H6I280402 Analytical Report 1

Sample Receipt Documentation 31

Metals 36
Sample Results 37
QC Summary 49
Quality Control Results ICP 62
Quality Control Results Mercury 77
Raw Data ICP 86
Raw Data Mercury 350
Miscellaneous Data 369

Sample Receipt Documentation 377

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Erie Coke - Metals

Lot #: H6I280402

William Cowell

Montrose Air Quality Services
1050 William Pitt Way
Pittsburgh, PA 15238

TESTAMERICA LABORATORIES, INC.

Courtney M. Adkins
Project Manager

October 26, 2016

ANALYTICAL METHODS SUMMARY

H6I280402

PARAMETER	ANALYTICAL METHOD
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010C

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

H6I280402

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
M8937	001	R-1601 LOC#1 DUST DC-R1	09/26/16	
M8938	002	R-1603 LOC#2 DUST COAL-R1	09/26/16	
M8939	003	R-1604 LOC#3 WATER QT-R1A	09/22/16	
M894A	004	R-1612 LOC#4 WATER QT-R1B	09/22/16	
M894C	005	R-1620 LOC#5 WATER QT-R1C	09/22/16	
M894D	006	R-1628 LOC#6 WATER QT-R2A	09/23/16	
M894E	007	R-1636 LOC#7 WATER QT-R2B	09/23/16	
M894F	008	R-1644 LOC#8 WATER QT-R2C	09/23/16	
M894G	009	R-1652 LOC#9 WATER QT-R3A	09/26/16	
M894H	010	R-1660 LOC#10 WATER QT-R3B	09/26/16	
M894J	011	R-1668 LOC#11 WATER QT-R3C	09/26/16	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE
H6I280402

The results reported herein are applicable to the samples submitted for analysis only. If you have any questions about this report, please call (865) 291-3000 to speak with the TestAmerica project manager listed on the cover page.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The original chain of custody documentation is included with this report.

Sample Receipt

There were no problems with the condition of the samples received.

Quality Control and Data Interpretation

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

CERTIFICATION SUMMARY

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Knoxville	L-A-B	DoD ELAP		L2311
TestAmerica Knoxville	Arkansas DEQ	State Program	6	88-0688
TestAmerica Knoxville	California	State Program	9	2423
TestAmerica Knoxville	Colorado	State Program	8	N/A
TestAmerica Knoxville	Connecticut	State Program	1	PH-0223
TestAmerica Knoxville	Florida	NELAC	4	E87177
TestAmerica Knoxville	Georgia	State Program	4	906
TestAmerica Knoxville	Hawaii	State Program	9	N/A
TestAmerica Knoxville	Kansas	NELAC	7	E-10349
TestAmerica Knoxville	Kentucky	State Program	4	90101
TestAmerica Knoxville	Louisiana DOHH	State Program	6	LA150004
TestAmerica Knoxville	Louisiana DEQ	NELAC	6	83979
TestAmerica Knoxville	Maryland	State Program	3	277
TestAmerica Knoxville	Michigan	State Program	5	9933
TestAmerica Knoxville	Nevada	State Program	9	TN00009
TestAmerica Knoxville	New Jersey	NELAC	2	TN001
TestAmerica Knoxville	New York	NELAC	2	10781
TestAmerica Knoxville	North Carolina DENR	State Program	4	64
TestAmerica Knoxville	North Carolina DHHS	State Program	4	21705
TestAmerica Knoxville	Ohio	OVAP	5	CL0059
TestAmerica Knoxville	Oklahoma	State Program	6	9415
TestAmerica Knoxville	Pennsylvania	NELAC	3	68-00576
TestAmerica Knoxville	South Carolina	State Program	4	84001
TestAmerica Knoxville	Tennessee	State Program	4	TN02014
TestAmerica Knoxville	Texas	NELAC	6	T104704380-14-7
TestAmerica Knoxville	Federal	USDA		P330-11-00260
TestAmerica Knoxville	Utah	NELAC	8	TN000092014-5
TestAmerica Knoxville	Virginia	NELAC	3	460176
TestAmerica Knoxville	Virginia	State Program	3	00165
TestAmerica Knoxville	Washington	State Program	10	C593
TestAmerica Knoxville	West Virginia DEP	State Program	3	345
TestAmerica Knoxville	West Virginia DHHR	State Program	3	9955C
TestAmerica Knoxville	Wisconsin	State Program	5	998044300

Accreditation may not be offered or required for all methods and analytes in this report. Please contact your project manager for the laboratory's current list of certified methods and analytes.

QC DATA ASSOCIATION SUMMARY

H6I280402

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	SW846 7471A		6285014	6285003
002	SOLID	SW846 7471A		6285014	
003	WATER	SW846 6010C		6284066	6284013
004	WATER	SW846 6010C		6284066	
005	WATER	SW846 6010C		6284066	
006	WATER	SW846 6010C		6284066	
007	WATER	SW846 6010C		6284066	
008	WATER	SW846 6010C		6284066	
009	WATER	SW846 6010C		6284066	
010	WATER	SW846 6010C		6284066	
011	WATER	SW846 6010C		6284066	

Sample Data Summary

Montrose Air Quality Services LLC

Client Sample ID: R-1601 LOC#1 DUST DC-R1

TOTAL Metals

Lot-Sample #...: H6I280402-001 **Matrix.....:** SOLID
Date Sampled...: 09/26/16 **Date Received..:** 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6285014						
Mercury	ND	0.20	mg/kg	SW846 7471A	10/12-10/14/16	M89371AA
		Dilution Factor: 6		Analysis Time..: 15:21	MDL.....: 0.060	

Montrose Air Quality Services LLC

Client Sample ID: R-1603 LOC#2 DUST COAL-R1

TOTAL Metals

Lot-Sample #...: H6I280402-002 **Matrix.....:** SOLID
Date Sampled...: 09/26/16 **Date Received..:** 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6285014						
Mercury	ND	0.20	mg/kg	SW846 7471A	10/12-10/14/16	M89381AA
		Dilution Factor: 6		Analysis Time..: 15:29	MDL.....: 0.060	

Montrose Air Quality Services LLC

Client Sample ID: R-1604 LOC#3 WATER QT-R1A

TOTAL Metals

Lot-Sample #...: H6I280402-003 Matrix.....: WATER
Date Sampled...: 09/22/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	13.5 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AA
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 3.8	
Arsenic	180	20.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AE
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 3.3	
Beryllium	1.1 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AH
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AL
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 0.51	
Chromium	8.0 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AP
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 1.4	
Cobalt	5.5 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AT
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 1.5	
Lead	6.5 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AW
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 2.6	
Manganese	73.7	15.0	ug/L	SW846 6010C	10/11-10/12/16	M89391A1
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 1.3	
Nickel	9.7 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M89391A4
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 2.7	
Selenium	19.0	15.0	ug/L	SW846 6010C	10/11-10/12/16	M89391A7
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1612 LOC#4 WATER QT-R1B

TOTAL Metals

Lot-Sample #...: H6I280402-004 Matrix.....: WATER
Date Sampled...: 09/22/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	13.9 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AE
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 3.8	
Arsenic	184	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AF
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 3.3	
Beryllium	1.4 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AG
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AH
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 0.51	
Chromium	9.9 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AJ
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 1.4	
Cobalt	6.8 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AK
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 1.5	
Lead	8.7 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AL
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 2.6	
Manganese	84.8	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AA
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 1.3	
Nickel	11.3 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AC
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 2.7	
Selenium	21.7	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AD
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1620 LOC#5 WATER QT-R1C

TOTAL Metals

Lot-Sample #...: H6I280402-005 Matrix.....: WATER
Date Sampled...: 09/22/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	14.2 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AE
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 3.8	
Arsenic	169	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AF
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 3.3	
Beryllium	1.1 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AG
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AH
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 0.51	
Chromium	7.5 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AJ
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 1.4	
Cobalt	5.0 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AK
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 1.5	
Lead	6.1 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AL
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 2.6	
Manganese	66.2	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AA
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 1.3	
Nickel	8.9 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AC
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 2.7	
Selenium	17.9	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AD
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1628 LOC#6 WATER QT-R2A

TOTAL Metals

Lot-Sample #...: H6I280402-006 Matrix.....: WATER
Date Sampled...: 09/23/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	10.5 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AE
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 3.8	
Arsenic	89.6	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AF
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 3.3	
Beryllium	2.8 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AG
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AH
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 0.51	
Chromium	20.7	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AJ
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 1.4	
Cobalt	13.8 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AK
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 1.5	
Lead	30.8	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AL
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 2.6	
Manganese	136	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AA
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 1.3	
Nickel	21.3 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AC
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 2.7	
Selenium	10.8 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AD
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1636 LOC#7 WATER QT-R2B

TOTAL Metals

Lot-Sample #...: H6I280402-007 Matrix.....: WATER
Date Sampled...: 09/23/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	10.1 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AE
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 3.8	
Arsenic	82.1	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AF
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 3.3	
Beryllium	1.2 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AG
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AH
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 0.51	
Chromium	8.7 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AJ
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 1.4	
Cobalt	5.5 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AK
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 1.5	
Lead	12.1 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AL
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 2.6	
Manganese	65.3	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AA
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 1.3	
Nickel	9.6 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AC
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 2.7	
Selenium	15.5	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AD
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1644 LOC#8 WATER QT-R2C

TOTAL Metals

Lot-Sample #...: H6I280402-008 Matrix.....: WATER
Date Sampled...: 09/23/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	10.7 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AE
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 3.8	
Arsenic	88.1	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AF
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 3.3	
Beryllium	ND	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AG
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AH
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 0.51	
Chromium	6.6 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AJ
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 1.4	
Cobalt	4.5 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AK
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 1.5	
Lead	10.3 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AL
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 2.6	
Manganese	61.4	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AA
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 1.3	
Nickel	7.9 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AC
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 2.7	
Selenium	16.2	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AD
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1652 LOC#9 WATER QT-R3A

TOTAL Metals

Lot-Sample #...: H6I280402-009 Matrix.....: WATER
Date Sampled...: 09/26/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	13.4 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AE
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 3.8	
Arsenic	141	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AF
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 3.3	
Beryllium	3.5 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AG
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AH
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 0.51	
Chromium	24.3	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AJ
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 1.4	
Cobalt	15.9 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AK
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 1.5	
Lead	16.2	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AL
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 2.6	
Manganese	124	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AA
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 1.3	
Nickel	27.2 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AC
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 2.7	
Selenium	10.7 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AD
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1660 LOC#10 WATER QT-R3B

TOTAL Metals

Lot-Sample #...: H6I280402-010 Matrix.....: WATER
Date Sampled...: 09/26/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	16.8 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AE
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 3.8	
Arsenic	132	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AF
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 3.3	
Beryllium	2.1 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AG
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AH
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 0.51	
Chromium	13.5 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AJ
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 1.4	
Cobalt	9.0 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AK
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 1.5	
Lead	11.1 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AL
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 2.6	
Manganese	78.4	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AA
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 1.3	
Nickel	16.6 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AC
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 2.7	
Selenium	15.2	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AD
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1668 LOC#11 WATER QT-R3C

TOTAL Metals

Lot-Sample #...: H6I280402-011 Matrix.....: WATER
Date Sampled...: 09/26/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	16.3 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AE
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 3.8	
Arsenic	131	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AF
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 3.3	
Beryllium	1.7 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AG
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AH
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 0.51	
Chromium	10.4 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AJ
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 1.4	
Cobalt	7.0 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AK
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 1.5	
Lead	9.2 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AL
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 2.6	
Manganese	62.9	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AA
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 1.3	
Nickel	13.1 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AC
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 2.7	
Selenium	15.8	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AD
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: H6J100000-066 **Prep Batch #...:** 6284066						
Antimony	ND	60.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AA
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Arsenic	ND	20.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AC
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Beryllium	ND	10.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AD
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AE
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Chromium	ND	15.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AF
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Cobalt	ND	50.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AG
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Lead	ND	15.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AH
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Manganese	ND	15.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AJ
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Nickel	ND	40.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AK
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Selenium	ND	15.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AL
		Dilution Factor: 1				
		Analysis Time..: 11:12				

NOTE(S):

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

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: H6J100000-066 **Prep Batch #...:** 6284066					
Antimony	102	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AM
		Dilution Factor: 1	Analysis Time..: 11:17		
Arsenic	101	(90 - 111)	SW846 6010C	10/11-10/12/16	M9C0X1AN
		Dilution Factor: 1	Analysis Time..: 11:17		
Beryllium	108	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AP
		Dilution Factor: 1	Analysis Time..: 11:17		
Cadmium	105	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AQ
		Dilution Factor: 1	Analysis Time..: 11:17		
Chromium	103	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AR
		Dilution Factor: 1	Analysis Time..: 11:17		
Cobalt	103	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AT
		Dilution Factor: 1	Analysis Time..: 11:17		
Lead	104	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AU
		Dilution Factor: 1	Analysis Time..: 11:17		
Manganese	104	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AV
		Dilution Factor: 1	Analysis Time..: 11:17		
Nickel	104	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AW
		Dilution Factor: 1	Analysis Time..: 11:17		
Selenium	103	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AX
		Dilution Factor: 1	Analysis Time..: 11:17		

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: H6J100000-066 **Prep Batch #...:** 6284066							
Antimony	500	508	ug/L	102	SW846 6010C	10/11-10/12/16	M9C0X1AM
			Dilution Factor: 1		Analysis Time..: 11:17		
Arsenic	100	101	ug/L	101	SW846 6010C	10/11-10/12/16	M9C0X1AN
			Dilution Factor: 1		Analysis Time..: 11:17		
Beryllium	50.0	54.1	ug/L	108	SW846 6010C	10/11-10/12/16	M9C0X1AP
			Dilution Factor: 1		Analysis Time..: 11:17		
Cadmium	50.0	52.3	ug/L	105	SW846 6010C	10/11-10/12/16	M9C0X1AQ
			Dilution Factor: 1		Analysis Time..: 11:17		
Chromium	200	207	ug/L	103	SW846 6010C	10/11-10/12/16	M9C0X1AR
			Dilution Factor: 1		Analysis Time..: 11:17		
Cobalt	100	103	ug/L	103	SW846 6010C	10/11-10/12/16	M9C0X1AT
			Dilution Factor: 1		Analysis Time..: 11:17		
Lead	100	104	ug/L	104	SW846 6010C	10/11-10/12/16	M9C0X1AU
			Dilution Factor: 1		Analysis Time..: 11:17		
Manganese	100	104	ug/L	104	SW846 6010C	10/11-10/12/16	M9C0X1AV
			Dilution Factor: 1		Analysis Time..: 11:17		
Nickel	500	520	ug/L	104	SW846 6010C	10/11-10/12/16	M9C0X1AW
			Dilution Factor: 1		Analysis Time..: 11:17		
Selenium	150	155	ug/L	103	SW846 6010C	10/11-10/12/16	M9C0X1AX
			Dilution Factor: 1		Analysis Time..: 11:17		

NOTE(S):

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

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER
Date Sampled...: 09/22/16 **Date Received..:** 09/26/16

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: H6I280402-003 **Prep Batch #...:** 6284066							
Antimony	104	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AC
	104	(75 - 125)	0.26	(0-20)	SW846 6010C	10/11-10/12/16	M89391AD
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Arsenic	101	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AF
	99	(75 - 125)	0.65	(0-20)	SW846 6010C	10/11-10/12/16	M89391AG
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Beryllium	105	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AJ
	106	(75 - 125)	0.46	(0-20)	SW846 6010C	10/11-10/12/16	M89391AK
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Cadmium	103	(76 - 125)			SW846 6010C	10/11-10/12/16	M89391AM
	102	(76 - 125)	0.77	(0-20)	SW846 6010C	10/11-10/12/16	M89391AN
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Chromium	101	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AQ
	101	(75 - 125)	0.46	(0-20)	SW846 6010C	10/11-10/12/16	M89391AR
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Cobalt	102	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AU
	101	(75 - 125)	0.63	(0-20)	SW846 6010C	10/11-10/12/16	M89391AV
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Lead	104	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AX
	103	(75 - 125)	0.48	(0-20)	SW846 6010C	10/11-10/12/16	M89391A0
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Manganese	101	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391A2
	101	(75 - 125)	0.03	(0-20)	SW846 6010C	10/11-10/12/16	M89391A3
		Dilution Factor: 1					
		Analysis Time..: 13:54					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER
Date Sampled...: 09/22/16 **Date Received..:** 09/26/16

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Nickel	103	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391A5
	103	(75 - 125)	0.47	(0-20)	SW846 6010C	10/11-10/12/16	M89391A6
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Selenium	103	(77 - 125)			SW846 6010C	10/11-10/12/16	M89391A8
	103	(77 - 125)	0.31	(0-20)	SW846 6010C	10/11-10/12/16	M89391A9
		Dilution Factor: 1					
		Analysis Time..: 13:54					

NOTE(S):

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

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER
Date Sampled...: 09/22/16 **Date Received..:** 09/26/16

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: H6I280402-003 **Prep Batch #...:** 6284066									
Antimony									
	13.5	500	534	ug/L	104		SW846 6010C	10/11-10/12/16	M89391AC
	13.5	500	532	ug/L	104	0.26	SW846 6010C	10/11-10/12/16	M89391AD
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Arsenic									
	180	100	281	ug/L	101		SW846 6010C	10/11-10/12/16	M89391AF
	180	100	279	ug/L	99	0.65	SW846 6010C	10/11-10/12/16	M89391AG
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Beryllium									
	1.1	50.0	53.7	ug/L	105		SW846 6010C	10/11-10/12/16	M89391AJ
	1.1	50.0	54.0	ug/L	106	0.46	SW846 6010C	10/11-10/12/16	M89391AK
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Cadmium									
	ND	50.0	51.5	ug/L	103		SW846 6010C	10/11-10/12/16	M89391AM
	ND	50.0	51.1	ug/L	102	0.77	SW846 6010C	10/11-10/12/16	M89391AN
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Chromium									
	8.0	200	210	ug/L	101		SW846 6010C	10/11-10/12/16	M89391AQ
	8.0	200	211	ug/L	101	0.46	SW846 6010C	10/11-10/12/16	M89391AR
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Cobalt									
	5.5	100	108	ug/L	102		SW846 6010C	10/11-10/12/16	M89391AU
	5.5	100	107	ug/L	101	0.63	SW846 6010C	10/11-10/12/16	M89391AV
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Lead									
	6.5	100	110	ug/L	104		SW846 6010C	10/11-10/12/16	M89391AX
	6.5	100	110	ug/L	103	0.48	SW846 6010C	10/11-10/12/16	M89391A0
			Dilution Factor: 1						
			Analysis Time..: 13:54						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER
Date Sampled...: 09/22/16 **Date Received..:** 09/26/16

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Manganese									
	73.7	100	175	ug/L	101		SW846 6010C	10/11-10/12/16	M89391A2
	73.7	100	175	ug/L	101	0.03	SW846 6010C	10/11-10/12/16	M89391A3
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Nickel									
	9.7	500	525	ug/L	103		SW846 6010C	10/11-10/12/16	M89391A5
	9.7	500	522	ug/L	103	0.47	SW846 6010C	10/11-10/12/16	M89391A6
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Selenium									
	19.0	150	173	ug/L	103		SW846 6010C	10/11-10/12/16	M89391A8
	19.0	150	173	ug/L	103	0.31	SW846 6010C	10/11-10/12/16	M89391A9
			Dilution Factor: 1						
			Analysis Time..: 13:54						

NOTE(S):

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

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: H6J110000-014 **Prep Batch #...:** 6285014						
Mercury	ND	0.20	mg/kg	SW846 7471A	10/12-10/14/16	M9C3P1AA
		Dilution Factor: 6				
		Analysis Time..: 15:08				

NOTE(S):

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

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#:	H6J110000-014	**Prep Batch #...:** 6285014			
Mercury	87	(80 - 120)	SW846 7471A	10/12-10/14/16	M9C3P1AC
		Dilution Factor: 6	Analysis Time..: 15:11		

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: H6J110000-014 **Prep Batch #...:** 6285014							
Mercury	5.00	4.37	mg/kg	87	SW846 7471A	10/12-10/14/16	M9C3P1AC
			Dilution Factor: 6		Analysis Time..: 15:11		

NOTE(S):

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

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** SOLID
Date Sampled...: 09/26/16 **Date Received..:** 09/26/16

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: H6I280402-001 **Prep Batch #...:** 6285014							
Mercury	90	(75 - 125)			SW846 7471A	10/12-10/14/16	M89371AC
	91	(75 - 125)	2.0	(0-20)	SW846 7471A	10/12-10/14/16	M89371AD
		Dilution Factor: 6					
		Analysis Time..: 15:23					

NOTE(S):

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

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** SOLID
Date Sampled...: 09/26/16 **Date Received..:** 09/26/16

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: H6I280402-001 **Prep Batch #...:** 6285014									
Mercury									
	ND	0.986	0.890	mg/kg	90		SW846 7471A	10/12-10/14/16	M89371AC
	ND	0.992	0.908	mg/kg	91	2.0	SW846 7471A	10/12-10/14/16	M89371AD

Dilution Factor: 6
Analysis Time..: 15:23

NOTE(S):

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

Sample Receipt Documentation

Request for Analysis/Chain-of-Custody – RFA/COC #002
Montrose Air Quality Services LLC
Coke ICR Testing on Dust and Water Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

HVI 280402

Project Identification:	**Montrose Air Quality Services Coke ICR**
Client Contact:	Mr. Matthew Dallesasse (Montrose) (412) 826-3636
TestAmerica Contact:	Ms. Courtney Adkins (865) 291-3019
TestAmerica Project Manager:	Mr. Kevin Woodcock (865) 291-3082

Analytical Testing QC Requirements:
The Legend for Project-Specific Quality Control Testing is designated in the "QC" column as follows: "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PDS" = Post Digestion Spike and "PDSD" = Post Digestion Spike Duplicate

Laboratory Deliverable Turnaround Requirements:	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	28 Days from Lab Receipt
Media Request Form No.:	083016-8
Laboratory Destination:	TestAmerica Knoxville 5815 Middlebrook Pike Knoxville, Tennessee 37921 (865) 291-3000
Courier:	TestAmerica Courier Service

Project Deliverables:
Report analytical results on Quantims R-02 and TALS Reports and in data packages. Include "Field Sample Number", "Sample Type", and "Run Number" on all Reports.

Analytical Parameter:	**Holding Time Requirements:**	**Preservation Requirements:**
Metals (excluding Hg)	180 Days to Analysis	Cool, 4°C
Mercury (Hg)	28 Days to Analysis	Cool, 4°C

Field Sample No./Sample Coding ID	Loc. No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type	Analytical Specifications
R-1601 Loc #1 Dust DC - R1	1	9/22-9/26, 2016	MS/MSD	250 mL Powder Jar	**Dust Sample** **Location #1** Mercury Analysis	Analyze this sample for Mercury (Hg) by SW-846 Compendium Method 3051/7470.
R-1603 Loc #2 Dust Coal - R1	2	9/22-9/26, 2016		250 mL Powder Jar	**Dust Sample** **Location #2** Mercury Analysis	Analyze this sample for Mercury (Hg) by SW-846 Compendium Method 3051/7470.
R-1604 Loc #3 Water QT- R1A	3	9/22/16	MS/MSD	1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #3** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2 9/27/16 PH<2
R-1612 Loc #4 Water QT- R1B	4	9/22/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #4** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1620 Loc #5 Water QT - R1C	5	9/22/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #5** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2

Request for Analysis/Chain-of-Custody – RFA/COC #002
Montrose Air Quality Services LLC
Coke ICR Testing on Dust and Water Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Field Sample No./Sample Coding ID	Loc. No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type	Analytical Specifications
R-1628 Loc #6 Water BC ~~QT-R2B~~ QT-R2A	6	9/23/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #6** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1636 Loc #7 Water QT-R2B	7	9/23/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #7** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1644 Loc #8 Water QT-R2C	8	9/23/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #8** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1652 Loc #9 Water QT-R3A	9	9/26/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #9** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1660 Loc #10 Water QT-R3B	10	9/26/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #10** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1668 Loc #11 Water QT-R3C	11	9/26/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #11** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2

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Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	NONE
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	RT 3.7, 4.8, 3.3, 4.4, 5.3 / CT 3.7, 4.8, 3.3, 4.4, 5.3°C
(3) Record any apparent sample loss/breakage.	NONE
(4) Record any unidentified samples transported with this shipment of samples:	NONE
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	HAND DELIVERED, CUSTODY SEALS INTACT

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	[illegible]	Montrose	9/26/16 11:00
Accepted By:	[illegible]	Test America	9/26/16 11:00
Relinquished By:	[illegible]	Test America	9/26/16 21:57
Accepted By:	[illegible]	TAKNX	9/26/16 21:57
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Log In Number: 46I280402

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**
2. Were ambient air containers received intact?			✓	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?	✓			☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SL61 Correction factor: 0.0	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?			✓	☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?	✓			☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, lab will adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number: H6574756

Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:	
Lot Number:	
Exp Date:	
Analyst:	
Date:	
Time:	

Project #: _____ PM Instructions: _____

Sample Receiving Associate: [signature] Date: 9-28-16

QA026R30.doc, 080916

Metals

Sample Results

Montrose Air Quality Services LLC

Client Sample ID: R-1601 LOC#1 DUST DC-R1

TOTAL Metals

Lot-Sample #...: H6I280402-001 **Matrix.....:** SOLID
Date Sampled...: 09/26/16 **Date Received..:** 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6285014						
Mercury	ND	0.20	mg/kg	SW846 7471A	10/12-10/14/16	M89371AA
		Dilution Factor: 6		Analysis Time..: 15:21	MDL.....: 0.060	

Montrose Air Quality Services LLC

Client Sample ID: R-1603 LOC#2 DUST COAL-R1

TOTAL Metals

Lot-Sample #...: H6I280402-002 **Matrix.....:** SOLID
Date Sampled...: 09/26/16 **Date Received..:** 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6285014						
Mercury	ND	0.20	mg/kg	SW846 7471A	10/12-10/14/16	M89381AA
		Dilution Factor: 6		Analysis Time..: 15:29	MDL.....: 0.060	

Montrose Air Quality Services LLC

Client Sample ID: R-1604 LOC#3 WATER QT-R1A

TOTAL Metals

Lot-Sample #...: H6I280402-003 Matrix.....: WATER
Date Sampled...: 09/22/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	13.5 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AA
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 3.8	
Arsenic	180	20.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AE
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 3.3	
Beryllium	1.1 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AH
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AL
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 0.51	
Chromium	8.0 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AP
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 1.4	
Cobalt	5.5 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AT
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 1.5	
Lead	6.5 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M89391AW
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 2.6	
Manganese	73.7	15.0	ug/L	SW846 6010C	10/11-10/12/16	M89391A1
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 1.3	
Nickel	9.7 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M89391A4
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 2.7	
Selenium	19.0	15.0	ug/L	SW846 6010C	10/11-10/12/16	M89391A7
		Dilution Factor: 1		Analysis Time..: 13:49	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1612 LOC#4 WATER QT-R1B

TOTAL Metals

Lot-Sample #...: H6I280402-004 Matrix.....: WATER
Date Sampled...: 09/22/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	13.9 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AE
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 3.8	
Arsenic	184	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AF
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 3.3	
Beryllium	1.4 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AG
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AH
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 0.51	
Chromium	9.9 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AJ
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 1.4	
Cobalt	6.8 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AK
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 1.5	
Lead	8.7 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AL
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 2.6	
Manganese	84.8	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AA
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 1.3	
Nickel	11.3 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AC
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 2.7	
Selenium	21.7	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894A1AD
		Dilution Factor: 1		Analysis Time..: 14:03	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1620 LOC#5 WATER QT-R1C

TOTAL Metals

Lot-Sample #...: H6I280402-005 Matrix.....: WATER
Date Sampled...: 09/22/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	14.2 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AE
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 3.8	
Arsenic	169	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AF
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 3.3	
Beryllium	1.1 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AG
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AH
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 0.51	
Chromium	7.5 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AJ
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 1.4	
Cobalt	5.0 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AK
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 1.5	
Lead	6.1 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AL
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 2.6	
Manganese	66.2	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AA
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 1.3	
Nickel	8.9 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AC
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 2.7	
Selenium	17.9	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894C1AD
		Dilution Factor: 1		Analysis Time..: 14:08	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1628 LOC#6 WATER QT-R2A

TOTAL Metals

Lot-Sample #...: H6I280402-006 Matrix.....: WATER
Date Sampled...: 09/23/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	10.5 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AE
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 3.8	
Arsenic	89.6	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AF
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 3.3	
Beryllium	2.8 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AG
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AH
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 0.51	
Chromium	20.7	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AJ
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 1.4	
Cobalt	13.8 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AK
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 1.5	
Lead	30.8	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AL
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 2.6	
Manganese	136	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AA
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 1.3	
Nickel	21.3 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AC
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 2.7	
Selenium	10.8 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894D1AD
		Dilution Factor: 1		Analysis Time..: 14:13	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1636 LOC#7 WATER QT-R2B

TOTAL Metals

Lot-Sample #...: H6I280402-007 Matrix.....: WATER
Date Sampled...: 09/23/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	10.1 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AE
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 3.8	
Arsenic	82.1	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AF
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 3.3	
Beryllium	1.2 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AG
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AH
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 0.51	
Chromium	8.7 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AJ
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 1.4	
Cobalt	5.5 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AK
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 1.5	
Lead	12.1 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AL
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 2.6	
Manganese	65.3	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AA
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 1.3	
Nickel	9.6 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AC
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 2.7	
Selenium	15.5	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894E1AD
		Dilution Factor: 1		Analysis Time..: 14:18	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1644 LOC#8 WATER QT-R2C

TOTAL Metals

Lot-Sample #...: H6I280402-008 Matrix.....: WATER
Date Sampled...: 09/23/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	10.7 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AE
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 3.8	
Arsenic	88.1	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AF
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 3.3	
Beryllium	ND	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AG
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AH
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 0.51	
Chromium	6.6 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AJ
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 1.4	
Cobalt	4.5 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AK
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 1.5	
Lead	10.3 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AL
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 2.6	
Manganese	61.4	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AA
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 1.3	
Nickel	7.9 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AC
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 2.7	
Selenium	16.2	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894F1AD
		Dilution Factor: 1		Analysis Time..: 14:23	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1652 LOC#9 WATER QT-R3A

TOTAL Metals

Lot-Sample #...: H6I280402-009 Matrix.....: WATER
Date Sampled...: 09/26/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	13.4 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AE
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 3.8	
Arsenic	141	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AF
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 3.3	
Beryllium	3.5 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AG
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AH
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 0.51	
Chromium	24.3	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AJ
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 1.4	
Cobalt	15.9 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AK
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 1.5	
Lead	16.2	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AL
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 2.6	
Manganese	124	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AA
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 1.3	
Nickel	27.2 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AC
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 2.7	
Selenium	10.7 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894G1AD
		Dilution Factor: 1		Analysis Time..: 14:28	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1660 LOC#10 WATER QT-R3B

TOTAL Metals

Lot-Sample #...: H6I280402-010 Matrix.....: WATER
Date Sampled...: 09/26/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	16.8 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AE
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 3.8	
Arsenic	132	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AF
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 3.3	
Beryllium	2.1 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AG
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AH
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 0.51	
Chromium	13.5 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AJ
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 1.4	
Cobalt	9.0 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AK
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 1.5	
Lead	11.1 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AL
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 2.6	
Manganese	78.4	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AA
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 1.3	
Nickel	16.6 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AC
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 2.7	
Selenium	15.2	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894H1AD
		Dilution Factor: 1		Analysis Time..: 14:48	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

Montrose Air Quality Services LLC

Client Sample ID: R-1668 LOC#11 WATER QT-R3C

TOTAL Metals

Lot-Sample #...: H6I280402-011 Matrix.....: WATER
Date Sampled...: 09/26/16 Date Received..: 09/26/16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6284066						
Antimony	16.3 B	60.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AE
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 3.8	
Arsenic	131	20.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AF
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 3.3	
Beryllium	1.7 B	10.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AG
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 1.0	
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AH
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 0.51	
Chromium	10.4 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AJ
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 1.4	
Cobalt	7.0 B	50.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AK
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 1.5	
Lead	9.2 B	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AL
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 2.6	
Manganese	62.9	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AA
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 1.3	
Nickel	13.1 B	40.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AC
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 2.7	
Selenium	15.8	15.0	ug/L	SW846 6010C	10/11-10/12/16	M894J1AD
		Dilution Factor: 1		Analysis Time..: 14:52	MDL.....: 4.3	

NOTE(S):

B Estimated result. Result is less than RL.

QC Summary

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: H6J100000-066 **Prep Batch #...:** 6284066						
Antimony	ND	60.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AA
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Arsenic	ND	20.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AC
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Beryllium	ND	10.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AD
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Cadmium	ND	5.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AE
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Chromium	ND	15.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AF
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Cobalt	ND	50.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AG
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Lead	ND	15.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AH
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Manganese	ND	15.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AJ
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Nickel	ND	40.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AK
		Dilution Factor: 1				
		Analysis Time..: 11:12				
Selenium	ND	15.0	ug/L	SW846 6010C	10/11-10/12/16	M9C0X1AL
		Dilution Factor: 1				
		Analysis Time..: 11:12				

NOTE(S):

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

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: H6J100000-066 **Prep Batch #...:** 6284066					
Antimony	102	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AM
		Dilution Factor: 1	Analysis Time..: 11:17		
Arsenic	101	(90 - 111)	SW846 6010C	10/11-10/12/16	M9C0X1AN
		Dilution Factor: 1	Analysis Time..: 11:17		
Beryllium	108	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AP
		Dilution Factor: 1	Analysis Time..: 11:17		
Cadmium	105	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AQ
		Dilution Factor: 1	Analysis Time..: 11:17		
Chromium	103	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AR
		Dilution Factor: 1	Analysis Time..: 11:17		
Cobalt	103	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AT
		Dilution Factor: 1	Analysis Time..: 11:17		
Lead	104	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AU
		Dilution Factor: 1	Analysis Time..: 11:17		
Manganese	104	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AV
		Dilution Factor: 1	Analysis Time..: 11:17		
Nickel	104	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AW
		Dilution Factor: 1	Analysis Time..: 11:17		
Selenium	103	(90 - 110)	SW846 6010C	10/11-10/12/16	M9C0X1AX
		Dilution Factor: 1	Analysis Time..: 11:17		

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: H6J100000-066 **Prep Batch #...:** 6284066							
Antimony	500	508	ug/L	102	SW846 6010C	10/11-10/12/16	M9C0X1AM
			Dilution Factor: 1		Analysis Time..: 11:17		
Arsenic	100	101	ug/L	101	SW846 6010C	10/11-10/12/16	M9C0X1AN
			Dilution Factor: 1		Analysis Time..: 11:17		
Beryllium	50.0	54.1	ug/L	108	SW846 6010C	10/11-10/12/16	M9C0X1AP
			Dilution Factor: 1		Analysis Time..: 11:17		
Cadmium	50.0	52.3	ug/L	105	SW846 6010C	10/11-10/12/16	M9C0X1AQ
			Dilution Factor: 1		Analysis Time..: 11:17		
Chromium	200	207	ug/L	103	SW846 6010C	10/11-10/12/16	M9C0X1AR
			Dilution Factor: 1		Analysis Time..: 11:17		
Cobalt	100	103	ug/L	103	SW846 6010C	10/11-10/12/16	M9C0X1AT
			Dilution Factor: 1		Analysis Time..: 11:17		
Lead	100	104	ug/L	104	SW846 6010C	10/11-10/12/16	M9C0X1AU
			Dilution Factor: 1		Analysis Time..: 11:17		
Manganese	100	104	ug/L	104	SW846 6010C	10/11-10/12/16	M9C0X1AV
			Dilution Factor: 1		Analysis Time..: 11:17		
Nickel	500	520	ug/L	104	SW846 6010C	10/11-10/12/16	M9C0X1AW
			Dilution Factor: 1		Analysis Time..: 11:17		
Selenium	150	155	ug/L	103	SW846 6010C	10/11-10/12/16	M9C0X1AX
			Dilution Factor: 1		Analysis Time..: 11:17		

NOTE(S):

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

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER
Date Sampled...: 09/22/16 **Date Received..:** 09/26/16

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: H6I280402-003 **Prep Batch #...:** 6284066							
Antimony	104	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AC
	104	(75 - 125)	0.26	(0-20)	SW846 6010C	10/11-10/12/16	M89391AD
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Arsenic	101	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AF
	99	(75 - 125)	0.65	(0-20)	SW846 6010C	10/11-10/12/16	M89391AG
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Beryllium	105	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AJ
	106	(75 - 125)	0.46	(0-20)	SW846 6010C	10/11-10/12/16	M89391AK
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Cadmium	103	(76 - 125)			SW846 6010C	10/11-10/12/16	M89391AM
	102	(76 - 125)	0.77	(0-20)	SW846 6010C	10/11-10/12/16	M89391AN
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Chromium	101	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AQ
	101	(75 - 125)	0.46	(0-20)	SW846 6010C	10/11-10/12/16	M89391AR
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Cobalt	102	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AU
	101	(75 - 125)	0.63	(0-20)	SW846 6010C	10/11-10/12/16	M89391AV
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Lead	104	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391AX
	103	(75 - 125)	0.48	(0-20)	SW846 6010C	10/11-10/12/16	M89391A0
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Manganese	101	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391A2
	101	(75 - 125)	0.03	(0-20)	SW846 6010C	10/11-10/12/16	M89391A3
		Dilution Factor: 1					
		Analysis Time..: 13:54					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER
Date Sampled...: 09/22/16 **Date Received..:** 09/26/16

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Nickel	103	(75 - 125)			SW846 6010C	10/11-10/12/16	M89391A5
	103	(75 - 125)	0.47	(0-20)	SW846 6010C	10/11-10/12/16	M89391A6
		Dilution Factor: 1					
		Analysis Time..: 13:54					
Selenium	103	(77 - 125)			SW846 6010C	10/11-10/12/16	M89391A8
	103	(77 - 125)	0.31	(0-20)	SW846 6010C	10/11-10/12/16	M89391A9
		Dilution Factor: 1					
		Analysis Time..: 13:54					

NOTE(S):

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

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER
Date Sampled...: 09/22/16 **Date Received..:** 09/26/16

MS Lot-Sample #: H6I280402-003 **Prep Batch #...:** 6284066

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Antimony									
	13.5	500	534	ug/L	104		SW846 6010C	10/11-10/12/16	M89391AC
	13.5	500	532	ug/L	104	0.26	SW846 6010C	10/11-10/12/16	M89391AD
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Arsenic									
	180	100	281	ug/L	101		SW846 6010C	10/11-10/12/16	M89391AF
	180	100	279	ug/L	99	0.65	SW846 6010C	10/11-10/12/16	M89391AG
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Beryllium									
	1.1	50.0	53.7	ug/L	105		SW846 6010C	10/11-10/12/16	M89391AJ
	1.1	50.0	54.0	ug/L	106	0.46	SW846 6010C	10/11-10/12/16	M89391AK
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Cadmium									
	ND	50.0	51.5	ug/L	103		SW846 6010C	10/11-10/12/16	M89391AM
	ND	50.0	51.1	ug/L	102	0.77	SW846 6010C	10/11-10/12/16	M89391AN
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Chromium									
	8.0	200	210	ug/L	101		SW846 6010C	10/11-10/12/16	M89391AQ
	8.0	200	211	ug/L	101	0.46	SW846 6010C	10/11-10/12/16	M89391AR
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Cobalt									
	5.5	100	108	ug/L	102		SW846 6010C	10/11-10/12/16	M89391AU
	5.5	100	107	ug/L	101	0.63	SW846 6010C	10/11-10/12/16	M89391AV
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Lead									
	6.5	100	110	ug/L	104		SW846 6010C	10/11-10/12/16	M89391AX
	6.5	100	110	ug/L	103	0.48	SW846 6010C	10/11-10/12/16	M89391A0
			Dilution Factor: 1						
			Analysis Time..: 13:54						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** WATER
Date Sampled...: 09/22/16 **Date Received..:** 09/26/16

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Manganese									
	73.7	100	175	ug/L	101		SW846 6010C	10/11-10/12/16	M89391A2
	73.7	100	175	ug/L	101	0.03	SW846 6010C	10/11-10/12/16	M89391A3
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Nickel									
	9.7	500	525	ug/L	103		SW846 6010C	10/11-10/12/16	M89391A5
	9.7	500	522	ug/L	103	0.47	SW846 6010C	10/11-10/12/16	M89391A6
			Dilution Factor: 1						
			Analysis Time..: 13:54						
Selenium									
	19.0	150	173	ug/L	103		SW846 6010C	10/11-10/12/16	M89391A8
	19.0	150	173	ug/L	103	0.31	SW846 6010C	10/11-10/12/16	M89391A9
			Dilution Factor: 1						
			Analysis Time..: 13:54						

NOTE(S):

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

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: H6J110000-014 **Prep Batch #...:** 6285014						
Mercury	ND	0.20	mg/kg	SW846 7471A	10/12-10/14/16	M9C3P1AA
		Dilution Factor: 6				
		Analysis Time..: 15:08				

NOTE(S):

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

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#:	H6J110000-014	**Prep Batch #...:**	6285014		
Mercury	87	(80 - 120)	SW846 7471A	10/12-10/14/16	M9C3P1AC
		Dilution Factor: 6	Analysis Time..: 15:11		

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: H6J110000-014 **Prep Batch #...:** 6285014							
Mercury	5.00	4.37	mg/kg	87	SW846 7471A	10/12-10/14/16	M9C3P1AC
			Dilution Factor: 6		Analysis Time..: 15:11		

NOTE(S):

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

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** SOLID
Date Sampled...: 09/26/16 **Date Received..:** 09/26/16

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: H6I280402-001 **Prep Batch #...:** 6285014							
Mercury	90	(75 - 125)			SW846 7471A	10/12-10/14/16	M89371AC
	91	(75 - 125)	2.0	(0-20)	SW846 7471A	10/12-10/14/16	M89371AD

Dilution Factor: 6
Analysis Time..: 15:23

NOTE(S):

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

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: H6I280402 **Matrix.....:** SOLID
Date Sampled...: 09/26/16 **Date Received..:** 09/26/16

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: H6I280402-001 **Prep Batch #...:** 6285014									
Mercury									
	ND	0.986	0.890	mg/kg	90		SW846 7471A	10/12-10/14/16	M89371AC
	ND	0.992	0.908	mg/kg	91	2.0	SW846 7471A	10/12-10/14/16	M89371AD

Dilution Factor: 6
Analysis Time..: 15:23

NOTE(S):

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

Quality Control Results ICP

TestAmerica Knoxville

ICP Data Reporting Form

Initial Calibration Verification

Units: ug/L (ppb)

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

Elem	True Conc	ICV 12-Oct-16 10:27 AM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
As	250.0	252.54	**101.0**										
Be	1000.0	1005.82	**100.6**										
Cd	250.0	258.53	**103.4**										
Co	1000.0	1020.77	**102.1**										
Cr	1000.0	1000.55	**100.1**										
Mn	1000.0	1010.64	**101.1**										
Ni	1000.0	1046.77	**104.7**										
Pb	250.0	257.14	**102.9**										
Sb	250.0	256.02	**102.4**										
Se	250.0	259.43	**103.8**										

TestAmerica Knoxville

ICP Data Reporting Form

Continuing Calibration Verification

Units: ug/L (ppb)

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

Elem	True Conc	CCV 12-Oct-16 10:52 AM Found	% Rec	CCV 12-Oct-16 11:51 AM Found	% Rec	CCV 12-Oct-16 12:50 PM Found	% Rec	CCV 12-Oct-16 1:39 PM Found	% Rec	CCV 12-Oct-16 2:38 PM Found	% Rec	CCV 12-Oct-16 3:54 PM Found	% Rec
As	500.0	496.81	**99.4**	491.23	**98.2**	495.94	**99.2**	495.40	**99.1**	508.86	**101.8**	510.87	**102.2**
Be	2000.0	2031.85	**101.6**	2066.18	**103.3**	2126.22	**106.3**	2063.47	**103.2**	2010.40	**100.5**	2072.95	**103.6**
Cd	500.0	505.39	**101.1**	506.99	**101.4**	514.82	**103.0**	509.13	**101.8**	510.20	**102.0**	519.81	**104.0**
Co	2000.0	2017.48	**100.9**	2021.65	**101.1**	2043.41	**102.2**	2031.08	**101.6**	2047.22	**102.4**	2076.78	**103.8**
Cr	2000.0	1998.31	**99.9**	2028.77	**101.4**	2074.34	**103.7**	2019.09	**101.0**	2008.27	**100.4**	2038.21	**101.9**
Mn	2000.0	2010.81	**100.5**	2050.37	**102.5**	2095.62	**104.8**	2028.62	**101.4**	2015.21	**100.8**	2047.07	**102.4**
Ni	2000.0	2034.64	**101.7**	2035.62	**101.8**	2062.46	**103.1**	2050.41	**102.5**	2066.38	**103.3**	2092.15	**104.6**
Pb	500.0	505.11	**101.0**	507.31	**101.5**	511.39	**102.3**	506.21	**101.2**	512.57	**102.5**	519.93	**104.0**
Sb	500.0	500.60	**100.1**	493.74	**98.7**	489.90	**98.0**	498.16	**99.6**	519.99	**104.0**	517.20	**103.4**
Se	500.0	497.87	**99.6**	493.83	**98.8**	493.68	**98.7**	499.09	**99.8**	516.34	**103.3**	512.61	**102.5**

TestAmerica Knoxville

ICP Data Reporting Form

Continuing Calibration Verification

Units: ug/L (ppb)

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

Elem	True Conc	CCV 12-Oct-16 4:54 PM Found	% Rec	CCV 12-Oct-16 5:51 PM Found	% Rec	CCV 12-Oct-16 6:52 PM Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
As	500.0	507.55	**101.5**	507.98	**101.6**	510.24	**102.0**						
Be	2000.0	1998.73	**99.9**	2041.19	**102.1**	2026.94	**101.3**						
Cd	500.0	510.76	**102.2**	515.82	**103.2**	518.09	**103.6**						
Co	2000.0	2045.50	**102.3**	2052.72	**102.6**	2055.08	**102.8**						
Cr	2000.0	2003.16	**100.2**	2026.92	**101.3**	2015.91	**100.8**						
Mn	2000.0	2015.43	**100.8**	2033.29	**101.7**	2011.34	**100.6**						
Ni	2000.0	2062.96	**103.1**	2079.56	**104.0**	2090.23	**104.5**						
Pb	500.0	512.91	**102.6**	514.89	**103.0**	514.19	**102.8**						
Sb	500.0	516.77	**103.4**	513.60	**102.7**	512.55	**102.5**						
Se	500.0	518.69	**103.7**	516.80	**103.4**	512.63	**102.5**						

TestAmerica Knoxville

ICP Data Reporting Form

Reporting Limit Standard(s)

Units: ug/L (ppb)

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

		CRDL01 12-Oct-16 10:47 AM		CRDL01 12-Oct-16 4:49 PM		CRDL01 12-Oct-16 6:47 PM							
Elem	True Conc	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
As	10.0	9.78	**97.8**	9.12	**91.2**	9.87	**98.7**						
Be	5.0	5.18	**103.6**	5.19	**103.8**	5.17	**103.4**						
Cd	5.0	5.11	**102.2**	5.19	**103.8**	5.18	**103.6**						
Co	50.0	50.52	**101.0**	52.00	**104.0**	51.24	**102.5**						
Cr	10.0	10.03	**100.3**	10.38	**103.8**	10.22	**102.2**						
Mn	15.0	15.45	**103.0**	15.29	**101.9**	15.06	**100.4**						
Ni	40.0	40.71	**101.8**	41.96	**104.9**	41.83	**104.6**						
Pb	10.0	9.69	**96.9**	11.08	**110.8**	10.16	**101.6**						
Sb	60.0	58.83	**98.0**	60.50	**100.8**	60.53	**100.9**						
Se	10.0	10.92	**109.2**	12.19	**121.9**	9.25	**92.5**						

TestAmerica Knoxville

ICP Data Reporting Form

Initial Calibration Blank(s)

Units: ug/L (ppb)

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

Elem	Acceptance Limit	ICB 12-Oct-16 10:32 AM											
		Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag
As	3.3	1.2	U										
Be	1.0	0.1	U										
Cd	0.5	0.1	U										
Co	1.5	0.1	B										
Cr	1.4	0.6	U										
Mn	1.3	0.1	U										
Ni	2.7	0.3	U										
Pb	2.6	1.7	U										
Sb	3.8	2.1	U										
Se	4.3	3.4	U										

B - Analyte concentration is between IDL and Reporting Limit
U - Analyte concentration is less than IDL

TestAmerica Knoxville

ICP Data Reporting Form

Continuing Calibration Blank(s)

Units: ug/L (ppb)

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

Elem	Acceptance Limit	CCB 12-Oct-16 10:57 AM		CCB 12-Oct-16 11:56 AM		CCB 12-Oct-16 12:55 PM		CCB 12-Oct-16 1:44 PM		CCB 12-Oct-16 2:43 PM		CCB 12-Oct-16 3:59 PM	
		Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag
As	3.3	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
Be	1.0	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Cd	0.5	-0.1	B	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Co	1.5	0.1	B	0.1	U	0.1	B	0.1	U	0.1	U	0.3	B
Cr	1.4	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
Mn	1.3	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Ni	2.7	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Pb	2.6	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
Sb	3.8	2.1	U	2.1	U	2.1	U	2.1	U	2.1	U	2.1	U
Se	4.3	3.4	U	3.4	U	3.4	U	3.4	U	3.4	U	3.4	U

