sample Type G		8260B - VOCs			
		Preservation Code: S		8260B - VOCs (Trip Blanks)			
		Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)		Total/Free Cyanide			

**Possible Hazard Identification**  
 Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown  Radiological

**Deliverable Requested:** I, II, III, IV, Other (specify)

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
 Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

**Special Instructions/QC Requirements:**

**Empty Kit/Relinquished by:** \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Relinquished by:** \_\_\_\_\_ Date/Time: 11/30/11 1:30 Company: WBSG

**Relinquished by:** \_\_\_\_\_ Date/Time: 11/30/11 12:30 Company: WBSG

**Relinquished by:** \_\_\_\_\_ Date/Time: 11/30/11 12:30 Company: WBSG

**Custody Seals Intact:**  Yes  No  Δ

**Custody Seal No.:** 211 310-88-003

## Login Sample Receipt Checklist

Client: Weaver Boos Consultants LLC

Job Number: 510-72805-1

**Login Number: 72805**

**List Source: TestAmerica Valparaiso**

**List Number: 1**

**Creator: Looney, Christina M**

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.