B - Analyte concentration is between IDL and Reporting Limit
U - Analyte concentration is less than IDL

TestAmerica Knoxville

ICP Data Reporting Form

Continuing Calibration Blank(s)

Units: ug/L (ppb)

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

Elem	Acceptance Limit	CCB 12-Oct-16 4:59 PM		CCB 12-Oct-16 5:56 PM		CCB 12-Oct-16 6:56 PM							
		Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag
As	3.3	1.2	U	1.3	B	1.2	U						
Be	1.0	0.1	U	0.1	U	0.1	U						
Cd	0.5	0.1	U	-0.1	B	-0.1	B						
Co	1.5	0.1	B	0.1	U	0.1	B						
Cr	1.4	0.6	U	0.6	U	0.6	U						
Mn	1.3	0.1	U	0.1	U	0.1	U						
Ni	2.7	0.3	U	0.3	U	0.3	U						
Pb	2.6	1.7	U	1.7	U	-2.0	B						
Sb	3.8	2.1	U	2.1	U	2.1	U						
Se	4.3	3.4	U	3.4	U	3.4	U						

B - Analyte concentration is between IDL and Reporting Limit
U - Analyte concentration is less than IDL

TestAmerica Knoxville

ICP Data Reporting Form

Interference Check Standard A

Units: ug/L (ppb)

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

Elem	True Conc	Reporting Limit	ICSA 12-Oct-16 10:37 AM Found	Found	Found	Found	Found
Al	500000		496942				
As		20	3				
Be		10	0				
Ca	500000		466909				
Cd		5	2				
Co		50	-1				
Cr		15	-4				
Fe	200000		186092				
Mg	500000		499372				
Mn		15	-7				
Ni		40	0				
Pb		15	-2				
Sb		60	10				
Se		15	-3				

TestAmerica Knoxville

ICP Data Reporting Form

Interference Check Standard AB

Units: ug/L (ppb)

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

		ICSAB 12-Oct-16 10:42 AM											
Elem	True Conc	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Al	250000	249428.0	**99.8**										
As	100	100.8	**100.8**										
Be	500	513.7	**102.7**										
Ca	250000	238304.8	**95.3**										
Cd	1000	978.3	**97.8**										
Co	500	486.7	**97.3**										
Cr	500	493.4	**98.7**										
Fe	100000	96318.4	**96.3**										
Mg	250000	251192.7	**100.5**										
Mn	500	492.9	**98.6**										
Ni	1000	975.9	**97.6**										
Pb	50	48.1	**96.2**										
Sb	600	607.0	**101.2**										
Se	50	50.0	**100.1**										

TestAmerica Knoxville

ICP Data Reporting Form

Serial Dilution(s)

Units: ug/L (ppb)

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

Element	M8939	M8939P	Percent Difference
As	180.09	167.70	6.9
Be	1.14	1.10 B	3.5
Cd	0.07 U	0.36 U	
Co	5.54	5.70 B	2.9
Cr	7.96	8.35	4.9
Mn	73.72	72.30	1.9
Ni	9.72	9.75 B	0.3
Pb	6.54	8.28 U	100.0
Sb	13.49	10.28 U	100.0
Se	19.03	28.65	50.6

B - Analyte concentration is between IDL and Reporting Limit
U - Analyte concentration is less than IDL
E - Percent Difference is greater than 10 and [OS]>50 times IDL

TestAmerica Knoxville

ICP Data Reporting Form

Instrument Detection Limits

Units: ug/L (ppb)

IDL Completion Date: 07-Mar-16

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

Element	Wavelength (nm)	IDL
As	189.04	1.2
Be	313.04	0.078
Cd	226.50	0.071
Co	228.62	0.081
Cr	267.72	0.63
Mn	257.61	0.070
Ni	231.60	0.29
Pb	220.35	1.7
Sb	206.83	2.1
Se	196.09	3.4

TestAmerica Knoxville

ICP Data Reporting Form

Inter-Element Correction Factors

Instrument: Thermo iCAP 6500 Duo ICP **IEC Study Date:** 7/25/2016

Analyte	Correction Factor(s)
Aluminum	Mo(0.019417), V(0.039827)
Antimony	Cr(0.019314), Sn(-0.002361), V(-0.002433)
Arsenic	Cr(-0.001756), Fe(-0.000044), Mo(0.000825), Si(-0.000021)
Beryllium	Ti(-0.000119), V(0.000192)
Boron	Fe(-0.000378)
Cadmium	Fe(0.000075), Ni(-0.000083)
Chromium	Fe(0.00004), Mo(-0.000258)
Cobalt	Mo(-0.001222), Ni(0.000132), Si(-0.000008), Ti(0.001727)
Copper	Fe(-0.000069)
Lead	Al(-0.000104), Fe(0.000032), Mo(-0.000593), Ni(0.000083), Si(-0.00001)
Lead	Al(-0.000045), Cu(-0.000487), Fe(0.000025), Mo(-0.002185), Ni(0.00011), Si(0.00006), Ti(-0.000566)
Manganese	Fe(0.000015), Mg(0.000008)
Nickel	Fe(-0.000026), Si(-0.000011), Tl(0.000169)
Selenium	Fe(-0.000094), Mn(0.000725), Si(0.000017)
Silicon	Co(0.010069), Fe(-0.000355)
Silver	V(-0.000647)
Thallium	Co(0.004627), Cr(0.000229), Si(-0.000012), Ti(-0.000506), V(0.002278)
Vanadium	Cr(-0.001044), Fe(-0.000027), Mo(-0.000699), Ti(0.000786)
Zinc	Cu(0.000695), Fe(0.000095), Ni(0.005602)

TestAmerica Knoxville

ICP Data Reporting Form

Linear Dynamic Ranges

Units: ug/L (ppb)

LDR Date: 25-Jul-16

Instrument ID: Thermo iCAP 6500 Duo ICP

Data File Name: F101216.arc

Element	Linear Dynamic Range
As	30000.0
Be	4000.0
Cd	40000.0
Co	40000.0
Cr	40000.0
Mn	20000.0
Ni	80000.0
Pb	90000.0
Sb	40000.0
Se	30000.0

TestAmerica Knoxville

Sample ID Nomenclature

The laboratory sample ID consists of 5 alpha-numeric characters followed by a suffix in the 6th position that designates the sample type:

Suffix	Sample Type
B	Method Blank
C	Laboratory Control Sample
L	Laboratory Control Sample Duplicate
S	Matrix Spike
D	Matrix Spike Duplicate
X	Sample Duplicate
P	Serial Dilution
A	Post Digestion Spike
Z#	Dilution; # = Dilution Factor

Quality Control Results Mercury

TestAmerica Knoxville

Mercury Data Reporting Form

Initial Calibration Verification

Units: ug/L (ppb)

Instrument ID: Leeman HydraAA Hg An

Data File Name: M101416A.PRN

		Ck2icv 10/14/2016 10:39 AM											
Elem	True Conc	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Hg	2.5	2.27	**90.8**										

TestAmerica Knoxville

Mercury Data Reporting Form

Continuing Calibration Verification

Units: ug/L (ppb)

Instrument ID: Leeman HydraAA Hg An

Data File Name: M101416A.PRN

Elem	True Conc	Ck3ccv 10/14/2016 10:47 AM		Ck3ccv 10/14/2016 11:17 AM		Ck3ccv 10/14/2016 11:48 AM		Ck3ccv 10/14/2016 12:19 PM		Ck3ccv 10/14/2016 12:49 PM		Ck3ccv 10/14/2016 1:46 PM	
		Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Hg	5.0	5.07	**101.4**	5.01	**100.2**	4.90	**98.0**	4.88	**97.6**	4.89	**97.8**	4.88	**97.6**

TestAmerica Knoxville

Mercury Data Reporting Form

Continuing Calibration Verification

Units: ug/L (ppb)

Instrument ID: Leeman HydraAA Hg An

Data File Name: M101416A.PRN

Elem	True Conc	Ck3ccv 10/14/2016 2:16 PM		Ck3ccv 10/14/2016 2:47 PM		Ck3ccv 10/14/2016 3:03 PM		Ck3ccv 10/14/2016 3:31 PM					
		Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Hg	5.0	4.84	**96.8**	4.75	**95.0**	4.77	**95.4**	4.84	**96.8**				

TestAmerica Knoxville

Mercury Data Reporting Form

Contract Required Detection Limit Standard(s)

Units: ug/L (ppb)

Instrument ID: Leeman HydraAA Hg An

Data File Name: M101416A.PRN

		CRA 10/14/2016 10:43 AM											
Elem	True Conc	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec	Found	% Rec
Hg	0.2	0.23	**113.0**										

TestAmerica Knoxville

Mercury Data Reporting Form

Initial Calibration Blank(s)

Units: ug/L (ppb)

Instrument ID: Leeman HydraAA Hg An

Data File Name: M101416A.PRN

Elem	Reporting Limit	ICB 10/14/2016 10:41 AM											
		Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag
Hg	0.2	-0.10	B										

B - Analyte concentration is between IDL and Reporting Limit
U - Analyte concentration is less than IDL

TestAmerica Knoxville

Mercury Data Reporting Form

Continuing Calibration Blank(s)

Units: ug/L (ppb)

Instrument ID: Leeman HydraAA Hg An

Data File Name: M101416A.PRN

Elem	Reporting Limit	Ck1ccb 10/14/2016 10:49 AM		Ck1ccb 10/14/2016 11:19 AM		Ck1ccb 10/14/2016 11:51 AM		Ck1ccb 10/14/2016 12:22 PM		Ck1ccb 10/14/2016 12:52 PM		Ck1ccb 10/14/2016 1:49 PM	
		Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag
Hg	0.2	0.06	U	-0.09	B	0.06	U	0.06	U	-0.11	B	-0.08	B

B - Analyte concentration is between IDL and Reporting Limit
U - Analyte concentration is less than IDL

TestAmerica Knoxville

Mercury Data Reporting Form

Continuing Calibration Blank(s)

Units: ug/L (ppb)

Instrument ID: Leeman HydraAA Hg An

Data File Name: M101416A.PRN

Elem	Reporting Limit	Ck1ccb 10/14/2016 2:19 PM		Ck1ccb 10/14/2016 2:50 PM		Ck1ccb 10/14/2016 3:05 PM		Ck1ccb 10/14/2016 3:34 PM					
		Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag	Found	Flag
Hg	0.2	-0.07	B	-0.07	B	0.06	U	0.06	U				

B - Analyte concentration is between IDL and Reporting Limit
U - Analyte concentration is less than IDL

TestAmerica Knoxville

Sample ID Nomenclature

The sample ID consists of 5 alpha-numeric characters followed by a suffix in the 6th position that designates the sample type:

Suffix	Sample Type:
B	Method Blank
C	Laboratory Control Sample
L	Laboratory Control Sample Duplicate
S	Matrix Spike
D	Matrix Spike Duplicate
X	Sample Duplicate
P	Serial Dilution
A	Post Digestion Spike
Z#	Dilution; # = Dilution Factor

Raw Data
ICP

TestAmerica Knoxville
ICP Analysis Cover Sheet

Chart Number:	F101216	**Date of Analysis:**	10-12-16
Instrument:	DUO	**Analyst:**	KWC

Standard	ID:
Calibration Std. ID :	
CCV (1:1 dil. of Cal. Std. ID):	61358
ICV ID:	60231
ICSA ID:	60235
ICSAB ID:	60236
CRI ID:	58009
INTERNAL STD ID:	60232
5% HNO_3/5% HCl SOLUTION ID:	58558

☒ Daily	As Needed	Annually
Check that argon manifold gas pressure is 80 psi.	☐ Clean nebulizer and drain chamber.	☐ Manufacturer service engineer for scheduled preventive maintenance service.
Check that nebulizer is not clogged.	☐ Clean filters on back of power unit to remove dust.	☐ Change vacuum pump oil on ST1
Check that capillary tubing is clean and in good condition.	Replace when needed: ☐ peristaltic pump tubing ☐ sample capillary tubing ☐ autosampler sipper probe.	
Check that peristaltic pump windings are secure.	☐ Clean and lubricate autosampler arm.	
Check that high voltage switch is on.	☐ Check that cooling water supply system is full and drain bottle is not full.	
Check that exhaust fans are working.	☐ Clean air filter on water cooling system.	
Clean plasma torch assembly to remove accumulated deposits.		
Check spray chamber O-rings		

Comments: New Mixing Tee

```
-----------------------------------------------------------------------------
:       Instrument Upload                                   Run Log - Page  1 :
:       Started Thu Oct 13 06:25:59 2016 by DAWSONK                           :
:       Data File: UPL$KNX_DATA_ROOT:<TJA>F101216.ARC;2                       :
-----------------------------------------------------------------------------
```

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
1	BLANK	1	12-OCT-2016	10:12:00			DUO
2	S1	1	12-OCT-2016	10:17:00			DUO
3	S2	1	12-OCT-2016	10:22:00			DUO
4	ICV	1	12-OCT-2016	10:27:00			DUO
5	ICB	1	12-OCT-2016	10:32:00			DUO
6	ICSA	1	12-OCT-2016	10:37:00			DUO
7	ICSAB	1	12-OCT-2016	10:42:00			DUO
8	CRDL01	1	12-OCT-2016	10:47:00			DUO
9	CCV	1	12-OCT-2016	10:52:00			DUO
10	CCB	1	12-OCT-2016	10:57:00			DUO
11	M9A0VB	1	12-OCT-2016	11:02:00	6277013	H6J030000	DUO
12	M9A0VC	1	12-OCT-2016	11:07:00	6277013	H6J030000	DUO
13	M9C0XB	1	12-OCT-2016	11:12:00	6284066	H6J100000	DUO
14	M9C0XC	1	12-OCT-2016	11:17:00	6284066	H6J100000	DUO
15	M9C0VB	1	12-OCT-2016	11:22:00	6284065	H6J100000	DUO
16	M9C0VC	1	12-OCT-2016	11:27:00	6284065	H6J100000	DUO
17	M9C0RB	0.5	12-OCT-2016	11:32:00	6284064	H6J100000	DUO
18	M9C0RC	0.5	12-OCT-2016	11:37:00	6284064	H6J100000	DUO
19	M9C0RL	0.5	12-OCT-2016	11:41:00	6284064	H6J100000	DUO
20	M9C0RB	0.5	12-OCT-2016	11:46:00	6284064	H6J100000	DUO
21	CCV	1	12-OCT-2016	11:51:00			DUO
22	CCB	1	12-OCT-2016	11:56:00			DUO
23	M9C0RC	0.5	12-OCT-2016	12:01:00	6284064	H6J100000	DUO
24	M9C0RL	0.5	12-OCT-2016	12:06:00	6284064	H6J100000	DUO
25	M89N7	1	12-OCT-2016	12:11:00	6277013	H6I260414	DUO
26	M89N7S	1	12-OCT-2016	12:16:00	6277013	H6I260414	DUO
27	M89N7D	1	12-OCT-2016	12:20:00	6277013	H6I260414	DUO
28	M89N7A	1	12-OCT-2016	12:25:00	6277013	H6I260414	DUO
29	M89N8	1	12-OCT-2016	12:30:00	6277013	H6I260414	DUO
30	M89N8S	1	12-OCT-2016	12:35:00	6277013	H6I260414	DUO
31	M89N8D	1	12-OCT-2016	12:40:00	6277013	H6I260414	DUO
32	M89N8P	1	12-OCT-2016	12:45:00			DUO
33	CCV	1	12-OCT-2016	12:50:00			DUO
34	CCB	1	12-OCT-2016	12:55:00			DUO
35	M89N8A	1	12-OCT-2016	13:00:00	6277013	H6I260414	DUO
36	M89N9	1	12-OCT-2016	13:04:00	6277013	H6I260414	DUO
37	M89PA	1	12-OCT-2016	13:09:00	6277013	H6I260414	DUO
38	M89PAS	1	12-OCT-2016	13:14:00	6277013	H6I260414	DUO
39	M89PAD	1	12-OCT-2016	13:19:00	6277013	H6I260414	DUO
40	M89PAA	1	12-OCT-2016	13:24:00	6277013	H6I260414	DUO
41	M89PC	1	12-OCT-2016	13:29:00	6277013	H6I260414	DUO
42	M89PD	1	12-OCT-2016	13:34:00	6277013	H6I260414	DUO
43	CCV	1	12-OCT-2016	13:39:00			DUO
44	CCB	1	12-OCT-2016	13:44:00			DUO

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--------------------------------------------------------------------------------
:       Instrument Upload                                    Run Log - Page  2 :
:       Started Thu Oct 13 06:25:59 2016 by DAWSONK                            :
:       Data File: UPL$KNX_DATA_ROOT:<TJA>F101216.ARC;2                        :
--------------------------------------------------------------------------------
```

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
45	M8939	1	12-OCT-2016	13:49:00	6284066	H6I280402	DUO
46	M8939S	1	12-OCT-2016	13:54:00	6284066	H6I280402	DUO
47	M8939D	1	12-OCT-2016	13:58:00	6284066	H6I280402	DUO
48	M894A	1	12-OCT-2016	14:03:00	6284066	H6I280402	DUO
49	M894C	1	12-OCT-2016	14:08:00	6284066	H6I280402	DUO
50	M894D	1	12-OCT-2016	14:13:00	6284066	H6I280402	DUO
51	M894E	1	12-OCT-2016	14:18:00	6284066	H6I280402	DUO
52	M894F	1	12-OCT-2016	14:23:00	6284066	H6I280402	DUO
53	M894G	1	12-OCT-2016	14:28:00	6284066	H6I280402	DUO
54	M8939P	1	12-OCT-2016	14:33:00			DUO
55	CCV	1	12-OCT-2016	14:38:00			DUO
56	CCB	1	12-OCT-2016	14:43:00			DUO
57	M894H	1	12-OCT-2016	14:48:00	6284066	H6I280402	DUO
58	M894J	1	12-OCT-2016	14:52:00	6284066	H6I280402	DUO
59	M89WC	1	12-OCT-2016	14:57:00	6284065	H6I270407	DUO
60	M89WCS	1	12-OCT-2016	15:03:00	6284065	H6I270407	DUO
61	M89WCD	1	12-OCT-2016	15:08:00	6284065	H6I270407	DUO
62	M89WD	1	12-OCT-2016	15:13:00	6284065	H6I270407	DUO
63	M89WDS	1	12-OCT-2016	15:18:00	6284065	H6I270407	DUO
64	M89WDD	1	12-OCT-2016	15:23:00	6284065	H6I270407	DUO
65	M89WE	1	12-OCT-2016	15:28:00	6284065	H6I270407	DUO
66	M89WEP	1	12-OCT-2016	15:33:00			DUO
67	CCV	1	12-OCT-2016	15:38:00			DUO
68	CCV	1	12-OCT-2016	15:54:00			DUO
69	CCB	1	12-OCT-2016	15:59:00			DUO
70	M89WES	1	12-OCT-2016	16:04:00	6284065	H6I270407	DUO
71	M89WED	1	12-OCT-2016	16:09:00	6284065	H6I270407	DUO
72	M89W1	1	12-OCT-2016	16:14:00	6284065	H6I270407	DUO
73	M89W3	1	12-OCT-2016	16:19:00	6284065	H6I270407	DUO
74	M890C	1	12-OCT-2016	16:24:00	6284065	H6I270407	DUO
75	M890D	1	12-OCT-2016	16:29:00	6284065	H6I270407	DUO
76	M89N7	1	12-OCT-2016	16:34:00	6277013	H6I260414	DUO
77	M89N7D	1	12-OCT-2016	16:39:00	6277013	H6I260414	DUO
78	M89N9Z2	1	12-OCT-2016	16:44:00	6277013	H6I260414	DUO
79	CRDL01	1	12-OCT-2016	16:49:00			DUO
80	CCV	1	12-OCT-2016	16:54:00			DUO
81	CCB	1	12-OCT-2016	16:59:00			DUO
82	M89WFZ500	1	12-OCT-2016	17:06:00	6284064	H6I270407	DUO
83	M89WFXZ500	1	12-OCT-2016	17:11:00	6284064	H6I270407	DUO
84	M89WGZ100	48.83	12-OCT-2016	17:16:00	6284064	H6I270407	DUO
85	M89WGXZ100	48.97	12-OCT-2016	17:21:00	6284064	H6I270407	DUO
86	M89W5Z500	1	12-OCT-2016	17:26:00	6284064	H6I270407	DUO
87	M89W7Z100	48.5	12-OCT-2016	17:31:00	6284064	H6I270407	DUO
88	M89XKZ500	1	12-OCT-2016	17:36:00	6284064	H6I270407	DUO

---------- (continued) ----------

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--------------------------------------------------------------------------------
:       Instrument Upload                                   Run Log - Page  3 :
:       Started Thu Oct 13 06:25:59 2016 by DAWSONK                           :
:       Data File: UPL$KNX_DATA_ROOT:<TJA>F101216.ARC;2                       :
--------------------------------------------------------------------------------
```

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
89	M89XLZ100	46.08	12-OCT-2016	17:41:00	6284064	H6I270407	DUO
90	M89WGP500	1	12-OCT-2016	17:46:00			DUO
91	CCV	1	12-OCT-2016	17:51:00			DUO
92	CCB	1	12-OCT-2016	17:56:00			DUO
93	M89WFZ500	245.82	12-OCT-2016	18:01:00	6284064	H6I270407	DUO
94	M89WFXZ500	245.1	12-OCT-2016	18:06:00	6284064	H6I270407	DUO
95	M89WGZ100	1	12-OCT-2016	18:11:00	6284064	H6I270407	DUO
96	M89WGXZ100	1	12-OCT-2016	18:16:00	6284064	H6I270407	DUO
97	M89W5Z500	246.31	12-OCT-2016	18:21:00	6284064	H6I270407	DUO
98	M89W7Z100	1	12-OCT-2016	18:26:00	6284064	H6I270407	DUO
99	M89XKZ500	247.04	12-OCT-2016	18:31:00	6284064	H6I270407	DUO
100	M89XLZ100	1	12-OCT-2016	18:37:00	6284064	H6I270407	DUO
101	M89WGP500	1	12-OCT-2016	18:42:00			DUO
102	CRDL01	1	12-OCT-2016	18:47:00			DUO
103	CCV	1	12-OCT-2016	18:52:00			DUO
104	CCB	1	12-OCT-2016	18:56:00			DUO

---------- End of Report ----------

TestAmerica Knoxville ICP Chart Review Checklist
Methods: 6010B/6010C, 200.7 - KNOX-MT-0007, Rev 14

Chart Name:	F101216

A. Calibration/Instrument Run QC	NA	Yes	No	If No, why is data reportable?
1. Instrument calibrated per SOP?		X		
2. Was S2 within acceptance limits? (90-110%R)		X		
3. ICV analyzed at beginning of run & within acceptance limits? (6010B/6010C = 90 - 110%R **and** <5.0% RSD) (200.7 = 95 - 105%R **and** <3.0% RSD)		X		
4. CCV analyzed at required frequency?		X		
5. CCV within acceptance limits? (90 - 110%R **and** <5.0% RSD)		X	X	If no, list details: CCV 1538 % RSD>5% Reanalyzed 1554
6. ICB/CCB analyzed at required frequency?		X		
7. ICB/CCB within acceptance limits? (Water/Soil/Waste for 01/4U ≤3x SD of mean blank value & ≤MDL) (Air/SEP/PM10/JN Waste ≤RL)		X		If no, list details:
8. ICSA/ICSAB run at the beginning of run?		X		
9. ICSAB interferents and analytes within limits? (80 - 120%R)		X		
10. ICSA criteria for non-interfering elements met? (Water/Soil/Waste for 01 ±1x RL) (4U/Air/SEP/PM10/JN ±2x RL if RL ≤10 µg/L; ±1x RL if RL >10 µg/L) *If no, list analytes:*		X		□ [ics1] Results outside limits due to contamination. □ [ics2] Interfering elements not present in sample at level which would result in false result >±1x RL. □ [ics3] Concentration of affected analyte in sample is more than 10x analyte signal in ICSA.
11. Reporting Limit Check Standard (CRDL) within limits? (Water/Soil/Waste for 01 = 70-130%R) (4U/Air/SEP/PM10/JN Waste = 50-150%)		X		
12. For method 6010C, were samples bracketed by RL Check Standards?		X		CRDL01 1649, 1847
13. Were all exposures for the QC standards used?		X		If no, list details:

B. Client Sample and QC Sample Results	NA	Yes	No	
1. Were samples with concentrations > the linear range for any parameter diluted and reanalyzed?		X		Comments: High Cr + Pb for spiking samples 1:500 Cr 1:100 Pb M89N9 High Zn 1:1
2. Were all hits reported from a run in which interfering elements were less than the linear range?		X		
3. Were RLs for NDs elevated due to matrix effects?		X		Comments: Tl - M89N7, M89PC M89PD
4. Internal standard (IS) response ±30% of ICB IS? *If no, list details:*		X		□ [is] High IS response. Sample(s) rerun at dilution. □ Low IS response. Sample(s) reanalyzed.

C. Preparation/Matrix QC	NA	Yes	No	
1. Method blank done per prep batch and within limits? (Waters/Soils/Waste for 01 < ½ RL; Zn <RL) (4U/Air/SEP/PM10/JN Waste <RL) *If no, list blank ID and reason, i.e. [Autotext]:* Blank ID / [Autotext] / Blank ID / [Autotext]		X		□ **[mb3] No analyte >RL in associated samples.*** □ **[mb7] Sample results >10x blank.** □ **[mb5] Insufficient sample for reanalysis.***
2. LCS done per prep batch and within QC limits? *If no, list LCS ID:*		X		□ **[lcs2] Insufficient sample for reanalysis.** □ **[lcs3] LCS %R > QC limits & sample results <RL.**

TestAmerica Knoxville ICP Chart Review Checklist
Methods: 6010B/6010C, 200.7 - KNOX-MT-0007, Rev 14

Chart Name:	F101216

C. Preparation/Matrix QC (continued)	NA	Yes	No	If No, why is data reportable?
3. MS/MSD or MS/DUP run at required frequency?		X		☐ [lcsd] Insufficient sample – lcs/lcsd analyzed.
4. MS/MSD %R and RPD within QC limits? M89N7, M89N8, M89PA, M89WD			X	☒ LCS acceptable - matrix effects. ☒ Native analyte > 4x spike level.
5. PDS or PDS/PDSD analyzed at required frequency? PDS ID: M89N7A, M89N8A, M89PAA; Spike Level: 1x LCS ↓; CLQC or Batch:		X		
6. Serial dilution done per prep batch?		X		
7. Was serial dilution reanalyzed at a dilution?			X	Comments:
8. Was the original sample analyzed on same chart as serial dilution?		X		If no, list details:

D. Other	NA	Yes	No	
1. Are nonconformances documented appropriately?		X		NCM # 08-0013305
2. Calculations checked for error? (Document manual calculation checks in comments section.)		X		
3. All client/project specific requirements met? (Review QuantIMS LIM L40 report, Lot Summary or Client Analysis Summary, and any applicable QAS.)		X		List requirements added since log-in:
4. Were all samples labeled correctly in the autosampler table?		X		If no, list details: M89N7 = M89N7D 12" M89N7D = M89N7 12"D

Reviewed by: KWC Date: 10-13-16

Comments:

Calculation: M8939 As 13:49

$0.18009\ mg/L \times \frac{50ml}{50ml} \times 1000\ \mu g/mg = 180.09\ \mu g/L$

NOTE. Nonconformance memos are required for **bold** and *italicized* [autotext] statements: **Bold** = deficiency, *italicized* = anomaly

TestAmerica Knoxville
Data Quality Checks

Sequence: F101216

Internal Standard

ICB Internal Standard	Area	LCL	UCL
Y_2243A	6272	4390	8153
Y_3710A	164798	115359	214238
Y_3710R	11947	8363	15531

12-Oct-16 07:05 PM 104 Samples were checked against the internal standard area limits
12-Oct-16 07:05 PM 0 Sample(s) failed the limits check

Date/Time	Lab ID	Problem

Relative Standard Deviation

12-Oct-16 7:05 PM 11 Standards were checked against the CCV/ICV %RSD limits
12-Oct-16 7:05 PM 2 Standard(s) failed the limits check

Date/Time	Lab ID	Problem
12-Oct-16 10:27:42 AM	ICV	aN - RSD is 6.3% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	Al3082R - RSD is 7.7% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	aN - RSD is 5.7% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	Ba4554R - RSD is 8.1% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	Ca3179R - RSD is 7.5% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	Fe2599R - RSD is 7.6% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	K 7664R - RSD is 7.5% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	Li6707R - RSD is 7.9% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	Mg2790R - RSD is 7.2% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	Na5895R - RSD is 7.6% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	Si2506R - RSD is 6.5% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	Sr4215R - RSD is 8.0% >= Limit of 5.0%
12-Oct-16 03:38:11 PM	CCV	Ti3349R - RSD is 7.9% >= Limit of 5.0%

Reanalyzed
KWC 10-12-16

a

	Pos ID	Rack	Row	Col	Type	Samplename	Comment	Custom ID1	Custom ID2
1	1	1	1	1	QC	S2			
2	2	1	2	1	QC	ICV			
3	3	1	3	1	Unk	ICB			
4	4	1	4	1	Unk	ICSA			
5	5	1	5	1	Unk	ICSAB			
6	6	1	6	1	QC	CRDL01			
7	7	1	7	1	QC	CCV			
8	8	1	8	1	Unk	CCB			
9	9	1	9	1	Unk	M9A0VB			
10	10	1	10	1	QC	M9A0VC			
11	11	1	11	1	Unk	M9C0XB			
12	12	1	12	1	QC	M9C0XC			
13	13	1	1	2	Unk	M9C0VB			
14	14	1	2	2	QC	M9C0VC			
15	15	1	3	2	Unk	M9C0RB Pb	NO HCL — Cr > 1/2 RL		
16	16	1	4	2	QC	M9C0RC	NO HCL		
17	17	1	5	2	QC	M9C0RL	NO HCL		
18	18	1	6	2	Unk	M9C0RB Cr			
19	19	1	7	2	QC	CCV			
20	20	1	8	2	Unk	CCB			
21	21	1	9	2	QC	M9C0RC Cr			
22	22	1	10	2	QC	M9C0RL Cr			
23	23	1	11	2	Unk	M89N7	— MS Rev		
24	24	1	12	2	Unk	M89N7S	— MS		
25	25	1	1	3	Unk	M89N7D	— DS Rev		
26	26	1	2	3	Unk	M89N7A			
27	27	1	3	3	Unk	M89N8			
28	28	1	4	3	Unk	M89N8S			
29	29	1	5	3	Unk	M89N8D			
30	30	1	6	3	Unk	M89N8P	2ML TO 10ML		
31	31	1	7	3	QC	CCV			
32	32	1	8	3	Unk	CCB			
33	33	1	9	3	Unk	M89N8A			
34	34	1	10	3	Unk	M89N9	— High Zn ZZ		
35	35	1	11	3	Unk	M89PA			
36	36	1	12	3	Unk	M89PAS			
37	37	1	1	4	Unk	M89PAD			
38	38	1	2	4	Unk	M89PAA			
39	39	1	3	4	Unk	M89PC			
40	40	1	4	4	Unk	M89PD			
41	41	1	5	4	QC	CCV			
42	42	1	6	4	Unk	CCB			
43	43	1	7	4	Unk	M8939			
44	44	1	8	4	Unk	M8939S			
45	45	1	9	4	Unk	M8939D			
46	46	1	10	4	Unk	M894A			
47	47	1	11	4	Unk	M894C			
48	48	1	12	4	Unk	M894D			
49	49	1	1	5	Unk	M894E			
50	50	1	2	5	Unk	M894F			
51	51	1	3	5	Unk	M894G			
52	52	1	4	5	Unk	M8939P	2ML TO 10ML		
53	53	1	5	5	QC	CCV			
54	54	1	6	5	Unk	CCB			
55	55	1	7	5	Unk	M894H			
56	56	1	8	5	Unk	M894J			
57	57	1	9	5	Unk	M89WC			

M89N7 = M89N7D 12"
M89N7D = M89N7 122

✓M89N7 - Tl low
✓M89N7S - Matrix, 74X
✓M89N8S - Matrix
✓M89PAS - Matrix
✓M89PC - Tl low

✓M89PD - Tl low
✓M89WDS - Matrix
✓CCV 1535 % RSD > 5%
Re-Analyzed 1554

	Pos ID	Rack	Row	Col	Type	Samplename	Comment	Custom ID1	Custom ID2
58	58	1	10	5	Unk	M89WCS			
59	59	1	11	5	Unk	M89WCD			
60	60	1	12	5	Unk	M89WD			
61	61	2	1	1	Unk	M89WDS			
62	62	2	2	1	Unk	M89WDD			
63	63	2	3	1	Unk	M89WE			
64	64	2	4	1	Unk	M89WEP	2ML TO 10ML		
65	65	2	5	1	QC	CCV	Rev % RSD>5%		
66	66	2	6	1	Unk	CCB			
67	67	2	7	1	Unk	M89WES			
68	68	2	8	1	Unk	M89WED			
69	69	2	9	1	Unk	M89W1			
70	70	2	10	1	Unk	M89W3			
71	71	2	11	1	Unk	M890C			
72	72	2	12	1	Unk	M890D			
73	73	2	1	2	QC	CRDL01			
74	74	2	2	2	QC	CCV			
75	75	2	3	2	Unk	CCB			
76	76	2	4	2	Unk	M89WFZ500 X	NO HCL 0.02ML TO 10ML		
77	77	2	5	2	Unk	M89WFXZ500 X	NO HCL 0.02ML TO 10ML		
78	78	2	6	2	Unk	M89WGZ100	NO HCL 0.1ML TO 10ML (A) Pb		
79	79	2	7	2	Unk	M89WGXZ100	NO HCL 0.1ML TO 10ML Pb		
80	80	2	8	2	Unk	M89W5Z500 X	NO HCL 0.02ML TO 10ML		
81	81	2	9	2	Unk	M89W7Z100	NO HCL 0.1ML TO 10ML Pb		
82	82	2	10	2	Unk	M89XKZ500 X	NO HCL 0.02ML TO 10ML		
83	83	2	11	2	Unk	M89XLZ100	NO HCL 0.1ML TO 10ML Pb		
84	84	2	12	2	Unk	M89WGP500	2ML (A) TO 10ML		
85	85	2	1	3	QC	CCV			
86	86	2	2	3	Unk	CCB			
87	87	2	3	3	Unk	M89WFZ500	0.02ML TO 10ML Cr		
88	88	2	4	3	Unk	M89WFXZ500	0.02ML TO 10ML Cr		
89	89	2	5	3	Unk	M89WGZ100 X	0.1ML TO 10ML (B)		
90	90	2	6	3	Unk	M89WGXZ100 X	0.1ML TO 10ML		
91	91	2	7	3	Unk	M89W5Z500	0.02ML TO 10ML Cr		
92	92	2	8	3	Unk	M89W7Z100 X	0.1ML TO 10ML		
93	93	2	9	3	Unk	M89XKZ500	0.02ML TO 10ML Cr		
94	94	2	10	3	Unk	M89XLZ100 X	0.1ML TO 10ML		
95	95	2	11	3	Unk	M89WGP500	2ML (B) TO 10ML		
96	96	2	12	3	QC	CRDL01			
97	97	2	1	4	QC	CCV			
98	98	2	2	4	Unk	CCB			
99	99	2	3	4	Unk	Sample-86			
100	100	2	4	4	Unk	Sample-87			
101	101	2	5	4	Unk	Sample-88			
102	102	2	6	4	Unk	Sample-89			
103	103	2	7	4	Unk	Sample-90			
104	104	2	8	4	Unk	Sample-91			
105	105	2	9	4	Unk	Sample-92			
106	106	2	10	4	Unk	Sample-93			
107	107	2	11	4	Unk	Sample-94			
108	108	2	12	4	Unk	Sample-95			
109	109	2	1	5	Unk	Sample-96			
110	110	2	2	5	Unk	Sample-97			
111	111	2	3	5	Unk	Sample-98			
112	112	2	4	5	Unk	Sample-99			
113	113	2	5	5	Unk	Sample-100			

Author: KNC

Published: 10/12/2016 7:03:01PM

Method Name: MT0007(v23) HF 072516 (5)

Sample Name	**Acquisition Date**
Blank	10/12/2016 10:12:48AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1243.93	488.717	72.0079	1035.11	2698.6
Std Dev:	5.50407	19.9624	0.729246	51.298	99.3352
%RSD:	0.442474	4.08465	1.01273	4.95582	3.68098
Repeat: 1	1237.78	511.765	71.3953	1094.34	2812.76
Repeat: 2	1248.4	477.517	72.8145	1006.03	2631.85
Repeat: 3	1245.6	476.869	71.8138	1004.95	2651.2
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1061.86	587.438	199.655	289.792	601.541
Std Dev:	7.01426	18.7575	1.98757	1.74059	0.894046
%RSD:	0.660565	3.1931	0.995501	0.600636	0.148626
Repeat: 1	1054.05	608.674	197.501	287.96	601.117
Repeat: 2	1067.62	573.131	200.047	289.992	600.938
Repeat: 3	1063.9	580.508	201.418	291.424	602.568
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1495.99	115.287	5127.23	5326.62	171.668
Std Dev:	6.75093	3.09969	184.008	217.648	8.06936
%RSD:	0.451267	2.68866	3.58884	4.08604	4.70055
Repeat: 1	1488.63	118.794	5339.53	5576.22	180.907
Repeat: 2	1501.9	112.911	5013.56	5176.42	168.096
Repeat: 3	1497.45	114.158	5028.61	5227.22	166.002
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	431.958	90.6935	639.831	5232.2	309.481
Std Dev:	1.80696	1.06845	30.0675	218.118	3.88009
%RSD:	0.418319	1.17808	4.6993	4.16877	1.25374
Repeat: 1	432.539	89.5522	674.526	5482.15	305.217
Repeat: 2	429.932	90.8582	623.579	5080.41	310.421
Repeat: 3	433.403	91.67	621.386	5134.05	312.805
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.3021	183.055	217.654	122.956	77.1461
Std Dev:	0.0701303	0.635987	1.2143	1.0035	0.684152
%RSD:	0.169798	0.34743	0.557904	0.816144	0.886826
Repeat: 1	41.238	183.785	216.54	121.848	76.3726
Repeat: 2	41.2913	182.625	217.473	123.214	77.6719
Repeat: 3	41.377	182.754	218.948	123.805	77.3938
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	146.062	75.6894	1715.45	375.623	50.1775
Std Dev:	7.15193	0.380368	74.0552	13.4348	0.470752
%RSD:	4.89651	0.502538	4.31695	3.57666	0.938173
Repeat: 1	154.138	75.3665	1800.5	391.127	49.8667
Repeat: 2	140.528	75.593	1665.2	367.398	49.9467
Repeat: 3	143.519	76.1087	1680.66	368.345	50.7191

Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	1162.56	174.015	6522.14	166371	12488.4
Std Dev:	0.800547	0.999187	18.3563	1110.67	80.8912
%RSD:	0.0688604	0.574196	0.281446	0.667586	0.64773
Repeat: 1	1161.7	173.048	6541.46	167554	12455
Repeat: 2	1163.28	173.954	6520.04	166210	12580.7
Repeat: 3	1162.72	175.043	6504.93	165350	12429.6

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----
%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----

Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----
%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----

Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----
%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----

Element/Wavelength	Mn2576A	Mo2020A	aN	Na5895R	Ni2316A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----
%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----

Element/Wavelength	P_1782A	bP	Pb2203A	Sb2068A	Se1960A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----
%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----

Element/Wavelength	Si2506R	Sn1899A	Sr4215R	Ti3349R	Tl1908A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----

%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	z *****	z *****	6257.06	163645	11573.7
Std Dev:	----	----	21.8157	1109.72	105.491
%RSD:	----	----	0.348658	0.678123	0.911472
Repeat: 1	z ----	z ----	6280.57	164828	11502.6
Repeat: 2	z ----	z ----	6253.16	163481	11694.9
Repeat: 3	z ----	z ----	6237.46	162627	11523.5

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6257.06	163645	11573.7
Std Dev:	21.8157	1109.72	105.491
%RSD:	0.348658	0.678123	0.911472
Repeat: 1	6280.57	164828	11502.6
Repeat: 2	6253.16	163481	11694.9
Repeat: 3	6237.46	162627	11523.5

Sample Name	**Acquisition Date**
S1	10/12/2016 10:17:49AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	27422.1	11917.1	585.665	21801	200697
Std Dev:	160.54	81.6126	1.29694	130.436	1265.49
%RSD:	0.585441	0.684838	0.221447	0.598303	0.63055
Repeat: 1	27237	11846.8	585.113	21650.4	199695
Repeat: 2	27506.6	11897.8	587.147	21875.6	200276
Repeat: 3	27522.8	12006.6	584.736	21877	202119
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1.64593e+006	153614	11509.9	29638.1	58397.3
Std Dev:	12484.3	710.66	24.1955	59.3041	148.132
%RSD:	0.758498	0.462627	0.210214	0.200094	0.253663
Repeat: 1	1.6403e+006	153099	11503.6	29609.1	58226.7
Repeat: 2	1.63725e+006	153318	11536.6	29706.4	58493.5
Repeat: 3	1.66023e+006	154425	11489.5	29598.9	58471.6
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	95263.5	44245.9	48290	42408.1	11809.9
Std Dev:	687.63	361.532	363.974	292.566	79.473
%RSD:	0.721818	0.817097	0.753726	0.689883	0.672934
Repeat: 1	94472.1	43910.3	48027.1	42155.3	11739
Repeat: 2	95603.5	44198.8	48137.4	42340.3	11795
Repeat: 3	95714.9	44628.7	48705.4	42728.6	11895.8
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	265987	11445.8	1032.53	175855	18006.5
Std Dev:	1625.7	22.5736	4.37044	1380.41	31.1979
%RSD:	0.611197	0.197222	0.423274	0.784972	0.173259
Repeat: 1	266860	11428.2	1036.6	174698	17984.7

Repeat: 2	266989	11471.3	1033.09	175482	18042.3
Repeat: 3	264111	11437.9	1027.91	177383	17992.6
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1180.42	1225.36	1366.09	741.3	383.458
Std Dev:	4.26411	0.442682	2.65273	1.21224	0.20803
%RSD:	0.361238	0.0361265	0.194184	0.163529	0.054251
Repeat: 1	1176.91	1224.89	1366.09	740.411	383.673
Repeat: 2	1185.16	1225.77	1368.75	742.681	383.258
Repeat: 3	1179.18	1225.42	1363.45	740.81	383.444
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	736.613	5391.13	224891	16290.6	778.886
Std Dev:	4.1153	9.83518	2404.3	119.968	3.50906
%RSD:	0.558679	0.182433	1.0691	0.736424	0.450523
Repeat: 1	734.372	5388.12	222824	16188.8	776.289
Repeat: 2	734.104	5402.12	224320	16260.2	782.878
Repeat: 3	741.362	5383.15	227529	16422.9	777.491
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	90211.1	46090.5	6397.49	160397	12365.6
Std Dev:	332.846	105.001	15.8186	992.06	77.56
%RSD:	0.368963	0.227816	0.247262	0.618502	0.627224
Repeat: 1	89837.2	46032.9	6383.83	159254	12318.7
Repeat: 2	90475	46211.7	6414.82	160908	12323
Repeat: 3	90321.2	46026.9	6393.81	161030	12455.1

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----
%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----
%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----
%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----

%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----
%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	z *****	z *****	z *****	z *****	z *****
Std Dev:	----	----	----	----	----
%RSD:	----	----	----	----	----
Repeat: 1	z ----	z ----	z ----	z ----	z ----
Repeat: 2	z ----	z ----	z ----	z ----	z ----
Repeat: 3	z ----	z ----	z ----	z ----	z ----
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	z *****	z *****	6022.09	157563	11466.3
Std Dev:	----	----	15.8004	1012.51	71.6893
%RSD:	----	----	0.262373	0.642607	0.625215
Repeat: 1	z ----	z ----	6008.1	156396	11417.6
Repeat: 2	z ----	z ----	6039.23	158083	11432.8
Repeat: 3	z ----	z ----	6018.94	158210	11548.7

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6022.09	157563	11466.3
Std Dev:	15.8004	1012.51	71.6893
%RSD:	0.262373	0.642607	0.625215
Repeat: 1	6008.1	156396	11417.6
Repeat: 2	6039.23	158083	11432.8
Repeat: 3	6018.94	158210	11548.7

Sample Name	**Acquisition Date**
S2	10/12/2016 10:22:47AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	7938.09	3388.33	205.421	6539.05	53188.6
Std Dev:	14.5841	11.9626	0.327529	19.6468	155.261
%RSD:	0.183723	0.353053	0.159442	0.300453	0.291907
Repeat: 1	7947.37	3396.95	205.793	6523.04	53329.3
Repeat: 2	7921.28	3374.68	205.299	6533.14	53022
Repeat: 3	7945.62	3393.37	205.173	6560.98	53214.4
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	439856	40232.1	3193.57	8036.06	15779.1
Std Dev:	2063	110.068	3.87726	1.2888	41.9631

%RSD:	0.469017	0.273583	0.121408	0.0160376	0.26594
Repeat: 1	441472	40249.5	3194.82	8035.98	15804.7
Repeat: 2	440564	40114.4	3196.67	8037.4	15730.7
Repeat: 3	437532	40332.5	3189.22	8034.82	15802
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	25661.3	11634.1	15999.6	14623.5	3139.28
Std Dev:	74.1442	46.1987	59.5927	34.2648	5.61583
%RSD:	0.288934	0.397098	0.372464	0.234314	0.178889
Repeat: 1	25729.6	11671.7	16054.1	14616.3	3143.31
Repeat: 2	25582.4	11582.5	15936	14593.3	3132.87
Repeat: 3	25671.9	11648	16008.7	14660.7	3141.67
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	70798.6	3079.98	711.079	48698.8	5020.97
Std Dev:	32.448	2.35633	4.29676	64.8159	8.75254
%RSD:	0.0458314	0.0765048	0.604259	0.133096	0.17432
Repeat: 1	70827.1	3080.56	712.338	48757.8	5021.06
Repeat: 2	70763.3	3082	706.294	48629.4	5029.68
Repeat: 3	70805.4	3077.39	714.606	48709.2	5012.17
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	335.82	457.75	520.797	283.024	157.519
Std Dev:	1.23492	4.44635	1.32791	0.513409	0.506731
%RSD:	0.367733	0.971348	0.254977	0.181401	0.321695
Repeat: 1	336.042	460.166	522.108	282.769	158.032
Repeat: 2	336.928	452.619	520.831	282.689	157.019
Repeat: 3	334.489	460.466	519.453	283.616	157.506
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	295.593	1481.39	58753.8	4469.65	245.678
Std Dev:	2.75077	3.52279	186.162	22.6327	0.140825
%RSD:	0.930595	0.237802	0.316852	0.506365	0.057321
Repeat: 1	298.052	1482.03	58941.7	4495	245.587
Repeat: 2	296.104	1484.56	58569.4	4462.44	245.607
Repeat: 3	292.622	1477.6	58750.4	4451.5	245.841
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	24320.9	12151.2	6584.85	167848	12756
Std Dev:	38.5276	22.0288	14.0847	499.627	35.1316
%RSD:	0.158414	0.181289	0.213895	0.297666	0.275412
Repeat: 1	24350.1	12176.4	6598.25	168106	12748.2
Repeat: 2	24277.2	12141	6586.12	167272	12725.5
Repeat: 3	24335.4	12136.1	6570.17	168166	12794.4

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.490096	12.3182	0.247443	1.00919	0.986445
Std Dev:	0.000397509	0.0281741	0.00020956	0.00407713	0.00340348
%RSD:	0.0811085	0.22872	0.0846901	0.404	0.345025
Repeat: 1	0.489701	12.3502	0.247685	1.00449	0.990192
Repeat: 2	0.490496	12.307	0.247334	1.01179	0.985599
Repeat: 3	0.490091	12.2973	0.247311	1.01129	0.983544
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.01843	25.0018	0.25334	1.0111	1.00314

Std Dev:	0.00661924	0.0379357	0.000426532	0.00225734	0.00113357
%RSD:	0.649947	0.151732	0.168364	0.223255	0.113002
Repeat: 1	1.0207	25.0447	0.252848	1.00901	1.00324
Repeat: 2	1.02361	24.988	0.253566	1.0108	1.00422
Repeat: 3	1.01097	24.9727	0.253605	1.01349	1.00196
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.984202	12.5924	24.8098	0.990896	24.6301
Std Dev:	0.0018419	0.05714	0.107645	0.000791452	0.0498535
%RSD:	0.187147	0.453767	0.43388	0.0798723	0.202409
Repeat: 1	0.985904	12.6583	24.9334	0.991734	24.6598
Repeat: 2	0.984457	12.5615	24.7589	0.990795	24.658
Repeat: 3	0.982246	12.5573	24.737	0.99016	24.5726
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.01012	1.00675	24.298	24.7172	1.01957
Std Dev:	0.00261804	0.00193845	0.699795	0.0716546	0.0018603
%RSD:	0.259181	0.192546	2.88006	0.289898	0.182459
Repeat: 1	1.00951	1.00459	24.5699	24.7711	1.01755
Repeat: 2	1.01299	1.00733	23.503	24.7446	1.02122
Repeat: 3	1.00787	1.00833	24.821	24.6359	1.01994
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.988878	0.254066	0.253403	0.246509	0.24932
Std Dev:	0.00403986	0.0043914	0.00133312	0.00288364	0.00176345
%RSD:	0.40853	1.72845	0.526088	1.16979	0.707305
Repeat: 1	0.988546	0.257594	0.254751	0.244408	0.250147
Repeat: 2	0.993073	0.249148	0.252085	0.245322	0.247295
Repeat: 3	0.985014	0.255457	0.253372	0.249796	0.250518
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.01143	1.01203	0.988016	0.995564	0.51207
Std Dev:	0.0202225	0.00193012	0.00398462	0.00738741	0.00172905
%RSD:	1.9994	0.190718	0.403296	0.742033	0.337659
Repeat: 1	1.02637	1.01041	0.992382	1.00291	0.510288
Repeat: 2	1.01949	1.01416	0.987091	0.995649	0.512179
Repeat: 3	0.988418	1.01151	0.984575	0.988134	0.513741
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.992939	0.998917	6289.92	165163	11881.3
Std Dev:	0.00127861	0.0012409	14.2843	495.937	36.863
%RSD:	0.12877	0.124225	0.227097	0.300272	0.310262
Repeat: 1	0.992513	0.998842	6303.49	165413	11866.7
Repeat: 2	0.994376	0.997714	6291.27	164591	11853.9
Repeat: 3	0.991927	1.00019	6275.02	165484	11923.2
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**

Avg. of Repeats:	6289.92	165163	11881.3
Std Dev:	14.2843	495.937	36.863
%RSD:	0.227097	0.300272	0.310262
Repeat: 1	6303.49	165413	11866.7
Repeat: 2	6291.27	164591	11853.9
Repeat: 3	6275.02	165484	11923.2

Sample Name	**Acquisition Date**
ICV	10/12/2016 10:27:42AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	7997.79	3391.75	206.877	6863.66	54600
Std Dev:	19.6555	5.77687	1.06044	11.7004	155.372
%RSD:	0.245762	0.170321	0.512594	0.170469	0.284564
Repeat: 1	8020.4	3391.05	207.807	6866.02	54426.3
Repeat: 2	7984.81	3397.85	207.101	6850.96	54648.1
Repeat: 3	7988.15	3386.36	205.722	6874	54725.7
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	434248	40865.4	3229.21	8044.72	15733.5
Std Dev:	482.847	75.8167	6.79086	8.72505	19.3528
%RSD:	0.111192	0.185528	0.210295	0.108457	0.123004
Repeat: 1	434803	40777.9	3230.4	8048.95	15746.2
Repeat: 2	433923	40910.7	3235.32	8050.52	15743.2
Repeat: 3	434019	40907.6	3221.9	8034.69	15711.3
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	25693.8	11556.2	16011.8	14960	3163.96
Std Dev:	30.1328	22.0275	20.6974	46.6794	4.80778
%RSD:	0.117276	0.190612	0.129264	0.312027	0.151954
Repeat: 1	25660.7	11537.6	15988.2	14906.9	3169.05
Repeat: 2	25701.2	11580.5	16026.8	14994.3	3159.49
Repeat: 3	25719.6	11550.3	16020.3	14978.9	3163.34
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	70800.2	3144.18	714.779	48798.3	5104.53
Std Dev:	77.3991	3.75443	4.215	134.328	5.54776
%RSD:	0.10932	0.119409	0.589692	0.275271	0.108683
Repeat: 1	70724.9	3147.69	710.122	48647.8	5107.58
Repeat: 2	70879.5	3144.64	715.884	48841.1	5107.87
Repeat: 3	70796.1	3140.22	718.332	48906.1	5098.12
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	339.193	460.16	522.441	285.72	159.288
Std Dev:	0.741336	2.08281	1.70831	1.05765	0.346923
%RSD:	0.218559	0.452628	0.326987	0.37017	0.217796
Repeat: 1	339.428	458.949	524.003	286.537	159.686
Repeat: 2	339.788	462.565	522.704	286.098	159.046
Repeat: 3	338.363	458.966	520.617	284.526	159.133
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	314.985	1522.4	59035.7	4620.61	252.038
Std Dev:	3.17201	3.12912	275.523	28.0572	0.699948
%RSD:	1.00704	0.205538	0.466705	0.607219	0.277715
Repeat: 1	312.188	1524.58	58743.9	4588.79	251.246

Repeat: 2	314.336	1523.81	59072	4631.22	252.571
Repeat: 3	318.432	1518.82	59291.3	4641.81	252.298
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	24556.7	12234.6	6530.51	167775	12808.5
Std Dev:	7.99667	10.7525	7.73742	605.885	134.366
%RSD:	0.0325642	0.0878859	0.118481	0.361129	1.04904
Repeat: 1	24548.6	12246	6532.65	167750	12655.4
Repeat: 2	24564.6	12233.3	6536.94	167182	12863.4
Repeat: 3	24556.8	12224.6	6521.92	168393	12906.7

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.493589	12.2986	0.252538	1.07021	1.00946
Std Dev:	0.00239674	0.138942	0.00129327	0.00265228	0.00830201
%RSD:	0.485574	1.12974	0.512108	0.247827	0.822419
Repeat: 1	0.494598	12.4495	0.253762	1.07062	1.01896
Repeat: 2	0.495316	12.2701	0.252666	1.07264	1.00583
Repeat: 3	0.490853	12.176	0.251185	1.06738	1.00359
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.00582	25.2877	0.258527	1.02077	1.00055
Std Dev:	0.00409933	0.23919	0.000259631	0.000355938	0.00489401
%RSD:	0.407561	0.945876	0.100427	0.0348695	0.489134
Repeat: 1	1.00735	25.5563	0.258548	1.02098	1.00134
Repeat: 2	1.00893	25.2091	0.258775	1.02036	1.005
Repeat: 3	1.00118	25.0976	0.258257	1.02098	0.995305
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.986269	12.4564	24.7782	1.02254	24.7291
Std Dev:	0.00337775	0.131601	0.211573	0.00673121	0.307367
%RSD:	0.342477	1.05649	0.853867	0.658282	1.24293
Repeat: 1	0.984779	12.6009	25.0206	1.02993	25.0837
Repeat: 2	0.990136	12.4248	24.6832	1.02093	24.5656
Repeat: 3	0.983893	12.3434	24.6307	1.01676	24.5381
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.01064	1.03712	25.3522	24.669	1.04677
Std Dev:	0.0045235	0.000800124	1.58609	0.193095	0.000175747
%RSD:	0.447588	0.077149	6.25621	0.782742	0.0167895
Repeat: 1	1.00959	1.03783	23.9532	24.8889	1.04696
Repeat: 2	1.01559	1.03625	25.0283	24.5907	1.04663
Repeat: 3	1.00673	1.03727	27.0753	24.5273	1.04671
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.00868	0.25769	0.257138	0.256023	0.259433
Std Dev:	0.0007573	0.00291856	0.00137748	0.00114529	0.00123108
%RSD:	0.0750785	1.13259	0.535695	0.447339	0.474526
Repeat: 1	1.00912	0.256127	0.257684	0.256553	0.260474

Repeat: 2	1.00911	0.261057	0.258159	0.254709	0.258075
Repeat: 3	1.0078	0.255886	0.255572	0.256807	0.259752
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.14538	1.05059	0.988608	1.02825	0.532369
Std Dev:	0.0128225	0.00102484	0.00652421	0.00504372	0.00277179
%RSD:	1.1195	0.0975494	0.659939	0.490516	0.520653
Repeat: 1	1.1354	1.05152	0.99614	1.03401	0.529171
Repeat: 2	1.14089	1.05076	0.984958	1.02609	0.534069
Repeat: 3	1.15984	1.04949	0.984726	1.02464	0.533868
QC Status Pass/Fail:	Fail	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	1.00423	1.01434	6238.28	165080	11937.4
Std Dev:	0.00341857	0.00101364	8.16783	638.751	133.503
%RSD:	0.340418	0.0999311	0.130931	0.386935	1.11835
Repeat: 1	1.00373	1.01477	6240.93	165062	11786.2
Repeat: 2	1.00787	1.01318	6244.8	164450	11987.4
Repeat: 3	1.00109	1.01506	6229.12	165727	12038.7
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6238.28	165080	11937.4
Std Dev:	8.16783	638.751	133.503
%RSD:	0.130931	0.386935	1.11835
Repeat: 1	6240.93	165062	11786.2
Repeat: 2	6244.8	164450	11987.4
Repeat: 3	6229.12	165727	12038.7

Sample Name	**Acquisition Date**
ICB	10/12/2016 10:32:35AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1216.32	463.56	70.8755	1183.78	2588.4
Std Dev:	2.12763	2.22829	0.524485	5.41057	14.1862
%RSD:	0.174923	0.480691	0.740008	0.457057	0.548067
Repeat: 1	1214.23	464.756	71.2487	1180.31	2588.29
Repeat: 2	1216.24	464.935	70.2759	1190.02	2602.65
Repeat: 3	1218.48	460.989	71.1021	1181.03	2574.28
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1039.29	569.051	195.216	283.484	587.837
Std Dev:	2.73219	1.0896	0.554602	1.26854	3.07613
%RSD:	0.262892	0.191477	0.284097	0.447481	0.523296
Repeat: 1	1038.92	569.392	195.562	284.622	591.377
Repeat: 2	1042.18	569.93	194.576	282.116	585.81
Repeat: 3	1036.75	567.832	195.509	283.715	586.326
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1455.99	110.134	4920.02	5096.12	161.947
Std Dev:	1.64995	1.86561	28.997	27.7736	2.24145

%RSD:	0.113322	1.69395	0.589368	0.544995	1.38406
Repeat: 1	1454.09	109.023	4919.74	5072.18	161.117
Repeat: 2	1457.02	112.288	4949.15	5126.57	164.486
Repeat: 3	1456.86	109.091	4891.16	5089.61	160.24
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	421.662	90.6028	612.264	4999.91	302.854
Std Dev:	1.0721	0.136119	4.6483	31.4044	0.872266
%RSD:	0.254257	0.150237	0.759199	0.6281	0.288015
Repeat: 1	421.513	90.7583	610.518	4984.8	303.098
Repeat: 2	420.672	90.5051	617.532	5036.01	301.886
Repeat: 3	422.801	90.545	608.741	4978.92	303.578
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	40.7227	179.546	213.264	120.776	76.799
Std Dev:	0.403893	1.85453	1.01222	0.572058	0.286049
%RSD:	0.991813	1.0329	0.474631	0.473654	0.372464
Repeat: 1	41.1114	179.656	214.308	121.075	76.6791
Repeat: 2	40.7516	181.342	212.287	120.116	76.5925
Repeat: 3	40.3052	177.638	213.197	121.135	77.1255
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	143.047	74.5447	1641.11	356.355	49.9001
Std Dev:	2.98134	0.615909	3.81199	2.96714	0.423462
%RSD:	2.08416	0.826227	0.232281	0.832638	0.84862
Repeat: 1	139.681	74.0672	1643.42	358.624	49.92
Repeat: 2	145.355	74.327	1643.21	357.443	49.467
Repeat: 3	144.106	75.2399	1636.71	352.997	50.3132
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1138.5	171.642	6531.34	167441	12819.5
Std Dev:	1.98233	1.17066	21.2349	777.047	51.8812
%RSD:	0.174118	0.682038	0.325123	0.464071	0.404705
Repeat: 1	1140.74	172.748	6506.98	167138	12786
Repeat: 2	1136.97	170.416	6541.12	166861	12793.2
Repeat: 3	1137.79	171.762	6545.92	168324	12879.3

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000379704	-0.00159664	-0.000514563	0.0292457	0.000183963
Std Dev:	0.000239135	0.00686647	0.000972705	0.00199547	0.000151057
%RSD:	62.9792	430.058	189.035	6.82312	82.1125
Repeat: 1	-0.000300463	0.000570235	0.000225197	0.0293703	0.000354538
Repeat: 2	-0.000648401	-0.00928515	-0.00161637	0.0311759	6.71115e-005
Repeat: 3	-0.000190249	0.003925	-0.000152513	0.0271908	0.00013024
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.08629e-006	0.0019957	-2.79855e-006	9.39267e-005	2.08512e-005
Std Dev:	5.19671e-006	0.00131832	5.61352e-005	0.000133247	0.000338171
%RSD:	478.392	66.0581	2005.87	141.863	1621.83
Repeat: 1	-6.55185e-006	0.00178014	-5.39624e-005	0.000222644	0.000403546
Repeat: 2	3.7916e-006	0.000798442	-1.1682e-005	-4.34298e-005	-0.000237713
Repeat: 3	-4.98606e-007	0.00340851	5.72487e-005	0.000102566	-0.000103279
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000298498	0.000547321	-0.0131094	0.000469521	-0.00915767
Std Dev:	6.14417e-005	0.00139391	0.026259	0.0017911	0.009419
%RSD:	20.5837	254.679	200.307	381.474	102.854
Repeat: 1	-0.000361324	-0.000845397	0.0159222	-0.00084687	-0.0195341
Repeat: 2	-0.000295629	0.00194242	-0.0200481	-0.000253724	-0.0011472
Repeat: 3	-0.000238541	0.000544936	-0.0352023	0.00250916	-0.00679173
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.57559e-005	0.000389776	-0.122595	0.000393757	-0.000232954
Std Dev:	4.87698e-005	6.29271e-005	0.426695	0.00131072	5.54893e-005
%RSD:	309.532	16.1444	348.052	332.876	23.8199
Repeat: 1	-4.27403e-005	0.000436544	0.255192	-0.00083222	-0.000290286
Repeat: 2	-4.507e-005	0.000414551	-0.0375799	0.00177534	-0.000229064
Repeat: 3	4.05424e-005	0.000318232	-0.585398	0.000238153	-0.000179512
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000489118	-0.000825079	-0.000930406	1.95605e-005	0.0016596
Std Dev:	0.00162998	0.00172124	0.000416623	0.000177934	0.00118037
%RSD:	333.249	208.615	44.7787	909.659	71.1236
Repeat: 1	0.00120574	3.01248e-005	-0.000451579	-0.000182252	0.000485594
Repeat: 2	0.00163802	0.00030107	-0.00121005	0.000153845	0.00284623
Repeat: 3	-0.0013764	-0.00280643	-0.00112959	8.70887e-005	0.00164698
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0321383	-8.42583e-005	0.000171229	-0.000566649	0.00013454
Std Dev:	0.0259167	0.000654351	0.000125593	0.000609903	0.00133967
%RSD:	80.6413	776.601	73.348	107.633	995.747
Repeat: 1	0.00275649	-0.000600684	0.000265523	0.000133079	0.00161721
Repeat: 2	0.0517495	-0.0003037	2.86614e-005	-0.000847466	-0.00022472
Repeat: 3	0.0419089	0.000651609	0.000219502	-0.000985559	-0.000988876
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-2.58025e-005	5.61617e-005	6271.84	164798	11947.3
Std Dev:	0.000156644	0.000101254	21.5806	791.223	54.797
%RSD:	607.089	180.29	0.344088	0.480116	0.458656
Repeat: 1	0.000131786	0.00017298	6246.95	164484	11921.1
Repeat: 2	-0.000181486	-6.42126e-006	6283.2	164212	11910.5
Repeat: 3	-2.77076e-005	1.92625e-006	6285.36	165698	12010.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6271.84	164798	11947.3
Std Dev:	21.5806	791.223	54.797
%RSD:	0.344088	0.480116	0.458656
Repeat: 1	6246.95	164484	11921.1
Repeat: 2	6283.2	164212	11910.5
Repeat: 3	6285.36	165698	12010.3

Sample Name	Acquisition Date	Analyst Name	Method Name
ICSA	10/12/2016 10:37:37AM	kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1282.93	112229	221.11	1366.28	2461.13
Std Dev:	6.71992	479.703	0.624757	6.44113	9.39298
%RSD:	0.523793	0.427431	0.282555	0.471437	0.381653
Repeat: 1	1283.01	111689	220.59	1372.11	2471.02
Repeat: 2	1276.18	112603	220.936	1367.36	2460.06
Repeat: 3	1289.62	112396	221.803	1359.36	2452.32
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1263.46	706334	592.938	442.237	771.135
Std Dev:	1.54579	2002.17	0.328078	0.633317	3.50657
%RSD:	0.122345	0.283459	0.0553309	0.143207	0.454729
Repeat: 1	1265.11	704466	592.89	441.807	772.138
Repeat: 2	1262.04	708448	593.288	442.965	767.236
Repeat: 3	1263.24	706089	592.637	441.94	774.031
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1577.41	162590	4704.54	4863.25	57458.7
Std Dev:	7.52878	677.795	25.3876	14.0965	214.798
%RSD:	0.477289	0.416873	0.539641	0.289857	0.37383
Repeat: 1	1572.15	161847	4733.21	4871.88	57229.6
Repeat: 2	1574.04	163175	4684.91	4846.98	57655.5
Repeat: 3	1586.03	162749	4695.49	4870.89	57491.2
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	788.323	319.553	601.151	4773.86	504.323
Std Dev:	6.04458	0.410874	0.894661	4.7243	1.19918
%RSD:	0.766763	0.128578	0.148825	0.0989619	0.23778
Repeat: 1	793.777	319.691	600.64	4778.73	503.465
Repeat: 2	789.369	319.877	600.63	4773.55	505.694
Repeat: 3	781.825	319.091	602.184	4769.3	503.812
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	104.215	487.935	601.29	449.717	249.093
Std Dev:	0.330967	0.788223	2.09345	0.907266	0.390292
%RSD:	0.317582	0.161543	0.34816	0.201742	0.156685
Repeat: 1	104.591	487.036	600.764	449.417	249.544
Repeat: 2	103.969	488.509	599.509	450.736	248.871
Repeat: 3	104.085	488.259	603.596	448.997	248.864
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	176.002	223.904	1884.15	421.759	153.792
Std Dev:	1.74819	0.396129	8.33118	4.82444	0.251926
%RSD:	0.993278	0.176919	0.442172	1.14389	0.16381
Repeat: 1	175.745	223.482	1893.41	421.797	153.888
Repeat: 2	177.864	223.96	1877.27	426.565	153.506
Repeat: 3	174.397	224.269	1881.76	416.916	153.981
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1495.36	593.293	6118.5	152704	12239.2
Std Dev:	7.18782	1.49139	6.09935	393.695	112.619
%RSD:	0.480674	0.251374	0.099687	0.257817	0.920147
Repeat: 1	1488.58	591.577	6112.83	152287	12110.7

Repeat: 2	1502.9	594.027	6124.95	153070	12320.9
Repeat: 3	1494.6	594.276	6117.73	152753	12285.9

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00134918	496.942	0.00258322	0.045855	0.000144219
Std Dev:	0.000372523	2.88842	0.00115696	0.00135953	0.000234743
%RSD:	27.611	0.581239	44.7875	2.96485	162.769
Repeat: 1	-0.00157857	500.277	0.00130218	0.0473382	0.000340618
Repeat: 2	-0.00154962	495.276	0.00289547	0.0446679	0.000207805
Repeat: 3	-0.000919355	495.273	0.00355201	0.045559	-0.000115767
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000336233	466.909	0.00172662	-0.000990803	-0.00445228
Std Dev:	5.64652e-006	3.59358	7.72944e-005	0.000155101	0.000203342
%RSD:	1.67935	0.769653	4.47664	15.6541	4.56714
Repeat: 1	-0.000330619	471.036	0.0016526	-0.00107054	-0.00428068
Repeat: 2	-0.000341912	465.217	0.00172045	-0.00108982	-0.00439929
Repeat: 3	-0.000336169	464.473	0.00180681	-0.000812055	-0.00467687
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00104922	186.092	0.0442673	0.00760541	499.372
Std Dev:	0.00021634	1.12432	0.00921515	0.000933509	3.3266
%RSD:	20.6192	0.604177	20.8171	12.2743	0.666157
Repeat: 1	0.00129831	187.387	0.0530929	0.00675273	503.199
Repeat: 2	0.000940966	185.518	0.0450023	0.00746066	497.736
Repeat: 3	0.000908369	185.37	0.0347066	0.00860284	497.18
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00699019	-0.00203969	0.448243	0.0403788	0.000308182
Std Dev:	0.000107967	0.000151824	0.635419	0.00575458	0.000355414
%RSD:	1.54454	7.44346	141.758	14.2515	115.326
Repeat: 1	-0.00699406	-0.00191519	0.463404	0.0388468	-4.70587e-005
Repeat: 2	-0.00688035	-0.00199505	1.07595	0.0467443	0.000663769
Repeat: 3	-0.00709618	-0.00220883	-0.19462	0.0355453	0.000307837
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00141348	0.0114833	-0.0022559	0.00969068	-0.00306766
Std Dev:	0.00074957	0.000686384	0.00208754	0.00231305	0.00222654
%RSD:	53.03	5.97721	92.5368	23.8689	72.5812
Repeat: 1	0.00224521	0.0120677	-0.00331508	0.00863541	-0.000654406
Repeat: 2	0.00120507	0.0116549	-0.00360153	0.0123432	-0.00504218
Repeat: 3	0.000790178	0.0107275	0.000148902	0.00809345	-0.0035064
QC Status Pass/Fail:	Pass	Fail	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0785647	-0.00143847	0.00465628	0.0043264	-0.00549851
Std Dev:	0.0197116	0.000373032	2.80946e-006	0.00133143	0.00270469

%RSD:	25.0897	25.9326	0.060337	30.7746	49.1895
Repeat: 1	0.0736862	-0.00183208	0.00465637	0.00377654	-0.00344771
Repeat: 2	0.100258	-0.00139318	0.00465904	0.0058447	-0.00448405
Repeat: 3	0.0617505	-0.00109015	0.00465342	0.00335797	-0.00856376
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000109542	0.00268949	5722.07	149743	11341.4
Std Dev:	0.000524302	0.000230877	7.14144	386.768	113.077
%RSD:	478.632	8.58444	0.124805	0.258288	0.997034
Repeat: 1	-0.000323136	0.00242329	5715.21	149334	11211.3
Repeat: 2	0.000692603	0.00280997	5729.46	150103	11416.2
Repeat: 3	-4.08415e-005	0.0028352	5721.56	149792	11396.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5722.07	149743	11341.4
Std Dev:	7.14144	386.768	113.077
%RSD:	0.124805	0.258288	0.997034
Repeat: 1	5715.21	149334	11211.3
Repeat: 2	5729.46	150103	11416.2
Repeat: 3	5721.56	149792	11396.6

Sample Name	**Acquisition Date**
ICSAB	10/12/2016 10:42:42AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	3984.59	56974.6	200.171	6374.05	27309.8
Std Dev:	10.3139	326.92	1.32694	27.0173	176.287
%RSD:	0.258844	0.573799	0.662901	0.423865	0.645507
Repeat: 1	3987.1	56690	200.553	6364.53	27189.6
Repeat: 2	3973.26	56902.2	198.695	6353.08	27227.7
Repeat: 3	3993.42	57331.7	201.265	6404.54	27512.2
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	208858	363164	11152.9	3888.38	7731.09
Std Dev:	553.264	2967.7	24.1565	11.1116	11.0126
%RSD:	0.2649	0.817179	0.216594	0.285764	0.142445
Repeat: 1	209144	363109	11178.3	3900.87	7730.75
Repeat: 2	208220	366159	11130.2	3879.59	7720.26
Repeat: 3	209210	360224	11150.2	3884.69	7742.27
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	13293.1	84788.9	9392.71	14516.3	29242.7
Std Dev:	91.0417	469.821	8.09685	52.729	162.128
%RSD:	0.684879	0.554107	0.0862036	0.363239	0.554421
Repeat: 1	13343.2	84426.3	9392.84	14463.7	29122.2
Repeat: 2	13188	84620.7	9400.74	14516.2	29179
Repeat: 3	13348.1	85319.7	9384.55	14569.1	29427
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	33012.1	3042.83	652.519	22354.4	4638.49
Std Dev:	133.365	5.19315	4.0783	79.4996	6.29554

%RSD:	0.403989	0.170668	0.625009	0.355633	0.135724
Repeat: 1	33113.6	3047.76	654.388	22293.3	4644.59
Repeat: 2	32861	3037.41	655.327	22325.5	4632.01
Repeat: 3	33061.5	3043.32	647.841	22444.3	4638.87
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	344.54	393.775	478.316	608.394	183.995
Std Dev:	1.36209	4.70761	1.35106	1.87174	0.799314
%RSD:	0.395336	1.19551	0.282463	0.307653	0.434423
Repeat: 1	345.966	394.671	479.768	610.354	184.676
Repeat: 2	343.252	397.97	478.083	606.625	183.115
Repeat: 3	344.404	388.684	477.096	608.203	184.193
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	310.435	1418.97	56467.6	4344.94	141.919
Std Dev:	0.225004	3.09242	417.435	28.3841	0.482677
%RSD:	0.0724801	0.217933	0.739246	0.653268	0.340109
Repeat: 1	310.576	1422.51	56077.7	4321.77	142.295
Repeat: 2	310.555	1416.79	56417	4336.44	142.087
Repeat: 3	310.176	1417.62	56908	4376.6	141.374
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	12195.1	11722.1	6264.49	157593	12308.2
Std Dev:	35.2378	19.2179	7.06699	861.793	87.4702
%RSD:	0.288951	0.163946	0.11281	0.546848	0.710664
Repeat: 1	12202.9	11744.2	6271.75	157820	12233.1
Repeat: 2	12156.6	11709.8	6257.63	156640	12287.4
Repeat: 3	12225.7	11712.2	6264.09	158318	12404.2

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.21013	249.428	0.100803	1.03765	0.502649
Std Dev:	0.000954985	0.39625	0.00194454	0.00247724	0.000498023
%RSD:	0.454473	0.158864	1.92905	0.238735	0.0990796
Repeat: 1	0.211188	249.771	0.101358	1.03484	0.503086
Repeat: 2	0.209332	249.519	0.0986412	1.03951	0.502107
Repeat: 3	0.209871	248.994	0.10241	1.0386	0.502755
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.513676	238.305	0.978311	0.486658	0.49335
Std Dev:	0.00161256	3.41386	0.00133175	0.000988461	0.00156776
%RSD:	0.313926	1.43256	0.136128	0.203112	0.317779
Repeat: 1	0.513587	239.819	0.979741	0.487799	0.493115
Repeat: 2	0.515331	240.7	0.977106	0.486053	0.495022
Repeat: 3	0.51211	234.396	0.978084	0.486123	0.491913
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.511006	96.3184	10.5308	1.03092	251.193
Std Dev:	0.00158914	0.21536	0.0374753	0.00250058	0.599607
%RSD:	0.310983	0.223591	0.355865	0.242557	0.238704
Repeat: 1	0.512438	96.5447	10.5402	1.02842	251.826
Repeat: 2	0.509296	96.2945	10.5626	1.03342	251.119
Repeat: 3	0.511285	96.1159	10.4894	1.03093	250.633

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.492885	1.01679	10.5096	10.2842	0.975911
Std Dev:	0.00147626	0.000978927	0.455966	0.0181333	0.000695688
%RSD:	0.299515	0.0962762	4.33859	0.176323	0.071286
Repeat: 1	0.493729	1.01738	10.2239	10.3006	0.976566
Repeat: 2	0.493746	1.01566	11.0354	10.2871	0.975181
Repeat: 3	0.491181	1.01734	10.2694	10.2647	0.975985
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.972737	0.0565625	0.0480842	0.606972	0.0500483
Std Dev:	0.00366952	0.00621878	0.00222897	0.00163514	0.00241255
%RSD:	0.377236	10.9945	4.63555	0.269393	4.82044
Repeat: 1	0.976793	0.0596628	0.0495144	0.60815	0.0527479
Repeat: 2	0.969648	0.0606216	0.0492222	0.605105	0.0481031
Repeat: 3	0.971769	0.049403	0.0455159	0.607661	0.0492939
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.07752	0.972544	0.986596	0.999594	0.092356
Std Dev:	0.0140642	0.00155106	0.000905349	0.000712842	0.00200649
%RSD:	1.30524	0.159485	0.0917649	0.0713132	2.17256
Repeat: 1	1.08502	0.974325	0.985888	1.00037	0.092037
Repeat: 2	1.08625	0.971813	0.987616	0.999448	0.0945029
Repeat: 3	1.0613	0.971493	0.986285	0.998965	0.0905282
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.496124	1.00904	5912.65	154746	11420.3
Std Dev:	0.000455361	0.000905963	5.26475	874.093	87.7209
%RSD:	0.0917837	0.0897847	0.089042	0.564855	0.768117
Repeat: 1	0.496111	1.01002	5918.1	154985	11344.1
Repeat: 2	0.496586	1.00886	5907.6	153778	11400.5
Repeat: 3	0.495676	1.00824	5912.25	155476	11516.2
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5912.65	154746	11420.3
Std Dev:	5.26475	874.093	87.7209
%RSD:	0.089042	0.564855	0.768117
Repeat: 1	5918.1	154985	11344.1
Repeat: 2	5907.6	153778	11400.5
Repeat: 3	5912.25	155476	11516.2

Sample Name	**Acquisition Date**
CRDL01	10/12/2016 10:47:36AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**

Avg. of Repeats:	1362.83	513.66	77.9488	2236.29	3119.95
Std Dev:	1.43719	1.2804	0.753212	3.28517	1.7327
%RSD:	0.105456	0.249269	0.966292	0.146902	0.055536
Repeat: 1	1362.03	512.627	77.2116	2234.76	3118.14
Repeat: 2	1364.49	513.26	77.9177	2240.06	3120.14
Repeat: 3	1361.97	515.093	78.717	2234.05	3121.59
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	3260.48	8481.32	260.243	674.42	747.153
Std Dev:	6.49193	10.5341	0.959448	1.58115	1.93178
%RSD:	0.19911	0.124203	0.368674	0.234446	0.258552
Repeat: 1	3254.1	8481.58	259.159	672.615	745.053
Repeat: 2	3267.08	8491.72	260.585	675.087	747.553
Repeat: 3	3260.27	8470.66	260.985	675.56	748.854
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	2098.71	215.051	7205.66	5606.67	749.318
Std Dev:	13.2728	1.377	6.10895	16.1415	0.677718
%RSD:	0.632425	0.640313	0.0847798	0.287898	0.0904446
Repeat: 1	2096.79	216.46	7208.13	5603.01	748.603
Repeat: 2	2112.84	213.709	7198.7	5592.67	749.402
Repeat: 3	2086.51	214.983	7210.15	5624.33	749.95
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	1495.81	208.524	638.173	13604.6	497.131
Std Dev:	6.07218	0.798537	3.41106	14.8288	0.184885
%RSD:	0.405947	0.382947	0.534504	0.108998	0.0371903
Repeat: 1	1489.66	208.167	641.445	13614.4	497.329
Repeat: 2	1501.8	209.439	638.435	13611.9	497.102
Repeat: 3	1495.96	207.967	634.638	13587.6	496.962
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	130.707	193.352	229.975	156.442	81.4571
Std Dev:	0.64489	0.417658	1.24178	0.670417	0.339293
%RSD:	0.493387	0.216009	0.539962	0.428541	0.416529
Repeat: 1	131.108	193.334	228.584	155.689	81.0685
Repeat: 2	129.963	193.779	230.971	156.974	81.6946
Repeat: 3	131.048	192.944	230.371	156.661	81.608
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	216.844	216.458	4413.2	561.306	54.9294
Std Dev:	1.16275	0.571686	16.3816	2.36144	0.31898
%RSD:	0.536213	0.26411	0.371195	0.420705	0.580709
Repeat: 1	215.612	215.801	4394.99	558.595	54.976
Repeat: 2	216.999	216.84	4417.9	562.413	54.5897
Repeat: 3	217.922	216.733	4426.73	562.911	55.2225
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1729.44	469.265	6529.26	165595	12553.5
Std Dev:	6.05072	1.10482	11.8949	835.493	13.516
%RSD:	0.349866	0.235436	0.182178	0.504539	0.107667
Repeat: 1	1729.86	468.039	6516.15	166081	12546.5
Repeat: 2	1735.27	469.571	6539.38	164631	12569
Repeat: 3	1723.19	470.184	6532.24	166075	12544.9

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00958617	0.205137	0.00977823	0.225219	0.0104656

Std Dev:	0.0010923	0.0061185	0.00170931	0.00138064	9.56e-005
%RSD:	11.3945	2.98264	17.4808	0.61302	0.913469
Repeat: 1	0.0101096	0.207356	0.00873407	0.225161	0.010502
Repeat: 2	0.00833066	0.198218	0.00884977	0.226628	0.0105377
Repeat: 3	0.0103183	0.209836	0.0117508	0.223869	0.0103572
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00517625	5.07103	0.00510452	0.050522	0.0100283
Std Dev:	3.10487e-005	0.00501781	2.1487e-005	8.76327e-005	0.000416957
%RSD:	0.599829	0.0989505	0.42094	0.173455	4.1578
Repeat: 1	0.00514979	5.07677	0.00509537	0.0505689	0.0103597
Repeat: 2	0.00521043	5.06883	0.00508913	0.0505761	0.00956016
Repeat: 3	0.00516854	5.06748	0.00512907	0.0504208	0.0101651
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0253617	0.116704	5.0182	0.048736	4.945
Std Dev:	0.000245972	0.000678255	0.0225154	0.00206681	0.00290129
%RSD:	0.969855	0.581178	0.448675	4.24082	0.0586711
Repeat: 1	0.0254409	0.116653	5.01985	0.0470859	4.94199
Repeat: 2	0.0255583	0.116052	4.9949	0.0480678	4.94523
Repeat: 3	0.0250859	0.117406	5.03984	0.0510542	4.94778
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0154515	0.0394591	5.88861	4.95095	0.0407089
Std Dev:	0.000115732	0.000399447	0.930675	0.010376	0.000328654
%RSD:	0.749007	1.01231	15.8047	0.209577	0.807327
Repeat: 1	0.0153635	0.0394754	6.37159	4.95898	0.0410366
Repeat: 2	0.0155826	0.0398501	6.4785	4.95464	0.0407109
Repeat: 3	0.0154083	0.0390517	4.81573	4.93924	0.0403793
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.305608	0.0116554	0.0096938	0.0588268	0.0109222
Std Dev:	0.0026949	0.000843149	0.000479679	0.000713005	0.00126586
%RSD:	0.881816	7.23399	4.9483	1.21204	11.5898
Repeat: 1	0.308564	0.0124682	0.00916345	0.0581635	0.0100084
Repeat: 2	0.303288	0.0107849	0.0100973	0.0595808	0.0123671
Repeat: 3	0.304973	0.011713	0.00982062	0.0587362	0.0103912
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.521774	0.101926	0.0486475	0.0490928	0.00954274
Std Dev:	0.0107943	0.000115567	0.000261593	0.000726002	0.00261694
%RSD:	2.06877	0.113383	0.537731	1.47884	27.4233
Repeat: 1	0.509369	0.102036	0.0483556	0.0483789	0.0101915
Repeat: 2	0.526926	0.101805	0.0487262	0.0490692	0.00666247
Repeat: 3	0.529027	0.101937	0.0488607	0.0498303	0.0117743
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----

Avg. of Repeats:	0.0249292	0.0245733	6262.62	162913	11673.9
Std Dev:	0.000153631	3.8038e-005	10.4123	856.317	12.9157
%RSD:	0.616271	0.154794	0.166261	0.525628	0.110638
Repeat: 1	0.0251006	0.0245383	6251.5	163394	11666.5
Repeat: 2	0.0248832	0.0245677	6272.14	161924	11688.8
Repeat: 3	0.0248038	0.0246138	6264.23	163420	11666.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6262.62	162913	11673.9
Std Dev:	10.4123	856.317	12.9157
%RSD:	0.166261	0.525628	0.110638
Repeat: 1	6251.5	163394	11666.5
Repeat: 2	6272.14	161924	11688.8
Repeat: 3	6264.23	163420	11666.3

Sample Name	**Acquisition Date**
CCV	10/12/2016 10:52:34AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	14497.6	6193.75	332.462	11724.5	101932
Std Dev:	112.789	18.3013	0.662746	27.4419	315.945
%RSD:	0.777984	0.29548	0.199345	0.234057	0.309957
Repeat: 1	14578.4	6172.75	331.995	11718.2	101573
Repeat: 2	14545.5	6202.22	333.22	11754.5	102053
Repeat: 3	14368.7	6206.28	332.17	11700.7	102169
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	853773	78028.1	6003.18	15323.9	30062.2
Std Dev:	5580.87	234.872	8.40896	13.0196	31.8099
%RSD:	0.653672	0.30101	0.140075	0.0849628	0.105814
Repeat: 1	853607	77762.6	6001.39	15321.3	30025.5
Repeat: 2	859435	78208.9	5995.81	15312.4	30080.3
Repeat: 3	848276	78112.8	6012.34	15338	30080.8
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	48669.8	22337	26568.5	23819.5	5982.49
Std Dev:	172.163	103.079	84.3995	82.9974	12.1728
%RSD:	0.353738	0.461473	0.317667	0.348443	0.203475
Repeat: 1	48748.6	22218.3	26475.1	23726.1	5969.02
Repeat: 2	48788.5	22403.1	26591.4	23884.6	5985.74
Repeat: 3	48472.3	22389.8	26639.2	23847.9	5992.7
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	136847	5896.75	817.965	90598.2	9450.9
Std Dev:	237.006	12.6663	2.63622	355.59	5.35004
%RSD:	0.17319	0.214801	0.322291	0.392492	0.0566087
Repeat: 1	136609	5899.48	821.007	90187.7	9451.03
Repeat: 2	136849	5882.95	816.527	90795.2	9445.49
Repeat: 3	137083	5907.84	816.36	90811.7	9456.19
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	617.052	716.093	807.592	438.343	233.068
Std Dev:	0.630293	3.33666	1.17998	0.841794	0.696073

%RSD:	0.102146	0.465954	0.146111	0.19204	0.298657
Repeat: 1	616.474	716.437	808.596	438.534	232.335
Repeat: 2	616.96	712.597	807.886	437.422	233.72
Repeat: 3	617.724	719.244	806.292	439.072	233.149
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	442.257	2809.52	113236	8369.8	425.828
Std Dev:	1.0085	2.4615	559.75	41.6982	0.524196
%RSD:	0.228034	0.0876131	0.494321	0.498198	0.1231
Repeat: 1	443.334	2811.47	112607	8321.86	425.256
Repeat: 2	442.101	2806.75	113423	8389.94	425.942
Repeat: 3	441.335	2810.32	113679	8397.61	426.286
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	46279.3	23468.2	6437.31	163554	12498.5
Std Dev:	78.9994	42.0006	24.6488	256.393	65.9948
%RSD:	0.170701	0.178968	0.382905	0.156763	0.52802
Repeat: 1	46304.3	23440.3	6410.3	163647	12422.5
Repeat: 2	46342.8	23447.7	6443.04	163751	12541.4
Repeat: 3	46190.8	23516.5	6458.59	163265	12531.6

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.992189	24.7071	0.496813	2.01743	1.9805
Std Dev:	0.00612701	0.0822658	0.000512573	0.00234591	0.00641755
%RSD:	0.617524	0.332964	0.103172	0.116282	0.324036
Repeat: 1	0.996794	24.7857	0.497134	2.0154	1.98666
Repeat: 2	0.994539	24.6216	0.497083	2.02	1.97385
Repeat: 3	0.985235	24.714	0.496222	2.01689	1.981
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.03185	49.9501	0.505386	2.01748	1.99831
Std Dev:	0.010157	0.139403	0.00166896	0.00756432	0.00441174
%RSD:	0.499892	0.279085	0.330234	0.374939	0.220774
Repeat: 1	2.03013	50.1083	0.507309	2.02607	1.99504
Repeat: 2	2.04275	49.8452	0.504312	2.01455	1.99657
Repeat: 3	2.02266	49.8967	0.504538	2.01182	2.00333
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.97243	24.8521	49.3933	1.98544	49.2624
Std Dev:	0.0044268	0.0359654	0.180753	0.0034074	0.233457
%RSD:	0.224434	0.144718	0.365946	0.17162	0.473905
Repeat: 1	1.97434	24.8866	49.5344	1.98937	49.5091
Repeat: 2	1.97558	24.8148	49.1895	1.98358	49.045
Repeat: 3	1.96737	24.855	49.4559	1.98336	49.233
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.0108	2.01285	50.5102	49.4884	2.03464
Std Dev:	0.00627769	0.00871154	0.982063	0.108073	0.00783163
%RSD:	0.312198	0.432797	1.94429	0.21838	0.384915
Repeat: 1	2.00642	2.02282	51.5409	49.5875	2.04349

Repeat: 2	2.008	2.00674	49.5854	49.3731	2.0318
Repeat: 3	2.018	2.00898	50.4042	49.5045	2.02862
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.98828	0.503142	0.50511	0.500603	0.497865
Std Dev:	0.00523115	0.00294926	0.00346958	0.00148325	0.00165581
%RSD:	0.263099	0.586169	0.686894	0.296292	0.332583
Repeat: 1	1.99424	0.502412	0.508181	0.502307	0.497768
Repeat: 2	1.98621	0.500627	0.505804	0.499601	0.499567
Repeat: 3	1.98441	0.506388	0.501346	0.499901	0.49626
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.01887	2.0245	1.974	1.98459	1.0125
Std Dev:	0.0220001	0.00929312	0.00499126	0.00360738	0.00249729
%RSD:	1.08972	0.459032	0.25285	0.18177	0.246646
Repeat: 1	2.04367	2.03509	1.97624	1.98494	1.01529
Repeat: 2	2.0017	2.02074	1.96828	1.98082	1.0117
Repeat: 3	2.01124	2.01768	1.97748	1.98801	1.01049
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	1.98622	1.99818	6115.61	160823	11617.4
Std Dev:	0.000391291	0.0055267	24.7994	268.606	68.3972
%RSD:	0.0197003	0.276587	0.40551	0.16702	0.588747
Repeat: 1	1.98583	2.00455	6088.98	160902	11540.2
Repeat: 2	1.98662	1.99513	6119.79	161043	11670.5
Repeat: 3	1.98622	1.99484	6138.05	160524	11641.5
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6115.61	160823	11617.4
Std Dev:	24.7994	268.606	68.3972
%RSD:	0.40551	0.16702	0.588747
Repeat: 1	6088.98	160902	11540.2
Repeat: 2	6119.79	161043	11670.5
Repeat: 3	6138.05	160524	11641.5

Sample Name	**Acquisition Date**
CCB	10/12/2016 10:57:28AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1217.62	465.811	71.0796	1211.1	2596.1
Std Dev:	5.91815	2.69187	0.107987	4.4202	6.11954
%RSD:	0.486041	0.577889	0.151923	0.364974	0.235721
Repeat: 1	1218.79	466.7	71.1746	1207.02	2589.33
Repeat: 2	1222.87	467.946	71.1021	1210.48	2597.71
Repeat: 3	1211.21	462.787	70.9622	1215.8	2601.25
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**

Avg. of Repeats:	1045.05	564.833	195.586	285.3	590.541
Std Dev:	1.82418	1.36573	0.506894	0.910881	1.18258
%RSD:	0.174553	0.241794	0.259167	0.319271	0.200254
Repeat: 1	1046.57	564.307	195.013	285.358	590.297
Repeat: 2	1045.56	563.809	195.769	286.181	591.827
Repeat: 3	1043.03	566.384	195.975	284.362	589.499
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1460.12	108.746	4950.6	5112.99	161.655
Std Dev:	3.43841	0.216673	15.7652	12.6032	1.41457
%RSD:	0.235488	0.199247	0.318449	0.246494	0.875054
Repeat: 1	1458.42	108.973	4932.4	5098.7	161.117
Repeat: 2	1464.08	108.724	4959.47	5117.75	163.26
Repeat: 3	1457.87	108.541	4959.94	5122.53	160.589
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	422.13	91.1355	609.393	5044.96	306.459
Std Dev:	4.39424	0.364513	1.76279	2.60046	0.921139
%RSD:	1.04097	0.399968	0.289269	0.0515457	0.300575
Repeat: 1	426.855	91.4769	610.07	5041.97	306.945
Repeat: 2	418.165	91.178	610.718	5046.71	305.397
Repeat: 3	421.37	90.7516	607.393	5046.2	307.036
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	40.6782	180.515	214.834	121.677	76.8731
Std Dev:	0.200211	0.373876	1.02227	0.741243	0.405834
%RSD:	0.492183	0.207117	0.475842	0.60919	0.527928
Repeat: 1	40.6912	180.345	215.841	122	76.5948
Repeat: 2	40.8715	180.256	214.863	120.829	76.6858
Repeat: 3	40.4717	180.943	213.797	122.201	77.3388
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	144.014	74.7412	1642.17	359.925	50.0511
Std Dev:	0.866633	0.455048	2.63356	2.01501	0.276034
%RSD:	0.601769	0.608832	0.160371	0.55984	0.551505
Repeat: 1	144.616	75.263	1639.38	360.07	49.9334
Repeat: 2	143.021	74.427	1644.62	361.864	49.8534
Repeat: 3	144.406	74.5336	1642.51	357.842	50.3665
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1137.39	172.297	6528.44	166155	12592.6
Std Dev:	4.58792	0.239381	17.9393	721.701	53.2794
%RSD:	0.403373	0.138935	0.274786	0.434355	0.423102
Repeat: 1	1142.55	172.02	6510.25	165592	12652.3
Repeat: 2	1135.84	172.441	6546.12	165903	12550.1
Repeat: 3	1133.78	172.428	6528.95	166969	12575.2

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-8.31363e-005	0.00601145	-0.000692255	0.0352449	0.000122962
Std Dev:	0.00013147	0.0129269	5.7628e-005	0.000344696	0.000108381
%RSD:	158.138	215.038	8.32468	0.978002	88.1421
Repeat: 1	-7.41775e-005	0.0106407	-0.000636128	0.0348712	1.89764e-006
Repeat: 2	4.36251e-005	0.0159863	-0.00068936	0.0353134	0.000156034
Repeat: 3	-0.000218857	-0.00859271	-0.000751275	0.0355503	0.000210955
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	9.29756e-006	-0.000447009	-8.6141e-005	0.000129094	6.33132e-005
Std Dev:	1.17941e-005	0.00167775	2.84211e-005	0.000158045	3.55932e-005
%RSD:	126.852	375.327	32.9937	122.427	56.2175
Repeat: 1	2.02685e-005	-0.00125973	-0.000116153	0.00012405	3.29357e-005
Repeat: 2	-3.17577e-006	-0.00156362	-5.96367e-005	0.000289601	0.000102477
Repeat: 3	1.08e-005	0.00148233	-8.2633e-005	-2.63688e-005	5.45275e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000233995	0.000112904	-0.00353279	-0.000174562	-0.00923592
Std Dev:	0.000328093	0.000852879	0.00504267	0.0010143	0.00603621
%RSD:	140.214	755.404	142.739	581.056	65.3558
Repeat: 1	-0.000442554	0.000862838	1.89894e-005	-0.00115736	-0.00857771
Repeat: 2	-0.000403618	-0.000814875	-0.00131279	-0.000234873	-0.0035558
Repeat: 3	0.000144187	0.000290748	-0.00930457	0.00086855	-0.0155743
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.13464e-005	0.000452323	1.51937	0.0202899	0.000154369
Std Dev:	0.000110941	0.000179067	0.366933	0.00466815	5.0231e-005
%RSD:	977.764	39.5884	24.1504	23.0072	32.5396
Repeat: 1	0.000110997	0.000445488	1.84914	0.0191885	0.000188473
Repeat: 2	-0.000105411	0.00063471	1.58486	0.0254103	9.66864e-005
Repeat: 3	-3.96244e-005	0.000276771	1.1241	0.016271	0.000177948
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000255322	0.00136905	0.000587793	6.77396e-005	0.00193976
Std Dev:	0.00143294	0.00274056	0.00188492	0.00210259	0.00175459
%RSD:	561.23	200.18	320.679	3103.93	90.4536
Repeat: 1	0.00035476	0.00123686	0.00102818	0.00195145	0.000501048
Repeat: 2	0.00163596	-0.00130303	0.00221354	-0.00220062	0.00142375
Repeat: 3	-0.00122475	0.00417331	-0.00147834	0.000452386	0.00389449
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0336538	7.3959e-005	0.00011334	-0.000635008	-0.000174229
Std Dev:	0.00388728	0.00032472	6.91653e-005	0.00113384	0.00201601
%RSD:	11.5508	439.054	61.0247	178.556	1157.1
Repeat: 1	0.0371168	0.000375305	0.000159694	-0.000703538	0.00104015
Repeat: 2	0.0343955	-0.000269939	0.000146486	0.000531548	-0.00250138
Repeat: 3	0.0294491	0.000116511	3.38395e-005	-0.00173303	0.00093854
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	6.3383e-005	2.76253e-005	6267.07	163469	11724.2
Std Dev:	0.000167768	3.85748e-005	17.5796	727.057	54.4595
%RSD:	264.689	139.636	0.280507	0.444768	0.464504
Repeat: 1	0.000256201	-1.45808e-005	6249.27	162913	11783.2
Repeat: 2	-4.92121e-005	3.63993e-005	6284.42	163202	11675.9
Repeat: 3	-1.68395e-005	6.10574e-005	6267.54	164292	11713.5
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	6267.07	163469	11724.2
Std Dev:	17.5796	727.057	54.4595
%RSD:	0.280507	0.444768	0.464504
Repeat: 1	6249.27	162913	11783.2
Repeat: 2	6284.42	163202	11675.9
Repeat: 3	6267.54	164292	11713.5

Sample Name	Acquisition Date
M9A0VB	10/12/2016 11:02:31AM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1196.74	463.677	71.2592	1282.25	2583.18
Std Dev:	13.7595	0.765533	0.493296	21.226	22.0992
%RSD:	1.14975	0.1651	0.692256	1.65537	0.855505
Repeat: 1	1181.98	462.837	70.835	1261.72	2560.54
Repeat: 2	1199.04	463.858	71.8005	1280.93	2584.3
Repeat: 3	1209.21	464.336	71.1421	1304.11	2604.7
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1022.63	601.731	195.775	283.658	599.253
Std Dev:	6.7593	5.26513	1.62494	2.97778	3.61037
%RSD:	0.660975	0.874998	0.830001	1.04977	0.602478
Repeat: 1	1015.91	596.753	193.914	280.25	595.252
Repeat: 2	1029.43	601.196	196.91	285.757	602.268
Repeat: 3	1022.54	607.243	196.502	284.968	600.239
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1458.16	112.197	4954.72	5087.02	163.393
Std Dev:	11.0481	1.9877	23.1548	30.1249	1.91587
%RSD:	0.757673	1.77162	0.467328	0.592192	1.17255
Repeat: 1	1450.88	110.639	4930.72	5054.4	164.036
Repeat: 2	1452.74	111.515	4956.53	5092.87	164.905
Repeat: 3	1470.88	114.436	4976.92	5113.79	161.239
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	500.032	90.9556	610.499	5099.47	307.38
Std Dev:	1.93699	0.435614	4.82497	22.1607	2.24213
%RSD:	0.387372	0.47893	0.790332	0.43457	0.729435
Repeat: 1	499.751	91.0574	605.395	5076.97	304.794
Repeat: 2	498.251	90.4781	611.117	5100.15	308.789
Repeat: 3	502.095	91.3313	614.985	5121.28	308.555
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	67.1698	178.908	213.584	121.088	76.6296
Std Dev:	0.594796	0.883771	1.16013	0.479658	1.08864
%RSD:	0.885511	0.49398	0.543174	0.396123	1.42065
Repeat: 1	66.9397	179.882	212.245	120.562	75.4295
Repeat: 2	67.8453	178.157	214.298	121.501	77.5536
Repeat: 3	66.7244	178.685	214.208	121.202	76.9057
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	145.874	227.544	1639.12	357.37	49.6514
Std Dev:	0.502288	1.16751	10.1649	2.00636	0.815657

%RSD:	0.344331	0.51309	0.620143	0.561424	1.64277
Repeat: 1	146.404	227.487	1628.97	355.644	49.0212
Repeat: 2	145.813	228.739	1639.08	359.571	50.5726
Repeat: 3	145.405	226.406	1649.3	356.893	49.3603
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1123.5	193.689	6379.09	163826	12345.7
Std Dev:	7.40212	1.19513	13.8447	479.199	4.00475
%RSD:	0.658845	0.617039	0.217032	0.292506	0.0324384
Repeat: 1	1121.09	192.409	6363.48	163353	12341.3
Repeat: 2	1117.61	193.881	6383.91	163813	12346.8
Repeat: 3	1131.81	194.776	6389.89	164311	12349.1

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000232396	0.0186584	-0.000241739	0.0511657	0.000291007
Std Dev:	0.000542464	0.00734626	0.00132023	0.00318746	0.000124961
%RSD:	233.423	39.3724	546.14	6.22969	42.9409
Repeat: 1	-0.00028406	0.0212498	-0.000598073	0.0479392	0.000187487
Repeat: 2	-0.000747179	0.0243578	0.00122009	0.0512453	0.000429818
Repeat: 3	0.000334052	0.0103676	-0.00134723	0.0543126	0.000255715
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-2.1505e-006	0.0264064	-2.3626e-005	7.69648e-006	0.00102778
Std Dev:	9.01198e-006	0.000830212	4.07241e-005	0.000122979	0.00028426
%RSD:	419.065	3.14398	172.37	1597.86	27.6578
Repeat: 1	-4.62135e-006	0.0254669	-4.33961e-005	-0.000124163	0.00132294
Repeat: 2	7.83918e-006	0.0267107	2.32091e-005	0.000119273	0.00100456
Repeat: 3	-9.66933e-006	0.0270415	-5.0691e-005	2.79796e-005	0.00075584
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000421715	0.00330686	0.066615	0.00192828	0.00318682
Std Dev:	0.000295809	0.000693242	0.0142184	0.00126026	0.0329308
%RSD:	70.1444	20.9638	21.3442	65.3566	1033.34
Repeat: 1	0.000569762	0.00269489	0.0801337	0.00289854	0.000590221
Repeat: 2	8.11117e-005	0.00316595	0.0679239	0.00238241	0.0373391
Repeat: 3	0.00061427	0.00405973	0.0517874	0.000503896	-0.0283689
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00114106	0.000425	0.974727	0.0749007	0.000480238
Std Dev:	9.48265e-005	0.000196015	1.18018	0.00579855	2.49922e-005
%RSD:	8.31037	46.1213	121.078	7.74165	5.20412
Repeat: 1	0.00122992	0.000610499	-0.385808	0.0758119	0.000452418
Repeat: 2	0.00104122	0.000219936	1.58772	0.0801896	0.000500792
Repeat: 3	0.00115205	0.000444565	1.72227	0.0687005	0.000487503
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0920737	-0.000189787	-0.00127055	0.000599357	0.0024152
Std Dev:	0.00133272	0.00180263	0.00089729	0.00092949	0.00161234

%RSD:	1.44745	949.815	70.6223	155.081	66.7581
Repeat: 1	0.0909244	0.00188826	-0.00106477	0.00165988	0.000953195
Repeat: 2	0.0935346	-0.0011251	-0.00225285	0.000212	0.00414447
Repeat: 3	0.0917622	-0.00133252	-0.000494023	-7.38084e-005	0.00214792
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0566379	0.113533	9.86841e-005	-0.000223034	-0.00157053
Std Dev:	0.0095159	0.00102384	7.5881e-005	0.000882401	0.0012535
%RSD:	16.8013	0.901801	76.8928	395.636	79.8134
Repeat: 1	0.0671559	0.1142	0.000177665	-0.000211486	-0.00150209
Repeat: 2	0.0541323	0.114045	2.6339e-005	0.000653537	-0.00035266
Repeat: 3	0.0486255	0.112354	9.20482e-005	-0.00111115	-0.00285685
QC Status Pass/Fail:	Pass	Fail	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000163125	0.0019837	6117.62	161202	11483.8
Std Dev:	0.00016535	1.76801e-005	12.903	458.313	1.26934
%RSD:	101.364	0.89127	0.210916	0.284309	0.0110532
Repeat: 1	0.000294955	0.00196773	6103.36	160758	11482.8
Repeat: 2	-2.23991e-005	0.00198067	6120.98	161176	11483.5
Repeat: 3	0.000216819	0.0020027	6128.5	161673	11485.2
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6117.62	161202	11483.8
Std Dev:	12.903	458.313	1.26934
%RSD:	0.210916	0.284309	0.0110532
Repeat: 1	6103.36	160758	11482.8
Repeat: 2	6120.98	161176	11483.5
Repeat: 3	6128.5	161673	11485.2

Sample Name	**Acquisition Date**
M9A0VC	10/12/2016 11:07:34AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1833.88	881.818	120.87	5968.58	7122.03
Std Dev:	1.51652	4.24384	0.617677	95.8192	77.3936
%RSD:	0.0826948	0.48126	0.511025	1.60539	1.08668
Repeat: 1	1833.45	877.097	120.191	5864.15	7033.76
Repeat: 2	1835.56	883.04	121.397	5989.13	7154.12
Repeat: 3	1832.62	885.317	121.023	6052.45	7178.23
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	21219.4	71744	742.645	989.888	3330.65
Std Dev:	235.962	1140.13	3.91645	3.96264	28.9115
%RSD:	1.11201	1.58916	0.527365	0.400312	0.868043
Repeat: 1	20972.2	70430.8	738.129	985.705	3299.35
Repeat: 2	21243.9	72319.7	745.121	990.375	3336.26
Repeat: 3	21442.2	72481.5	744.684	993.585	3356.35
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**

Avg. of Repeats:	6818.39	929.508	24503.1	5945.65	1224.99
Std Dev:	76.921	13.4095	354.493	11.9289	14.533
%RSD:	1.12814	1.44264	1.44673	0.200633	1.18638
Repeat: 1	6733.55	914.303	24103.1	5959.05	1208.3
Repeat: 2	6838.05	934.579	24627.5	5936.18	1231.82
Repeat: 3	6883.58	939.643	24778.6	5941.74	1234.85
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	6745.12	1491.05	799.094	83057.8	2415.49
Std Dev:	79.7536	18.7259	3.57167	1396.05	21.2536
%RSD:	1.18239	1.25588	0.446965	1.68081	0.879889
Repeat: 1	6664.1	1469.44	801.838	81476.2	2390.96
Repeat: 2	6747.71	1502.31	800.39	83578.9	2427.06
Repeat: 3	6823.54	1501.41	795.056	84118.4	2428.44
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1344.18	281.611	328.18	368.849	119.693
Std Dev:	21.852	3.23084	1.5918	2.34748	0.189859
%RSD:	1.62568	1.14727	0.485039	0.636434	0.158622
Repeat: 1	1318.94	285.15	328.271	366.16	119.504
Repeat: 2	1356.73	278.819	326.545	369.897	119.691
Repeat: 3	1356.85	280.864	329.725	370.49	119.884
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	781.086	850.108	26845.3	731.199	185.515
Std Dev:	10.0785	7.49351	519.288	4.50933	1.65912
%RSD:	1.29032	0.881478	1.93437	0.616703	0.894329
Repeat: 1	769.926	841.46	26260.7	726.728	183.626
Repeat: 2	783.809	854.166	27022.3	731.123	186.182
Repeat: 3	789.524	854.696	27253	735.746	186.737
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5324.65	5462.43	6288.94	159825	12310.6
Std Dev:	37.1306	72.8648	82.1971	2426.99	206.206
%RSD:	0.697334	1.33393	1.30701	1.51853	1.67503
Repeat: 1	5282.75	5378.37	6194.06	157149	12072.6
Repeat: 2	5337.75	5507.68	6334.16	160440	12424.2
Repeat: 3	5353.46	5501.23	6338.6	161885	12435

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0447134	1.84779	0.0891274	0.957781	0.0921601
Std Dev:	0.000797414	0.0114472	0.00147046	0.00316466	0.000106766
%RSD:	1.78339	0.619506	1.64984	0.330416	0.115848
Repeat: 1	0.0440167	1.85757	0.0876215	0.954353	0.0920608
Repeat: 2	0.0445404	1.8352	0.0905596	0.958398	0.0921464
Repeat: 3	0.0455831	1.8506	0.0892012	0.960592	0.092273
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0490175	46.6691	0.0475654	0.0944805	0.189485
Std Dev:	0.000192132	0.162601	0.000157184	0.000359543	0.000432619
%RSD:	0.391966	0.348413	0.33046	0.380547	0.228313
Repeat: 1	0.0492387	46.8557	0.0477442	0.0948881	0.189973
Repeat: 2	0.048892	46.5937	0.0475028	0.0942085	0.189332
Repeat: 3	0.0489219	46.5579	0.0474491	0.0943449	0.18915

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.227888	0.933142	45.5415	0.0939783	9.172
Std Dev:	1.73741e-005	0.00349645	0.107302	0.000319536	0.0515685
%RSD:	0.00762397	0.374696	0.235614	0.34001	0.562239
Repeat: 1	0.227868	0.935965	45.5716	0.0939043	9.22673
Repeat: 2	0.227896	0.929231	45.4224	0.0937023	9.16493
Repeat: 3	0.2279	0.93423	45.6305	0.0943283	9.12432
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0949547	0.493084	47.3944	45.9031	0.476759
Std Dev:	0.000380135	0.000429383	0.833935	0.111382	0.00105809
%RSD:	0.400333	0.0870809	1.75956	0.242647	0.221934
Repeat: 1	0.0953368	0.4933	47.6313	45.9855	0.477979
Repeat: 2	0.0945766	0.493363	48.0843	45.7764	0.476206
Repeat: 3	0.0949506	0.49259	46.4676	45.9475	0.476092
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.65622	0.0944295	0.0937889	0.458337	0.1371
Std Dev:	0.0154856	0.00477832	0.0014165	0.000384945	0.00246693
%RSD:	0.332579	5.0602	1.51031	0.0839873	1.79936
Repeat: 1	4.63862	0.0989227	0.0923412	0.45794	0.136424
Repeat: 2	4.66776	0.0894096	0.0938535	0.458708	0.139835
Repeat: 3	4.66228	0.094956	0.095172	0.458362	0.135042
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.4486	0.583144	0.453577	0.0931407	0.377022
Std Dev:	0.0155957	0.00232415	0.00144746	0.00029343	0.000336522
%RSD:	0.350576	0.398555	0.319122	0.315039	0.0892578
Repeat: 1	4.46603	0.585827	0.452906	0.0928111	0.377388
Repeat: 2	4.43595	0.581731	0.452586	0.0932376	0.376953
Repeat: 3	4.44383	0.581875	0.455238	0.0933734	0.376726
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.187639	0.462151	6013.47	157101	11424.5
Std Dev:	0.000620415	0.000411448	84.2867	2449.86	220.597
%RSD:	0.330643	0.0890289	1.40163	1.55942	1.93092
Repeat: 1	0.188166	0.462123	5916.18	154405	11170.7
Repeat: 2	0.187795	0.462576	6059.75	157706	11532.4
Repeat: 3	0.186955	0.461755	6064.48	159191	11570.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6013.47	157101	11424.5
Std Dev:	84.2867	2449.86	220.597
%RSD:	1.40163	1.55942	1.93092
Repeat: 1	5916.18	154405	11170.7
Repeat: 2	6059.75	157706	11532.4

Repeat: 3	6064.48	159191	11570.3

Sample Name	**Acquisition Date**
M9C0XB	10/12/2016 11:12:24AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1260.28	480.779	72.896	1422.85	2693.7
Std Dev:	8.67971	0.5085	0.305517	31.7092	12.7967
%RSD:	0.688711	0.105766	0.419114	2.22857	0.475061
Repeat: 1	1250.3	480.708	72.5946	1404.63	2707.43
Repeat: 2	1266.04	480.309	73.2055	1404.46	2682.1
Repeat: 3	1264.51	481.319	72.8878	1459.46	2691.56
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1069.7	581.061	203.198	297.287	608.466
Std Dev:	3.67411	1.60052	0.827396	0.788783	2.34019
%RSD:	0.343472	0.275447	0.407188	0.265327	0.384605
Repeat: 1	1067.05	582.453	203.005	297.315	607.914
Repeat: 2	1068.16	579.312	202.484	296.484	611.033
Repeat: 3	1073.89	581.419	204.104	298.061	606.452
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1499.2	115.014	5119.39	5301.51	167.143
Std Dev:	8.32761	0.767323	13.3432	9.47042	0.609538
%RSD:	0.55547	0.667154	0.260641	0.178636	0.364679
Repeat: 1	1490.21	115.553	5132.45	5312.06	166.451
Repeat: 2	1506.65	115.354	5105.78	5298.7	167.597
Repeat: 3	1500.75	114.136	5119.93	5293.76	167.383
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	441.033	92.1503	633.405	5203.73	314.729
Std Dev:	1.61903	0.555998	2.80476	17.4775	0.763295
%RSD:	0.367099	0.60336	0.442808	0.335864	0.242525
Repeat: 1	439.448	92.6373	636.59	5223.88	313.893
Repeat: 2	442.684	92.2693	631.306	5194.72	315.388
Repeat: 3	440.965	91.5445	632.318	5192.61	314.905
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.573	183.425	220.663	125.256	78.6007
Std Dev:	0.063162	2.02702	0.335457	0.509209	0.476506
%RSD:	0.15193	1.10509	0.152022	0.406533	0.606237
Repeat: 1	41.5245	181.755	220.949	124.727	78.4848
Repeat: 2	41.5501	182.84	220.746	125.742	78.1928
Repeat: 3	41.6445	185.68	220.294	125.3	79.1245
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	148.57	76.1003	1704.91	370.617	50.9659
Std Dev:	1.19781	0.124277	4.11821	1.66643	0.286341
%RSD:	0.806227	0.163306	0.24155	0.449637	0.56183
Repeat: 1	149.95	75.9861	1703.89	372.034	50.673
Repeat: 2	147.807	76.082	1701.4	371.037	51.2452
Repeat: 3	147.952	76.2327	1709.44	368.781	50.9795
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1173.11	176.04	6467.99	162993	12154.5
Std Dev:	6.74788	1.14529	34.9082	951.758	29.3168

%RSD:	0.575213	0.650587	0.539707	0.583927	0.241201
Repeat: 1	1167.62	176.926	6507.28	164062	12175.7
Repeat: 2	1180.64	176.448	6456.17	162676	12121
Repeat: 3	1171.07	174.747	6440.53	162240	12166.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000449167	0.0028587	0.00085426	0.07523	0.000222305
Std Dev:	9.20144e-005	0.0107976	0.0012116	0.00670175	0.000149151
%RSD:	20.4856	377.711	141.83	8.90835	67.0928
Repeat: 1	-0.000532464	-0.00938824	5.92847e-005	0.0707742	0.00032887
Repeat: 2	-0.000350397	0.0110065	0.00224873	0.0719786	5.18524e-005
Repeat: 3	-0.000464639	0.00695782	0.000254762	0.0829372	0.000286193
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	6.25833e-006	0.000450098	5.64951e-005	0.000305706	-0.000229421
Std Dev:	1.12062e-005	0.00113958	3.35985e-005	0.000106898	0.00029705
%RSD:	179.06	253.185	59.4715	34.9676	129.478
Repeat: 1	7.2877e-006	0.00170554	6.68529e-005	0.000351016	6.5524e-005
Repeat: 2	-5.42703e-006	-0.000519024	1.89373e-005	0.000183615	-0.000225253
Repeat: 3	1.69143e-005	0.000163783	8.36951e-005	0.000382486	-0.000528533
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000525364	0.00251663	-0.0241321	-0.000366617	-0.00323839
Std Dev:	8.58277e-005	0.000781707	0.0171604	0.000781038	0.00829317
%RSD:	16.3368	31.0617	71.1103	213.039	256.09
Repeat: 1	-0.000624444	0.00285442	-0.0300541	-0.00126516	-0.0128082
Repeat: 2	-0.000473886	0.00307265	-0.0375472	1.56504e-005	0.00184794
Repeat: 3	-0.000477762	0.00162283	-0.004795	0.000149656	0.0012451
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.6506e-005	2.25685e-005	0.541422	0.00227802	-8.76e-005
Std Dev:	2.78113e-005	0.000193673	0.741749	0.00677787	0.000145498
%RSD:	49.2183	858.155	137	297.534	166.093
Repeat: 1	3.43594e-005	5.10487e-005	1.27223	0.00984261	-0.000252188
Repeat: 2	8.77192e-005	0.000200424	-0.210804	-0.00324271	2.38952e-005
Repeat: 3	4.74394e-005	-0.000183767	0.56284	0.000234154	-3.45075e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000396465	-0.00153286	-0.00171902	-8.10674e-005	0.0010373
Std Dev:	0.00192956	0.00229251	0.00101706	0.000924991	0.00208844
%RSD:	486.691	149.558	59.1651	1141.01	201.334
Repeat: 1	-0.000463548	-0.0019104	-0.00231274	-0.000191242	0.000143228
Repeat: 2	-0.000953549	-0.00361317	-0.000544645	0.000894076	-0.000455268
Repeat: 3	0.00260649	0.000924987	-0.00229967	-0.000946037	0.00342394
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm

Avg. of Repeats:	0.0363411	-0.000381435	9.61482e-005	-7.72202e-005	0.000987329
Std Dev:	0.00815241	0.000121966	0.000151468	0.000356344	0.00116528
%RSD:	22.433	31.9757	157.536	461.464	118.023
Repeat: 1	0.0445902	-0.000522249	-6.46974e-005	-0.000450933	-0.000286022
Repeat: 2	0.0282889	-0.000308975	0.000117081	0.000258749	0.00200058
Repeat: 3	0.0361441	-0.000313079	0.000236061	-3.94763e-005	0.00124743
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-9.26552e-005	-1.81931e-005	6199	160241	11247.5
Std Dev:	0.000261814	0.000112862	35.3994	967.441	39.1972
%RSD:	282.568	620.359	0.57105	0.603742	0.348498
Repeat: 1	-0.000126829	4.46356e-005	6238.55	161330	11273.7
Repeat: 2	0.000184568	4.9273e-005	6188.16	159911	11202.4
Repeat: 3	-0.000335704	-0.000148488	6170.28	159481	11266.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6199	160241	11247.5
Std Dev:	35.3994	967.441	39.1972
%RSD:	0.57105	0.603742	0.348498
Repeat: 1	6238.55	161330	11273.7
Repeat: 2	6188.16	159911	11202.4
Repeat: 3	6170.28	159481	11266.3

Sample Name	**Acquisition Date**
M9C0XC	10/12/2016 11:17:28AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1928.29	928.42	128.543	6773.29	7522.96
Std Dev:	3.56087	2.8646	0.266414	23.2521	28.7626
%RSD:	0.184665	0.308546	0.207256	0.343291	0.38233
Repeat: 1	1926.46	927.237	128.25	6746.9	7508.79
Repeat: 2	1926.01	926.336	128.769	6790.77	7504.04
Repeat: 3	1932.39	931.686	128.61	6782.21	7556.06
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	23297.1	77210.9	810.532	1072.05	3595.18
Std Dev:	68.6779	571.44	1.95535	1.29174	4.53638
%RSD:	0.294791	0.740102	0.241243	0.120493	0.126179
Repeat: 1	23219.7	76880.6	808.279	1071.04	3591.43
Repeat: 2	23350.7	76881.4	811.525	1073.5	3600.22
Repeat: 3	23321	77870.8	811.791	1071.59	3593.89
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7298.21	997.444	26405.5	6144.44	1327.6
Std Dev:	22.8049	7.93646	197.61	19.5488	8.68372
%RSD:	0.312472	0.79568	0.748367	0.318155	0.654092
Repeat: 1	7278.73	992.01	26252	6153.02	1322.96
Repeat: 2	7292.62	993.77	26336	6158.24	1322.22
Repeat: 3	7323.29	1006.55	26628.5	6122.07	1337.62
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**

Avg. of Repeats:	7345.85	1621.67	824.546	89369.6	2646.92
Std Dev:	36.2923	5.60979	3.31132	712.65	8.60833
%RSD:	0.494051	0.345927	0.401593	0.797419	0.325221
Repeat: 1	7318.99	1616.9	828.356	88793	2636.99
Repeat: 2	7387.14	1627.85	822.917	89149.3	2652.28
Repeat: 3	7331.42	1620.26	822.364	90166.3	2651.49
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1514.9	297.712	346.525	403.152	127.708
Std Dev:	6.41402	1.47936	0.918478	1.2109	0.365729
%RSD:	0.423396	0.496908	0.265054	0.300359	0.286379
Repeat: 1	1508.35	297.012	345.643	401.76	127.75
Repeat: 2	1521.16	296.713	347.476	403.959	127.323
Repeat: 3	1515.19	299.412	346.456	403.737	128.051
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	842.006	782.471	28915.7	773.872	201.851
Std Dev:	1.42599	1.72098	289.711	5.0836	0.869622
%RSD:	0.169356	0.219942	1.00192	0.656904	0.430825
Repeat: 1	842.889	780.663	28672.4	773.971	201.506
Repeat: 2	840.361	784.089	28838.4	768.74	202.84
Repeat: 3	842.769	782.661	29236.2	778.906	201.206
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5751.22	6168.97	6392.7	159567	12183.1
Std Dev:	12.5221	20.6159	25.2846	569.6	89.3331
%RSD:	0.217729	0.334187	0.395523	0.356965	0.733254
Repeat: 1	5738.31	6148.93	6365.12	159690	12154
Repeat: 2	5752.05	6190.11	6414.79	158946	12111.9
Repeat: 3	5763.31	6167.87	6398.19	160066	12283.4

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0497062	2.00862	0.10111	1.11349	0.100124
Std Dev:	0.000254863	0.0188544	0.000753139	0.00678396	0.000312908
%RSD:	0.512739	0.938678	0.744872	0.609251	0.31252
Repeat: 1	0.0494144	1.99037	0.10028	1.10735	0.0997636
Repeat: 2	0.0498855	2.00746	0.10175	1.12077	0.100324
Repeat: 3	0.0498186	2.02802	0.101299	1.11235	0.100285
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0540988	50.8877	0.0523386	0.10293	0.20678
Std Dev:	0.000288942	0.0870157	0.00010764	0.000219445	0.000997744
%RSD:	0.5341	0.170996	0.205661	0.213198	0.482514
Repeat: 1	0.0538921	50.8887	0.0523808	0.103171	0.206245
Repeat: 2	0.054429	50.9742	0.0522162	0.102741	0.207932
Repeat: 3	0.0539754	50.8001	0.0524187	0.102878	0.206165
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.247332	1.01916	50.2198	0.101402	10.1392
Std Dev:	0.000984939	0.00318029	0.179675	0.00294118	0.00109316
%RSD:	0.398226	0.31205	0.357777	2.90051	0.0107815
Repeat: 1	0.246224	1.0155	50.0158	0.0986128	10.1393

Repeat: 2	0.247661	1.02122	50.3545	0.104475	10.1381
Repeat: 3	0.24811	1.02077	50.2891	0.101119	10.1403
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.103944	0.530023	50.0487	50.161	0.519509
Std Dev:	0.000903802	0.000936085	0.475438	0.160193	0.000760038
%RSD:	0.869505	0.176612	0.94995	0.319358	0.146299
Repeat: 1	0.103456	0.530815	50.521	50.0092	0.519422
Repeat: 2	0.104987	0.530266	50.055	50.3284	0.518796
Repeat: 3	0.10339	0.52899	49.5702	50.1455	0.520308
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.18327	0.10842	0.103755	0.508417	0.154546
Std Dev:	0.00290311	0.00212854	0.00138544	0.00149053	0.00172887
%RSD:	0.0560093	1.96324	1.33529	0.29317	1.11867
Repeat: 1	5.18493	0.106306	0.102329	0.506794	0.154438
Repeat: 2	5.18496	0.10839	0.105096	0.509724	0.152875
Repeat: 3	5.17992	0.110563	0.10384	0.508734	0.156327
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.89557	0.522216	0.496136	0.102047	0.417071
Std Dev:	0.0344879	0.000938299	0.00212096	0.000608385	0.00257755
%RSD:	0.704472	0.179677	0.427495	0.596179	0.618013
Repeat: 1	4.91814	0.523279	0.493697	0.101949	0.419407
Repeat: 2	4.91271	0.521502	0.497543	0.101494	0.417501
Repeat: 3	4.85587	0.521866	0.497169	0.102699	0.414306
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.205986	0.515192	6110.49	156763	11280.6
Std Dev:	0.000559227	0.000588747	25.828	574.598	101.477
%RSD:	0.271488	0.114277	0.422682	0.366538	0.89957
Repeat: 1	0.205424	0.515822	6082.37	156894	11230.9
Repeat: 2	0.206542	0.515099	6133.16	156135	11213.6
Repeat: 3	0.205992	0.514655	6115.94	157261	11397.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6110.49	156763	11280.6
Std Dev:	25.828	574.598	101.477
%RSD:	0.422682	0.366538	0.89957
Repeat: 1	6082.37	156894	11230.9
Repeat: 2	6133.16	156135	11213.6
Repeat: 3	6115.94	157261	11397.3

Sample Name	**Acquisition Date**
M9C0VB	10/12/2016 11:22:16AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1215.56	468.615	70.7708	1303.39	2600.58
Std Dev:	5.01861	3.50233	0.508629	7.67455	12.2537
%RSD:	0.412864	0.747379	0.718699	0.588815	0.47119
Repeat: 1	1221.32	468.382	70.2157	1309.89	2608.44
Repeat: 2	1213.2	465.235	71.2145	1305.35	2586.46
Repeat: 3	1212.16	472.228	70.8822	1294.92	2606.84
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1035.59	587.046	195.596	283.696	597.633
Std Dev:	6.62375	0.928229	0.550275	1.03218	3.85048
%RSD:	0.639614	0.158119	0.281333	0.363834	0.644288
Repeat: 1	1031.52	586.414	195.326	282.787	601.536
Repeat: 2	1043.23	586.613	195.232	284.818	597.527
Repeat: 3	1032.01	588.112	196.229	283.482	593.837
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1459.51	116.95	4981.45	5129.54	161.538
Std Dev:	7.80964	1.65691	27.1558	30.4907	1.62395
%RSD:	0.535086	1.41677	0.545137	0.594414	1.0053
Repeat: 1	1467.09	118.382	4997.6	5145.95	160.889
Repeat: 2	1459.96	115.135	4950.1	5094.36	160.34
Repeat: 3	1451.49	117.333	4996.65	5148.3	163.387
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	456.469	90.1519	612.388	5135.75	304.722
Std Dev:	0.265524	0.279808	3.45017	27.6497	0.366844
%RSD:	0.058169	0.310374	0.563397	0.538377	0.120386
Repeat: 1	456.363	89.8722	613.087	5145.95	304.368
Repeat: 2	456.272	90.1518	608.641	5104.45	305.101
Repeat: 3	456.771	90.4318	615.435	5156.84	304.697
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	51.8161	179.659	213.255	121.248	76.5784
Std Dev:	0.48585	1.89448	0.961955	0.5819	0.251817
%RSD:	0.937642	1.05449	0.451083	0.479925	0.328836
Repeat: 1	51.3051	178.037	213.477	120.735	76.6747
Repeat: 2	51.8711	179.198	212.201	121.88	76.7679
Repeat: 3	52.2721	181.741	214.086	121.129	76.2926
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	158.924	89.9099	1650.22	356.56	50.0998
Std Dev:	0.538751	0.661925	4.18399	1.6219	0.323489
%RSD:	0.338998	0.736209	0.253542	0.454875	0.645688
Repeat: 1	158.541	89.1597	1650.6	354.695	50.1199
Repeat: 2	159.54	90.4115	1645.85	357.642	50.4128
Repeat: 3	158.691	90.1586	1654.2	357.343	49.7668
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1134.86	176.565	6547.58	165911	12597
Std Dev:	5.05647	0.760101	9.07777	282.404	74.6731
%RSD:	0.445557	0.430493	0.138643	0.170214	0.592784
Repeat: 1	1138.49	175.722	6548.6	165585	12535.8
Repeat: 2	1137.02	176.775	6538.03	166093	12680.2
Repeat: 3	1129.09	177.199	6556.1	166054	12575

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000435414	0.0177178	-0.000784572	0.0518263	0.000254971
Std Dev:	0.000367434	0.0169792	0.000698535	0.00136539	1.64547e-005
%RSD:	84.3873	95.8318	89.0339	2.63456	6.45356
Repeat: 1	-0.000115141	0.00680543	-0.00149777	0.0533055	0.000273783
Repeat: 2	-0.000836542	0.00906771	-0.000101691	0.0515592	0.000243255
Repeat: 3	-0.000354558	0.0372801	-0.000754251	0.0506142	0.000247875
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.63365e-006	0.0135761	-8.00108e-005	-4.75437e-005	0.000734212
Std Dev:	2.32151e-005	0.00253498	8.70945e-005	4.3279e-005	0.000231475
%RSD:	1421.06	18.6724	108.854	91.0299	31.527
Repeat: 1	-1.50711e-005	0.012434	-0.000115821	-9.37951e-005	0.000469537
Repeat: 2	2.81425e-005	0.0164812	-0.000143491	-8.02659e-006	0.000898817
Repeat: 3	-8.1704e-006	0.0118131	1.92804e-005	-4.08094e-005	0.000834281
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000187725	0.00886341	0.014007	0.00137807	-0.00533818
Std Dev:	0.000254699	0.0011429	0.0166352	0.000631592	0.0100659
%RSD:	135.677	12.8945	118.763	45.8315	188.565
Repeat: 1	7.44497e-005	0.00769897	0.0329669	0.00144516	-0.0168128
Repeat: 2	-0.000203399	0.00890779	0.00719576	0.000715617	0.00200309
Repeat: 3	-0.000434224	0.00998347	0.00185837	0.00197345	-0.00120483
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000445629	4.309e-005	1.47251	0.0700419	-2.98637e-005
Std Dev:	2.59142e-005	4.95379e-005	0.434096	0.00667206	0.000145963
%RSD:	5.8152	114.964	29.4801	9.52582	488.763
Repeat: 1	0.000463243	3.68257e-005	1.8274	0.0625239	7.61967e-005
Repeat: 2	0.000415873	-3.01789e-006	1.60162	0.075259	-0.000196334
Repeat: 3	0.00045777	9.5462e-005	0.988501	0.0723427	3.05457e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0384026	0.00154198	-0.00106929	-0.00109372	0.00103257
Std Dev:	0.00200574	0.00215392	0.000919316	0.00159926	0.00109772
%RSD:	5.22293	139.686	85.9745	146.222	106.309
Repeat: 1	0.0364535	-0.000936871	-0.00065774	-9.6341e-005	0.00136768
Repeat: 2	0.0382937	0.00260575	-0.00212248	-0.000246462	0.00192369
Repeat: 3	0.0404605	0.00295705	-0.000427649	-0.00293834	-0.00019364
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.129071	0.0110241	0.000184185	-0.000317514	-0.000125339
Std Dev:	0.00477715	0.000557246	0.000108513	0.000816121	0.00104718
%RSD:	3.70118	5.05482	58.9149	257.034	835.474
Repeat: 1	0.123725	0.010382	0.000113438	-0.00125918	0.00107038
Repeat: 2	0.132922	0.0113089	0.00030912	0.000121722	-0.000878981
Repeat: 3	0.130567	0.0113813	0.000129999	0.000184918	-0.000567419
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass

Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	5.59866e-005	0.000445433	6287.19	163261	11728.3
Std Dev:	0.000215918	6.36543e-005	8.44737	286.927	84.8244
%RSD:	385.661	14.2904	0.134358	0.175748	0.723243
Repeat: 1	-7.16418e-005	0.000374936	6288.97	162930	11665.6
Repeat: 2	0.000305283	0.000498695	6278	163438	11824.9
Repeat: 3	-6.5682e-005	0.000462668	6294.61	163415	11694.5
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	6287.19	163261	11728.3
Std Dev:	8.44737	286.927	84.8244
%RSD:	0.134358	0.175748	0.723243
Repeat: 1	6288.97	162930	11665.6
Repeat: 2	6278	163438	11824.9
Repeat: 3	6294.61	163415	11694.5

Sample Name	Acquisition Date
M9C0VC	10/12/2016 11:27:17AM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1902.49	931.579	125.81	6420.3	7630.9
Std Dev:	7.5073	1.29179	0.316755	16.2535	29.0136
%RSD:	0.394603	0.138667	0.251774	0.253158	0.380212
Repeat: 1	1894.94	931.32	125.56	6434.08	7600.28
Repeat: 2	1909.96	932.98	125.703	6424.44	7634.44
Repeat: 3	1902.58	930.436	126.166	6402.38	7657.98
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Avg. of Repeats:	23290.5	79483.7	801.262	1066.55	3640.29
Std Dev:	23.992	372.546	0.956984	1.69176	4.17034
%RSD:	0.103012	0.468707	0.119435	0.158619	0.11456
Repeat: 1	23302.9	79056.9	801.232	1065.66	3639.11
Repeat: 2	23305.8	79743.8	802.233	1068.5	3644.93
Repeat: 3	23262.9	79650.4	800.32	1065.49	3636.84
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Avg. of Repeats:	7416.16	1030.36	26836	6070.43	1348.23
Std Dev:	20.38	3.76377	118.806	11.7048	5.21136
%RSD:	0.274805	0.365287	0.442712	0.192817	0.386532
Repeat: 1	7425.91	1027.66	26700.2	6059.21	1342.75
Repeat: 2	7429.83	1034.66	26920.7	6069.52	1353.13
Repeat: 3	7392.74	1028.76	26887	6082.57	1348.82
Element/Wavelength	Mn2576A	Mo2020A	aN	Na5895R	Ni2316A
Avg. of Repeats:	7439.16	1654.41	822.93	91847.1	2653.44
Std Dev:	8.9698	4.08905	1.69897	421.724	6.28548
%RSD:	0.120575	0.24716	0.206454	0.459159	0.236881
Repeat: 1	7444.61	1649.73	822.867	91381.6	2648.23
Repeat: 2	7444.07	1657.31	824.66	92203.8	2660.42
Repeat: 3	7428.81	1656.2	821.264	91955.9	2651.67
Element/Wavelength	P_1782A	bP	Pb2203A	Sb2068A	Se1960A

Avg. of Repeats:	1498.66	291.683	338.06	396.649	124.057
Std Dev:	4.77658	0.903828	0.948235	1.02312	0.104673
%RSD:	0.318723	0.309866	0.280493	0.257941	0.0843747
Repeat: 1	1495.86	291.982	338.085	395.49	124.054
Repeat: 2	1504.18	292.399	337.099	397.027	124.163
Repeat: 3	1495.96	290.667	338.995	397.429	123.954
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	380.588	795.867	29675.8	777.076	200.922
Std Dev:	3.79573	1.82158	130.325	5.65332	0.903678
%RSD:	0.997334	0.22888	0.439162	0.727512	0.449766
Repeat: 1	376.246	794.444	29543.2	777.113	200.639
Repeat: 2	382.241	797.92	29803.7	782.711	201.933
Repeat: 3	383.277	795.237	29680.4	771.404	200.193
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5792.45	6108.32	6452.87	162872	12490.6
Std Dev:	5.19292	16.8516	13.0173	322.54	72.85
%RSD:	0.0896498	0.275879	0.201729	0.198033	0.583237
Repeat: 1	5798.41	6095.33	6438.39	162837	12409.1
Repeat: 2	5789.95	6127.36	6463.6	163210	12513.5
Repeat: 3	5788.97	6102.27	6456.61	162568	12549.3

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0495762	2.0033	0.0972001	1.02229	0.100397
Std Dev:	0.000293799	0.0177732	0.000815226	0.00321406	8.95754e-005
%RSD:	0.592621	0.887196	0.838709	0.314397	0.0892214
Repeat: 1	0.0499151	2.00736	0.0966905	1.02593	0.100437
Repeat: 2	0.0494215	2.01869	0.0967694	1.01985	0.100294
Repeat: 3	0.0493922	1.98384	0.0981403	1.02109	0.100459
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0530092	50.9155	0.051457	0.102412	0.20652
Std Dev:	6.483e-005	0.134275	0.00012315	0.000110149	0.000174512
%RSD:	0.1223	0.263722	0.239325	0.107555	0.084501
Repeat: 1	0.0530567	50.9971	0.0515628	0.102477	0.206437
Repeat: 2	0.0529353	50.9888	0.0514864	0.102473	0.206402
Repeat: 3	0.0530355	50.7605	0.0513218	0.102284	0.206721
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.248383	1.02968	49.9883	0.102063	10.0482
Std Dev:	0.00062024	0.00641723	0.137761	0.00115822	0.0317187
%RSD:	0.249711	0.623225	0.275587	1.13481	0.315665
Repeat: 1	0.248912	1.03462	50.0046	0.100768	10.0575
Repeat: 2	0.248536	1.032	50.1172	0.103	10.0743
Repeat: 3	0.2477	1.02243	49.8431	0.102422	10.0129
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.103313	0.536346	51.5146	50.2132	0.517384
Std Dev:	0.000160344	0.000476914	1.26697	0.181735	0.000855149

%RSD:	0.155201	0.088919	2.45943	0.361927	0.165283
Repeat: 1	0.103437	0.535797	52.8454	50.3053	0.51731
Repeat: 2	0.103132	0.536588	51.3757	50.3304	0.518274
Repeat: 3	0.103371	0.536654	50.3229	50.0038	0.516568
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.07145	0.103472	0.101069	0.497982	0.147548
Std Dev:	0.0118261	0.00238388	0.000476861	0.00225201	0.00178373
%RSD:	0.233189	2.3039	0.471819	0.452228	1.20891
Repeat: 1	5.07283	0.103978	0.101423	0.495511	0.148244
Repeat: 2	5.08253	0.105562	0.101256	0.498514	0.148879
Repeat: 3	5.059	0.100875	0.100527	0.49992	0.145521
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.63664	0.527408	0.49603	0.102468	0.410527
Std Dev:	0.0200798	0.000976807	0.00212368	0.00195668	0.00191745
%RSD:	1.22689	0.185209	0.428135	1.90956	0.46707
Repeat: 1	1.61394	0.527616	0.497061	0.103479	0.410896
Repeat: 2	1.64388	0.528264	0.497442	0.103712	0.412234
Repeat: 3	1.65209	0.526344	0.493588	0.100212	0.408452
QC Status Pass/Fail:	Fail	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.204685	0.504867	6177.38	160144	11612.6
Std Dev:	0.000360864	0.000675359	12.6236	344.724	73.7509
%RSD:	0.176302	0.13377	0.204352	0.215259	0.635096
Repeat: 1	0.205088	0.504976	6163.56	160134	11530.8
Repeat: 2	0.204574	0.505482	6188.31	160493	11632.9
Repeat: 3	0.204392	0.504144	6180.26	159804	11674
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6177.38	160144	11612.6
Std Dev:	12.6236	344.724	73.7509
%RSD:	0.204352	0.215259	0.635096
Repeat: 1	6163.56	160134	11530.8
Repeat: 2	6188.31	160493	11632.9
Repeat: 3	6180.26	159804	11674

Sample Name	**Acquisition Date**
M9C0RB	10/12/2016 11:32:03AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1218.74	467.979	70.913	1167.67	2635.46
Std Dev:	11.4871	1.97167	0.49184	28.2998	15.7106
%RSD:	0.942534	0.421315	0.693583	2.42361	0.596123
Repeat: 1	1225.77	469.143	70.629	1193.84	2653.59
Repeat: 2	1224.97	469.093	70.629	1171.52	2625.82

Repeat: 3	1205.49	465.703	71.4809	1137.64	2626.97
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1045.28	579.412	196.172	284.139	721.043
Std Dev:	4.80638	2.19342	0.957995	1.73745	0.411054
%RSD:	0.459817	0.37856	0.488345	0.611478	0.0570083
Repeat: 1	1044.91	581.605	195.296	282.649	721.373
Repeat: 2	1050.26	579.412	197.195	286.047	720.582
Repeat: 3	1040.67	577.218	196.025	283.72	721.173
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1473.15	120.189	5035.06	5182.45	165.769
Std Dev:	6.52121	1.5827	26.3245	26.0329	0.828678
%RSD:	0.44267	1.31684	0.522825	0.502327	0.499898
Repeat: 1	1477.67	120.788	5063.31	5212.51	166.65
Repeat: 2	1476.12	121.386	5030.66	5167.3	165.653
Repeat: 3	1465.68	118.395	5011.22	5167.55	165.005
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	463.937	90.0586	618.129	5065.47	305.078
Std Dev:	2.21633	0.174767	2.52832	23.9252	0.230005
%RSD:	0.477723	0.19406	0.409029	0.472319	0.0753921
Repeat: 1	466.427	89.8721	621.037	5092.92	304.844
Repeat: 2	463.203	90.2186	616.899	5054.44	305.304
Repeat: 3	462.18	90.0852	616.451	5049.05	305.087
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	49.3715	181.701	215.7	121.066	76.651
Std Dev:	0.379133	1.28572	0.63456	0.593062	0.452404
%RSD:	0.767919	0.707603	0.294186	0.489865	0.590212
Repeat: 1	48.9339	181.555	214.996	120.469	76.3593
Repeat: 2	49.6002	180.495	216.229	121.655	77.1722
Repeat: 3	49.5805	183.054	215.874	121.075	76.4216
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	144.749	89.5879	1673.55	361.299	49.5536
Std Dev:	2.13214	0.21412	9.89118	3.6877	0.202279
%RSD:	1.47299	0.239006	0.591031	1.02068	0.408202
Repeat: 1	146.61	89.4323	1684.05	365.204	49.3204
Repeat: 2	145.214	89.8321	1664.41	357.876	49.6602
Repeat: 3	142.423	89.4993	1672.18	360.818	49.6804
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1147.28	180.099	6595.4	166492	12587.8
Std Dev:	8.11054	0.480447	5.01543	649.056	101.024
%RSD:	0.706934	0.266768	0.0760443	0.389841	0.802551
Repeat: 1	1154.73	179.951	6600.48	166173	12473.1
Repeat: 2	1148.48	179.711	6595.27	166065	12663.4
Repeat: 3	1138.64	180.637	6590.45	167239	12627

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000265779	-0.00418899	-0.000423134	0.0259271	0.000336152
Std Dev:	0.000475921	0.0128008	0.00106169	0.00555917	0.000128011
%RSD:	179.066	305.582	250.912	21.4415	38.0814
Repeat: 1	-3.90141e-005	-0.0177644	-0.00073017	0.0311062	0.000481511
Repeat: 2	5.43511e-005	-0.00246501	-0.00129747	0.026622	0.000240238
Repeat: 3	-0.000812675	0.00766245	0.00075824	0.0200532	0.000286706

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.32145e-006	0.00520915	9.21741e-006	3.93879e-005	0.008564
Std Dev:	3.14942e-006	0.000825857	0.000104358	0.000181827	0.000578051
%RSD:	135.666	15.854	1132.18	461.633	6.74977
Repeat: 1	-3.94901e-007	0.0059955	-4.24121e-005	-8.31823e-005	0.00829184
Repeat: 2	5.77364e-006	0.00528318	0.000129326	0.0002483	0.00817227
Repeat: 3	1.5856e-006	0.00434877	-5.92621e-005	-4.69535e-005	0.0092279
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Fail
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-8.20205e-005	0.0108054	-0.00972776	-4.42346e-005	0.000305854
Std Dev:	7.21877e-005	0.0011934	0.0266093	0.000827744	0.0016313
%RSD:	88.0117	11.0445	273.54	1871.26	533.358
Repeat: 1	-0.000163357	0.0105808	-0.0155065	0.000910366	-0.000455965
Repeat: 2	-5.71422e-005	0.0120951	0.0192961	-0.000480127	-0.000805165
Repeat: 3	-2.55622e-005	0.00974019	-0.0329729	-0.000562942	0.00217869
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000509361	9.54488e-005	0.939703	-0.0120935	-2.40637e-005
Std Dev:	2.42678e-005	0.000152507	0.485787	0.00639316	0.000165086
%RSD:	4.76436	159.779	51.6958	52.8642	686.041
Repeat: 1	0.000511658	-2.09811e-005	1.16302	-0.0188189	0.000149145
Repeat: 2	0.000532399	3.92457e-005	1.27368	-0.00609465	-4.17298e-005
Repeat: 3	0.000484027	0.000268082	0.382414	-0.0113671	-0.000179607
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0294947	0.00162066	0.0007905	-0.00146141	0.0015032
Std Dev:	0.00109455	0.00284145	0.000566184	0.000651564	0.000853943
%RSD:	3.711	175.327	71.6236	44.5846	56.8085
Repeat: 1	0.029133	0.00085139	0.000240204	-0.00210921	0.00241571
Repeat: 2	0.0307243	-0.000756963	0.00137134	-0.000806148	0.00137051
Repeat: 3	0.0286267	0.00476754	0.000759959	-0.00146887	0.00072336
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0180029	0.0107405	0.00011278	-0.000648229	-0.00152834
Std Dev:	0.0110103	0.000196166	7.50406e-005	0.000215604	0.000600244
%RSD:	61.1582	1.82642	66.537	33.2604	39.2742
Repeat: 1	0.028947	0.0107311	0.000171312	-0.000532862	-0.00132592
Repeat: 2	0.0181342	0.0109412	2.81824e-005	-0.000896969	-0.00220363
Repeat: 3	0.00692764	0.0105492	0.000138847	-0.000514855	-0.00105548
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000489045	0.000663151	6332.94	163810	11701.3
Std Dev:	0.000265616	7.20023e-005	5.74342	659.206	107.957
%RSD:	54.3132	10.8576	0.0906913	0.402421	0.922603
Repeat: 1	0.000795752	0.000682668	6338.84	163475	11579.5
Repeat: 2	0.000335825	0.000583402	6332.61	163386	11785.1

Repeat: 3	0.000335559	0.000723383	6327.37	164569	11739.5
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6332.94	163810	11701.3
Std Dev:	5.74342	659.206	107.957
%RSD:	0.0906913	0.402421	0.922603
Repeat: 1	6338.84	163475	11579.5
Repeat: 2	6332.61	163386	11785.1
Repeat: 3	6327.37	164569	11739.5

Sample Name	**Acquisition Date**
M9C0RC	10/12/2016 11:37:05AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1920.52	934.41	126.49	6175.39	7601.42
Std Dev:	5.41616	5.27967	0.202293	43.7716	39.1365
%RSD:	0.282015	0.565028	0.159928	0.708808	0.514858
Repeat: 1	1914.57	928.429	126.723	6124.9	7563.95
Repeat: 2	1925.15	938.424	126.383	6202.61	7598.28
Repeat: 3	1921.85	936.376	126.363	6198.66	7642.03
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	22942.5	78834	807.477	1075.02	3741.17
Std Dev:	202.925	588.922	1.24009	0.728859	35.1186
%RSD:	0.884497	0.747041	0.153576	0.0677998	0.938705
Repeat: 1	22713.5	78383.2	808.239	1074.22	3700.89
Repeat: 2	23013.9	78618.5	806.046	1075.19	3757.28
Repeat: 3	23100	79500.3	808.146	1075.64	3765.35
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7431.89	1021.07	27007	6132.31	1352.63
Std Dev:	51.0808	11.2565	161.22	16.8879	9.34169
%RSD:	0.687319	1.10243	0.596954	0.275392	0.690631
Repeat: 1	7373.2	1008.82	26907.3	6145.09	1343.05
Repeat: 2	7466.36	1023.42	26920.7	6138.68	1353.13
Repeat: 3	7456.09	1030.96	27193	6113.16	1361.72
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	7477.93	1668.83	822.948	91486.2	2673.54
Std Dev:	75.3148	5.4695	1.31654	715.175	3.98983
%RSD:	1.00716	0.327745	0.159979	0.78173	0.149234
Repeat: 1	7391.04	1668.03	822.319	91070.3	2671.32
Repeat: 2	7518.34	1663.8	824.461	91076.4	2671.16
Repeat: 3	7524.42	1674.65	822.064	92312	2678.15
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1496.28	295.271	343.236	401.684	124.612
Std Dev:	2.35019	1.56329	1.50757	0.723547	0.603845
%RSD:	0.157069	0.529443	0.439223	0.180128	0.484579
Repeat: 1	1497.69	294.115	342.199	401.26	123.917
Repeat: 2	1493.57	294.648	344.965	401.273	124.917
Repeat: 3	1497.58	297.049	342.543	402.52	125.003
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**

Avg. of Repeats:	301.82	802.006	29565.9	780.993	202.513
Std Dev:	1.04719	2.123	261.601	2.82863	0.422476
%RSD:	0.346959	0.264711	0.884805	0.362184	0.208617
Repeat: 1	302.183	801.533	29348.5	779.306	202.46
Repeat: 2	300.639	800.16	29493	779.415	202.12
Repeat: 3	302.637	804.326	29856.2	784.259	202.96
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5835.56	6149.47	6491.53	168163	12709.2
Std Dev:	44.6555	17.5457	69.7717	5630.27	454.683
%RSD:	0.765231	0.28532	1.07481	3.3481	3.57758
Repeat: 1	5784.02	6163.01	6411.83	174628	13208.8
Repeat: 2	5859.98	6129.65	6521.14	164338	12319.7
Repeat: 3	5862.69	6155.75	6541.61	165523	12599.2

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0476671	1.9618	0.0975554	0.942927	0.0974991
Std Dev:	0.00178754	0.0862006	0.000977876	0.0434905	0.00417913
%RSD:	3.75005	4.39396	1.00238	4.61229	4.28633
Repeat: 1	0.0456132	1.86696	0.0986844	0.892922	0.0927225
Repeat: 2	0.0488714	2.0354	0.09701	0.971936	0.100482
Repeat: 3	0.0485166	1.98303	0.0969719	0.963923	0.0992928
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0505341	49.6436	0.0515718	0.102527	0.206747
Std Dev:	0.00212891	2.03891	0.000662534	0.00120489	0.00919947
%RSD:	4.21282	4.1071	1.28468	1.17518	4.44963
Repeat: 1	0.0480779	47.3219	0.0523362	0.103917	0.196152
Repeat: 2	0.05185	51.1426	0.0511615	0.101897	0.212716
Repeat: 3	0.0516743	50.4664	0.0512179	0.101769	0.211372
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.24071	1.00072	49.3542	0.0984801	9.90191
Std Dev:	0.0102506	0.0475901	1.96025	0.00269837	0.426466
%RSD:	4.25848	4.75557	3.9718	2.74002	4.30691
Repeat: 1	0.228947	0.946628	47.111	0.0953853	9.41807
Repeat: 2	0.247736	1.03614	50.7377	0.10034	10.2232
Repeat: 3	0.245446	1.0194	50.2138	0.0997144	10.0645
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.100679	0.537859	48.7886	49.1328	0.518192
Std Dev:	0.00440853	0.00603216	1.76133	1.97111	0.00574392
%RSD:	4.37879	1.12151	3.61012	4.0118	1.10845
Repeat: 1	0.095605	0.544714	46.7661	46.8767	0.524823
Repeat: 2	0.103568	0.533364	49.9858	50.5214	0.514768
Repeat: 3	0.102865	0.535498	49.6138	50.0002	0.514983
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm

Avg. of Repeats:	5.03345	0.102741	0.103689	0.502261	0.148047
Std Dev:	0.0601127	0.00506407	0.00185125	0.00499394	0.0017746
%RSD:	1.19426	4.92899	1.78539	0.994293	1.19867
Repeat: 1	5.10286	0.0971479	0.10502	0.50802	0.150095
Repeat: 2	4.99845	0.104058	0.104472	0.499134	0.147098
Repeat: 3	4.99905	0.107016	0.101575	0.499628	0.146949
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.07233	0.529001	0.485386	0.100253	0.411274
Std Dev:	0.0323826	0.00576873	0.0206182	0.00435473	0.00466856
%RSD:	3.01984	1.0905	4.2478	4.34376	1.13514
Repeat: 1	1.035	0.535581	0.461799	0.0952963	0.416557
Repeat: 2	1.08908	0.524816	0.49998	0.103466	0.409564
Repeat: 3	1.0929	0.526604	0.494379	0.101996	0.407702
QC Status Pass/Fail:	Fail	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.199476	0.505287	6214.15	165387	11821.6
Std Dev:	0.00861861	0.00669673	69.6236	5651.47	452.354
%RSD:	4.32062	1.32533	1.1204	3.41712	3.8265
Repeat: 1	0.189564	0.513013	6134.76	171877	12316.8
Repeat: 2	0.205202	0.501135	6242.9	161548	11430.2
Repeat: 3	0.203663	0.501714	6264.8	162737	11717.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6214.15	165387	11821.6
Std Dev:	69.6236	5651.47	452.354
%RSD:	1.1204	3.41712	3.8265
Repeat: 1	6134.76	171877	12316.8
Repeat: 2	6242.9	161548	11430.2
Repeat: 3	6264.8	162737	11717.8

Sample Name	**Acquisition Date**
M9C0RL	10/12/2016 11:41:50AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1918.9	938.729	126.516	6123.12	7646.93
Std Dev:	18.583	3.12223	0.682915	49.3965	24.2991
%RSD:	0.96842	0.332602	0.539786	0.806721	0.317763
Repeat: 1	1898.07	935.157	126.605	6179.98	7622.81
Repeat: 2	1924.86	940.092	127.15	6090.84	7671.4
Repeat: 3	1933.78	940.939	125.793	6098.53	7646.58
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	22935.9	79560.8	806.905	1075.8	3704.13
Std Dev:	77.2439	457.936	0.69453	0.926652	8.87021
%RSD:	0.336781	0.57558	0.0860734	0.0861364	0.239468
Repeat: 1	23023.3	79306.3	807.614	1075.3	3711.95
Repeat: 2	22907.8	80089.5	806.226	1075.22	3694.49

Repeat: 3	22876.7	79286.7	806.875	1076.87	3705.95
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7499.37	1039.92	27094.8	6121.25	1354.38
Std Dev:	31.8652	8.5061	105.151	4.09916	6.92556
%RSD:	0.424905	0.817955	0.388084	0.0669661	0.511344
Repeat: 1	7487.47	1036.83	27045.9	6118.42	1348.98
Repeat: 2	7535.48	1049.54	27215.5	6119.37	1362.19
Repeat: 3	7475.18	1033.39	27023	6125.95	1351.97
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	7501.35	1669.84	831.041	92041.2	2677.62
Std Dev:	32.4076	1.54814	7.31502	436.584	1.44284
%RSD:	0.432023	0.0927118	0.880224	0.474336	0.0538853
Repeat: 1	7536.01	1670.32	822.867	91811.9	2679.28
Repeat: 2	7471.8	1671.1	836.972	92544.6	2676.78
Repeat: 3	7496.25	1668.11	833.283	91766.9	2676.79
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1498.96	294.814	342.443	401.67	124.053
Std Dev:	0.477119	1.6623	1.13608	0.811826	0.49681
%RSD:	0.03183	0.563847	0.331758	0.202113	0.400483
Repeat: 1	1498.98	293.398	341.294	402.551	123.515
Repeat: 2	1498.47	294.399	343.565	401.506	124.15
Repeat: 3	1499.43	296.644	342.47	400.953	124.494
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	384.137	801.126	29687.7	780.868	202.816
Std Dev:	3.01539	1.98444	148.805	1.75954	0.767749
%RSD:	0.784976	0.247707	0.501235	0.225332	0.378544
Repeat: 1	382.177	800.673	29634.9	782.745	202.065
Repeat: 2	387.61	799.407	29855.7	780.602	203.6
Repeat: 3	382.626	803.297	29572.5	779.256	202.784
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5843.21	6156.84	6528	164928	12532.2
Std Dev:	8.59168	4.0944	6.89293	678.449	73.497
%RSD:	0.147037	0.0665016	0.10559	0.411361	0.586465
Repeat: 1	5853.13	6161.48	6534.19	164924	12510.8
Repeat: 2	5838.1	6153.71	6520.57	165608	12614
Repeat: 3	5838.39	6155.34	6529.25	164251	12471.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0490968	2.01033	0.0974914	0.953816	0.0997536
Std Dev:	0.00111627	0.0220332	0.00160829	0.0103413	0.000273441
%RSD:	2.2736	1.096	1.64967	1.0842	0.274116
Repeat: 1	0.0480496	2.00553	0.0975855	0.963681	0.0996319
Repeat: 2	0.0489697	1.99109	0.0990505	0.943057	0.0995621
Repeat: 3	0.0502712	2.03437	0.0958381	0.954709	0.100067
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.05149	50.8228	0.0512976	0.10225	0.208105
Std Dev:	0.000244208	0.0838963	1.87081e-005	0.000116404	0.00126849
%RSD:	0.474282	0.165076	0.0364698	0.113843	0.609541
Repeat: 1	0.051689	50.7429	0.0513149	0.102125	0.208754

Repeat: 2	0.0512175	50.8154	0.0513	0.10227	0.206643
Repeat: 3	0.0515634	50.9102	0.0512777	0.102356	0.208918
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.248392	1.03569	50.2721	0.100207	10.0626
Std Dev:	0.000362143	0.00289743	0.054115	0.000479725	0.0391965
%RSD:	0.145795	0.279757	0.107644	0.478733	0.389529
Repeat: 1	0.248109	1.03361	50.2507	0.100751	10.0259
Repeat: 2	0.2488	1.039	50.2319	0.100026	10.0579
Repeat: 3	0.248266	1.03447	50.3336	0.099844	10.1039
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.103033	0.535038	52.0516	50.1477	0.516361
Std Dev:	0.000685652	0.00104122	1.23448	0.0854903	0.000441457
%RSD:	0.665471	0.194606	2.37165	0.170477	0.0854938
Repeat: 1	0.103542	0.534566	50.6694	50.0976	0.516177
Repeat: 2	0.102253	0.536232	53.0446	50.0992	0.516864
Repeat: 3	0.103303	0.534317	52.4408	50.2465	0.516041
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.01302	0.104998	0.103114	0.501346	0.146614
Std Dev:	0.00651917	0.00118695	0.00149765	0.00147851	0.00102797
%RSD:	0.130045	1.13045	1.45242	0.294908	0.701141
Repeat: 1	5.00565	0.104763	0.101504	0.502712	0.145507
Repeat: 2	5.01805	0.103946	0.104465	0.50155	0.147539
Repeat: 3	5.01535	0.106285	0.103374	0.499776	0.146796
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.65552	0.52544	0.494487	0.101662	0.411526
Std Dev:	0.0185712	0.00151984	0.000565593	0.000878058	0.00137411
%RSD:	1.12177	0.289252	0.11438	0.863707	0.333907
Repeat: 1	1.64354	0.524551	0.494296	0.102617	0.410005
Repeat: 2	1.67691	0.524573	0.494041	0.10089	0.412678
Repeat: 3	1.6461	0.527195	0.495123	0.101478	0.411895
QC Status Pass/Fail:	Fail	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.203867	0.502955	6250.14	162170	11643.2
Std Dev:	0.000699289	0.000552454	8.94365	681.702	72.7125
%RSD:	0.343013	0.109842	0.143095	0.420362	0.624506
Repeat: 1	0.204438	0.502553	6258.67	162180	11624.8
Repeat: 2	0.203087	0.503585	6240.83	162847	11723.4
Repeat: 3	0.204075	0.502727	6250.92	161484	11581.5
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6250.14	162170	11643.2
Std Dev:	8.94365	681.702	72.7125
%RSD:	0.143095	0.420362	0.624506

Repeat: 1	6258.67	162180	11624.8
Repeat: 2	6240.83	162847	11723.4
Repeat: 3	6250.92	161484	11581.5

Sample Name	**Acquisition Date**
M9C0RB	10/12/2016 11:46:37AM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1217.09	466.078	70.7729	1006.25	2598.64
Std Dev:	5.59124	4.3806	0.618445	17.1441	12.7684
%RSD:	0.459393	0.939885	0.873845	1.70376	0.491349
Repeat: 1	1219.07	461.788	70.1891	998.601	2594.66
Repeat: 2	1210.78	465.902	70.7085	994.255	2588.33
Repeat: 3	1221.42	470.544	71.421	1025.88	2612.92
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1036.78	594.783	195.929	284.35	675.17
Std Dev:	8.4659	4.4838	0.644081	1.41785	2.19499
%RSD:	0.81656	0.753856	0.328731	0.498629	0.325102
Repeat: 1	1034.72	590.859	195.312	284.246	674.161
Repeat: 2	1029.53	593.819	195.878	282.987	673.661
Repeat: 3	1046.08	599.67	196.597	285.817	677.688
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1456.91	123.576	4972.66	5116.38	162.311
Std Dev:	5.43331	1.22691	5.07495	19.9011	0.760392
%RSD:	0.372934	0.992842	0.102057	0.388967	0.468478
Repeat: 1	1457.78	122.527	4968.98	5102.8	161.439
Repeat: 2	1451.09	124.925	4970.54	5107.13	162.662
Repeat: 3	1461.85	123.275	4978.45	5139.23	162.833
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	455.409	90.6201	612.476	5159.31	306.45
Std Dev:	5.67927	0.359897	1.89477	11.4659	1.2016
%RSD:	1.24707	0.397149	0.309363	0.222236	0.392102
Repeat: 1	453.487	90.7578	611.039	5167.23	305.733
Repeat: 2	450.939	90.2117	611.765	5146.16	305.78
Repeat: 3	461.799	90.8909	614.623	5164.53	307.837
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	51.223	181.312	216.466	121.323	76.6391
Std Dev:	0.161098	3.09948	0.893998	0.528614	0.341502
%RSD:	0.314503	1.70948	0.412997	0.435707	0.445597
Repeat: 1	51.405	183.453	216.03	121.021	76.8811
Repeat: 2	51.1653	177.758	215.874	121.015	76.2485
Repeat: 3	51.0987	182.725	217.495	121.934	76.7879
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	140.389	89.9876	1646.86	357.397	49.3031
Std Dev:	0.360324	0.141147	10.7212	1.88059	0.358972
%RSD:	0.256661	0.156852	0.651009	0.52619	0.728093
Repeat: 1	140.659	89.8588	1639.06	355.245	49.3541
Repeat: 2	139.98	90.1385	1642.42	358.225	49.6338
Repeat: 3	140.528	89.9654	1659.08	358.722	48.9213
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**

Avg. of Repeats:	1136.18	180.623	6481.73	165968	12534.1
Std Dev:	13.3228	0.466678	6.23864	581.088	45.4676
%RSD:	1.17259	0.258371	0.0962496	0.350121	0.362751
Repeat: 1	1130.15	181.103	6474.63	165385	12522.8
Repeat: 2	1126.95	180.597	6484.2	166548	12584.1
Repeat: 3	1151.46	180.17	6486.35	165970	12495.3

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000316457	0.0194327	-0.000629255	-0.00295519	0.000178405
Std Dev:	0.000413842	0.015433	0.00062619	0.00303348	4.77011e-005
%RSD:	130.774	79.4174	99.513	102.649	26.7375
Repeat: 1	0.000737391	0.00210286	-0.000930258	-0.00455473	0.000211459
Repeat: 2	0.000301886	0.0245014	-0.00104811	-0.00485413	0.000123721
Repeat: 3	-8.99073e-005	0.0316939	9.0599e-005	0.000543303	0.000200035
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.85691e-006	0.019305	-6.02021e-005	-3.78888e-005	0.0057308
Std Dev:	1.29464e-005	0.000705991	3.85266e-005	9.56369e-005	0.000281257
%RSD:	697.197	3.65704	63.9954	252.415	4.90781
Repeat: 1	2.28681e-006	0.0190862	-6.49261e-005	5.25143e-005	0.00571719
Repeat: 2	-1.1299e-005	0.0187344	-1.95314e-005	-0.000138016	0.00601862
Repeat: 3	1.4583e-005	0.0200945	-9.61488e-005	-2.81642e-005	0.0054566
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000212474	0.0172613	0.0301769	0.000529687	0.00204447
Std Dev:	0.000324206	0.00191683	0.02382	0.000529332	0.0145397
%RSD:	152.586	11.1048	78.9344	99.933	711.172
Repeat: 1	-0.000143953	0.0160454	0.0572443	0.00111381	-0.0129334
Repeat: 2	7.19949e-005	0.0194709	0.020875	8.17744e-005	0.00296455
Repeat: 3	-0.000565464	0.0162675	0.0124115	0.000393472	0.0161023
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000466883	0.000308537	1.83158	0.0805887	0.000240698
Std Dev:	0.000101919	3.75548e-005	0.138393	0.0104649	0.000112904
%RSD:	21.8296	12.1719	7.5559	12.9856	46.907
Repeat: 1	0.000371737	0.000349035	1.92128	0.0918969	0.000345158
Repeat: 2	0.000454475	0.000274861	1.90127	0.0786238	0.000120915
Repeat: 3	0.000574438	0.000301714	1.6722	0.0712456	0.00025602
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0365742	0.00196318	0.00200492	0.000707425	0.00173326
Std Dev:	0.000995395	0.00226183	0.00084105	2.76697e-005	0.000884609
%RSD:	2.72158	115.213	41.9493	3.91133	51.0372
Repeat: 1	0.0375595	0.0045382	0.00129497	0.000678878	0.00141983
Repeat: 2	0.0365939	0.000297719	0.00293378	0.000709271	0.00273192
Repeat: 3	0.0355691	0.00105363	0.00178601	0.000734125	0.00104805
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass

Element/Wavelength	Si2506R	Sn1899A	Sr4215R	Ti3349R	Tl1908A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0102814	0.0111733	0.000200083	0.000239869	-0.0014043
Std Dev:	0.0172763	0.000451365	3.51495e-005	0.00073477	0.00141886
%RSD:	168.035	4.03969	17.5675	306.322	101.036
Repeat: 1	0.0264045	0.0115115	0.000187758	0.000250006	-0.00198171
Repeat: 2	0.0123934	0.0113476	0.000172756	0.000969518	0.000212221
Repeat: 3	-0.00795382	0.0106607	0.000239735	-0.000499917	-0.00244341
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000266646	0.000767985	6220.75	163303	11656.2
Std Dev:	0.000429145	0.000121685	5.03757	585.142	54.5389
%RSD:	160.942	15.8447	0.0809801	0.358316	0.467896
Repeat: 1	-0.000126038	0.000852124	6215.01	162721	11650.2
Repeat: 2	0.000201234	0.000823371	6222.81	163892	11713.5
Repeat: 3	0.000724741	0.000628459	6224.42	163297	11604.9
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	6220.75	163303	11656.2
Std Dev:	5.03757	585.142	54.5389
%RSD:	0.0809801	0.358316	0.467896
Repeat: 1	6215.01	162721	11650.2
Repeat: 2	6222.81	163892	11713.5
Repeat: 3	6224.42	163297	11604.9

Sample Name	Acquisition Date
CCV	10/12/2016 11:51:39AM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	14149.4	6106.21	328.838	11330.6	99343.5
Std Dev:	26.8757	36.7267	1.03617	16.3006	821.378
%RSD:	0.189943	0.601464	0.315101	0.143863	0.826806
Repeat: 1	14159.3	6088.72	327.753	11344.7	99468.9
Repeat: 2	14118.9	6148.41	329.818	11312.7	100095
Repeat: 3	14169.8	6081.5	328.945	11334.4	98466.7
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Avg. of Repeats:	850321	76509.1	5985.63	15254.3	29917.1
Std Dev:	3848.7	467.263	22.2205	50.1533	75.4726
%RSD:	0.452618	0.610728	0.371231	0.328781	0.252272
Repeat: 1	849093	76410	5961.33	15199.6	29852.5
Repeat: 2	854634	77018	6004.91	15298.2	29898.8
Repeat: 3	847237	76099.4	5990.65	15265	30000.1
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Avg. of Repeats:	47339.9	21923.6	26309.6	23471.9	5924.53
Std Dev:	135.033	122.741	74.6749	95.567	26.426
%RSD:	0.285242	0.559857	0.283832	0.407155	0.446043
Repeat: 1	47402.5	21899.5	26290.7	23447.1	5899.13
Repeat: 2	47184.9	22056.7	26391.9	23577.4	5951.88

Repeat: 3	47432.3	21814.8	26246.2	23391.2	5922.6
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	136658	5866.94	821.637	89095.7	9399.76
Std Dev:	316.719	17.1368	10.6284	484.27	33.4279
%RSD:	0.23176	0.292091	1.29356	0.54354	0.355625
Repeat: 1	136448	5848.43	809.512	89111	9363.32
Repeat: 2	136504	5882.25	829.344	89572.1	9429.01
Repeat: 3	137022	5870.12	826.054	88603.9	9406.94
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	610.301	717.534	809.05	435.177	232.102
Std Dev:	1.5867	6.20166	4.18491	1.45671	0.647743
%RSD:	0.259986	0.864302	0.517262	0.334739	0.279077
Repeat: 1	609.335	711.799	804.379	433.973	231.402
Repeat: 2	612.132	716.687	812.458	436.796	232.681
Repeat: 3	609.435	724.116	810.312	434.761	232.223
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	433.431	2799.67	110968	8207.31	423.433
Std Dev:	2.31505	10.251	688.053	48.1531	1.13108
%RSD:	0.534123	0.366148	0.620046	0.586709	0.267122
Repeat: 1	431.336	2788.21	111031	8212.79	422.373
Repeat: 2	435.917	2807.95	111622	8252.49	424.624
Repeat: 3	433.04	2802.87	110251	8156.66	423.301
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	45864	23278.1	6401.2	160311	12149.5
Std Dev:	128.728	69.5463	21.2318	387.478	109.437
%RSD:	0.280674	0.298763	0.331684	0.241703	0.900752
Repeat: 1	45827.1	23211.3	6382.77	160279	12156.3
Repeat: 2	45757.7	23350.1	6424.42	159941	12255.4
Repeat: 3	46007.1	23272.8	6396.43	160714	12036.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.983593	25.0773	0.491232	1.98536	1.99027
Std Dev:	0.00197104	0.103731	0.0010921	0.00383804	0.00185041
%RSD:	0.200392	0.413646	0.222319	0.193318	0.0929729
Repeat: 1	0.985616	24.9843	0.490493	1.98823	1.99119
Repeat: 2	0.983484	25.0586	0.490716	1.98684	1.98814
Repeat: 3	0.981678	25.1892	0.492486	1.981	1.99148
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.06618	50.5602	0.506987	2.02165	2.02877
Std Dev:	0.0143054	0.202682	0.000669901	0.00244814	0.00353081
%RSD:	0.692359	0.400874	0.132134	0.121096	0.174037
Repeat: 1	2.06348	50.4508	0.506402	2.02021	2.0254
Repeat: 2	2.08164	50.4357	0.506841	2.02026	2.03244
Repeat: 3	2.05341	50.7941	0.507717	2.02447	2.02845
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.9553	25.184	50.1497	1.99963	50.3308
Std Dev:	0.00352574	0.110886	0.199711	0.00721239	0.421811

%RSD:	0.180317	0.440303	0.398231	0.360687	0.838077
Repeat: 1	1.95935	25.132	50.1068	1.99859	50.0576
Repeat: 2	1.95287	25.1086	49.9749	1.99299	50.1183
Repeat: 3	1.9537	25.3113	50.3673	2.0073	50.8166
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.05037	2.01619	49.8445	50.1258	2.03562
Std Dev:	0.00262979	0.00224784	1.36187	0.175082	0.00255096
%RSD:	0.128259	0.11149	2.73223	0.349284	0.125316
Repeat: 1	2.04757	2.0158	48.2721	50.1048	2.03347
Repeat: 2	2.05279	2.01416	50.6489	49.9622	2.03495
Repeat: 3	2.05075	2.0186	50.6125	50.3105	2.03844
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.97988	0.50834	0.507311	0.493737	0.493827
Std Dev:	0.00300519	0.00513879	0.00225512	0.0016336	0.00105568
%RSD:	0.151787	1.0109	0.444524	0.330864	0.213776
Repeat: 1	1.98313	0.503581	0.504817	0.492427	0.493566
Repeat: 2	1.97931	0.50765	0.507912	0.495568	0.492926
Repeat: 3	1.9772	0.513789	0.509206	0.493217	0.494989
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.00035	2.03002	1.99603	2.00608	1.01232
Std Dev:	0.0196894	0.0028316	0.00642294	0.00706977	0.00107733
%RSD:	0.984297	0.139486	0.321785	0.352417	0.106422
Repeat: 1	1.97826	2.02811	1.99539	2.00625	1.01139
Repeat: 2	2.00672	2.02869	1.98995	1.99893	1.01207
Repeat: 3	2.01606	2.03328	2.00275	2.01307	1.0135
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	2.00719	1.99559	6072.32	157505	11250.9
Std Dev:	0.00082328	0.000989714	20.3631	395.143	106.201
%RSD:	0.0410165	0.049595	0.335343	0.250877	0.943929
Repeat: 1	2.00672	1.99564	6054.36	157490	11262.2
Repeat: 2	2.00671	1.99458	6094.45	157117	11351.1
Repeat: 3	2.00814	1.99656	6068.16	157907	11139.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6072.32	157505	11250.9
Std Dev:	20.3631	395.143	106.201
%RSD:	0.335343	0.250877	0.943929
Repeat: 1	6054.36	157490	11262.2
Repeat: 2	6094.45	157117	11351.1
Repeat: 3	6068.16	157907	11139.6

Sample Name	**Acquisition Date**
CCB	10/12/2016 11:56:33AM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1248.58	476.677	72.6712	872.619	2665.83
Std Dev:	5.60417	1.86594	0.307875	29.374	14.2176
%RSD:	0.448842	0.391447	0.423656	3.36619	0.533328
Repeat: 1	1242.46	474.586	73.0057	903.177	2650.84
Repeat: 2	1249.85	478.172	72.6079	870.088	2679.12
Repeat: 3	1253.45	477.273	72.3998	844.593	2667.53
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1058.46	572.702	201.487	292.805	604.993
Std Dev:	4.20256	4.67678	0.350184	0.930687	1.71825
%RSD:	0.397046	0.816617	0.173799	0.317852	0.284011
Repeat: 1	1062.1	567.505	201.891	293.874	606.265
Repeat: 2	1053.86	576.573	201.306	292.178	605.675
Repeat: 3	1059.41	574.026	201.265	292.362	603.038
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1490	112.273	5075	5236.94	166.212
Std Dev:	10.0775	1.55097	17.5349	34.9477	0.601332
%RSD:	0.67634	1.38144	0.345516	0.667331	0.361787
Repeat: 1	1481.12	113.841	5060.42	5205.01	166.267
Repeat: 2	1487.93	110.739	5094.46	5274.28	165.584
Repeat: 3	1500.95	112.238	5070.13	5231.52	166.783
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	431.192	92.1122	622.677	5168.99	313
Std Dev:	1.10868	0.51312	3.69519	21.0893	1.12167
%RSD:	0.257119	0.557059	0.593436	0.407995	0.358359
Repeat: 1	432.254	92.5556	625.624	5146.15	314.043
Repeat: 2	431.279	92.2308	623.876	5187.71	311.814
Repeat: 3	430.042	91.5501	618.531	5173.13	313.144
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.3796	184.105	220.022	124.853	78.0082
Std Dev:	0.393467	1.71312	0.657379	0.552851	0.363177
%RSD:	0.950872	0.930512	0.298779	0.4428	0.465562
Repeat: 1	40.9842	183.503	220.78	124.664	78.3793
Repeat: 2	41.7711	182.775	219.683	124.42	77.9917
Repeat: 3	41.3837	186.038	219.603	125.476	77.6535
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	142.139	76.0967	1685.56	367.917	51.2078
Std Dev:	0.64856	0.243177	9.12304	1.35807	0.204623
%RSD:	0.456286	0.319563	0.541248	0.369125	0.399594
Repeat: 1	142.75	76.3351	1682.1	366.387	51.2319
Repeat: 2	141.459	76.1061	1695.9	368.981	51.3993
Repeat: 3	142.208	75.849	1678.67	368.382	50.9921
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1166.91	174.951	6452.29	163633	12234.1
Std Dev:	4.75393	0.306657	6.84885	719.047	53.5702
%RSD:	0.407394	0.175281	0.106146	0.439426	0.437877
Repeat: 1	1166.17	175.123	6449.17	162811	12265.7
Repeat: 2	1162.58	175.133	6447.55	164144	12172.2
Repeat: 3	1172	174.597	6460.14	163945	12264.3

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000472901	0.00165985	0.000953168	-0.0290563	0.000299088
Std Dev:	0.000103718	0.00329288	1.63996e-005	0.00493382	5.61873e-006
%RSD:	21.9322	198.383	1.72054	16.9802	1.87862
Repeat: 1	-0.000371235	0.00401874	0.000952575	-0.0239983	0.000302504
Repeat: 2	-0.000468912	-0.00210218	0.000969855	-0.0293149	0.000302156
Repeat: 3	-0.000578556	0.003063	0.000937072	-0.0338557	0.000292603
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	8.19278e-006	-0.000832602	-2.36999e-006	-2.73426e-005	2.18942e-005
Std Dev:	1.2013e-005	0.00252251	4.92074e-005	9.95292e-005	0.000351194
%RSD:	146.629	302.967	2076.27	364.008	1604.06
Repeat: 1	-4.87571e-006	-0.00196492	-4.25167e-005	1.0501e-006	0.000129966
Repeat: 2	1.06992e-005	0.00205766	5.25251e-005	-0.000137983	0.000306352
Repeat: 3	1.87549e-005	-0.00259054	-1.71183e-005	5.49051e-005	-0.000370635
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000433191	0.00187305	-0.0194343	-0.00042609	-0.0082273
Std Dev:	0.000235394	0.00133481	0.0306111	0.00148494	0.00401584
%RSD:	54.3395	71.264	157.511	348.504	48.8111
Repeat: 1	-0.000655212	0.0032397	-0.027428	-0.001024	-0.005315
Repeat: 2	-0.000186386	0.00057254	0.0143806	0.0012646	-0.0128085
Repeat: 3	-0.000457977	0.0018069	-0.0452555	-0.00151887	-0.00655841
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-6.22898e-005	0.00018474	1.57857	0.015617	-3.69639e-006
Std Dev:	1.95975e-005	9.88543e-005	1.65233	0.00291679	0.000270034
%RSD:	31.4618	53.5101	104.672	18.677	7305.36
Repeat: 1	-5.1493e-005	0.000125614	3.16405	0.0123656	4.21609e-005
Repeat: 2	-5.0465e-005	0.000298862	1.70503	0.0180036	-0.000293723
Repeat: 3	-8.49112e-005	0.000129743	-0.133353	0.0164818	0.000240473
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00149598	-0.000770495	-2.63612e-005	0.0010772	0.000148722
Std Dev:	0.00182413	0.00346102	0.000583034	0.00154998	0.000261059
%RSD:	121.935	449.195	2211.71	143.889	175.535
Repeat: 1	-0.000194615	-0.003497	0.000632806	-0.000580653	0.000440852
Repeat: 2	0.00342933	-0.00193772	-0.000237405	0.00132212	-6.17373e-005
Repeat: 3	0.00125324	0.00312324	-0.000474485	0.00249015	6.705e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00976243	3.68185e-005	3.75582e-005	0.000416536	0.000636957
Std Dev:	0.00939218	0.000206202	7.49076e-005	0.000405531	0.00219213
%RSD:	96.2074	560.048	199.444	97.3582	344.157
Repeat: 1	0.00900491	2.65679e-005	3.1224e-005	0.000715228	0.00184655

Repeat: 2	0.000771949	0.000247954	0.000115432	-4.5129e-005	0.00195781
Repeat: 3	0.0195104	-0.000164067	-3.39811e-005	0.000579507	-0.00189348
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000138508	-5.39206e-005	6185.64	160910	11342.1
Std Dev:	0.00028239	6.53471e-005	6.91979	701.454	55.3553
%RSD:	203.879	121.191	0.111869	0.435928	0.488051
Repeat: 1	-0.00018297	-7.45086e-005	6181.04	160109	11375.5
Repeat: 2	0.000251993	1.9241e-005	6182.29	161413	11278.2
Repeat: 3	0.000346502	-0.000106494	6193.6	161209	11372.7
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6185.64	160910	11342.1
Std Dev:	6.91979	701.454	55.3553
%RSD:	0.111869	0.435928	0.488051
Repeat: 1	6181.04	160109	11375.5
Repeat: 2	6182.29	161413	11278.2
Repeat: 3	6193.6	161209	11372.7

Sample Name	**Acquisition Date**
M9C0RC	10/12/2016 12:01:36PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1911.42	933.541	125.815	5922.56	7583.21
Std Dev:	11.5186	2.95807	0.310492	19.7292	39.7863
%RSD:	0.602617	0.316865	0.246784	0.333119	0.524663
Repeat: 1	1905.36	931.233	125.717	5943.41	7607.67
Repeat: 2	1904.2	936.876	125.566	5920.08	7537.31
Repeat: 3	1924.71	932.516	126.163	5904.18	7604.67
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	23254.9	77750.6	803.025	1070.97	3732.53
Std Dev:	81.4873	295.834	0.468533	1.1637	3.47901
%RSD:	0.35041	0.380491	0.0583459	0.108659	0.093208
Repeat: 1	23329	77890.9	802.846	1069.64	3736.34
Repeat: 2	23167.6	77410.8	803.557	1071.83	3729.52
Repeat: 3	23267.9	77950.3	802.673	1071.43	3731.73
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7433.66	1033.42	26470.8	6110.48	1328.98
Std Dev:	14.4537	4.97613	96.6335	24.7849	6.25176
%RSD:	0.194435	0.481519	0.365058	0.405613	0.470417
Repeat: 1	7434.78	1038.95	26564.8	6088.39	1333.95
Repeat: 2	7418.68	1032.01	26371.7	6137.29	1321.96
Repeat: 3	7447.52	1029.31	26475.8	6105.76	1331.04
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	7757.11	1645.76	821.534	90186.7	2654.62
Std Dev:	24.0527	6.4889	2.88458	352.656	6.70039
%RSD:	0.310073	0.39428	0.351121	0.391029	0.252405
Repeat: 1	7784.8	1641.2	819.716	90361.9	2647.49

Repeat: 2	7745.05	1653.19	824.86	89780.7	2660.79
Repeat: 3	7741.46	1642.89	820.026	90417.4	2655.58
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1488.05	296.986	342.53	396.139	124.547
Std Dev:	5.0688	1.46916	0.927674	2.73165	0.0691481
%RSD:	0.340634	0.494689	0.27083	0.68957	0.0555197
Repeat: 1	1483.29	296.121	343.454	393.354	124.583
Repeat: 2	1493.38	296.154	342.537	398.814	124.467
Repeat: 3	1487.48	298.682	341.599	396.247	124.59
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	429.499	793.511	29358.9	776.834	201.964
Std Dev:	0.506456	0.994543	117.823	2.36457	0.416222
%RSD:	0.117918	0.125335	0.401318	0.304385	0.206088
Repeat: 1	429.435	794.221	29442.9	779.565	201.66
Repeat: 2	430.034	793.938	29224.2	775.469	202.438
Repeat: 3	429.027	792.374	29409.5	775.469	201.793
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5810.07	6111.44	6417.41	161852	12285.5
Std Dev:	10.9434	18.5721	9.80305	779.917	88.0851
%RSD:	0.188352	0.30389	0.152757	0.481871	0.716985
Repeat: 1	5822.7	6102.69	6409.03	161994	12327.7
Repeat: 2	5804.25	6132.77	6428.19	161011	12184.2
Repeat: 3	5803.28	6098.87	6415	162551	12344.5

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0495338	2.04099	0.0971029	0.936103	0.100792
Std Dev:	0.000714422	0.0287819	0.000676742	0.00692582	0.000289308
%RSD:	1.44229	1.4102	0.696933	0.739857	0.287036
Repeat: 1	0.0495507	2.01172	0.0971878	0.93828	0.101099
Repeat: 2	0.0488111	2.06926	0.0963877	0.941679	0.100524
Repeat: 3	0.0502396	2.04198	0.0977332	0.928351	0.100752
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0532449	50.7187	0.0518171	0.103263	0.214044
Std Dev:	0.000175619	0.220061	4.82242e-005	0.000158712	0.00068435
%RSD:	0.329832	0.433886	0.093066	0.153697	0.319724
Repeat: 1	0.0533699	50.6008	0.0518728	0.103092	0.214262
Repeat: 2	0.0533207	50.9726	0.0517896	0.103289	0.214594
Repeat: 3	0.0530441	50.5827	0.051789	0.103407	0.213278
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.250715	1.05136	49.9644	0.102874	10.0575
Std Dev:	0.000858014	0.00883701	0.197962	0.0014793	0.0199372
%RSD:	0.342227	0.840528	0.396205	1.43797	0.198232
Repeat: 1	0.250936	1.05289	50.049	0.102793	10.0591
Repeat: 2	0.251441	1.05934	50.1061	0.104392	10.0766
Repeat: 3	0.249768	1.04186	49.7382	0.101437	10.0368
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.108723	0.536183	50.7618	50.1404	0.520111
Std Dev:	0.000626413	0.00136403	0.975637	0.184897	0.000869624
%RSD:	0.576154	0.254397	1.92199	0.368759	0.1672
Repeat: 1	0.109021	0.535511	50.7975	50.052	0.51913
Repeat: 2	0.109146	0.537753	51.719	50.3529	0.520788
Repeat: 3	0.108004	0.535285	49.7687	50.0163	0.520414
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.06582	0.108303	0.104859	0.49911	0.149666
Std Dev:	0.00869691	0.00103012	0.000279296	0.00492907	0.000557336
%RSD:	0.171678	0.951151	0.266355	0.987571	0.372386
Repeat: 1	5.05672	0.107231	0.104626	0.494328	0.149081
Repeat: 2	5.07405	0.108393	0.104781	0.504174	0.15019
Repeat: 3	5.06668	0.109285	0.105169	0.498829	0.149729
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.99552	0.529051	0.499343	0.103694	0.414991
Std Dev:	0.013973	0.00115317	0.00191097	0.000578226	0.000894152
%RSD:	0.700222	0.217969	0.382697	0.557629	0.215463
Repeat: 1	1.99022	0.530377	0.498833	0.103711	0.414864
Repeat: 2	2.01136	0.528286	0.501457	0.104263	0.415941
Repeat: 3	1.98496	0.52849	0.497739	0.103107	0.414167
QC Status Pass/Fail:	Fail	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.20643	0.508059	6140.9	159088	11399.4
Std Dev:	0.000986812	0.000896685	10.141	780.984	92.8544
%RSD:	0.478036	0.176493	0.165138	0.490913	0.814556
Repeat: 1	0.206656	0.507997	6132.84	159228	11448.1
Repeat: 2	0.207285	0.508984	6152.29	158246	11292.3
Repeat: 3	0.20535	0.507194	6137.58	159789	11457.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6140.9	159088	11399.4
Std Dev:	10.141	780.984	92.8544
%RSD:	0.165138	0.490913	0.814556
Repeat: 1	6132.84	159228	11448.1
Repeat: 2	6152.29	158246	11292.3
Repeat: 3	6137.58	159789	11457.8

Sample Name	**Acquisition Date**
M9C0RL	10/12/2016 12:06:24PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1904.97	923.646	126.279	5803.43	7508.12
Std Dev:	9.5651	4.18812	0.21657	19.9845	3.51627

%RSD:	0.502113	0.453434	0.171501	0.344356	0.0468328
Repeat: 1	1912.87	918.81	126.033	5780.36	7504.09
Repeat: 2	1894.33	926.089	126.439	5815.15	7510.54
Repeat: 3	1907.7	926.039	126.366	5814.79	7509.74
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	22924.5	77260.4	796.394	1060.67	3725.89
Std Dev:	64.716	284.248	1.69196	2.31075	10.1314
%RSD:	0.282301	0.367909	0.212452	0.217858	0.271919
Repeat: 1	22852.3	77419	798.022	1062.46	3721.69
Repeat: 2	22943.8	76932.2	794.644	1058.06	3718.53
Repeat: 3	22977.3	77429.9	796.516	1061.48	3737.44
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7361.79	1011.04	26407.9	6121.82	1324.94
Std Dev:	53.6883	2.71383	51.3705	14.936	2.71512
%RSD:	0.729282	0.268419	0.194527	0.24398	0.204924
Repeat: 1	7314.41	1013.86	26402.3	6105.51	1325.76
Repeat: 2	7350.87	1008.44	26359.6	6134.84	1321.91
Repeat: 3	7420.11	1010.84	26461.8	6125.1	1327.16
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	7377.46	1631.57	819.936	89760.6	2627.56
Std Dev:	20.3836	1.07172	4.81689	291.811	3.20239
%RSD:	0.276296	0.0656861	0.587472	0.3251	0.121877
Repeat: 1	7354.15	1632.15	820.474	89901.2	2623.89
Repeat: 2	7386.29	1632.23	824.461	89425.1	2629.76
Repeat: 3	7391.95	1630.34	814.872	89955.5	2629.04
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1481.59	293.839	341.756	395.899	124.691
Std Dev:	1.4717	2.57413	0.559571	1.41904	0.606889
%RSD:	0.0993324	0.876033	0.163734	0.358436	0.486713
Repeat: 1	1480.7	296.635	342.271	394.937	124.001
Repeat: 2	1483.29	293.315	341.838	395.23	125.14
Repeat: 3	1480.79	291.567	341.16	397.529	124.933
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	372.689	789.91	28887.2	769.382	200.095
Std Dev:	2.39114	0.963993	78.097	2.36921	0.519599
%RSD:	0.641591	0.122038	0.270351	0.307937	0.259675
Repeat: 1	370.514	790.321	28915.8	766.647	200.613
Repeat: 2	375.25	790.601	28798.9	770.725	200.1
Repeat: 3	372.303	788.809	28947.1	770.775	199.574
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5748.31	6041.04	6409.12	161891	12202.7
Std Dev:	15.9812	11.0057	5.25551	796.39	54.441
%RSD:	0.278015	0.182182	0.0820005	0.491929	0.44614
Repeat: 1	5730.13	6035.21	6408.91	161273	12220.9
Repeat: 2	5754.7	6053.73	6414.48	161611	12141.4
Repeat: 3	5760.12	6034.17	6403.97	162790	12245.6

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0488229	2.00573	0.0972855	0.912676	0.0997887
Std Dev:	0.000803343	0.0232698	0.00120317	0.00343915	0.000500915
%RSD:	1.64542	1.16017	1.23675	0.376821	0.501976

Repeat: 1	0.0488954	1.97979	0.0959439	0.910753	0.0997034
Repeat: 2	0.0479858	2.02476	0.0982688	0.916647	0.100327
Repeat: 3	0.0495876	2.01265	0.0976439	0.910629	0.0993359
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0524263	50.78	0.0512337	0.10191	0.213463
Std Dev:	0.00014575	0.0924685	0.000182413	0.000363738	0.000315794
%RSD:	0.27801	0.182096	0.356041	0.35692	0.147939
Repeat: 1	0.0524461	50.797	0.0513647	0.10215	0.21367
Repeat: 2	0.0525611	50.8629	0.0510253	0.101492	0.2131
Repeat: 3	0.0522717	50.6803	0.0513111	0.102089	0.21362
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.247218	1.03326	50.1412	0.102756	10.0954
Std Dev:	0.00170444	0.00426846	0.126748	0.000874198	0.0285006
%RSD:	0.689448	0.413105	0.252782	0.850748	0.282314
Repeat: 1	0.24533	1.03527	50.073	0.101926	10.0855
Repeat: 2	0.247679	1.03616	50.2874	0.103669	10.1275
Repeat: 3	0.248644	1.02836	50.0631	0.102674	10.0731
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.103042	0.532125	50.2324	50.2613	0.514563
Std Dev:	0.000429239	0.000194493	1.5116	0.0963644	0.000714053
%RSD:	0.416566	0.0365503	3.00922	0.191727	0.138769
Repeat: 1	0.103037	0.532297	50.431	50.2625	0.513782
Repeat: 2	0.103474	0.531914	51.6349	50.3572	0.514725
Repeat: 3	0.102615	0.532164	48.6314	50.1644	0.515182
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.04817	0.104147	0.102995	0.498573	0.151313
Std Dev:	0.0025116	0.00215012	0.00131592	0.0037242	0.00259729
%RSD:	0.0497527	2.0645	1.27765	0.746973	1.71651
Repeat: 1	5.04535	0.106023	0.102449	0.495996	0.149925
Repeat: 2	5.05018	0.104617	0.104496	0.49688	0.154309
Repeat: 3	5.04897	0.101801	0.102041	0.502843	0.149703
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.6145	0.526693	0.494276	0.101539	0.410386
Std Dev:	0.0226463	0.000142133	0.00103229	0.00124027	0.00140991
%RSD:	1.40268	0.026986	0.208849	1.22148	0.343558
Repeat: 1	1.59861	0.526718	0.494051	0.100117	0.412012
Repeat: 2	1.64043	0.526821	0.495402	0.102398	0.409502
Repeat: 3	1.60446	0.52654	0.493374	0.102101	0.409643
QC Status Pass/Fail:	Fail	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.203351	0.502798	6131.03	159125	11313
Std Dev:	0.000951135	0.000472287	5.4331	814.195	59.4537

%RSD:	0.467732	0.0939317	0.0886164	0.511669	0.525534
Repeat: 1	0.202739	0.502465	6129.47	158487	11332
Repeat: 2	0.204447	0.503339	6137.07	158846	11246.4
Repeat: 3	0.202866	0.502591	6126.55	160042	11360.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6131.03	159125	11313
Std Dev:	5.4331	814.195	59.4537
%RSD:	0.0886164	0.511669	0.525534
Repeat: 1	6129.47	158487	11332
Repeat: 2	6137.07	158846	11246.4
Repeat: 3	6126.55	160042	11360.6

Sample Name	**Acquisition Date**
M89N7	10/12/2016 12:11:13PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1725.57	879.013	166.437	5394.56	7261.28
Std Dev:	10.8823	0.709729	1.13247	10.2297	30.6628
%RSD:	0.630649	0.0807416	0.68042	0.189631	0.422278
Repeat: 1	1713.6	879.259	165.781	5385.86	7229.78
Repeat: 2	1734.87	878.213	165.785	5392	7263.05
Repeat: 3	1728.23	879.567	167.744	5405.83	7291.03
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	22982.9	74573.8	749.079	29889.9	6781.22
Std Dev:	94.3078	456.273	4.08588	154.747	24.6184
%RSD:	0.410339	0.611841	0.545454	0.517723	0.363038
Repeat: 1	22879.9	74215.9	746.549	29774.5	6753.69
Repeat: 2	23003.8	74417.9	746.895	29829.4	6788.85
Repeat: 3	23065	75087.6	753.793	30065.7	6801.13
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	6957.54	1776.08	25247.7	5763.82	1256.17
Std Dev:	21.1244	8.99651	53.7826	31.6002	2.1761
%RSD:	0.303619	0.506539	0.213019	0.548251	0.173233
Repeat: 1	6952.52	1771.57	25188.1	5739.24	1253.74
Repeat: 2	6939.38	1770.22	25262.6	5799.46	1256.82
Repeat: 3	6980.73	1786.43	25292.5	5752.75	1257.94
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	9208.31	1641.08	774.224	86205.8	3048.7
Std Dev:	31.3918	10.259	4.78191	266.9	14.175
%RSD:	0.340908	0.625133	0.617639	0.309608	0.464952
Repeat: 1	9172.31	1632.5	769.426	86022.3	3035.72
Repeat: 2	9222.64	1638.31	778.99	86083.1	3046.56
Repeat: 3	9229.98	1652.45	774.256	86512	3063.82
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1650.76	279.675	324.967	363.805	160.524
Std Dev:	10.5386	0.533886	1.55368	3.1111	1.01115
%RSD:	0.638409	0.190895	0.478104	0.855155	0.629906
Repeat: 1	1642.69	279.559	323.397	362.197	160.651

Repeat: 2	1646.91	279.209	326.504	361.827	159.455
Repeat: 3	1662.68	280.258	325.001	367.391	161.465
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	793.6	884.882	28500.8	753.658	81.3203
Std Dev:	4.66859	3.95907	89.2771	4.01233	0.184829
%RSD:	0.58828	0.447413	0.313244	0.532381	0.227286
Repeat: 1	791.741	881.481	28489.2	751.992	81.1484
Repeat: 2	790.147	883.935	28417.9	750.747	81.2966
Repeat: 3	798.912	889.228	28595.3	758.235	81.5158
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5511.17	6347.66	6186.11	161837	12408.8
Std Dev:	21.4438	34.7672	26.3834	350.103	108.177
%RSD:	0.389097	0.547718	0.426495	0.216331	0.871778
Repeat: 1	5489.17	6326.07	6174.81	161738	12361.9
Repeat: 2	5512.33	6329.14	6167.25	161546	12331.9
Repeat: 3	5532.01	6387.76	6216.26	162226	12532.5

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0442436	1.89944	0.134452	0.819777	0.0962295
Std Dev:	0.000803791	0.0246694	0.000156089	0.00145974	0.000435851
%RSD:	1.81674	1.29877	0.116093	0.178065	0.452928
Repeat: 1	0.0441242	1.92715	0.134373	0.818807	0.0962665
Repeat: 2	0.0451004	1.8913	0.134631	0.821456	0.0966456
Repeat: 3	0.0435062	1.87987	0.13435	0.819067	0.0957763
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0527069	47.8924	0.0493488	4.12515	0.425796
Std Dev:	0.000157032	0.217574	0.000161687	0.00763543	0.00155347
%RSD:	0.297935	0.454298	0.327641	0.185095	0.36484
Repeat: 1	0.0525359	47.8468	0.0492165	4.11651	0.424073
Repeat: 2	0.0528447	48.1292	0.0493009	4.13099	0.427091
Repeat: 3	0.05274	47.7013	0.049529	4.12794	0.426223
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.234956	1.87284	47.0886	0.0987069	9.3657
Std Dev:	0.000337237	0.00688612	0.346534	0.00082066	0.0793662
%RSD:	0.143532	0.367683	0.73592	0.831412	0.847414
Repeat: 1	0.235276	1.87503	47.1558	0.0990082	9.38903
Repeat: 2	0.234604	1.87837	47.3966	0.0993342	9.43078
Repeat: 3	0.234988	1.86513	46.7133	0.0977781	9.27728
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.1308	0.551916	48.2637	47.2315	0.631133
Std Dev:	0.000505461	0.00163155	0.435511	0.292506	0.00177098
%RSD:	0.386437	0.295616	0.902357	0.619303	0.280604
Repeat: 1	0.130293	0.55006	48.3129	47.3223	0.629134
Repeat: 2	0.131304	0.552564	48.6725	47.4678	0.632507
Repeat: 3	0.130805	0.553124	47.8056	46.9044	0.631758

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.70472	0.0937135	0.0925067	0.42731	0.222997
Std Dev:	0.0185559	0.000703847	0.000858698	0.00551096	0.00182243
%RSD:	0.325273	0.751063	0.928254	1.28969	0.817244
Repeat: 1	5.68335	0.0945261	0.0916725	0.424187	0.225086
Repeat: 2	5.71675	0.0933204	0.093388	0.424069	0.221734
Repeat: 3	5.71407	0.093294	0.0924597	0.433673	0.22217
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.45422	0.583884	0.477928	0.101186	-0.0182036
Std Dev:	0.0150004	0.0014189	0.00301785	0.000723428	2.45883e-005
%RSD:	0.336767	0.243011	0.631445	0.71495	0.135074
Repeat: 1	4.45796	0.582694	0.47961	0.10132	-0.0182076
Repeat: 2	4.46699	0.585454	0.47973	0.100405	-0.018226
Repeat: 3	4.4377	0.583505	0.474444	0.101833	-0.0181773
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.197193	0.547901	5917	159339	11582
Std Dev:	0.00030721	0.000882437	27.1	354.255	109.191
%RSD:	0.155791	0.161058	0.458002	0.222327	0.942761
Repeat: 1	0.196839	0.546905	5907.06	159254	11537.6
Repeat: 2	0.197379	0.548213	5896.28	159036	11502.1
Repeat: 3	0.197362	0.548585	5947.67	159729	11706.4
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5917	159339	11582
Std Dev:	27.1	354.255	109.191
%RSD:	0.458002	0.222327	0.942761
Repeat: 1	5907.06	159254	11537.6
Repeat: 2	5896.28	159036	11502.1
Repeat: 3	5947.67	159729	11706.4

Sample Name	**Acquisition Date**
M89N7S	10/12/2016 12:16:01PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1788.8	926.662	177.873	5890.83	7800.64
Std Dev:	6.58253	9.06779	1.74205	8.79132	24.0569
%RSD:	0.367986	0.978543	0.979379	0.149237	0.308397
Repeat: 1	1781.94	922.993	176.125	5880.96	7804.19
Repeat: 2	1789.38	920.004	177.884	5897.83	7775
Repeat: 3	1795.07	936.989	179.61	5893.69	7822.72
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	25634.2	82902.5	809.436	33091.7	7470.99
Std Dev:	28.7872	191.004	1.51445	63.6628	9.84159

%RSD:	0.1123	0.230396	0.187099	0.192383	0.131731
Repeat: 1	25650.9	82982.9	807.705	33022	7462.52
Repeat: 2	25650.6	82684.4	810.515	33106.4	7468.66
Repeat: 3	25600.9	83040.2	810.089	33146.8	7481.78
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7552.74	1961.46	27493.9	5836.67	1376.75
Std Dev:	15.1036	11.4729	29.8972	11.271	7.45654
%RSD:	0.199975	0.584918	0.108741	0.193106	0.541604
Repeat: 1	7569.92	1958.91	27461.3	5829.65	1370.24
Repeat: 2	7541.58	1951.48	27520.1	5830.69	1384.89
Repeat: 3	7546.72	1974	27500.2	5849.67	1375.12
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	10186.7	1812.61	790.695	95077.4	3355.76
Std Dev:	11.4863	5.27222	0.778068	196.008	3.40745
%RSD:	0.112758	0.290864	0.098403	0.206156	0.10154
Repeat: 1	10200	1806.52	791.094	95185.5	3352.36
Repeat: 2	10179.8	1815.62	789.799	94851.1	3355.76
Repeat: 3	10180.4	1815.68	791.193	95195.5	3359.17
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1838.61	291.059	337.456	393.168	172.733
Std Dev:	4.64406	0.722118	1.01986	0.942647	1.34174
%RSD:	0.252585	0.2481	0.302221	0.239757	0.776771
Repeat: 1	1838.05	291.525	337.285	392.588	172.116
Repeat: 2	1834.28	290.228	338.55	392.661	171.81
Repeat: 3	1843.51	291.425	336.532	394.256	174.272
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	869.131	913.476	31427.6	799.246	86.816
Std Dev:	6.0641	3.02797	34.8642	2.37338	0.545931
%RSD:	0.69772	0.331478	0.110935	0.296953	0.628837
Repeat: 1	864.415	910.156	31444.3	797.519	86.1947
Repeat: 2	867.005	914.185	31387.6	801.953	87.0338
Repeat: 3	875.971	916.086	31451.1	798.267	87.2193
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5996.81	6072.17	6182.41	161737	12413.2
Std Dev:	4.61689	18.0891	23.5382	365.761	21.5765
%RSD:	0.0769892	0.297902	0.380729	0.226146	0.173818
Repeat: 1	5996.76	6060.13	6163.14	161328	12407.8
Repeat: 2	5992.21	6063.41	6175.44	162034	12394.9
Repeat: 3	6001.45	6092.97	6208.64	161847	12437

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0489653	2.10676	0.150903	0.911987	0.107152
Std Dev:	0.000264387	0.0296877	0.00251201	0.00108332	0.000288512
%RSD:	0.539946	1.40916	1.66465	0.118787	0.269255
Repeat: 1	0.0486818	2.09049	0.148209	0.913229	0.107423
Repeat: 2	0.0490092	2.08877	0.151319	0.911491	0.106849
Repeat: 3	0.0492051	2.14103	0.153181	0.911241	0.107184
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0591427	53.262	0.0546949	4.57517	0.473134

Std Dev:	0.000157615	0.09253	0.000177042	0.0109965	0.000911387
%RSD:	0.266499	0.173726	0.323689	0.240352	0.192628
Repeat: 1	0.0593241	53.3625	0.0547807	4.5807	0.473748
Repeat: 2	0.059064	53.1803	0.0548128	4.58229	0.472087
Repeat: 3	0.0590398	53.2432	0.0544913	4.5625	0.473568
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.260448	2.07848	52.1713	0.109386	10.3767
Std Dev:	0.00139542	0.00989561	0.0516684	0.000840693	0.0722294
%RSD:	0.535776	0.476097	0.0990361	0.768558	0.696076
Repeat: 1	0.262048	2.07668	52.178	0.108686	10.3325
Repeat: 2	0.259487	2.06961	52.2193	0.110318	10.46
Repeat: 3	0.259808	2.08916	52.1166	0.109152	10.3374
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.145383	0.613417	52.8065	52.3722	0.702147
Std Dev:	0.000621186	0.0018935	1.00165	0.0885597	0.00230704
%RSD:	0.427276	0.308681	1.89683	0.169097	0.32857
Repeat: 1	0.1461	0.613708	53.6828	52.4734	0.704064
Repeat: 2	0.145007	0.615147	51.7146	52.3085	0.702789
Repeat: 3	0.145042	0.611394	53.0222	52.3349	0.699586
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	6.37569	0.103269	0.102048	0.479341	0.256717
Std Dev:	0.0199421	0.00209787	0.00164759	0.00155789	0.0043866
%RSD:	0.312783	2.03147	1.61452	0.325008	1.70873
Repeat: 1	6.39866	0.104468	0.10343	0.481106	0.256899
Repeat: 2	6.36562	0.100846	0.102489	0.47876	0.252243
Repeat: 3	6.36279	0.104492	0.100225	0.478157	0.26101
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.96899	0.602021	0.529994	0.112579	-0.0124802
Std Dev:	0.0305252	0.0017362	0.000795793	0.00104656	0.00236706
%RSD:	0.614315	0.288395	0.150151	0.929618	18.9665
Repeat: 1	4.93952	0.601963	0.530889	0.111638	-0.0118041
Repeat: 2	4.96697	0.603785	0.529729	0.113707	-0.0151117
Repeat: 3	5.00047	0.600314	0.529365	0.112393	-0.0105248
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.218886	0.523075	5911.68	159239	11585.9
Std Dev:	0.000592429	0.000661515	23.8214	358.454	19.6441
%RSD:	0.270657	0.126466	0.402955	0.225105	0.169551
Repeat: 1	0.219514	0.523837	5891.6	158843	11575.3
Repeat: 2	0.218337	0.522746	5905.43	159542	11573.9
Repeat: 3	0.218806	0.522643	5938	159331	11608.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**

Avg. of Repeats:	5911.68	159239	11585.9
Std Dev:	23.8214	358.454	19.6441
%RSD:	0.402955	0.225105	0.169551
Repeat: 1	5891.6	158843	11575.3
Repeat: 2	5905.43	159542	11573.9
Repeat: 3	5938	159331	11608.6

Sample Name	**Acquisition Date**
M89N7D	10/12/2016 12:20:49PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1121.35	448.272	114.545	726.263	2495.41
Std Dev:	12.9414	2.02533	1.09224	1.65711	23.9053
%RSD:	1.15409	0.451808	0.953551	0.228169	0.957972
Repeat: 1	1109.95	446.162	115.781	725.235	2468.39
Repeat: 2	1118.7	448.455	113.709	728.174	2503.99
Repeat: 3	1135.42	450.2	114.145	725.379	2513.84
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	970.69	598.971	193.988	29998.2	3958.45
Std Dev:	9.583	4.96972	1.23682	54.0088	10.7178
%RSD:	0.987236	0.82971	0.637578	0.18004	0.270757
Repeat: 1	962.952	593.27	192.606	30028.3	3947.62
Repeat: 2	967.71	602.393	194.991	29935.9	3969.06
Repeat: 3	981.409	601.249	194.367	30030.5	3958.68
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1426.24	922.86	4823.91	4894.4	156.671
Std Dev:	14.9132	5.22961	14.7	28.0961	3.74985
%RSD:	1.04563	0.566674	0.304733	0.574046	2.39346
Repeat: 1	1415.87	923.28	4816.15	4873.43	154.237
Repeat: 2	1419.52	927.866	4814.71	4883.45	154.786
Repeat: 3	1443.33	917.433	4840.86	4926.32	160.989
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	2644.49	173.222	582.643	4982.46	910.753
Std Dev:	10.3986	0.376393	5.82048	23.635	5.0082
%RSD:	0.393216	0.217289	0.99898	0.474364	0.549897
Repeat: 1	2640.1	172.802	575.922	4975.12	905.775
Repeat: 2	2656.37	173.528	585.942	4963.36	910.691
Repeat: 3	2637.01	173.337	586.064	5008.89	915.791
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	280.818	182.513	218.592	136.806	107.831
Std Dev:	2.01182	0.944285	1.40302	0.792485	0.434975
%RSD:	0.716414	0.517379	0.641842	0.579278	0.403386
Repeat: 1	283.067	182.245	217.015	136.771	107.661
Repeat: 2	279.19	181.732	219.702	136.031	107.507
Repeat: 3	280.196	183.563	219.06	137.615	108.326
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	144.781	282.106	1582.05	361.691	72.0849
Std Dev:	3.13863	1.58401	15.9726	2.22936	0.709302
%RSD:	2.16785	0.561495	1.00961	0.61637	0.983981
Repeat: 1	141.625	283.3	1574.53	359.771	71.7293

Repeat: 2	144.816	280.309	1571.24	361.167	72.9017
Repeat: 3	147.902	282.709	1600.4	364.136	71.6238
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1078.4	211.522	6274.73	163473	12389.5
Std Dev:	8.20376	0.859196	12.337	570.539	59.0909
%RSD:	0.760732	0.406196	0.196615	0.349012	0.476943
Repeat: 1	1071.75	210.592	6265.59	162999	12387.5
Repeat: 2	1075.89	211.691	6269.84	164106	12449.6
Repeat: 3	1087.57	212.285	6288.76	163313	12331.4

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000225171	0.02258	0.0317961	-0.0728595	0.000481464
Std Dev:	0.000227318	0.01112	0.00254414	0.00103492	0.000349235
%RSD:	100.954	49.2471	8.00142	1.42043	72.5361
Repeat: 1	-2.00892e-005	0.032026	0.034642	-0.0718851	7.84234e-005
Repeat: 2	-0.000185833	0.0253893	0.0297421	-0.0727475	0.000694561
Repeat: 3	-0.000469591	0.0103248	0.0310043	-0.0739458	0.000671408
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	3.27065e-006	0.0363901	-0.000187789	4.07391	0.230711
Std Dev:	1.34593e-005	0.00238136	4.04902e-005	0.00800778	0.000223778
%RSD:	411.518	6.54398	21.5616	0.196563	0.096995
Repeat: 1	-1.14116e-005	0.0345047	-0.000210369	4.08313	0.23096
Repeat: 2	6.1986e-006	0.0390662	-0.000211953	4.06984	0.230527
Repeat: 3	1.5025e-005	0.0355993	-0.000141043	4.06874	0.230646
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00234655	0.918468	0.160325	0.0011655	-0.0108861
Std Dev:	0.000173507	0.00249763	0.0313773	0.000939463	0.0262003
%RSD:	7.39414	0.271934	19.5711	80.6061	240.676
Repeat: 1	0.00232069	0.920663	0.18616	0.000807279	-0.0228604
Repeat: 2	0.00218743	0.918991	0.169407	0.000457846	-0.0289596
Repeat: 3	0.00253154	0.915751	0.125408	0.00223137	0.0191617
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0329365	0.0254304	0.263408	0.115632	0.136101
Std Dev:	0.000113487	9.07811e-005	1.26129	0.0103454	0.000663993
%RSD:	0.344562	0.356979	478.836	8.94676	0.487868
Repeat: 1	0.0330131	0.0253298	-1.18938	0.125397	0.135567
Repeat: 2	0.0329903	0.0255063	0.900851	0.104791	0.135891
Repeat: 3	0.0328061	0.025455	1.07875	0.116709	0.136844
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.70604	0.00356396	-0.000236858	-0.00411961	0.0365599
Std Dev:	0.00355895	0.000305259	0.00110963	0.000547014	0.000826304
%RSD:	0.504072	8.56517	468.481	13.2783	2.26014
Repeat: 1	0.709461	0.00379417	0.000619632	-0.00352016	0.0356218

Repeat: 2	0.706301	0.00321769	0.000160187	-0.00459174	0.0368785
Repeat: 3	0.702358	0.00368001	-0.00149039	-0.00424693	0.0371795
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0238982	0.118916	0.000275465	0.00436263	-0.0370215
Std Dev:	0.0207569	0.000738657	0.00015543	0.000770382	0.00354019
%RSD:	86.8557	0.621158	56.4247	17.6587	9.56253
Repeat: 1	0.00470163	0.119639	0.00034631	0.00429695	-0.0400741
Repeat: 2	0.0210679	0.118163	9.72339e-005	0.00516375	-0.0331406
Repeat: 3	0.045925	0.118947	0.000382851	0.00362719	-0.0378499
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000993195	0.00232395	6015.04	161015	11552.9
Std Dev:	0.00023866	3.26043e-005	11.8853	582.455	61.1328
%RSD:	24.0296	1.40297	0.197593	0.361739	0.529153
Repeat: 1	0.00126792	0.00235861	6007.86	160567	11551.6
Repeat: 2	0.000874677	0.00229389	6008.5	161674	11614.7
Repeat: 3	0.000836991	0.00231935	6028.76	160806	11492.5
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6015.04	161015	11552.9
Std Dev:	11.8853	582.455	61.1328
%RSD:	0.197593	0.361739	0.529153
Repeat: 1	6007.86	160567	11551.6
Repeat: 2	6008.5	161674	11614.7
Repeat: 3	6028.76	160806	11492.5

Sample Name	**Acquisition Date**
M89N7A	10/12/2016 12:25:47PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	2383.69	1337.84	221.366	10164.3	12306.4
Std Dev:	18.0476	7.38795	0.728647	14.824	52.5231
%RSD:	0.75713	0.552232	0.329159	0.145843	0.426796
Repeat: 1	2363.84	1336.51	222.192	10161.6	12282.7
Repeat: 2	2399.1	1331.2	220.813	10151.1	12269.9
Repeat: 3	2388.14	1345.8	221.093	10180.4	12366.6
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	45697.1	152126	1320.1	29095.9	9587.8
Std Dev:	39.9305	329.667	3.28414	19.8668	17.033
%RSD:	0.0873807	0.216706	0.248779	0.0682804	0.177653
Repeat: 1	45671.2	152307	1318.11	29099.5	9568.63
Repeat: 2	45677.1	151745	1323.89	29113.7	9601.2
Repeat: 3	45743.1	152326	1318.3	29074.5	9593.57
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	12642.1	2636.16	46294.9	6742.69	2402
Std Dev:	17.3022	6.86729	108.353	21.1748	3.60334

%RSD:	0.136862	0.260504	0.234049	0.314041	0.150014
Repeat: 1	12622.1	2629.89	46279.3	6727.94	2405.45
Repeat: 2	12652	2643.5	46195.3	6766.95	2402.3
Repeat: 3	12652.2	2635.08	46410.3	6733.18	2398.26
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	15758.9	3160.88	985.479	170727	5223.49
Std Dev:	21.4463	10.5324	6.49146	316.813	8.52142
%RSD:	0.13609	0.333211	0.658711	0.185567	0.163137
Repeat: 1	15757.7	3158.71	983.377	170921	5218.56
Repeat: 2	15738.1	3172.33	980.3	170362	5233.33
Repeat: 3	15780.9	3151.61	992.762	170899	5218.57
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	3077.22	380.25	438.114	622.526	215.112
Std Dev:	9.72648	0.84449	2.82473	0.286668	0.347844
%RSD:	0.31608	0.222088	0.644748	0.0460492	0.161703
Repeat: 1	3078.75	381.219	435.232	622.525	214.93
Repeat: 2	3086.1	379.67	440.878	622.24	215.513
Repeat: 3	3066.83	379.86	438.233	622.813	214.893
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	1482.99	1517.34	56446.9	1167.96	225.714
Std Dev:	2.57701	0.808901	127.024	7.74616	0.686423
%RSD:	0.173771	0.0533106	0.225032	0.663224	0.304111
Repeat: 1	1480.08	1516.94	56378	1159.25	225.097
Repeat: 2	1485	1518.27	56369.2	1170.55	226.453
Repeat: 3	1483.88	1516.8	56593.5	1174.07	225.593
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	10090.2	11779.8	6077.25	158493	12297.6
Std Dev:	33.4327	34.3907	2.7378	199.88	51.3542
%RSD:	0.331338	0.291946	0.0450499	0.126113	0.417597
Repeat: 1	10058.5	11771.6	6075.93	158266	12303.5
Repeat: 2	10125.1	11817.6	6075.43	158645	12243.5
Repeat: 3	10087	11750.3	6080.4	158566	12345.7

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0939615	3.90859	0.247904	1.77241	0.199168
Std Dev:	0.000682776	0.0273991	0.00260952	0.00245929	0.000470649
%RSD:	0.726655	0.700997	1.05263	0.138753	0.236307
Repeat: 1	0.0932782	3.90268	0.250911	1.77461	0.198665
Repeat: 2	0.0939625	3.88463	0.24658	1.76975	0.199243
Repeat: 3	0.0946438	3.93846	0.246222	1.77288	0.199597
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.109494	99.1283	0.102396	4.09621	0.630136
Std Dev:	0.00011582	0.27506	0.000306439	0.00364571	0.000461989
%RSD:	0.105777	0.277479	0.299268	0.0890019	0.0733158
Repeat: 1	0.109571	99.1372	0.10234	4.09765	0.629603
Repeat: 2	0.109361	99.3989	0.102727	4.09891	0.630404
Repeat: 3	0.109551	98.849	0.102122	4.09206	0.630402
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.484315	2.86682	96.1179	0.205093	19.2695
Std Dev:	0.000397308	0.020806	0.197465	0.00104091	0.11295
%RSD:	0.0820352	0.725752	0.205441	0.507532	0.58616
Repeat: 1	0.484558	2.8549	95.9755	0.205131	19.2796
Repeat: 2	0.483856	2.89085	96.3434	0.206115	19.3771
Repeat: 3	0.484531	2.85472	96.0349	0.204034	19.1519
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.233003	1.11946	99.6435	97.2412	1.15678
Std Dev:	0.000410528	0.00417529	1.49182	0.301326	0.00222085
%RSD:	0.17619	0.372973	1.49716	0.309874	0.191985
Repeat: 1	0.233423	1.11909	99.9746	97.2451	1.15602
Repeat: 2	0.232602	1.12381	98.0139	97.5406	1.15928
Repeat: 3	0.232982	1.11549	100.942	96.938	1.15504
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	11.1267	0.191371	0.19531	0.939479	0.421449
Std Dev:	0.0443646	0.00345846	0.00296681	0.00152362	0.00162855
%RSD:	0.398722	1.8072	1.51902	0.162177	0.386417
Repeat: 1	11.1335	0.194615	0.192262	0.940689	0.421789
Repeat: 2	11.1673	0.187732	0.198189	0.937768	0.42288
Repeat: 3	11.0793	0.191765	0.19548	0.93998	0.419677
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	9.22781	1.09161	0.984191	0.204827	0.406259
Std Dev:	0.0533821	0.00109464	0.0031781	0.00205626	0.00201552
%RSD:	0.578491	0.100278	0.322915	1.0039	0.496117
Repeat: 1	9.19776	1.09146	0.981915	0.20247	0.404018
Repeat: 2	9.28944	1.09278	0.987822	0.206253	0.407925
Repeat: 3	9.19622	1.0906	0.982836	0.205759	0.406832
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.407936	1.05208	5795.97	155917	11457.6
Std Dev:	0.000847831	0.00321432	1.34584	166.712	55.133
%RSD:	0.207834	0.305522	0.0232203	0.106923	0.481193
Repeat: 1	0.407236	1.05157	5795.27	155726	11471.2
Repeat: 2	0.408879	1.05552	5795.12	156028	11396.9
Repeat: 3	0.407693	1.04915	5797.52	155998	11504.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5795.97	155917	11457.6
Std Dev:	1.34584	166.712	55.133
%RSD:	0.0232203	0.106923	0.481193
Repeat: 1	5795.27	155726	11471.2
Repeat: 2	5795.12	156028	11396.9
Repeat: 3	5797.52	155998	11504.6

Sample Name	Acquisition Date	Analyst Name	Method Name
M89N8	10/12/2016 12:30:32PM	kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1208.73	466.903	72.8843	645.768	2625.68
Std Dev:	3.09736	1.97309	0.100221	2.68243	3.80843
%RSD:	0.256249	0.422591	0.137508	0.415386	0.145046
Repeat: 1	1206.26	465.734	72.8659	648.464	2622.73
Repeat: 2	1207.72	465.793	72.7945	645.742	2629.98
Repeat: 3	1212.21	469.181	72.9924	643.099	2624.33
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1035.35	601.771	197.782	286.642	608.869
Std Dev:	6.17607	5.10301	0.994965	1.61653	2.56841
%RSD:	0.596518	0.847998	0.503061	0.563955	0.421833
Repeat: 1	1042.44	598.402	196.857	285.071	610.363
Repeat: 2	1031.11	599.27	197.655	286.554	605.903
Repeat: 3	1032.51	607.642	198.835	288.301	610.341
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1465.59	149.311	5072.09	5164.89	164.668
Std Dev:	3.15541	1.02735	12.0027	22.2749	1.12787
%RSD:	0.215299	0.68806	0.236642	0.431276	0.684935
Repeat: 1	1462.6	148.202	5060.69	5143.01	164.785
Repeat: 2	1465.3	150.23	5070.96	5187.54	165.733
Repeat: 3	1468.89	149.5	5084.62	5164.14	163.487
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	524.35	92.2875	616.832	5195.85	333.139
Std Dev:	4.93991	0.178162	4.93272	18.4677	1.70862
%RSD:	0.942101	0.193051	0.799685	0.355431	0.512886
Repeat: 1	518.652	92.489	613.337	5174.83	331.262
Repeat: 2	526.974	92.1509	622.474	5203.29	333.549
Repeat: 3	527.423	92.2227	614.685	5209.44	334.605
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	71.7764	180.59	215.712	123.235	78.4633
Std Dev:	0.196385	2.60493	1.03546	0.962179	0.396073
%RSD:	0.273606	1.44245	0.480021	0.780767	0.504788
Repeat: 1	71.9803	181.777	214.631	122.273	78.0264
Repeat: 2	71.5885	182.389	216.696	123.234	78.5648
Repeat: 3	71.7606	177.603	215.808	124.198	78.7988
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	143.531	226.516	1668.65	361.019	50.3441
Std Dev:	0.827581	1.92572	10.4269	4.24482	0.190933
%RSD:	0.576588	0.850146	0.62487	1.17579	0.379256
Repeat: 1	142.607	224.497	1657.94	357.093	50.1665
Repeat: 2	143.779	226.719	1669.23	365.523	50.3198
Repeat: 3	144.206	228.333	1678.77	360.44	50.546
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1141.21	226.417	6335.12	160154	11981.8
Std Dev:	4.08322	1.47854	27.1214	926.552	34.7063
%RSD:	0.357796	0.653015	0.428112	0.578537	0.289659
Repeat: 1	1139.39	225.117	6303.84	159126	11987.3

Repeat: 2	1138.36	228.025	6349.36	160923	11944.6
Repeat: 3	1145.89	226.109	6352.15	160414	12013.4

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000377774	0.00318509	0.000178947	-0.0693042	0.000381055
Std Dev:	0.000543521	0.015186	0.000186302	0.000764964	9.43391e-005
%RSD:	143.875	476.783	104.11	1.10378	24.7574
Repeat: 1	-0.000743214	0.015093	4.63824e-005	-0.0688119	0.000481022
Repeat: 2	0.000246823	-0.0139163	9.8504e-005	-0.0689153	0.00036855
Repeat: 3	-0.00063693	0.00837855	0.000391955	-0.0701855	0.000293591
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	8.96397e-006	0.0245918	-4.0087e-005	2.07664e-005	0.00141747
Std Dev:	1.61795e-005	0.00353624	4.43814e-005	8.44549e-005	0.000382997
%RSD:	180.494	14.3797	110.713	406.69	27.0199
Repeat: 1	2.62906e-005	0.0221197	-8.62358e-005	-3.91724e-005	0.00184361
Repeat: 2	6.35175e-006	0.0230134	-3.63109e-005	-1.58836e-005	0.00130682
Repeat: 3	-5.75045e-006	0.0286424	2.28573e-006	0.000117355	0.00110197
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000571938	0.0459111	0.154785	0.000446763	0.0023488
Std Dev:	0.000192036	0.0016973	0.0235361	0.00153849	0.0140248
%RSD:	33.5764	3.69693	15.2057	344.364	597.106
Repeat: 1	0.000647726	0.0440376	0.179189	0.00179945	0.011176
Repeat: 2	0.000714515	0.0473462	0.152941	0.000767731	0.00969352
Repeat: 3	0.000353572	0.0463494	0.132225	-0.00122689	-0.0138231
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00145131	0.000425336	1.12324	0.0869268	0.00562466
Std Dev:	1.92226e-005	8.95562e-005	0.0909076	0.0046807	0.000104923
%RSD:	1.32449	21.0554	8.09332	5.38464	1.8654
Repeat: 1	0.00143538	0.000527801	1.20716	0.0906651	0.00550726
Repeat: 2	0.0014459	0.000362019	1.13589	0.0816771	0.00570927
Repeat: 3	0.00147266	0.000386189	1.02667	0.0884382	0.00565746
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.105915	0.000584843	-0.000820468	0.000272522	0.00262128
Std Dev:	0.0017665	0.00298642	0.000952423	0.000707931	0.000431372
%RSD:	1.66786	510.636	116.083	259.77	16.4565
Repeat: 1	0.107885	0.00143406	-0.00187923	6.36365e-005	0.00308405
Repeat: 2	0.104474	0.00305468	-3.34478e-005	-0.000307463	0.00223032
Repeat: 3	0.105384	-0.00273421	-0.000548727	0.00106139	0.00254947
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0234373	0.112457	0.000118337	-0.00101421	-0.0032722
Std Dev:	0.00540144	0.00106315	9.22269e-005	0.0016152	0.00109634

%RSD:	23.0463	0.945388	77.9356	159.257	33.5046
Repeat: 1	0.0285973	0.111572	8.84779e-005	-0.00280727	-0.00339568
Repeat: 2	0.0238915	0.112162	4.47396e-005	0.000326822	-0.00430157
Repeat: 3	0.0178231	0.113636	0.000221795	-0.000562187	-0.00211935
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000353501	0.00464413	6072.36	157520	11098
Std Dev:	0.000216666	0.000112881	24.6356	930.34	43.6125
%RSD:	61.2915	2.43061	0.4057	0.590618	0.392976
Repeat: 1	0.00050318	0.00465687	6043.93	156492	11109
Repeat: 2	0.000105049	0.0047501	6085.83	158303	11049.9
Repeat: 3	0.000452273	0.00452542	6087.33	157765	11135
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6072.36	157520	11098
Std Dev:	24.6356	930.34	43.6125
%RSD:	0.4057	0.590618	0.392976
Repeat: 1	6043.93	156492	11109
Repeat: 2	6085.83	158303	11049.9
Repeat: 3	6087.33	157765	11135

Sample Name	**Acquisition Date**
M89N8S	10/12/2016 12:35:34PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1838.35	892.333	123.408	5434.21	7260.96
Std Dev:	3.19763	1.80574	0.173865	4.85976	37.8015
%RSD:	0.17394	0.202362	0.140886	0.089429	0.520612
Repeat: 1	1836.86	890.332	123.557	5434.63	7218.24
Repeat: 2	1836.18	893.84	123.45	5438.85	7290.07
Repeat: 3	1842.03	892.829	123.217	5429.16	7274.57
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	21908.6	73562.8	757.361	1012.57	3434.71
Std Dev:	40.4	553.111	2.83637	2.27431	3.60966
%RSD:	0.184403	0.75189	0.374507	0.224607	0.105093
Repeat: 1	21862.6	73017.8	754.086	1010.1	3431.79
Repeat: 2	21924.5	74123.7	759.012	1013.05	3433.6
Repeat: 3	21938.6	73546.8	758.985	1014.57	3438.75
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7042.18	977.882	25191.1	5986.14	1256
Std Dev:	18.8883	12.3525	180.728	7.93453	14.0584
%RSD:	0.268216	1.26319	0.717428	0.132548	1.1193
Repeat: 1	7060.63	967.239	24988	5976.98	1240.36
Repeat: 2	7043.02	991.427	25334.1	5990.68	1267.59
Repeat: 3	7022.88	974.98	25251.3	5990.76	1260.04
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	7044.39	1548.03	801.89	85521	2503.9
Std Dev:	12.4154	3.50049	4.1498	703.985	4.51309

%RSD:	0.176245	0.226125	0.517502	0.823172	0.180243
Repeat: 1	7030.07	1544.03	804.385	84787.3	2498.91
Repeat: 2	7051.96	1550.54	797.099	86190.9	2505.09
Repeat: 3	7051.16	1549.53	804.185	85584.7	2507.69
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1398.32	283.851	331.223	376.728	122.037
Std Dev:	1.77987	4.44339	0.329003	0.830132	0.566826
%RSD:	0.127286	1.5654	0.0993298	0.220354	0.464471
Repeat: 1	1396.29	283.107	330.911	375.857	121.437
Repeat: 2	1399.61	279.826	331.189	377.51	122.11
Repeat: 3	1399.07	288.619	331.567	376.816	122.564
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	790.041	869.342	27716.2	744.99	66.1556
Std Dev:	2.73838	1.09816	253.573	4.74161	0.0504725
%RSD:	0.346612	0.126321	0.914891	0.636466	0.0762935
Repeat: 1	786.906	868.124	27459.3	739.912	66.0979
Repeat: 2	791.966	869.644	27966.3	749.302	66.1912
Repeat: 3	791.25	870.257	27723	745.755	66.1778
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5477.77	5685.42	6304.79	160710	12215.3
Std Dev:	6.53515	13.1866	21.5554	282.265	89.2776
%RSD:	0.119303	0.231938	0.341889	0.175636	0.730869
Repeat: 1	5474.17	5670.2	6280.2	160930	12119.2
Repeat: 2	5473.82	5693.34	6320.45	160807	12295.6
Repeat: 3	5485.31	5692.72	6313.7	160392	12231.1

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0462393	1.90218	0.0931818	0.849788	0.0957392
Std Dev:	0.000457281	0.00921151	0.00106402	0.000514599	0.000158605
%RSD:	0.988945	0.484261	1.14187	0.0605562	0.165663
Repeat: 1	0.0467609	1.91239	0.0944103	0.849209	0.0957561
Repeat: 2	0.0459075	1.89451	0.092583	0.849964	0.0955728
Repeat: 3	0.0460494	1.89963	0.0925522	0.850192	0.0958887
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0504362	48.236	0.0488391	0.0974801	0.195851
Std Dev:	0.000165292	0.0385836	4.32204e-005	0.00028049	0.000537765
%RSD:	0.327725	0.0799892	0.0884954	0.287741	0.274579
Repeat: 1	0.0502639	48.2801	0.0488458	0.0977636	0.195642
Repeat: 2	0.0504512	48.2088	0.048793	0.0972027	0.195449
Repeat: 3	0.0505935	48.2189	0.0488786	0.0974741	0.196462
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.236684	0.995394	47.4527	0.0984419	9.5052
Std Dev:	0.000706591	0.00724047	0.115199	0.000722012	0.0625271
%RSD:	0.298538	0.727398	0.242766	0.733439	0.65782
Repeat: 1	0.237407	0.991319	47.3792	0.0977785	9.4332
Repeat: 2	0.23665	1.00375	47.3935	0.0983362	9.54585
Repeat: 3	0.235995	0.991109	47.5855	0.0992109	9.53656

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0989073	0.511738	49.1221	47.7094	0.495799
Std Dev:	0.000305451	0.000357914	1.52547	0.0426727	0.00122768
%RSD:	0.308825	0.069941	3.10547	0.0894429	0.247617
Repeat: 1	0.0985931	0.512144	50.3683	47.6711	0.497032
Repeat: 2	0.0989255	0.51147	47.4209	47.7017	0.494577
Repeat: 3	0.0992032	0.511599	49.5771	47.7554	0.495787
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.8352	0.0977367	0.0965546	0.47186	0.143788
Std Dev:	0.011653	0.00244428	0.000590845	0.00145576	0.000818498
%RSD:	0.241005	2.50088	0.611928	0.308515	0.56924
Repeat: 1	4.84809	0.0982476	0.0972366	0.473085	0.144647
Repeat: 2	4.82543	0.0950773	0.09623	0.472243	0.143017
Repeat: 3	4.83206	0.0998851	0.0961972	0.470251	0.1437
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.54628	0.595015	0.472748	0.0971782	0.0282144
Std Dev:	0.022614	0.00145256	0.000670789	0.000448391	0.000583167
%RSD:	0.497418	0.244121	0.141891	0.461412	2.06691
Repeat: 1	4.56612	0.596683	0.472005	0.0966828	0.0276214
Repeat: 2	4.52166	0.594029	0.473309	0.0972955	0.0287873
Repeat: 3	4.55106	0.594332	0.47293	0.0975563	0.0282346
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.193984	0.480286	6030.36	158010	11338
Std Dev:	0.000577123	0.000685123	21.7219	293.983	95.2072
%RSD:	0.297511	0.142649	0.360209	0.186053	0.839714
Repeat: 1	0.193814	0.481041	6005.75	158250	11242.8
Repeat: 2	0.193511	0.479703	6046.87	158099	11433.2
Repeat: 3	0.194627	0.480115	6038.47	157682	11338.1
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6030.36	158010	11338
Std Dev:	21.7219	293.983	95.2072
%RSD:	0.360209	0.186053	0.839714
Repeat: 1	6005.75	158250	11242.8
Repeat: 2	6046.87	158099	11433.2
Repeat: 3	6038.47	157682	11338.1

Sample Name	**Acquisition Date**
M89N8D	10/12/2016 12:40:20PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**

Avg. of Repeats:	1857.09	911.486	124.705	5559.08	7410.86
Std Dev:	2.57047	4.96615	0.371397	11.0634	17.2762
%RSD:	0.138414	0.544841	0.297821	0.199014	0.23312
Repeat: 1	1855.11	905.752	124.703	5547.62	7400.07
Repeat: 2	1856.17	914.403	125.077	5569.69	7401.72
Repeat: 3	1859.99	914.303	124.334	5559.93	7430.78
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	22589.7	75526.7	775.004	1035.31	3518.6
Std Dev:	85.901	131.452	2.71024	3.12762	20.6965
%RSD:	0.380267	0.174047	0.349706	0.302094	0.588203
Repeat: 1	22500.6	75552.5	772.044	1032.71	3494.71
Repeat: 2	22596.3	75384.3	777.363	1034.45	3531.18
Repeat: 3	22672.1	75643.4	775.606	1038.78	3529.92
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7230.17	1017.56	25827.6	6032.2	1290.4
Std Dev:	20.7779	7.08465	75.7346	30.4649	9.63367
%RSD:	0.287378	0.696242	0.293231	0.505038	0.746566
Repeat: 1	7254.14	1010.67	25768	5999.05	1279.9
Repeat: 2	7219.07	1017.18	25801.9	6038.55	1292.45
Repeat: 3	7217.29	1024.82	25912.8	6058.98	1298.84
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	7311.5	1590.94	809.124	87733.8	2565.63
Std Dev:	35.3379	4.14408	1.77978	308.135	5.48582
%RSD:	0.48332	0.260479	0.219964	0.351215	0.21382
Repeat: 1	7278.27	1588.19	808.014	87653.5	2559.49
Repeat: 2	7307.6	1588.93	808.18	87473.7	2567.36
Repeat: 3	7348.62	1595.71	811.177	88074.1	2570.04
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1434.37	286.304	335.299	383.981	121.93
Std Dev:	3.50647	2.84791	1.74656	1.39045	0.401343
%RSD:	0.244461	0.994717	0.520895	0.362115	0.329159
Repeat: 1	1431.7	286.996	334.711	382.742	122.277
Repeat: 2	1433.07	283.173	333.922	383.716	121.49
Repeat: 3	1438.34	288.742	337.264	385.485	122.022
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	808.677	892.691	28471	756.755	69.3798
Std Dev:	4.02756	2.08875	130.854	1.94579	0.524303
%RSD:	0.498043	0.233983	0.459605	0.257122	0.755699
Repeat: 1	804.326	892.448	28374	755.433	69.0441
Repeat: 2	809.429	890.735	28419.1	755.843	69.984
Repeat: 3	812.275	894.891	28619.8	758.989	69.1114
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5605.15	6100.34	6299.15	159631	12149.9
Std Dev:	13.3815	15.6736	18.674	417.318	25.4557
%RSD:	0.238736	0.25693	0.296453	0.261427	0.209513
Repeat: 1	5589.85	6082.26	6280.3	159840	12141.9
Repeat: 2	5610.91	6110.04	6299.49	159150	12129.4
Repeat: 3	5614.68	6108.72	6317.65	159903	12178.4

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0476232	1.99744	0.0958816	0.879409	0.0992235

Std Dev:	0.000566986	0.0215447	0.000953207	0.00452823	5.00342e-005
%RSD:	1.19057	1.07861	0.99415	0.514917	0.0504257
Repeat: 1	0.0472658	1.97257	0.0956168	0.875414	0.0992622
Repeat: 2	0.0482769	2.01014	0.0969392	0.884328	0.0992414
Repeat: 3	0.0473268	2.00962	0.0950888	0.878486	0.099167
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0523999	49.8196	0.0504112	0.100553	0.202773
Std Dev:	0.000229953	0.0876564	0.000169827	0.000254243	0.00162272
%RSD:	0.438842	0.175948	0.336883	0.252846	0.800265
Repeat: 1	0.0521355	49.8536	0.0503226	0.100722	0.201143
Repeat: 2	0.0525534	49.8851	0.050607	0.10026	0.204388
Repeat: 3	0.0525108	49.72	0.0503041	0.100676	0.202788
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.246121	1.04598	49.1737	0.102104	9.85511
Std Dev:	0.00161956	0.00580044	0.0638116	0.00121331	0.0763997
%RSD:	0.658034	0.554547	0.129768	1.1883	0.775229
Repeat: 1	0.24714	1.03939	49.1054	0.101016	9.7672
Repeat: 2	0.246969	1.04823	49.2317	0.101884	9.9054
Repeat: 3	0.244253	1.05032	49.184	0.103413	9.89275
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.103572	0.527299	50.7902	49.2904	0.51032
Std Dev:	0.000451186	0.000631686	0.461957	0.0241154	0.000518086
%RSD:	0.435624	0.119796	0.90954	0.0489253	0.101522
Repeat: 1	0.103051	0.527873	50.7809	49.2635	0.510692
Repeat: 2	0.103821	0.526622	50.3329	49.2974	0.51054
Repeat: 3	0.103844	0.527401	51.2567	49.3102	0.509728
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.96929	0.0999972	0.100992	0.484857	0.141894
Std Dev:	0.00614959	0.00255539	0.000279805	0.0011449	0.00229935
%RSD:	0.123752	2.55547	0.277058	0.236131	1.62047
Repeat: 1	4.97624	0.10072	0.100953	0.483816	0.14439
Repeat: 2	4.96456	0.0971583	0.101289	0.484671	0.139862
Repeat: 3	4.96707	0.102113	0.100733	0.486083	0.14143
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.69072	0.613384	0.489095	0.100485	0.0369867
Std Dev:	0.0250965	0.00156745	0.00134515	0.000409169	0.00157661
%RSD:	0.535025	0.255542	0.275029	0.407194	4.26265
Repeat: 1	4.66459	0.615007	0.487545	0.100263	0.0359604
Repeat: 2	4.71464	0.611879	0.489787	0.100235	0.0388021
Repeat: 3	4.69292	0.613266	0.489954	0.100957	0.0361976
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----

Avg. of Repeats:	0.200753	0.517055	6022.99	156922	11271.5
Std Dev:	0.000775772	0.000836623	18.0575	421.396	40.4495
%RSD:	0.386432	0.161805	0.29981	0.268539	0.358865
Repeat: 1	0.200037	0.517027	6004.72	157131	11267.2
Repeat: 2	0.201577	0.517906	6023.44	156437	11233.4
Repeat: 3	0.200644	0.516233	6040.82	157198	11313.9
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6022.99	156922	11271.5
Std Dev:	18.0575	421.396	40.4495
%RSD:	0.29981	0.268539	0.358865
Repeat: 1	6004.72	157131	11267.2
Repeat: 2	6023.44	156437	11233.4
Repeat: 3	6040.82	157198	11313.9

Sample Name	**Acquisition Date**
M89N8P	10/12/2016 12:45:07PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1247.51	474.512	73.0598	602.172	2657.1
Std Dev:	1.81162	3.92199	0.45966	1.33877	11.4042
%RSD:	0.145219	0.826531	0.629156	0.222323	0.429197
Repeat: 1	1247.95	477.045	72.8459	602.268	2649.73
Repeat: 2	1249.05	476.495	73.5874	600.788	2670.23
Repeat: 3	1245.51	469.994	72.746	603.46	2651.33
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1058.91	583.933	202.307	294.488	611.055
Std Dev:	2.74493	3.15354	0.834095	0.891357	2.00953
%RSD:	0.259223	0.540051	0.412292	0.30268	0.328862
Repeat: 1	1056.9	581.916	201.611	294.646	612.01
Repeat: 2	1062.04	582.316	203.232	295.289	612.408
Repeat: 3	1057.79	587.568	202.078	293.528	608.746
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1496.54	117.957	5083.53	5229.13	164.266
Std Dev:	5.30781	1.15168	9.99128	11.7024	0.900643
%RSD:	0.354673	0.976355	0.196542	0.223792	0.548283
Repeat: 1	1490.41	116.973	5073.86	5220.74	163.233
Repeat: 2	1499.6	119.224	5093.82	5242.5	164.683
Repeat: 3	1499.6	117.674	5082.92	5224.14	164.883
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	455.842	92.4119	623.408	5197.47	319.792
Std Dev:	2.07586	0.410846	5.16202	19.655	0.124958
%RSD:	0.455391	0.444581	0.828033	0.378164	0.0390749
Repeat: 1	456.285	92.7087	622.324	5197.24	319.656
Repeat: 2	457.66	92.584	629.026	5217.24	319.903
Repeat: 3	453.58	91.943	618.874	5177.94	319.816
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	47.9775	184.967	220.84	125.193	79.0561
Std Dev:	0.114077	1.19872	1.47215	0.14048	0.670545

%RSD:	0.237772	0.648074	0.666615	0.112211	0.848189
Repeat: 1	48.0224	183.903	222.389	125.137	79.3714
Repeat: 2	47.8478	186.266	220.671	125.353	79.5109
Repeat: 3	48.0623	184.733	219.459	125.09	78.2861
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	142.579	107.679	1683.62	364.523	50.5396
Std Dev:	0.90018	0.153139	8.90183	2.34087	0.536947
%RSD:	0.631357	0.142218	0.528731	0.642175	1.06243
Repeat: 1	141.678	107.757	1673.98	364.023	50.313
Repeat: 2	143.479	107.503	1691.54	367.073	51.1527
Repeat: 3	142.579	107.777	1685.34	362.472	50.1531
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1168.67	204.065	6465.82	162324	12180.1
Std Dev:	3.16016	1.04632	18.7704	618.007	62.5758
%RSD:	0.270408	0.512736	0.290302	0.380725	0.513754
Repeat: 1	1165.02	202.93	6444.61	161632	12232.1
Repeat: 2	1170.41	204.991	6472.56	162820	12110.7
Repeat: 3	1170.57	204.275	6480.28	162520	12197.5

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000515189	0.0135987	0.00136494	-0.080822	0.000160237
Std Dev:	0.000337025	0.0194517	0.000725641	0.000314095	0.00010983
%RSD:	65.4176	143.041	53.163	0.388626	68.5425
Repeat: 1	-0.000692932	0.0360578	0.00126763	-0.0811711	7.3686e-005
Repeat: 2	-0.000726136	0.00261447	0.00213432	-0.0807326	0.000283789
Repeat: 3	-0.000126499	0.00212384	0.000692855	-0.0805623	0.000123235
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	9.47246e-006	0.00685582	1.38837e-005	0.000106004	0.000313993
Std Dev:	1.01278e-005	0.00297763	7.31485e-005	7.19276e-005	0.000240505
%RSD:	106.919	43.4322	526.868	67.854	76.5955
Repeat: 1	1.10034e-006	0.00615505	-6.83159e-005	0.000147592	0.000491416
Repeat: 2	6.58719e-006	0.00429107	7.18099e-005	2.29487e-005	0.000410304
Repeat: 3	2.07299e-005	0.0101213	3.8157e-005	0.00014747	4.02593e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000212343	0.00795247	0.0421786	-0.00134827	-0.0109011
Std Dev:	0.000217116	0.00203326	0.0287454	0.000193403	0.00161786
%RSD:	102.248	25.5676	68.1517	14.3446	14.8412
Repeat: 1	-0.00046266	0.00600136	0.0753642	-0.00117094	-0.00983035
Repeat: 2	-7.51252e-005	0.010059	0.0250062	-0.00131936	-0.0101108
Repeat: 3	-9.92446e-005	0.00779711	0.0261654	-0.00155449	-0.0127622
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000296405	8.31109e-005	-0.156446	0.0351173	0.00117577
Std Dev:	5.46806e-005	0.000177075	1.64287	0.00881464	0.000198475
%RSD:	18.4479	213.058	1050.12	25.1005	16.8804
Repeat: 1	0.000334017	0.000282953	-0.643906	0.043415	0.00130729

Repeat: 2	0.00032152	-5.42664e-005	1.67499	0.0360733	0.000947469
Repeat: 3	0.000233679	2.06467e-005	-1.50042	0.0258637	0.00127254
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0224598	0.000843633	-7.18828e-005	0.00136559	0.00142292
Std Dev:	0.000340762	0.00116634	0.00307312	0.000394794	0.00227733
%RSD:	1.51721	138.253	4275.18	28.9101	160.046
Repeat: 1	0.0227659	-0.000426162	0.00319195	0.00156454	0.00404107
Repeat: 2	0.0220927	0.00108985	-0.00290987	0.000910902	-9.87301e-005
Repeat: 3	0.0225209	0.00186721	-0.00049773	0.00162133	0.000326422
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00122657	0.0228719	-1.30308e-005	-0.000556757	3.38687e-005
Std Dev:	0.00299161	5.7182e-005	2.68202e-005	0.000296037	0.00116293
%RSD:	243.9	0.250009	205.822	53.1716	3433.64
Repeat: 1	-0.00441046	0.0229228	-3.77903e-005	-0.00061075	0.00111985
Repeat: 2	0.00152593	0.0228101	-1.67616e-005	-0.00023744	0.000174905
Repeat: 3	-0.000795198	0.0228829	1.54595e-005	-0.000822081	-0.00119315
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-0.000123583	0.0023678	6197.06	159594	11270.3
Std Dev:	0.00023728	3.58998e-005	19.1231	614.559	63.8991
%RSD:	192.001	1.51617	0.308584	0.385077	0.566969
Repeat: 1	0.000140288	0.00233873	6175.37	158905	11318.5
Repeat: 2	-0.000191635	0.00240793	6204.31	160087	11197.8
Repeat: 3	-0.000319402	0.00235674	6211.49	159789	11294.5
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6197.06	159594	11270.3
Std Dev:	19.1231	614.559	63.8991
%RSD:	0.308584	0.385077	0.566969
Repeat: 1	6175.37	158905	11318.5
Repeat: 2	6204.31	160087	11197.8
Repeat: 3	6211.49	159789	11294.5

Sample Name	**Acquisition Date**
CCV	10/12/2016 12:50:08PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	13819.4	6028.94	329.678	10774.9	97285.3
Std Dev:	121.541	64.2309	0.739606	77.7424	1361.67
%RSD:	0.879497	1.06538	0.224342	0.721516	1.39966
Repeat: 1	13680.1	5956.85	330.477	10685.2	95732.6
Repeat: 2	13873.9	6080.1	329.018	10824	98275.9
Repeat: 3	13904.2	6049.85	329.538	10815.4	97847.4
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**

Avg. of Repeats:	851018	75428.5	6021.08	15272.2	29762.7
Std Dev:	4812.78	952.644	10.9662	19.6854	150.26
%RSD:	0.565532	1.26298	0.182131	0.128897	0.50486
Repeat: 1	845470	74360	6019.12	15269	29589.3
Repeat: 2	854063	76189.1	6011.22	15254.4	29844.2
Repeat: 3	853522	75736.4	6032.89	15293.3	29854.7
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	45845.8	21670.1	25999.3	23156.8	5871.8
Std Dev:	329.678	221.491	252.637	232.746	60.494
%RSD:	0.719101	1.0221	0.971708	1.00508	1.03025
Repeat: 1	45465.7	21420.9	25722	22896.2	5806.31
Repeat: 2	46018.1	21844.6	26216.4	23343.9	5925.59
Repeat: 3	46053.6	21744.8	26059.5	23230.5	5883.5
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	135859	5871.45	826.274	87698.6	9434.44
Std Dev:	473.068	1.88245	0.584253	1083.04	20.3312
%RSD:	0.348206	0.032061	0.0707094	1.23496	0.2155
Repeat: 1	135352	5873.35	826.167	86463.1	9425.56
Repeat: 2	136288	5869.58	826.904	88483.8	9420.06
Repeat: 3	135936	5871.43	825.75	88149.1	9457.7
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	607.234	719.87	813.311	433.558	232.007
Std Dev:	0.206054	6.81065	3.29341	1.4346	1.16552
%RSD:	0.0339333	0.946095	0.404939	0.330891	0.502362
Repeat: 1	606.996	712.123	809.59	433.376	231.43
Repeat: 2	607.343	722.571	814.488	432.223	233.349
Repeat: 3	607.363	724.915	815.854	435.075	231.243
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	434.934	2803.48	109178	8081.78	421.446
Std Dev:	3.83658	2.8656	1351.08	96.2527	0.434603
%RSD:	0.882105	0.102215	1.2375	1.19098	0.103122
Repeat: 1	430.866	2802.07	107657	7977.3	421.129
Repeat: 2	438.487	2801.61	110239	8166.85	421.942
Repeat: 3	435.45	2806.78	109638	8101.2	421.269
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	45440.5	23129.7	6346.82	156033	11822.3
Std Dev:	302.979	19.4373	38.2392	1199.6	173.04
%RSD:	0.666761	0.0840361	0.602495	0.768809	1.46367
Repeat: 1	45090.7	23138.3	6327.15	154714	11639.9
Repeat: 2	45607	23143.4	6390.88	156325	11984.2
Repeat: 3	45623.6	23107.5	6322.41	157059	11842.9

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.984572	25.473	0.495939	1.92921	2.00885
Std Dev:	0.00217613	0.11748	0.00349378	0.00497125	0.00797425
%RSD:	0.221023	0.461192	0.704477	0.257683	0.396955
Repeat: 1	0.982636	25.5666	0.499011	1.92948	2.00987
Repeat: 2	0.986927	25.3412	0.492138	1.93405	2.00042
Repeat: 3	0.984153	25.5113	0.496669	1.92412	2.01627
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.12622	51.4079	0.514819	2.04341	2.07434
Std Dev:	0.00701142	0.199277	0.00410304	0.0152411	0.00733487
%RSD:	0.32976	0.38764	0.796988	0.745865	0.353601
Repeat: 1	2.13076	51.5312	0.516271	2.04954	2.07987
Repeat: 2	2.12976	51.178	0.510187	2.02606	2.07712
Repeat: 3	2.11814	51.5145	0.517998	2.05463	2.06602
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.94469	25.6792	50.808	2.01893	51.4298
Std Dev:	0.00371142	0.161685	0.12147	0.00638946	0.283169
%RSD:	0.190849	0.629636	0.239076	0.316477	0.550594
Repeat: 1	1.94456	25.8254	50.8924	2.01928	51.7033
Repeat: 2	1.94846	25.5055	50.6688	2.01237	51.1378
Repeat: 3	1.94104	25.7066	50.8628	2.02514	51.4484
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.09561	2.03767	50.4483	50.8171	2.06246
Std Dev:	0.0118083	0.0138686	0.587911	0.22962	0.0166579
%RSD:	0.563478	0.68061	1.16537	0.451856	0.80767
Repeat: 1	2.10594	2.04481	49.9552	50.8946	2.06724
Repeat: 2	2.09817	2.02169	51.099	50.5587	2.04393
Repeat: 3	2.08274	2.04651	50.2909	50.9979	2.0762
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.98547	0.521798	0.511389	0.489896	0.493677
Std Dev:	0.0114226	0.00170169	0.00247889	0.00523487	0.000765581
%RSD:	0.57531	0.326121	0.484737	1.06857	0.155077
Repeat: 1	1.98957	0.520015	0.510507	0.49113	0.493591
Repeat: 2	1.97257	0.521973	0.509472	0.484154	0.494482
Repeat: 3	1.99429	0.523405	0.514188	0.494403	0.492958
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.0436	2.05249	2.02489	2.03405	1.01416
Std Dev:	0.00418407	0.0141737	0.00830744	0.00690485	0.00397738
%RSD:	0.20474	0.690562	0.410266	0.339463	0.392183
Repeat: 1	2.03937	2.05831	2.03037	2.03993	1.01545
Repeat: 2	2.04371	2.03634	2.01533	2.02645	1.0097
Repeat: 3	2.04773	2.06283	2.02897	2.03579	1.01734
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	2.04353	2.00193	6012.74	153180	10905.2
Std Dev:	0.00555215	0.011897	38.4535	1191.58	174.264
%RSD:	0.271694	0.594276	0.639534	0.777891	1.59799
Repeat: 1	2.04513	2.00911	5993.57	151871	10720.6
Repeat: 2	2.0481	1.9882	6057.01	153469	11066.9
Repeat: 3	2.03735	2.00849	5987.64	154201	10928.2
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	6012.74	153180	10905.2
Std Dev:	38.4535	1191.58	174.264
%RSD:	0.639534	0.777891	1.59799
Repeat: 1	5993.57	151871	10720.6
Repeat: 2	6057.01	153469	11066.9
Repeat: 3	5987.64	154201	10928.2

Sample Name	Acquisition Date
CCB	10/12/2016 12:55:00PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1279.31	482.104	73.4244	607.361	2708.04
Std Dev:	3.5319	3.80078	0.381416	6.10141	16.4358
%RSD:	0.276078	0.788374	0.519467	1.00458	0.606925
Repeat: 1	1280.78	478.296	73.8647	613.332	2690.74
Repeat: 2	1281.87	482.118	73.2143	607.614	2709.94
Repeat: 3	1275.28	485.897	73.1943	601.137	2723.44
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Avg. of Repeats:	1082.96	579.067	205.627	300.182	621.738
Std Dev:	7.18148	4.24403	0.352837	0.733144	0.999598
%RSD:	0.663134	0.732907	0.171591	0.244233	0.160775
Repeat: 1	1089.7	574.615	206.026	300.899	622.876
Repeat: 2	1083.78	579.52	205.497	300.213	621.003
Repeat: 3	1075.4	583.067	205.357	299.434	621.335
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Avg. of Repeats:	1520.26	112.894	5146.91	5308.4	168.215
Std Dev:	7.38112	0.918882	32.9021	28.5505	3.24621
%RSD:	0.485517	0.813936	0.639258	0.537836	1.92979
Repeat: 1	1527.28	112.072	5108.92	5277.46	164.483
Repeat: 2	1520.93	113.886	5166.13	5314.04	170.38
Repeat: 3	1512.57	112.723	5165.68	5333.72	169.784
Element/Wavelength	Mn2576A	Mo2020A	aN	Na5895R	Ni2316A
Avg. of Repeats:	445.838	93.9689	634.175	5246.5	319.487
Std Dev:	1.72937	0.549473	4.88028	26.2246	0.719259
%RSD:	0.387891	0.584739	0.769547	0.49985	0.225129
Repeat: 1	446.732	94.4001	634.327	5217.54	319.989
Repeat: 2	443.845	94.1564	629.221	5253.3	318.663
Repeat: 3	446.938	93.3502	638.978	5268.65	319.809
Element/Wavelength	P_1782A	bP	Pb2203A	Sb2068A	Se1960A
Avg. of Repeats:	41.4997	189.149	223.816	126.68	79.8263
Std Dev:	0.280972	1.15825	0.942559	0.815038	0.301203
%RSD:	0.677046	0.612351	0.421131	0.643385	0.377323
Repeat: 1	41.5901	189.786	224.863	127.187	80.1705
Repeat: 2	41.1847	189.848	223.037	127.112	79.6109
Repeat: 3	41.7244	187.812	223.547	125.74	79.6975
Element/Wavelength	Si2506R	Sn1899A	Sr4215R	Ti3349R	Tl1908A
Avg. of Repeats:	141.871	76.771	1710.01	370.642	51.2346
Std Dev:	1.30809	0.321238	12.8887	2.54223	0.296003

%RSD:	0.922025	0.418437	0.75372	0.685899	0.57774
Repeat: 1	140.428	76.4017	1697.44	367.724	51.5315
Repeat: 2	142.208	76.9256	1709.39	371.828	50.9395
Repeat: 3	142.979	76.9856	1723.19	372.374	51.2327
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1193.43	178.856	6435.7	159964	11953.9
Std Dev:	5.9838	0.0700026	5.62382	1002.8	30.4591
%RSD:	0.501396	0.0391391	0.0873847	0.626889	0.254805
Repeat: 1	1200.33	178.859	6430.06	158890	11971.1
Repeat: 2	1189.7	178.925	6435.75	160128	11971.9
Repeat: 3	1190.26	178.785	6441.3	160875	11918.7

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00039896	0.00458244	-0.000157277	-0.0806005	0.000373178
Std Dev:	0.000335965	0.0122688	3.5116e-005	0.000566994	6.88528e-005
%RSD:	84.2101	267.735	22.3274	0.703463	18.4504
Repeat: 1	-0.000461932	-0.00404323	-0.000179595	-0.080138	0.000366107
Repeat: 2	-3.5965e-005	0.0186278	-0.0001168	-0.0804303	0.000308133
Repeat: 3	-0.000698983	-0.000837221	-0.000175437	-0.0812331	0.000445293
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.86626e-005	0.000160749	-5.45831e-006	0.000120867	-6.69249e-005
Std Dev:	2.97596e-006	0.00235173	5.34828e-005	8.87082e-005	0.000243786
%RSD:	15.9461	1462.98	979.842	73.3933	364.268
Repeat: 1	1.74875e-005	-0.00253844	-1.93173e-006	0.000167922	-0.00032597
Repeat: 2	2.20467e-005	0.00176809	4.61739e-005	1.85453e-005	-3.28132e-005
Repeat: 3	1.64536e-005	0.00125259	-6.06171e-005	0.000176133	0.000158009
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000368287	-0.000546936	0.0202281	-0.00128577	0.00697013
Std Dev:	0.000403294	0.001566	0.0163243	0.000300831	0.0268486
%RSD:	109.505	286.323	80.701	23.3969	385.195
Repeat: 1	-4.11267e-005	-0.00133076	0.00723475	-0.00147263	-0.0239819
Repeat: 2	-0.000244865	0.00125621	0.0385511	-0.000938745	0.0239717
Repeat: 3	-0.00081887	-0.00156625	0.0148985	-0.00144594	0.0209205
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.39132e-006	0.000163321	-0.496552	0.0167127	2.75217e-005
Std Dev:	5.47957e-005	8.25253e-005	1.37574	0.00426532	0.000259968
%RSD:	2291.44	50.5295	277.059	25.5214	944.592
Repeat: 1	-1.27101e-005	0.000151016	0.423509	0.0216343	-6.94839e-005
Repeat: 2	-4.32701e-005	0.000251308	-2.07809	0.0144136	-0.000169995
Repeat: 3	6.31541e-005	8.76391e-005	0.164929	0.0140902	0.000322044
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000125396	0.000153432	-0.00088977	5.43901e-005	0.000484771
Std Dev:	0.00171591	0.00196738	0.000617402	0.00260276	0.00159447

%RSD:	1368.39	1282.25	69.389	4785.34	328.912
Repeat: 1	-0.000561311	0.00117834	-0.000181063	-0.00190857	0.00182004
Repeat: 2	-0.0015813	0.00139675	-0.00117714	0.00300676	0.000914912
Repeat: 3	0.00176642	-0.0021148	-0.0013111	-0.000935023	-0.00128064
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.018216	-0.000327257	1.94225e-006	-4.89604e-005	-0.00039215
Std Dev:	0.00692801	0.000461935	0.000124887	0.000768675	0.00134117
%RSD:	38.0326	141.154	6429.99	1569.99	342.003
Repeat: 1	-0.0249618	-0.000814382	-6.85714e-005	-0.000740061	-0.00191865
Repeat: 2	-0.0111191	0.000104497	-7.17393e-005	0.000778924	0.000597087
Repeat: 3	-0.0185671	-0.000271886	0.000146137	-0.000185744	0.000145117
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-0.000292796	1.77392e-005	6163.37	157177	11027.4
Std Dev:	0.000182478	1.95092e-005	6.91995	1002.29	34.5076
%RSD:	62.3224	109.978	0.112275	0.637681	0.312926
Repeat: 1	-0.000252577	2.27945e-007	6156.83	156101	11045.4
Repeat: 2	-0.000492029	3.87677e-005	6162.66	157345	11049.2
Repeat: 3	-0.000133784	1.42219e-005	6170.62	158085	10987.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6163.37	157177	11027.4
Std Dev:	6.91995	1002.29	34.5076
%RSD:	0.112275	0.637681	0.312926
Repeat: 1	6156.83	156101	11045.4
Repeat: 2	6162.66	157345	11049.2
Repeat: 3	6170.62	158085	10987.6

Sample Name	**Acquisition Date**
M89N8A	10/12/2016 1:00:03PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1871.99	930.89	126.572	5604.24	7489.83
Std Dev:	7.41149	6.48311	0.234947	28.8505	23.0099
%RSD:	0.395914	0.696442	0.185623	0.514798	0.307215
Repeat: 1	1873.45	924.226	126.83	5570.99	7483.17
Repeat: 2	1863.96	937.175	126.37	5622.65	7470.88
Repeat: 3	1878.57	931.269	126.516	5619.08	7515.43
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	23077.8	76786.3	788.884	1056.55	3604.96
Std Dev:	118.3	140.134	3.03073	3.518	13.1381
%RSD:	0.512614	0.182499	0.384179	0.332971	0.364446
Repeat: 1	22942.5	76637.7	786.522	1054.94	3590.48
Repeat: 2	23129.1	76805.4	787.828	1054.13	3616.11
Repeat: 3	23161.8	76916	792.301	1060.59	3608.3
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**

Avg. of Repeats:	7285.06	1078.27	26198.9	6056.25	1318.06
Std Dev:	24.5235	4.22669	94.0366	33.7836	5.06441
%RSD:	0.336627	0.391989	0.358933	0.55783	0.384232
Repeat: 1	7259.64	1073.78	26091.1	6018.18	1312.34
Repeat: 2	7308.58	1078.86	26241.6	6082.65	1321.96
Repeat: 3	7286.95	1082.17	26264	6067.93	1319.88
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	7442.81	1632.83	809.02	89344.2	2627.85
Std Dev:	31.0808	5.74415	3.17879	302.815	8.45362
%RSD:	0.417594	0.351791	0.392918	0.338931	0.321693
Repeat: 1	7407.42	1629.57	805.445	88997.8	2623.62
Repeat: 2	7465.69	1629.46	811.526	89558.5	2622.36
Repeat: 3	7455.31	1639.46	810.09	89476.2	2637.59
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1463.98	291.087	337.129	385.649	124.45
Std Dev:	4.44764	0.965547	1.56351	2.07835	0.246634
%RSD:	0.303805	0.331704	0.463773	0.538925	0.198179
Repeat: 1	1460.77	290.667	336.3	383.889	124.697
Repeat: 2	1462.11	290.402	338.933	385.115	124.203
Repeat: 3	1469.06	292.191	336.155	387.942	124.45
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	829.898	907.961	29136.4	762.653	198.882
Std Dev:	7.30855	2.69086	97.0469	6.71923	0.337418
%RSD:	0.880656	0.296363	0.333078	0.881034	0.169657
Repeat: 1	822.328	908.819	29042.2	766.633	198.98
Repeat: 2	830.453	904.946	29236.1	766.43	198.507
Repeat: 3	836.913	910.119	29130.9	754.895	199.16
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5706.74	6033.19	6212.9	156363	11910.3
Std Dev:	30.3202	16.8424	17.3911	654.73	32.4354
%RSD:	0.531304	0.279162	0.279919	0.418723	0.27233
Repeat: 1	5671.91	6032.29	6202.24	155609	11881.4
Repeat: 2	5727.23	6016.81	6203.49	156700	11904.2
Repeat: 3	5721.09	6050.46	6232.97	156782	11945.4

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0495341	2.11209	0.100556	0.909328	0.103013
Std Dev:	0.000650685	0.013742	0.00170716	0.00119275	0.000362507
%RSD:	1.31361	0.650639	1.69773	0.131169	0.351903
Repeat: 1	0.0500668	2.09933	0.10248	0.908542	0.103334
Repeat: 2	0.0488089	2.12664	0.0992248	0.9107	0.10262
Repeat: 3	0.0497267	2.11029	0.0999615	0.908742	0.103085
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0547338	51.8181	0.0523947	0.105018	0.213313
Std Dev:	5.24653e-005	0.0586381	0.000183341	0.000221542	0.000515469
%RSD:	0.0958555	0.113161	0.349922	0.210956	0.241649
Repeat: 1	0.0546845	51.8338	0.0522631	0.105193	0.213391
Repeat: 2	0.054728	51.8673	0.052317	0.104769	0.213786
Repeat: 3	0.0547889	51.7532	0.0526041	0.105093	0.212764

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.253453	1.14167	51.1624	0.106476	10.3113
Std Dev:	0.000716004	0.00300798	0.0850815	0.00120716	0.0236716
%RSD:	0.2825	0.263471	0.166297	1.13374	0.229571
Repeat: 1	0.253414	1.13835	51.1137	0.105575	10.3069
Repeat: 2	0.254187	1.14421	51.2606	0.107848	10.3368
Repeat: 3	0.252757	1.14247	51.1128	0.106005	10.2901
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.107752	0.550204	51.7951	51.404	0.532195
Std Dev:	0.000185156	0.000430137	1.10644	0.143221	0.000328565
%RSD:	0.171835	0.0781778	2.13619	0.278618	0.0617377
Repeat: 1	0.107728	0.550014	52.6541	51.3264	0.532458
Repeat: 2	0.107948	0.549901	52.1846	51.5693	0.531827
Repeat: 3	0.10758	0.550696	50.5466	51.3163	0.532301
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.1497	0.10594	0.103556	0.496308	0.15403
Std Dev:	0.00355212	0.00164957	0.00094135	0.0020953	0.00119348
%RSD:	0.0689773	1.55709	0.909021	0.422177	0.774835
Repeat: 1	5.14673	0.105185	0.104363	0.494132	0.155226
Repeat: 2	5.15364	0.104802	0.103784	0.496482	0.154025
Repeat: 3	5.14872	0.107831	0.102522	0.498311	0.15284
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.9476	0.633873	0.512655	0.103745	0.418302
Std Dev:	0.0336939	0.00132076	0.00198308	0.00271685	0.00128166
%RSD:	0.681014	0.208364	0.386824	2.61878	0.306397
Repeat: 1	4.91829	0.635336	0.512329	0.106192	0.419712
Repeat: 2	4.94011	0.632769	0.514781	0.104222	0.417207
Repeat: 3	4.98441	0.633512	0.510856	0.100821	0.417986
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.209528	0.518535	5936.47	153649	11018.3
Std Dev:	0.000545924	0.000724063	16.9294	674.28	30.5374
%RSD:	0.260549	0.139636	0.285176	0.438845	0.27715
Repeat: 1	0.209031	0.519335	5926.49	152872	10993.6
Repeat: 2	0.210112	0.517924	5926.91	154001	11008.9
Repeat: 3	0.209441	0.518346	5956.02	154075	11052.5
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5936.47	153649	11018.3
Std Dev:	16.9294	674.28	30.5374
%RSD:	0.285176	0.438845	0.27715
Repeat: 1	5926.49	152872	10993.6
Repeat: 2	5926.91	154001	11008.9

Repeat: 3	5956.02	154075	11052.5

Sample Name	**Acquisition Date**
M89N9	10/12/2016 1:04:51PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1310.15	848.629	117.765	796.311	3313.2
Std Dev:	7.96317	3.56732	0.727885	5.31525	10.9038
%RSD:	0.607806	0.420362	0.618081	0.667485	0.329103
Repeat: 1	1301.52	849.024	117.006	791.034	3300.61
Repeat: 2	1311.73	851.983	117.832	801.664	3319.6
Repeat: 3	1317.21	844.881	118.458	796.234	3319.39
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1349.52	1.38321e+006	382.51	472.883	3499.81
Std Dev:	7.86314	2365.24	1.27814	1.54378	14.3686
%RSD:	0.582663	0.170997	0.334146	0.326461	0.410553
Repeat: 1	1340.51	1.38356e+006	381.188	471.123	3483.48
Repeat: 2	1354.97	1.38537e+006	383.74	473.515	3505.43
Repeat: 3	1353.08	1.38068e+006	382.602	474.01	3510.51
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	5606.18	85542.5	4919.08	5038.46	1662.42
Std Dev:	16.9756	347.018	18.3024	15.377	11.5257
%RSD:	0.302803	0.405667	0.372069	0.305192	0.693312
Repeat: 1	5587.31	85167	4904.81	5027.05	1650.18
Repeat: 2	5611	85609	4939.72	5055.95	1664.01
Repeat: 3	5620.22	85851.4	4912.72	5032.39	1673.07
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	50750	172.751	669.901	20211.1	912.038
Std Dev:	141.477	0.675569	2.92673	86.3448	1.9935
%RSD:	0.278773	0.391064	0.43689	0.427214	0.218576
Repeat: 1	50586.7	171.996	668.061	20115.2	910.352
Repeat: 2	50828.8	172.962	673.276	20235.6	911.524
Repeat: 3	50834.5	173.297	668.366	20282.6	914.238
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	237.836	285.66	366.94	181.331	114.134
Std Dev:	0.525318	3.26523	1.39652	0.978418	0.717875
%RSD:	0.220874	1.14305	0.380586	0.539576	0.628975
Repeat: 1	237.79	282.548	365.696	180.675	113.309
Repeat: 2	238.383	285.373	366.673	180.862	114.475
Repeat: 3	237.335	289.059	368.451	182.456	114.618
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	329.897	275.981	34959.3	562.241	80.3848
Std Dev:	2.74235	0.137959	124.875	5.1308	0.41413
%RSD:	0.831275	0.0499887	0.357202	0.912562	0.515184
Repeat: 1	327.804	276.106	34815.5	558.029	79.956
Repeat: 2	333.001	275.833	35040.3	567.955	80.4157
Repeat: 3	328.884	276.003	35022.2	560.738	80.7826
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1828.76	163265	5846.23	149373	11710.4
Std Dev:	7.16878	299.149	9.60069	589.459	50.5475

%RSD:	0.392001	0.183229	0.16422	0.394622	0.431647
Repeat: 1	1821.34	163021	5839.94	148724	11655
Repeat: 2	1835.64	163599	5857.28	149518	11722.1
Repeat: 3	1829.31	163175	5841.47	149876	11754

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000429481	1.78837	0.00771107	-0.05259	0.0171998
Std Dev:	0.000611346	0.0347035	0.00149631	0.00133258	7.51214e-005
%RSD:	142.345	1.94052	19.4047	2.53391	0.436757
Repeat: 1	-0.000961851	1.80422	0.00653335	-0.0512589	0.0172591
Repeat: 2	-0.000564769	1.81231	0.0072051	-0.0525871	0.017225
Repeat: 3	0.000238178	1.74857	0.00939477	-0.053924	0.0171153
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000572694	963.59	0.00206066	0.0152681	0.207087
Std Dev:	1.12007e-005	6.85263	4.37432e-005	0.000182156	0.000244654
%RSD:	1.95578	0.711156	2.12278	1.19305	0.118141
Repeat: 1	-0.000560201	969.86	0.00204886	0.0151311	0.206858
Repeat: 2	-0.000576043	964.635	0.00210909	0.0151984	0.207058
Repeat: 3	-0.000581839	956.275	0.00202402	0.0154748	0.207345
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.185451	103.114	0.284351	0.0147035	13.6079
Std Dev:	0.00022851	0.210766	0.0254528	0.0011853	0.0297332
%RSD:	0.123219	0.204401	8.95118	8.06136	0.218499
Repeat: 1	0.185575	103.296	0.262327	0.0155387	13.5744
Repeat: 2	0.18559	103.163	0.312217	0.0152249	13.6182
Repeat: 3	0.185187	102.883	0.27851	0.0133469	13.6312
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.813186	0.0119182	8.07557	9.61572	0.123251
Std Dev:	0.00138709	0.000249424	1.05748	0.0132049	0.000106417
%RSD:	0.170575	2.09279	13.0948	0.137326	0.0863419
Repeat: 1	0.814218	0.0116404	8.56155	9.62911	0.123322
Repeat: 2	0.813732	0.0119916	8.8027	9.61535	0.123129
Repeat: 3	0.81161	0.0121228	6.86247	9.60271	0.123303
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.668034	0.072436	0.0701564	0.00495974	0.00562768
Std Dev:	0.00106668	0.00216288	0.000949036	0.00367239	0.00202942
%RSD:	0.159675	2.98592	1.35274	74.0439	36.0614
Repeat: 1	0.668262	0.0709381	0.070262	0.00741213	0.00360912
Repeat: 2	0.668968	0.0714542	0.0691589	0.000737589	0.00560613
Repeat: 3	0.666871	0.0749156	0.0710482	0.0067295	0.00766779
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm

Avg. of Repeats:	1.33205	0.136848	0.63516	0.0299522	-0.00620477
Std Dev:	0.00976581	0.000772747	0.00215619	0.000667626	0.000727709
%RSD:	0.733139	0.564675	0.339472	2.22897	11.7282
Repeat: 1	1.32431	0.13772	0.63666	0.0298789	-0.00703038
Repeat: 2	1.34302	0.136576	0.636131	0.0306534	-0.00565655
Repeat: 3	1.32883	0.136248	0.632689	0.0293242	-0.00592737
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0262487	15.6582	5510.06	146190	10763.7
Std Dev:	0.000288318	0.00474886	8.91966	561.345	64.7455
%RSD:	1.09841	0.0303282	0.16188	0.383983	0.601516
Repeat: 1	0.0260634	15.6527	5503.75	145570	10696.8
Repeat: 2	0.0265809	15.661	5520.27	146334	10768.4
Repeat: 3	0.0261018	15.6609	5506.17	146665	10826
QC Status Pass/Fail:	Pass	Fail	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5510.06	146190	10763.7
Std Dev:	8.91966	561.345	64.7455
%RSD:	0.16188	0.383983	0.601516
Repeat: 1	5503.75	145570	10696.8
Repeat: 2	5520.27	146334	10768.4
Repeat: 3	5506.17	146665	10826

Sample Name	**Acquisition Date**
M89PA	10/12/2016 1:09:55PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1234.78	472.344	71.6497	1011.81	2728.81
Std Dev:	5.75005	6.57189	0.0292117	2.84414	21.4188
%RSD:	0.465674	1.39133	0.0407702	0.281094	0.784914
Repeat: 1	1232.26	467.193	71.6398	1008.82	2704.14
Repeat: 2	1241.36	479.746	71.6267	1014.48	2739.65
Repeat: 3	1230.72	470.094	71.6825	1012.14	2742.65
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1042.76	1687.27	210.412	298.89	630.276
Std Dev:	3.10291	4.85234	0.786772	0.593072	3.24318
%RSD:	0.297568	0.287585	0.37392	0.198425	0.514566
Repeat: 1	1039.22	1687.14	210.93	299.467	626.844
Repeat: 2	1044	1682.49	209.507	298.92	630.693
Repeat: 3	1045.05	1692.19	210.8	298.282	633.29
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	2728.81	1542.44	5083.38	5204.84	167.05
Std Dev:	11.4946	16.2663	32.9116	39.2676	2.12783
%RSD:	0.421232	1.05458	0.647436	0.754444	1.27377
Repeat: 1	2715.76	1541.16	5053.61	5168.28	164.983
Repeat: 2	2737.42	1526.86	5118.72	5246.35	169.234
Repeat: 3	2733.27	1559.31	5077.82	5199.89	166.933
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**

Avg. of Repeats:	974.95	96.4451	626.242	5276.44	1867.2
Std Dev:	5.10814	0.51631	9.02294	30.0293	4.91691
%RSD:	0.523938	0.535341	1.44081	0.56912	0.26333
Repeat: 1	969.498	96.39	618.074	5244.35	1864.26
Repeat: 2	979.624	96.9867	635.927	5303.86	1864.47
Repeat: 3	975.729	95.9585	624.725	5281.11	1872.88
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	426.05	190.196	226.878	125.684	77.7428
Std Dev:	1.09887	1.9503	1.2173	0.768377	0.453765
%RSD:	0.257921	1.02542	0.536545	0.611358	0.583675
Repeat: 1	424.883	187.998	228.043	125.097	77.9739
Repeat: 2	426.2	191.72	226.978	126.553	77.22
Repeat: 3	427.066	190.871	225.614	125.401	78.0345
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	149.08	221.42	1701.59	379.026	49.7079
Std Dev:	1.58066	0.908704	15.3941	1.78991	0.218794
%RSD:	1.06028	0.410399	0.904687	0.47224	0.440158
Repeat: 1	147.429	220.627	1687.54	378.476	49.9534
Repeat: 2	150.58	221.22	1718.04	381.026	49.5333
Repeat: 3	149.23	222.412	1699.19	377.576	49.6371
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1153.73	20527.5	6313.74	160059	11943.6
Std Dev:	0.334317	49.9357	25.3781	843.98	104.315
%RSD:	0.0289771	0.243262	0.40195	0.527294	0.873398
Repeat: 1	1153.56	20475.5	6286.81	159131	11963
Repeat: 2	1153.52	20531.9	6317.2	160782	11830.9
Repeat: 3	1154.12	20575.1	6337.21	160263	12036.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.31994e-005	0.00502542	0.000142303	0.000655907	0.00200698
Std Dev:	9.72689e-005	0.0113951	0.00059684	0.000735499	0.000168713
%RSD:	736.918	226.748	419.416	112.135	8.40633
Repeat: 1	0.00011108	-0.000872797	0.000636256	0.00139047	0.00190941
Repeat: 2	1.19633e-005	0.0181606	0.00031153	0.000657776	0.00190973
Repeat: 3	-8.34455e-005	-0.00221152	-0.000520878	-8.05247e-005	0.00220179
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.0155e-005	0.758136	0.000622789	0.00091332	0.00212333
Std Dev:	1.07251e-005	0.00257432	9.63182e-005	9.53745e-005	4.92354e-005
%RSD:	105.615	0.33956	15.4656	10.4426	2.31878
Repeat: 1	2.23364e-005	0.758423	0.000683211	0.000950364	0.00206684
Repeat: 2	5.99749e-006	0.760555	0.000511713	0.000984615	0.00214602
Repeat: 3	2.13101e-006	0.75543	0.000673442	0.000804981	0.00215713
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0534364	1.68321	0.125806	2.80005e-005	0.0127477
Std Dev:	0.000253013	0.00496925	0.0204262	0.00026713	0.0176144
%RSD:	0.473484	0.295225	16.2363	954.016	138.177
Repeat: 1	0.0532423	1.67851	0.147064	-0.000231103	-0.00690808

Repeat: 2	0.0537225	1.68271	0.106329	0.000302491	0.0271037
Repeat: 3	0.0533442	1.68841	0.124024	1.26143e-005	0.0180475
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00815369	0.00130025	1.58466	0.103942	0.351632
Std Dev:	7.70477e-005	0.000360805	1.10461	0.00734917	0.00114311
%RSD:	0.944943	27.749	69.7064	7.07042	0.325085
Repeat: 1	0.00820701	0.00130684	0.74795	0.10422	0.352866
Repeat: 2	0.0081887	0.00165771	2.83674	0.0964584	0.35061
Repeat: 3	0.00806535	0.000936189	1.16929	0.111149	0.351421
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.3745	0.00698334	0.0071934	0.00184765	0.00143586
Std Dev:	0.00226625	0.00150794	0.00107346	0.00123606	0.00211188
%RSD:	0.164877	21.5933	14.9229	66.8989	147.081
Repeat: 1	1.37646	0.00537442	0.00840216	0.00153647	0.00307271
Repeat: 2	1.37504	0.00721127	0.00635133	0.00320956	-0.000948001
Repeat: 3	1.37202	0.00836434	0.00682671	0.000796915	0.00218289
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0611518	0.110282	0.000556716	0.00323385	-0.00181733
Std Dev:	0.0111022	0.000323467	8.52378e-005	0.00017128	0.00229594
%RSD:	18.1551	0.293308	15.3108	5.29645	126.336
Repeat: 1	0.050654	0.109924	0.000627091	0.00339724	-0.00199441
Repeat: 2	0.0600286	0.110369	0.000581118	0.00324868	-0.00401961
Repeat: 3	0.0727729	0.110553	0.000461938	0.00305564	0.000562025
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000183533	1.78061	6046.1	157377	11038.3
Std Dev:	0.000148639	0.0031194	25.6308	825.811	106.56
%RSD:	80.9873	0.175187	0.423922	0.524735	0.965366
Repeat: 1	0.000291163	1.78395	6018.97	156472	11063.5
Repeat: 2	0.0002455	1.78011	6049.43	158090	10921.4
Repeat: 3	1.3937e-005	1.77777	6069.9	157568	11130
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6046.1	157377	11038.3
Std Dev:	25.6308	825.811	106.56
%RSD:	0.423922	0.524735	0.965366
Repeat: 1	6018.97	156472	11063.5
Repeat: 2	6049.43	158090	10921.4
Repeat: 3	6069.9	157568	11130

Sample Name	**Acquisition Date**
M89PAS	10/12/2016 1:14:56PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1786.67	848.768	116.474	5250.54	6782.32
Std Dev:	17.8618	3.50163	0.610872	26.4304	15.9877
%RSD:	0.999726	0.412555	0.52447	0.503384	0.235726
Repeat: 1	1766.09	845.951	117.166	5280.23	6770.55
Repeat: 2	1798.06	847.666	116.009	5229.57	6775.89
Repeat: 3	1795.87	852.688	116.247	5241.82	6800.52
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	19535.7	65597.7	711.517	944.797	3361.5
Std Dev:	40.9696	217.377	2.42099	2.89364	9.73747
%RSD:	0.209716	0.33138	0.340258	0.306271	0.289676
Repeat: 1	19577.5	65483.1	708.73	941.543	3370.65
Repeat: 2	19495.7	65461.6	712.732	945.763	3351.27
Repeat: 3	19534	65848.4	713.091	947.083	3362.58
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7399.2	2596.21	22592.8	5979.01	1126.05
Std Dev:	5.35227	11.0183	107.994	28.5717	7.60436
%RSD:	0.0723358	0.4244	0.478001	0.477868	0.675311
Repeat: 1	7404.33	2589.87	22470.4	5947.24	1118.74
Repeat: 2	7399.63	2589.83	22632.9	5987.18	1125.5
Repeat: 3	7393.65	2608.93	22674.9	6002.6	1133.92
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	6883.52	1389.97	791.655	75082.3	4018.39
Std Dev:	30.976	6.94373	1.2842	413.783	16.5791
%RSD:	0.450001	0.499561	0.162217	0.551106	0.412579
Repeat: 1	6916.97	1382.29	793.138	74737.7	3999.85
Repeat: 2	6855.82	1391.81	790.902	74968	4023.53
Repeat: 3	6877.79	1395.81	790.925	75541.2	4031.8
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1612.55	285.714	329.6	308.203	115.535
Std Dev:	7.64008	1.40236	1.66165	1.10024	0.341178
%RSD:	0.473789	0.490827	0.504142	0.356987	0.295302
Repeat: 1	1603.73	284.373	331.169	307.478	115.142
Repeat: 2	1617.06	287.17	327.859	307.662	115.75
Repeat: 3	1616.87	285.6	329.771	309.469	115.714
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	716.954	787.333	24287.2	717.747	59.5901
Std Dev:	11.8715	1.73396	142.501	4.74552	0.361485
%RSD:	1.65582	0.220232	0.586734	0.661168	0.606619
Repeat: 1	710.054	785.331	24188.6	713.495	59.9347
Repeat: 2	710.146	788.341	24222.5	716.879	59.2139
Repeat: 3	730.662	788.327	24450.6	722.866	59.6218
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	4969.99	29315.8	6255.64	156577	11888.3
Std Dev:	8.23802	147.137	31.8161	155.494	23.5557
%RSD:	0.165755	0.501904	0.508599	0.0993085	0.198142
Repeat: 1	4977.42	29147.2	6219.5	156734	11909.7
Repeat: 2	4961.13	29382.1	6267.99	156572	11863.1
Repeat: 3	4971.43	29418.1	6279.42	156423	11892.1

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0412056	1.72631	0.0818748	0.837606	0.0876402
Std Dev:	0.000271365	0.0101236	0.00120086	0.00452758	0.000245467
%RSD:	0.658563	0.586431	1.4667	0.540539	0.280085
Repeat: 1	0.0409499	1.71509	0.0829411	0.842782	0.0873899
Repeat: 2	0.0414903	1.72911	0.0821093	0.834385	0.0876502
Repeat: 3	0.0411767	1.73475	0.0805739	0.83565	0.0878806
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0458491	44.3377	0.0446934	0.0882435	0.194921
Std Dev:	9.72085e-005	0.126894	3.32714e-005	8.29052e-005	0.00083667
%RSD:	0.212019	0.286198	0.0744437	0.0939505	0.429235
Repeat: 1	0.0459214	44.209	0.0446551	0.0882693	0.195805
Repeat: 2	0.0457386	44.3414	0.0447097	0.0883105	0.194141
Repeat: 3	0.0458873	44.4627	0.0447153	0.0881508	0.194817
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.257472	2.93605	42.4915	0.0893099	8.63029
Std Dev:	0.000607629	0.014954	0.194223	0.00141118	0.0787464
%RSD:	0.235998	0.509325	0.457086	1.5801	0.912442
Repeat: 1	0.258154	2.92068	42.2673	0.0876828	8.544
Repeat: 2	0.257272	2.93693	42.6032	0.0900467	8.64863
Repeat: 3	0.256989	2.95055	42.6041	0.0902002	8.69825
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0988994	0.459553	44.4788	42.8079	0.847064
Std Dev:	0.000457481	0.000187312	0.146	0.245232	0.000797533
%RSD:	0.462572	0.0407596	0.328247	0.572867	0.0941527
Repeat: 1	0.0993836	0.459768	44.3294	42.5498	0.847896
Repeat: 2	0.0984745	0.459424	44.4858	42.836	0.846306
Repeat: 3	0.09884	0.459468	44.6212	43.0379	0.846989
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.65534	0.0990156	0.0944281	0.339153	0.123094
Std Dev:	0.0050231	0.00170705	0.00239245	0.000907396	0.00068316
%RSD:	0.0888204	1.72402	2.53363	0.267548	0.55499
Repeat: 1	5.65857	0.0981099	0.0953126	0.339252	0.122377
Repeat: 2	5.65791	0.100985	0.0917193	0.338199	0.123168
Repeat: 3	5.64955	0.0979523	0.0962523	0.340006	0.123738
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.1383	0.53896	0.423118	0.0915116	0.0127684
Std Dev:	0.0788817	0.00170424	0.00226907	0.00135661	0.00186412
%RSD:	1.90614	0.316209	0.536273	1.48245	14.5995
Repeat: 1	4.08772	0.540737	0.421096	0.0907817	0.014138
Repeat: 2	4.098	0.538803	0.422685	0.0906763	0.0106455
Repeat: 3	4.2292	0.537339	0.425572	0.0930769	0.0135217
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass

Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.174505	2.57648	5976.84	153822	10985.5
Std Dev:	0.000789977	0.000889375	31.4913	139.35	22.1739
%RSD:	0.452696	0.034519	0.526889	0.0905918	0.201847
Repeat: 1	0.175154	2.57685	5941.11	153970	11000.3
Repeat: 2	0.173625	2.57713	5988.83	153802	10960
Repeat: 3	0.174734	2.57547	6000.57	153693	10996.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	5976.84	153822	10985.5
Std Dev:	31.4913	139.35	22.1739
%RSD:	0.526889	0.0905918	0.201847
Repeat: 1	5941.11	153970	11000.3
Repeat: 2	5988.83	153802	10960
Repeat: 3	6000.57	153693	10996.3

Sample Name	Acquisition Date
M89PAD	10/12/2016 1:19:42PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1819.13	881.975	120.711	5573.4	7129.85
Std Dev:	2.37096	3.00172	0.768767	30.737	2.70424
%RSD:	0.130334	0.340341	0.636863	0.551495	0.0379285
Repeat: 1	1820.55	880.074	120.005	5539.24	7128.52
Repeat: 2	1816.4	885.435	121.53	5582.13	7128.06
Repeat: 3	1820.45	880.415	120.598	5598.82	7132.96
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Avg. of Repeats:	21244.6	71055.2	749.549	996.875	3358.72
Std Dev:	108.198	170.245	0.421416	3.25598	16.5996
%RSD:	0.509296	0.239595	0.0562226	0.326619	0.494224
Repeat: 1	21125	71079.9	749.913	993.269	3339.75
Repeat: 2	21273	70874	749.088	997.756	3365.86
Repeat: 3	21335.7	71211.8	749.647	999.6	3370.56
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Avg. of Repeats:	6571.06	2038.94	24300.3	6004.47	1219.55
Std Dev:	7.36345	15.4895	87.6657	11.9345	4.77463
%RSD:	0.112059	0.759683	0.360761	0.198761	0.391508
Repeat: 1	6563.92	2044.14	24294.2	5992.55	1224.81
Repeat: 2	6570.64	2021.52	24215.8	6004.43	1215.48
Repeat: 3	6578.63	2051.16	24390.8	6016.42	1218.36
Element/Wavelength	Mn2576A	Mo2020A	aN	Na5895R	Ni2316A
Avg. of Repeats:	7074.11	1497.19	796.77	81963.9	3449.19
Std Dev:	28.1019	4.11026	5.56707	406.352	12.3255
%RSD:	0.39725	0.27453	0.698705	0.495769	0.357344
Repeat: 1	7048.17	1492.77	793.641	82104.8	3437.11
Repeat: 2	7070.19	1497.92	803.198	81505.9	3448.71
Repeat: 3	7103.96	1500.89	793.472	82281.1	3461.75
Element/Wavelength	P_1782A	bP	Pb2203A	Sb2068A	Se1960A

Avg. of Repeats:	1681.19	284.561	329.661	337.792	118.957
Std Dev:	8.90509	2.78004	1.58994	0.612093	0.816279
%RSD:	0.52969	0.976957	0.482294	0.181204	0.686198
Repeat: 1	1671.56	281.811	327.891	337.092	118.666
Repeat: 2	1682.88	287.37	330.126	338.226	119.879
Repeat: 3	1689.12	284.503	330.968	338.058	118.326
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	767.015	841.57	26611.2	739.29	63.5494
Std Dev:	5.71406	2.67053	121.017	3.92907	0.199672
%RSD:	0.744974	0.317327	0.454759	0.531465	0.314199
Repeat: 1	761.948	838.998	26655	739.202	63.6545
Repeat: 2	765.89	841.383	26474.3	735.405	63.3191
Repeat: 3	773.208	844.329	26704.2	743.262	63.6745
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5320.12	20914.9	6271.8	157069	11979.2
Std Dev:	28.5712	61.5177	26.6682	305.083	29.3187
%RSD:	0.537041	0.294134	0.425208	0.194234	0.244747
Repeat: 1	5287.89	20845.7	6241.7	156781	11948.1
Repeat: 2	5330.14	20935.3	6281.19	157389	11983.2
Repeat: 3	5342.34	20963.5	6292.5	157038	12006.3

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0441325	1.86297	0.0911885	0.898777	0.0945078
Std Dev:	0.000159395	0.0159868	0.00198641	0.00477901	0.000325646
%RSD:	0.361174	0.858136	2.17836	0.531723	0.34457
Repeat: 1	0.0442555	1.86559	0.0890012	0.89461	0.0948569
Repeat: 2	0.0439524	1.87748	0.0928802	0.897729	0.0942122
Repeat: 3	0.0441895	1.84584	0.0916841	0.903994	0.0944544
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0499351	47.6328	0.0481351	0.0954723	0.194122
Std Dev:	0.000208798	0.108818	0.000272047	7.36343e-005	0.000822982
%RSD:	0.418139	0.228451	0.565174	0.0771263	0.423952
Repeat: 1	0.0497349	47.744	0.048427	0.0954013	0.193293
Repeat: 2	0.0499189	47.5266	0.0480897	0.0954673	0.194133
Repeat: 3	0.0501516	47.6278	0.0478886	0.0955484	0.194939
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.221032	2.25741	46.2575	0.0964767	9.38399
Std Dev:	0.000313597	0.0159656	0.159345	0.000776853	0.0658679
%RSD:	0.141879	0.707255	0.344474	0.805223	0.701918
Repeat: 1	0.221362	2.26875	46.3489	0.0969354	9.46
Repeat: 2	0.220738	2.23915	46.0735	0.0955798	9.34364
Repeat: 3	0.220995	2.26432	46.35	0.096915	9.34834
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.101559	0.496493	47.7003	46.6068	0.713938
Std Dev:	0.000448774	0.000859105	1.19761	0.248074	0.00100867

%RSD:	0.441883	0.173035	2.51069	0.532271	0.141282
Repeat: 1	0.101433	0.497483	47.2422	46.7977	0.714706
Repeat: 2	0.101187	0.495939	49.0593	46.3264	0.712795
Repeat: 3	0.102058	0.496057	46.7993	46.6963	0.714311
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.88524	0.098733	0.0948192	0.397856	0.13542
Std Dev:	0.00798931	0.00454277	0.00131086	0.00160254	0.00379835
%RSD:	0.135752	4.60106	1.38248	0.402793	2.80487
Repeat: 1	5.88159	0.0950111	0.093589	0.399401	0.135677
Repeat: 2	5.87972	0.103795	0.0946707	0.397966	0.139084
Repeat: 3	5.8944	0.0973927	0.096198	0.396202	0.1315
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.4688	0.578904	0.462695	0.0961197	0.0247786
Std Dev:	0.026059	0.00124527	0.00227541	0.00238845	0.00226295
%RSD:	0.583133	0.215108	0.491774	2.48487	9.13269
Repeat: 1	4.44421	0.580239	0.464471	0.0976564	0.0222147
Repeat: 2	4.46607	0.577773	0.46013	0.093368	0.0264972
Repeat: 3	4.49611	0.578701	0.463485	0.0973348	0.025624
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.190307	1.82737	5993.73	154349	11085.2
Std Dev:	0.000929607	0.00308896	27.2639	302.916	23.392
%RSD:	0.488478	0.169038	0.454874	0.196254	0.21102
Repeat: 1	0.189442	1.83078	5963.22	154073	11063.2
Repeat: 2	0.190189	1.8266	6002.28	154673	11082.6
Repeat: 3	0.19129	1.82475	6015.7	154300	11109.7
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5993.73	154349	11085.2
Std Dev:	27.2639	302.916	23.392
%RSD:	0.454874	0.196254	0.21102
Repeat: 1	5963.22	154073	11063.2
Repeat: 2	6002.28	154673	11082.6
Repeat: 3	6015.7	154300	11109.7

Sample Name	**Acquisition Date**
M89PAA	10/12/2016 1:24:28PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1890.66	917.391	123.99	5998.38	7534.28
Std Dev:	8.4465	4.70675	0.733778	29.9	24.84
%RSD:	0.446749	0.513057	0.591804	0.498469	0.329693
Repeat: 1	1884.86	912.128	123.751	5964.05	7519.55
Repeat: 2	1900.35	918.849	123.405	6018.74	7562.96

Repeat: 3	1886.76	921.197	124.813	6012.34	7520.34
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	23060.2	77448.4	800.901	1058.36	3606.88
Std Dev:	132.647	518.961	2.41801	4.04353	20.3162
%RSD:	0.57522	0.670074	0.301911	0.382056	0.563262
Repeat: 1	22907.2	76970.4	798.269	1054.06	3587.13
Repeat: 2	23130.9	78000.4	803.023	1062.08	3627.72
Repeat: 3	23142.6	77374.4	801.413	1058.94	3605.79
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	8454.96	2381.98	25964.6	6075.18	1306.78
Std Dev:	22.8304	17.2521	99.7918	35.0434	5.77257
%RSD:	0.270023	0.724277	0.384337	0.576829	0.441739
Repeat: 1	8429.1	2389.94	25861.7	6036.9	1301.02
Repeat: 2	8472.33	2393.81	26061	6082.95	1312.56
Repeat: 3	8463.44	2362.18	25971.3	6105.69	1306.77
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	7753.98	1624.28	818.783	88570.4	4067.12
Std Dev:	40.3705	10.2912	4.24468	410.355	17.5764
%RSD:	0.520642	0.633585	0.518414	0.463309	0.432159
Repeat: 1	7711	1612.44	814.034	88225.4	4052.12
Repeat: 2	7759.82	1631.1	822.207	89024.2	4086.46
Repeat: 3	7791.11	1629.28	820.108	88461.7	4062.78
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1812.14	296.168	346.214	387.164	122.793
Std Dev:	6.05828	1.01175	1.71103	3.03057	0.309017
%RSD:	0.334317	0.341615	0.494212	0.782763	0.251656
Repeat: 1	1806.49	296.385	344.242	383.813	122.58
Repeat: 2	1818.54	295.065	347.317	389.712	122.653
Repeat: 3	1811.38	297.053	347.082	387.966	123.148
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	882.117	900.821	28647.6	776.319	197.065
Std Dev:	5.96855	5.7933	110.249	2.78562	1.38331
%RSD:	0.676616	0.643113	0.384847	0.358824	0.701953
Repeat: 1	880.361	895.059	28703.1	773.14	195.472
Repeat: 2	877.224	906.645	28719.1	778.333	197.763
Repeat: 3	888.767	900.76	28520.6	777.484	197.961
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5700.42	25406	6214.14	156883	11859.1
Std Dev:	20.224	112.836	33.5923	497.636	70.6709
%RSD:	0.35478	0.444132	0.540578	0.317201	0.595922
Repeat: 1	5677.4	25336.6	6179.73	156313	11790.6
Repeat: 2	5715.35	25536.2	6246.85	157229	11931.8
Repeat: 3	5708.49	25345.2	6215.85	157109	11854.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0495852	2.04881	0.0973081	0.983985	0.10391
Std Dev:	0.000390652	0.00723575	0.00160033	0.00218316	0.000915688
%RSD:	0.787839	0.353168	1.6446	0.22187	0.881236
Repeat: 1	0.0496951	2.05456	0.097552	0.981492	0.104888
Repeat: 2	0.0499092	2.04069	0.0955998	0.984906	0.103767
Repeat: 3	0.0491514	2.05119	0.0987725	0.985556	0.103074

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0544869	52.5459	0.0531641	0.104818	0.212117
Std Dev:	0.000158411	0.0914981	4.05917e-005	0.000104804	0.000927682
%RSD:	0.290733	0.17413	0.0763517	0.0999867	0.437345
Repeat: 1	0.0543081	52.5614	0.0532104	0.104698	0.211443
Repeat: 2	0.054543	52.6287	0.0531473	0.104892	0.213175
Repeat: 3	0.0546096	52.4476	0.0531347	0.104865	0.211732
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.303345	2.69298	50.7918	0.103628	10.2734
Std Dev:	3.06943e-005	0.0273912	0.131829	0.00121797	0.0295897
%RSD:	0.0101186	1.01713	0.259547	1.17533	0.288022
Repeat: 1	0.30338	2.72142	50.9359	0.104766	10.3038
Repeat: 2	0.303329	2.69077	50.7622	0.103774	10.2718
Repeat: 3	0.303325	2.66677	50.6772	0.102343	10.2447
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.11222	0.546857	52.2338	51.1705	0.864405
Std Dev:	0.000357969	0.00155863	1.03216	0.132134	0.00139854
%RSD:	0.318989	0.285015	1.97604	0.258223	0.161792
Repeat: 1	0.11204	0.545751	52.7118	51.3071	0.865814
Repeat: 2	0.111988	0.546182	52.9404	51.1611	0.864384
Repeat: 3	0.112632	0.54864	51.0493	51.0434	0.863017
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	6.42027	0.109084	0.111258	0.497674	0.151238
Std Dev:	0.0164727	0.00082823	0.00182948	0.00438196	0.00112352
%RSD:	0.256573	0.759256	1.64435	0.880488	0.742885
Repeat: 1	6.43879	0.110036	0.109314	0.49262	0.15213
Repeat: 2	6.40727	0.108688	0.111516	0.500408	0.149976
Repeat: 3	6.41475	0.108529	0.112945	0.499996	0.151607
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.33596	0.629826	0.506134	0.107176	0.416683
Std Dev:	0.0542585	0.000809689	0.00388954	0.00103669	0.00101372
%RSD:	1.01685	0.128558	0.76848	0.967282	0.243284
Repeat: 1	5.3613	0.629271	0.5105	0.107397	0.416441
Repeat: 2	5.27367	0.630755	0.504864	0.108083	0.415812
Repeat: 3	5.37291	0.629451	0.503039	0.106046	0.417796
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.208307	2.24536	5935.87	154145	10961.3
Std Dev:	0.000117199	0.00596694	32.9899	498.97	66.4297
%RSD:	0.0562628	0.265746	0.555772	0.323702	0.606038
Repeat: 1	0.208239	2.25177	5902.76	153576	10890.8
Repeat: 2	0.208442	2.24434	5968.74	154510	11022.7

Repeat: 3	0.20824	2.23996	5936.11	154348	10970.4
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5935.87	154145	10961.3
Std Dev:	32.9899	498.97	66.4297
%RSD:	0.555772	0.323702	0.606038
Repeat: 1	5902.76	153576	10890.8
Repeat: 2	5968.74	154510	11022.7
Repeat: 3	5936.11	154348	10970.4

Sample Name	**Acquisition Date**
M89PC	10/12/2016 1:29:15PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1079.31	571.409	129.258	6506.35	3242.8
Std Dev:	7.17017	2.01867	0.850914	27.9307	7.0285
%RSD:	0.664328	0.353279	0.658307	0.429284	0.216742
Repeat: 1	1071.31	572.421	129.194	6492.45	3246
Repeat: 2	1085.17	572.721	128.441	6488.1	3247.65
Repeat: 3	1081.45	569.084	130.139	6538.51	3234.74
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	934.157	9341.05	200.768	330.068	831.107
Std Dev:	4.63949	51.8863	0.473047	0.853374	8.50793
%RSD:	0.49665	0.555465	0.235618	0.258545	1.02369
Repeat: 1	929.936	9289.18	201.152	329.939	821.414
Repeat: 2	939.124	9341.01	200.24	329.287	834.566
Repeat: 3	933.41	9392.96	200.913	330.979	837.34
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1509.4	7458.74	4652.88	4711.84	274.406
Std Dev:	9.90774	99.4673	32.9143	25.4916	2.40809
%RSD:	0.656402	1.33357	0.707396	0.54101	0.877565
Repeat: 1	1498	7377.4	4678.38	4713.96	272.141
Repeat: 2	1514.29	7429.18	4664.53	4736.21	274.14
Repeat: 3	1515.91	7569.63	4615.72	4685.36	276.935
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	13240.4	102.225	567.013	5382.21	319.866
Std Dev:	67.4961	0.652406	1.99506	23.392	0.638769
%RSD:	0.509773	0.638208	0.351854	0.434618	0.199699
Repeat: 1	13181	101.472	566.473	5403.29	319.358
Repeat: 2	13226.5	102.584	569.222	5386.3	320.583
Repeat: 3	13313.8	102.619	565.343	5357.04	319.657
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	677.85	191.448	226.645	141.058	118.745
Std Dev:	3.8697	3.46035	0.790193	0.402774	0.501477
%RSD:	0.570879	1.80746	0.348647	0.285538	0.422314
Repeat: 1	673.663	187.487	227.109	141.047	118.459
Repeat: 2	678.591	192.973	225.733	141.466	118.452
Repeat: 3	681.295	193.885	227.094	140.661	119.324
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**

Avg. of Repeats:	259.439	296.519	3789.63	385.871	69.7121
Std Dev:	2.10476	1.72711	41.9398	1.668	0.561432
%RSD:	0.811274	0.582461	1.1067	0.432268	0.805358
Repeat: 1	257.097	294.653	3750	386.895	70.1006
Repeat: 2	260.046	296.844	3785.34	383.946	69.0684
Repeat: 3	261.173	298.061	3833.55	386.772	69.9673
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1035.07	799.132	6395.41	169017	13045.2
Std Dev:	4.12413	1.93531	33.5824	107.603	112.572
%RSD:	0.398441	0.242176	0.525101	0.063664	0.862938
Repeat: 1	1030.31	797.956	6358.71	168901	12926.8
Repeat: 2	1037.53	798.076	6402.94	169035	13057.9
Repeat: 3	1037.36	801.366	6424.6	169114	13150.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000246723	0.588364	0.0400676	0.971092	0.0162907
Std Dev:	0.000261871	0.00455151	0.00112198	0.00412414	0.000179357
%RSD:	106.139	0.773587	2.80021	0.424691	1.10098
Repeat: 1	-0.000534948	0.593522	0.040165	0.969537	0.0164217
Repeat: 2	-0.000181801	0.584912	0.0389001	0.967971	0.0160863
Repeat: 3	-2.34204e-005	0.586658	0.0411377	0.975767	0.0163642
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.01958e-005	5.38517	1.1309e-005	0.0074549	0.0190634
Std Dev:	7.58216e-006	0.0186248	5.48945e-005	0.000138151	0.000258534
%RSD:	37.5433	0.345853	485.406	1.85315	1.35618
Repeat: 1	2.60933e-005	5.40545	3.60012e-005	0.00748896	0.018831
Repeat: 2	2.28509e-005	5.38121	-5.15953e-005	0.00730291	0.0190173
Repeat: 3	1.16431e-005	5.36884	4.95211e-005	0.00757284	0.0193419
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00765515	7.79614	0.171129	0.00108532	0.998619
Std Dev:	0.000141937	0.0380032	0.0346064	0.000895266	0.0273797
%RSD:	1.85414	0.487462	20.2224	82.4883	2.74176
Repeat: 1	0.00769051	7.78473	0.20863	6.23145e-005	0.980543
Repeat: 2	0.00749887	7.76515	0.164328	0.00146803	0.985193
Repeat: 3	0.00777606	7.83854	0.140427	0.00172563	1.03012
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.182674	-0.00131264	1.02533	0.415329	0.00469833
Std Dev:	0.000842749	8.2595e-005	0.266562	0.0108946	0.000192504
%RSD:	0.46134	6.29229	25.9977	2.62313	4.09729
Repeat: 1	0.181884	-0.0014077	0.764755	0.422638	0.00454519
Repeat: 2	0.182578	-0.00125846	1.01374	0.402807	0.00491443
Repeat: 3	0.183561	-0.00127175	1.2975	0.420541	0.00463538
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm

Avg. of Repeats:	2.02742	0.0112244	0.00682024	-0.00314511	0.0507818
Std Dev:	0.002224	0.00162061	0.000619648	0.00219206	0.000764078
%RSD:	0.109696	14.4382	9.08543	69.6975	1.50463
Repeat: 1	2.02946	0.00939737	0.00654707	-0.00374188	0.0506419
Repeat: 2	2.02775	0.0117876	0.00638411	-0.000716458	0.0500973
Repeat: 3	2.02505	0.0124883	0.00752954	-0.00497699	0.0516061
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.827836	0.114842	0.038256	0.0123476	-0.0466058
Std Dev:	0.00431985	0.000260123	0.000468578	0.00100258	0.00191937
%RSD:	0.521824	0.226504	1.22485	8.11963	4.11831
Repeat: 1	0.824037	0.114546	0.0378652	0.0126622	-0.0449276
Repeat: 2	0.832535	0.114948	0.0381273	0.0112255	-0.0486986
Repeat: 3	0.826937	0.115033	0.0387754	0.0131552	-0.0461912
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000675871	0.0528155	6141.55	166647	12243.1
Std Dev:	5.62676e-005	0.000200446	33.6034	96.2363	118.603
%RSD:	8.32521	0.379522	0.547149	0.0577485	0.968727
Repeat: 1	0.000617957	0.0530427	6104.76	166548	12122.1
Repeat: 2	0.000679323	0.0526638	6149.26	166654	12248.2
Repeat: 3	0.000730333	0.05274	6170.63	166740	12359.1
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6141.55	166647	12243.1
Std Dev:	33.6034	96.2363	118.603
%RSD:	0.547149	0.0577485	0.968727
Repeat: 1	6104.76	166548	12122.1
Repeat: 2	6149.26	166654	12248.2
Repeat: 3	6170.63	166740	12359.1

Sample Name	**Acquisition Date**
M89PD	10/12/2016 1:34:11PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1090.52	435.174	114.753	640.093	2425.74
Std Dev:	5.82441	1.87739	0.565874	2.93672	19.5435
%RSD:	0.534094	0.431411	0.493125	0.458797	0.805673
Repeat: 1	1083.96	433.017	114.302	637.283	2413.14
Repeat: 2	1092.5	436.064	114.568	639.852	2415.83
Repeat: 3	1095.1	436.441	115.388	643.142	2448.26
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	939.564	644.692	188.314	29707.1	4004.44
Std Dev:	5.42555	4.27078	0.687292	50.1577	21.735
%RSD:	0.577453	0.662452	0.364971	0.16884	0.542772
Repeat: 1	933.526	640.41	187.55	29655.5	3982.06
Repeat: 2	941.138	648.951	188.882	29710.2	4005.78

Repeat: 3	944.029	644.716	188.509	29755.7	4025.47
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1461.84	981.931	4674.91	4758.88	153.044
Std Dev:	8.04003	0.879403	23.397	25.0182	0.775711
%RSD:	0.549993	0.0895586	0.500481	0.525716	0.506854
Repeat: 1	1452.91	982.168	4653	4736.41	152.647
Repeat: 2	1468.5	982.667	4672.18	4754.4	152.547
Repeat: 3	1464.11	980.957	4699.55	4785.84	153.938
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	2672.89	177.747	570.265	4907.33	900.442
Std Dev:	13.744	0.532504	2.66952	28.4415	2.97937
%RSD:	0.514199	0.299586	0.468119	0.579572	0.330879
Repeat: 1	2657.36	177.345	567.183	4880.22	897.016
Repeat: 2	2677.78	178.351	571.828	4904.85	901.885
Repeat: 3	2683.51	177.545	571.785	4936.94	902.425
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	295.923	178.617	211.66	134.588	107.672
Std Dev:	1.57668	1.84209	2.08214	0.821382	0.560754
%RSD:	0.532802	1.03131	0.98372	0.610294	0.5208
Repeat: 1	295.85	176.699	210.365	133.706	107.048
Repeat: 2	294.384	178.778	214.062	135.332	107.834
Repeat: 3	297.535	180.373	210.554	134.726	108.133
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	141.963	286.247	1538.88	356.903	70.8544
Std Dev:	2.09623	1.25136	6.14431	3.3741	0.574782
%RSD:	1.4766	0.437162	0.399271	0.945385	0.811216
Repeat: 1	139.71	287.69	1534.97	354.545	70.1972
Repeat: 2	143.856	285.585	1535.71	355.395	71.1031
Repeat: 3	142.323	285.465	1545.96	360.768	71.263
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1044.75	213.11	6352.57	166446	12871.9
Std Dev:	4.05552	0.675034	13.157	1097.33	35.947
%RSD:	0.388179	0.316754	0.207112	0.659269	0.279267
Repeat: 1	1040.41	212.33	6345	165189	12879
Repeat: 2	1045.4	213.509	6344.94	167212	12903.8
Repeat: 3	1048.44	213.489	6367.76	166938	12833

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000456568	0.0228393	0.0324369	-0.0885971	0.000416569
Std Dev:	0.000325527	0.0106484	0.000712249	0.000686201	0.000133371
%RSD:	71.2986	46.6231	2.1958	0.774518	32.0165
Repeat: 1	-0.000805356	0.0230557	0.0318474	-0.0887567	0.000451638
Repeat: 2	-0.000403533	0.0333779	0.0322348	-0.0891894	0.000269168
Repeat: 3	-0.000160815	0.0120844	0.0332283	-0.0878452	0.000528902
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	8.6347e-006	0.06878	-0.000165518	3.97853	0.230612
Std Dev:	1.55964e-005	0.00165871	5.50836e-005	0.00489918	0.000996598
%RSD:	180.624	2.41161	33.2796	0.12314	0.432154
Repeat: 1	-8.13333e-006	0.0678118	-0.000133466	3.97642	0.231242

Repeat: 2	2.27083e-005	0.0706953	-0.000229122	3.98413	0.229463
Repeat: 3	1.13291e-005	0.067833	-0.000133965	3.97504	0.231131
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00511208	0.945599	0.126206	0.00100403	0.00661053
Std Dev:	0.00025467	0.00237969	0.0179277	0.00116787	0.000994952
%RSD:	4.98173	0.25166	14.2051	116.318	15.051
Repeat: 1	0.00483121	0.943693	0.14134	0.00228004	0.00547616
Repeat: 2	0.00532795	0.944839	0.130871	0.000743885	0.0070201
Repeat: 3	0.00517708	0.948266	0.106407	-1.18299e-005	0.00733532
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0329146	0.0273024	0.746644	0.132578	0.133935
Std Dev:	0.000106237	0.000145131	0.71199	0.00543188	0.000307774
%RSD:	0.322767	0.531567	95.3587	4.09713	0.229794
Repeat: 1	0.0330044	0.0272456	1.51819	0.138802	0.13358
Repeat: 2	0.0327973	0.0274673	0.606758	0.130138	0.134112
Repeat: 3	0.0329421	0.0271942	0.114978	0.128794	0.134113
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.74378	0.00205851	-0.00103562	-0.00432345	0.0395614
Std Dev:	0.00368488	0.000810125	0.00101802	0.000600984	0.000721843
%RSD:	0.495426	39.3549	98.3005	13.9006	1.82461
Repeat: 1	0.744576	0.00132752	-0.00203924	-0.00372091	0.0389647
Repeat: 2	0.739762	0.00191849	-3.78598e-006	-0.00432656	0.0393559
Repeat: 3	0.747002	0.00292952	-0.00106384	-0.00492287	0.0403638
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0334702	0.119734	0.000363998	0.00500431	-0.0398247
Std Dev:	0.0170605	0.00141702	0.000111094	0.000771862	0.000997405
%RSD:	50.9721	1.18348	30.5205	15.4239	2.50449
Repeat: 1	0.0243319	0.121355	0.000488173	0.0045093	-0.038743
Repeat: 2	0.0531532	0.11911	0.00027403	0.00460994	-0.040708
Repeat: 3	0.0229255	0.118735	0.000329791	0.00589368	-0.0400232
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000885949	0.0027924	6100.6	164064	12065.7
Std Dev:	0.000160642	9.91696e-006	13.2112	1087.06	38.0085
%RSD:	18.1322	0.355141	0.216555	0.662584	0.315013
Repeat: 1	0.000709624	0.00279462	6093.63	162818	12076.2
Repeat: 2	0.000924233	0.00280102	6092.33	164818	12097.4
Repeat: 3	0.00102399	0.00278156	6115.83	164556	12023.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6100.6	164064	12065.7
Std Dev:	13.2112	1087.06	38.0085
%RSD:	0.216555	0.662584	0.315013

Repeat: 1	6093.63	162818	12076.2
Repeat: 2	6092.33	164818	12097.4
Repeat: 3	6115.83	164556	12023.6

Sample Name	**Acquisition Date**
CCV	10/12/2016 1:39:08PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	14446.3	6245.5	332.746	11035.2	102486
Std Dev:	56.9951	49.792	0.755032	34.2615	1407.98
%RSD:	0.394529	0.797247	0.22691	0.310475	1.37382
Repeat: 1	14504.5	6244.45	333.393	11058.8	103051
Repeat: 2	14390.6	6295.8	331.916	10995.9	103524
Repeat: 3	14443.9	6196.23	332.927	11050.8	100884
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	865375	78452.2	6063.23	15468	30310.3
Std Dev:	1405.92	849.289	21.7099	61.0175	81.4538
%RSD:	0.162463	1.08256	0.358058	0.394475	0.268733
Repeat: 1	863877	78621	6087.09	15530.9	30345.3
Repeat: 2	866665	79204.4	6044.64	15409	30217.2
Repeat: 3	865584	77531.1	6057.97	15464.2	30368.5
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	48271.1	22427.5	26759.9	23924	6019.67
Std Dev:	261.708	204.33	203.076	203.102	36.3734
%RSD:	0.542163	0.91107	0.758882	0.848944	0.604243
Repeat: 1	48532.4	22453.7	26819.6	23971.2	6008.74
Repeat: 2	48009	22617.4	26926.4	24099.5	6060.25
Repeat: 3	48271.7	22211.3	26533.6	23701.5	5990.01
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	137773	5973.5	823.887	91191.9	9550.54
Std Dev:	338.003	25.5598	0.847089	880.776	43.4955
%RSD:	0.245334	0.427886	0.102816	0.965849	0.455424
Repeat: 1	137835	5998.73	823.556	91458.5	9594.03
Repeat: 2	137408	5947.62	824.85	91908.5	9507.04
Repeat: 3	138075	5974.16	823.256	90208.6	9550.55
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	619	724.226	810.707	438.968	233.975
Std Dev:	4.87258	0.611245	1.41711	1.15432	1.56846
%RSD:	0.78717	0.0843998	0.1748	0.262961	0.670354
Repeat: 1	623.971	724.267	810.505	440.298	235.77
Repeat: 2	614.232	723.595	809.402	438.226	232.869
Repeat: 3	618.797	724.815	812.214	438.381	233.287
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	440.274	2837.22	113892	8419.55	425.046
Std Dev:	2.74673	13.076	1272.83	94.7952	1.45976
%RSD:	0.623869	0.460874	1.11757	1.12589	0.343435
Repeat: 1	441.435	2847.66	114093	8428.59	425.583
Repeat: 2	442.25	2822.55	115053	8509.5	423.394
Repeat: 3	437.138	2841.44	112531	8320.56	426.162
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**

Avg. of Repeats:	46537	23544.9	6456.59	163254	12484.3
Std Dev:	154.732	141.843	30.7325	635.481	142.951
%RSD:	0.332493	0.602435	0.475987	0.389259	1.14505
Repeat: 1	46642	23678.6	6480.72	163719	12492.4
Repeat: 2	46359.3	23396.1	6421.99	162530	12623
Repeat: 3	46609.6	23559.9	6467.07	163514	12337.4

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.990068	24.9523	0.495395	1.89128	1.99373
Std Dev:	0.00225072	0.0895513	0.000536478	0.00152058	0.0075247
%RSD:	0.22733	0.35889	0.108293	0.0803997	0.377419
Repeat: 1	0.992099	24.9415	0.494787	1.89141	2.00238
Repeat: 2	0.990457	24.8686	0.495802	1.89273	1.98875
Repeat: 3	0.987648	25.0467	0.495597	1.8897	1.99004
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.06347	50.2918	0.509125	2.03108	2.01909
Std Dev:	0.0113783	0.149808	0.00140105	0.00384915	0.00299077
%RSD:	0.551415	0.297878	0.275188	0.189512	0.148125
Repeat: 1	2.05394	50.3349	0.509124	2.03134	2.01566
Repeat: 2	2.07607	50.1251	0.510526	2.0348	2.02117
Repeat: 3	2.06039	50.4152	0.507724	2.02711	2.02043
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.95923	24.9897	49.8244	1.99681	49.6271
Std Dev:	0.00461161	0.11495	0.185582	0.00523541	0.412038
%RSD:	0.235378	0.459989	0.372471	0.262188	0.830267
Repeat: 1	1.96455	24.9861	49.9162	2.00275	49.4457
Repeat: 2	1.95692	24.8766	49.6108	1.99285	49.337
Repeat: 3	1.95624	25.1064	49.9462	1.99484	50.0988
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.02862	2.03379	50.3787	49.8809	2.05041
Std Dev:	0.00479527	0.00259009	1.12854	0.183123	0.00290189
%RSD:	0.236381	0.127353	2.24011	0.36712	0.141527
Repeat: 1	2.02327	2.03362	51.2537	49.9827	2.05186
Repeat: 2	2.03252	2.03646	50.7775	49.6695	2.0523
Repeat: 3	2.03008	2.03129	49.1049	49.9904	2.04707
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.98897	0.507834	0.506205	0.498157	0.499094
Std Dev:	0.00717418	0.00205878	0.00124037	0.000975832	0.00617906
%RSD:	0.360699	0.405405	0.245033	0.195888	1.23806
Repeat: 1	1.99723	0.505654	0.504775	0.498521	0.506076
Repeat: 2	1.98535	0.509745	0.506986	0.498899	0.496875
Repeat: 3	1.98432	0.508104	0.506854	0.497052	0.49433
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass

Element/Wavelength	Si2506R	Sn1899A	Sr4215R	Ti3349R	Tl1908A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.00525	2.03907	1.98812	1.99874	1.00838
Std Dev:	0.0183772	0.00102716	0.00491751	0.00394871	0.00171472
%RSD:	0.916452	0.0503741	0.247344	0.19756	0.170047
Repeat: 1	2.02239	2.03861	1.9891	1.99688	1.00711
Repeat: 2	1.98585	2.04024	1.98279	1.99606	1.00771
Repeat: 3	2.00751	2.03834	1.99248	2.00327	1.01033
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	2.00086	1.99885	6132.82	160501	11602.3
Std Dev:	0.00106697	0.00267928	32.0468	631.054	160.39
%RSD:	0.0533258	0.134041	0.522547	0.393178	1.3824
Repeat: 1	2.00013	2.00192	6158.66	160951	11618
Repeat: 2	2.00208	1.99758	6096.96	159780	11754.2
Repeat: 3	2.00036	1.99703	6142.84	160772	11434.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	6132.82	160501	11602.3
Std Dev:	32.0468	631.054	160.39
%RSD:	0.522547	0.393178	1.3824
Repeat: 1	6158.66	160951	11618
Repeat: 2	6096.96	159780	11754.2
Repeat: 3	6142.84	160772	11434.6

Sample Name	Acquisition Date
CCB	10/12/2016 1:44:01PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1193.96	458.232	70.5489	527.515	2567.08
Std Dev:	2.80793	2.35485	0.241619	3.08934	16.8276
%RSD:	0.235178	0.513898	0.342484	0.58564	0.655514
Repeat: 1	1192.13	455.833	70.7351	531.081	2547.71
Repeat: 2	1197.19	460.539	70.2759	525.679	2578.02
Repeat: 3	1192.55	458.325	70.6357	525.783	2575.52
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Avg. of Repeats:	1025.83	558.715	194.793	282.991	582.522
Std Dev:	4.44398	7.94241	0.363338	1.21545	2.28761
%RSD:	0.433207	1.42155	0.186526	0.429501	0.392708
Repeat: 1	1029.48	549.651	194.54	283.373	583.35
Repeat: 2	1020.88	562.038	195.209	283.969	579.936
Repeat: 3	1027.13	564.457	194.63	281.63	584.281
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Avg. of Repeats:	1439.62	108.015	4933.73	5082.84	160.176
Std Dev:	6.17964	0.775231	19.7564	35.6253	0.605522
%RSD:	0.429257	0.717709	0.400435	0.700894	0.378036
Repeat: 1	1435.29	107.278	4912.11	5041.72	160.867
Repeat: 2	1446.69	107.942	4950.85	5102.15	159.74

Repeat: 3	1436.86	108.824	4938.24	5104.64	159.92
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	417.311	90.3739	604.454	4988.4	303.284
Std Dev:	0.869037	0.635848	6.51942	23.4154	0.843868
%RSD:	0.208247	0.703575	1.07856	0.469396	0.278243
Repeat: 1	418.299	90.6579	600.249	4961.37	302.45
Repeat: 2	416.667	90.8182	601.149	5002.1	304.138
Repeat: 3	416.966	89.6455	611.964	5001.74	303.265
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	40.636	176.882	212.221	120.949	76.873
Std Dev:	0.0699828	1.87909	1.48526	0.163605	0.137986
%RSD:	0.172219	1.06234	0.699862	0.135269	0.179498
Repeat: 1	40.6379	176.544	211.491	120.788	76.7879
Repeat: 2	40.565	178.907	213.93	121.115	76.799
Repeat: 3	40.705	175.194	211.243	120.942	77.0322
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	137.563	74.5148	1626.38	356.569	49.8134
Std Dev:	1.44825	0.162397	11.635	2.5467	0.12342
%RSD:	1.05279	0.217939	0.715392	0.714224	0.247765
Repeat: 1	136.491	74.3974	1613.01	353.689	49.9534
Repeat: 2	139.211	74.7002	1631.87	357.493	49.7668
Repeat: 3	136.989	74.447	1634.25	358.524	49.7201
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1114.53	171.359	6581.25	167311	12684.5
Std Dev:	4.91255	0.26206	11.6709	487.438	54.7847
%RSD:	0.440772	0.15293	0.177335	0.291337	0.431903
Repeat: 1	1111.78	171.081	6583.47	167139	12743
Repeat: 2	1120.2	171.602	6568.62	166933	12676
Repeat: 3	1111.61	171.395	6591.64	167861	12634.4

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000164081	0.00649403	0.000249102	-0.0912364	8.45572e-005
Std Dev:	7.2357e-005	0.00678271	0.000964595	0.000222601	7.31062e-005
%RSD:	44.0984	104.445	387.229	0.243982	86.4577
Repeat: 1	-0.000205317	0.00944967	0.000968551	-0.0910894	0.0001535
Repeat: 2	-0.000206393	-0.00126498	-0.000846991	-0.0911274	7.89923e-006
Repeat: 3	-8.05326e-005	0.0112974	0.000625747	-0.0914925	9.22727e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	7.90061e-006	-0.000342584	-2.05727e-005	1.40798e-005	0.000264357
Std Dev:	1.6792e-005	0.00449676	5.56078e-005	8.48467e-005	0.000243657
%RSD:	212.541	1312.6	270.299	602.612	92.1695
Repeat: 1	1.09772e-005	-0.00553464	4.20057e-005	3.84859e-005	0.000344959
Repeat: 2	-1.0217e-005	0.00220093	-6.43193e-005	8.40486e-005	-9.38768e-006
Repeat: 3	2.29416e-005	0.00230596	-3.94045e-005	-8.02951e-005	0.0004575
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000319127	0.000945393	-0.00277851	0.00114323	-0.0043057
Std Dev:	0.000149698	0.000700503	0.0333523	0.00152544	0.0138722

%RSD:	46.9086	74.0965	1200.37	133.433	322.184
Repeat: 1	-0.000374844	0.00123353	0.00933856	-0.000600014	0.00496349
Repeat: 2	-0.00014956	0.00145587	0.0228215	0.00223349	0.00237346
Repeat: 3	-0.000432978	0.000146773	-0.0404955	0.00179622	-0.020254
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-2.30008e-005	0.000209423	0.56446	0.0126142	4.82122e-005
Std Dev:	4.21437e-005	0.000149306	1.59839	0.00602988	4.41353e-005
%RSD:	183.227	71.2938	283.172	47.8024	91.544
Repeat: 1	1.76119e-005	0.000302516	1.2965	0.0187205	6.13977e-005
Repeat: 2	-6.65246e-005	0.000288544	-1.26885	0.00666373	-1.01318e-006
Repeat: 3	-2.00897e-005	3.72084e-005	1.66573	0.0124583	8.42519e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.68626e-005	0.00062968	-0.000633294	0.000682179	0.00286196
Std Dev:	0.00102909	0.00210729	0.000400961	0.000651247	0.00119088
%RSD:	3830.93	334.66	63.3135	95.4658	41.6108
Repeat: 1	-0.00115342	0.000298179	-0.000920983	0.00138569	0.00200993
Repeat: 2	0.000497772	0.00288307	-0.00017529	0.000560486	0.00235323
Repeat: 3	0.00073624	-0.00129221	-0.000803608	0.000100362	0.00422271
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.0029246	0.000381129	-1.68086e-005	-0.000381652	0.000605845
Std Dev:	0.010931	0.000207321	2.83467e-005	0.000233522	0.0010171
%RSD:	373.761	54.3966	168.644	61.1871	167.881
Repeat: 1	-0.0131349	0.000332373	-4.73466e-005	-0.000297059	0.000407991
Repeat: 2	0.00860699	0.000202531	8.66367e-006	-0.000645681	-0.000297792
Repeat: 3	-0.00424591	0.000608482	-1.17429e-005	-0.000202215	0.00170733
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-1.27893e-005	2.12136e-005	6321.42	164701	11823
Std Dev:	0.000114364	3.83632e-005	13.0194	495.172	61.0404
%RSD:	894.218	180.842	0.205958	0.30065	0.516284
Repeat: 1	-0.000144494	-1.86566e-005	6324.63	164517	11889.2
Repeat: 2	6.14001e-005	2.44303e-005	6307.09	164324	11811
Repeat: 3	4.47261e-005	5.78672e-005	6332.53	165262	11768.9
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6321.42	164701	11823
Std Dev:	13.0194	495.172	61.0404
%RSD:	0.205958	0.30065	0.516284
Repeat: 1	6324.63	164517	11889.2
Repeat: 2	6307.09	164324	11811
Repeat: 3	6332.53	165262	11768.9

Sample Name	**Acquisition Date**
M8939	10/12/2016 1:49:03PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1242.45	1396.25	168.353	10224.2	28653.6
Std Dev:	7.65537	7.08289	1.12327	27.325	130.266
%RSD:	0.616151	0.507277	0.667211	0.267259	0.454625
Repeat: 1	1250.65	1388.68	167.097	10192.8	28505.6
Repeat: 2	1241.21	1397.36	169.262	10243.1	28704.1
Repeat: 3	1235.49	1402.72	168.701	10236.6	28751
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1580.78	81561.9	214.935	343.616	724.569
Std Dev:	5.25778	379.578	1.04824	0.308817	4.33293
%RSD:	0.332607	0.465386	0.487701	0.0898727	0.598001
Repeat: 1	1584.63	81206.4	216.135	343.917	727.318
Repeat: 2	1574.79	81517.7	214.197	343.631	719.574
Repeat: 3	1582.92	81961.7	214.473	343.3	726.815
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1875.13	4410.95	6612.24	5838.63	1346.45
Std Dev:	2.35724	40.8526	24.4915	24.2544	4.75483
%RSD:	0.12571	0.926162	0.370396	0.415412	0.353139
Repeat: 1	1875.4	4367.3	6637.89	5863.16	1341.43
Repeat: 2	1872.65	4417.3	6589.1	5814.66	1347.04
Repeat: 3	1877.34	4448.26	6609.73	5838.08	1350.88
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	5533.49	172.243	714.644	50602.4	365.864
Std Dev:	11.3766	0.589123	2.48635	305.819	0.625976
%RSD:	0.205595	0.34203	0.347914	0.604356	0.171095
Repeat: 1	5522.63	172.138	716.102	50278	366.265
Repeat: 2	5532.52	172.877	711.773	50643.9	366.185
Repeat: 3	5545.32	171.713	716.057	50885.4	365.143
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	88.1152	198.159	237.62	139.564	89.0277
Std Dev:	0.475505	1.25698	0.760147	0.586519	0.494789
%RSD:	0.539641	0.634329	0.3199	0.420251	0.55577
Repeat: 1	87.7805	198.591	238.496	138.909	89.4986
Repeat: 2	88.6595	196.743	237.231	140.041	89.0724
Repeat: 3	87.9056	199.142	237.134	139.741	88.512
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	1212.29	82.1451	24367.7	959.242	56.0578
Std Dev:	4.34495	0.309058	213.07	7.36532	0.38571
%RSD:	0.35841	0.376235	0.874397	0.767827	0.688058
Repeat: 1	1207.83	81.9338	24144.2	952.094	55.8167
Repeat: 2	1212.52	82.4998	24390.4	958.825	56.5026
Repeat: 3	1216.51	82.0017	24568.5	966.807	55.8539
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1660.2	7368.87	6553.12	165933	12710.8
Std Dev:	5.97075	31.3038	23.1534	708.468	61.5422
%RSD:	0.35964	0.424811	0.353318	0.426961	0.484172
Repeat: 1	1664.42	7333.61	6526.86	165115	12640.1
Repeat: 2	1662.82	7393.39	6570.58	166315	12740
Repeat: 3	1653.37	7379.6	6561.92	166367	12752.4

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000212767	3.99695	0.180093	1.71478	0.510413
Std Dev:	0.00028627	0.0273156	0.00197957	0.00194799	0.000230978
%RSD:	134.546	0.68341	1.09919	0.1136	0.045253
Repeat: 1	6.38039e-005	3.97734	0.177964	1.71663	0.510469
Repeat: 2	-0.000194266	3.98536	0.181878	1.71497	0.510159
Repeat: 3	-0.000507839	4.02815	0.180437	1.71274	0.510611
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00114325	51.2449	2.83061e-005	0.00554085	0.00796294
Std Dev:	1.94564e-005	0.141199	8.59998e-005	5.82688e-005	0.000107879
%RSD:	1.70185	0.275538	303.821	1.05162	1.35476
Repeat: 1	0.00115956	51.3508	5.00546e-005	0.00549028	0.00806014
Repeat: 2	0.00112172	51.0846	-6.64801e-005	0.0055277	0.00784687
Repeat: 3	0.00114847	51.2993	0.000101344	0.00560457	0.0079818
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.015838	4.71485	3.73892	0.080814	9.87058
Std Dev:	0.000194978	0.0215898	0.0241479	0.000912851	0.0147959
%RSD:	1.23108	0.45791	0.645851	1.12957	0.149899
Repeat: 1	0.0159386	4.69593	3.76578	0.0808092	9.8865
Repeat: 2	0.0156132	4.71026	3.719	0.0799036	9.85725
Repeat: 3	0.015962	4.73837	3.732	0.0817293	9.86798
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0737201	0.024743	26.1451	25.8817	0.00971824
Std Dev:	7.71264e-005	0.000184034	0.28429	0.0587942	0.000175504
%RSD:	0.104621	0.743783	1.08735	0.227165	1.80592
Repeat: 1	0.0737882	0.0248036	26.0878	25.8543	0.00954763
Repeat: 2	0.0736363	0.0248891	25.8939	25.8416	0.00989826
Repeat: 3	0.0737358	0.0245363	26.4537	25.9492	0.00970883
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.146051	0.00944136	0.00654048	0.0134877	0.019027
Std Dev:	0.00124688	0.00137685	0.00108966	0.00060802	0.00214416
%RSD:	0.853728	14.5831	16.6602	4.50795	11.269
Repeat: 1	0.145434	0.00804174	0.00682525	0.0129224	0.0211679
Repeat: 2	0.147486	0.0094881	0.00533671	0.0134099	0.0190336
Repeat: 3	0.145233	0.0107942	0.00745947	0.0141309	0.0168796
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	7.16298	0.00066011	0.39441	0.145255	-0.000473936
Std Dev:	0.0231982	0.000148943	0.00177082	0.00119066	0.00159346
%RSD:	0.323863	22.5634	0.448979	0.819703	336.218
Repeat: 1	7.18178	0.000729109	0.392923	0.143895	-0.00121683

Repeat: 2	7.13706	0.000762041	0.393937	0.145756	-0.00156029
Repeat: 3	7.1701	0.000489179	0.396369	0.146112	0.00135531
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0214799	0.60573	6279.77	163220	11840.7
Std Dev:	0.000146922	0.000357967	23.5698	719.398	67.169
%RSD:	0.683994	0.0590968	0.37533	0.440754	0.567271
Repeat: 1	0.0216368	0.605522	6252.79	162389	11763.6
Repeat: 2	0.0214574	0.606143	6296.36	163616	11871.8
Repeat: 3	0.0213456	0.605524	6290.14	163654	11886.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6279.77	163220	11840.7
Std Dev:	23.5698	719.398	67.169
%RSD:	0.37533	0.440754	0.567271
Repeat: 1	6252.79	162389	11763.6
Repeat: 2	6296.36	163616	11871.8
Repeat: 3	6290.14	163654	11886.8

Sample Name	**Acquisition Date**
M8939S	10/12/2016 1:54:00PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1908.55	2050.74	219.934	15665.1	34099.8
Std Dev:	9.40258	5.31785	0.532734	76.2	140.291
%RSD:	0.492656	0.259314	0.242225	0.486432	0.411412
Repeat: 1	1899.66	2056.62	220.258	15594.3	34230.1
Repeat: 2	1907.6	2049.32	220.224	15745.7	34118.1
Repeat: 3	1918.39	2046.27	219.319	15655.2	33951.3
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	23710.5	160321	809.95	1113.25	3697.2
Std Dev:	114.619	560.455	2.44222	0.903214	13.9212
%RSD:	0.483409	0.349582	0.301527	0.0811328	0.376534
Repeat: 1	23581.7	160829	810.715	1113.51	3683.59
Repeat: 2	23801.3	160415	811.918	1114	3711.41
Repeat: 3	23748.6	159720	807.217	1112.25	3696.59
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7867.4	5101.91	28996.2	6739.34	2525.28
Std Dev:	17.2276	10.6776	44.6677	4.55421	4.66003
%RSD:	0.218975	0.209287	0.154047	0.0675765	0.184535
Repeat: 1	7848.84	5103.21	29010.5	6744.01	2528.96
Repeat: 2	7882.89	5090.65	29031.9	6739.11	2526.83
Repeat: 3	7870.47	5111.88	28946.1	6734.91	2520.04
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	12327.3	1707.26	930.609	141547	2687.83
Std Dev:	74.3217	2.09072	2.63944	416.07	2.8992
%RSD:	0.602902	0.12246	0.283624	0.293945	0.107864
Repeat: 1	12244	1705.75	933.393	141999	2691.11

Repeat: 2	12386.7	1706.39	928.143	141461	2685.6
Repeat: 3	12351.3	1709.65	930.292	141180	2686.79
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1577.18	304.474	356.98	421.215	134.708
Std Dev:	1.90176	1.98292	0.799124	0.664179	0.405545
%RSD:	0.120579	0.651259	0.223857	0.157682	0.301055
Repeat: 1	1574.99	302.212	356.919	421.85	135.176
Repeat: 2	1578.34	305.911	357.808	421.27	134.455
Repeat: 3	1578.22	305.301	356.213	420.525	134.493
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	2073.55	786.668	53047.3	1390.99	199.803
Std Dev:	4.50008	2.51083	102.729	2.09207	1.56631
%RSD:	0.217023	0.319173	0.193655	0.150401	0.783926
Repeat: 1	2078.74	783.977	53159.7	1393.3	198.155
Repeat: 2	2071.21	788.948	52958.2	1390.47	199.98
Repeat: 3	2070.71	787.079	53024	1389.22	201.273
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6237.19	13232.2	6437.42	163533	12817.8
Std Dev:	22.8307	25.2689	4.93174	276.323	80.4893
%RSD:	0.366042	0.190965	0.0766104	0.168971	0.627952
Repeat: 1	6215.03	13207	6434.75	163613	12899.8
Repeat: 2	6260.63	13232.1	6434.41	163761	12814.6
Repeat: 3	6235.9	13257.5	6443.12	163226	12738.9

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0503835	6.719	0.280799	2.77056	0.611514
Std Dev:	0.000503948	0.0119418	0.00158329	0.0126528	0.0015749
%RSD:	1.00023	0.177731	0.563852	0.456688	0.257541
Repeat: 1	0.0498376	6.71339	0.280671	2.75603	0.609698
Repeat: 2	0.0504818	6.71091	0.282442	2.77912	0.612344
Repeat: 3	0.050831	6.73272	0.279283	2.77654	0.612501
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0537128	100.106	0.0515194	0.107622	0.209776
Std Dev:	0.000276878	0.361182	0.000217236	7.90085e-005	0.000750721
%RSD:	0.515478	0.360801	0.421659	0.0734128	0.357868
Repeat: 1	0.0533953	99.693	0.0514995	0.10762	0.209029
Repeat: 2	0.0538397	100.259	0.051746	0.107702	0.20977
Repeat: 3	0.0539036	100.365	0.0513129	0.107544	0.21053
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.266539	5.4223	53.5333	0.180887	19.4569
Std Dev:	0.000619647	0.0460288	0.261239	0.00140681	0.0877427
%RSD:	0.232479	0.84888	0.487994	0.777732	0.450961
Repeat: 1	0.265858	5.38232	53.235	0.182304	19.3618
Repeat: 2	0.266689	5.41197	53.6436	0.180865	19.4741
Repeat: 3	0.26707	5.47262	53.7213	0.179491	19.5347
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.174986	0.55442	78.3942	76.7112	0.524847
Std Dev:	0.00115469	0.000382955	0.661594	0.280876	0.000715827
%RSD:	0.659877	0.0690731	0.843932	0.366147	0.136388
Repeat: 1	0.173665	0.554031	79.0974	76.4172	0.525639
Repeat: 2	0.175489	0.554434	77.7841	76.7394	0.524656
Repeat: 3	0.175803	0.554796	78.3011	76.9768	0.524246
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.35624	0.111224	0.11007	0.533817	0.172899
Std Dev:	0.00468078	0.00197477	0.000360832	0.00313614	0.00191642
%RSD:	0.0873892	1.77549	0.327819	0.587493	1.10841
Repeat: 1	5.35142	0.108977	0.110149	0.53658	0.174947
Repeat: 2	5.36077	0.112682	0.110386	0.534463	0.172599
Repeat: 3	5.35653	0.112013	0.109677	0.530409	0.17115
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	12.7883	0.519616	0.884085	0.247218	0.400844
Std Dev:	0.0461068	0.00184023	0.00473105	0.00155508	0.00418356
%RSD:	0.36054	0.354153	0.535136	0.62903	1.04369
Repeat: 1	12.7461	0.517878	0.879734	0.246468	0.396878
Repeat: 2	12.7812	0.521543	0.883399	0.24618	0.400438
Repeat: 3	12.8375	0.519426	0.889122	0.249006	0.405216
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.223463	1.11832	6156.78	160794	11956.4
Std Dev:	0.000850259	0.00169588	5.04753	290.523	82.1987
%RSD:	0.380492	0.151646	0.0819832	0.18068	0.687486
Repeat: 1	0.222483	1.11637	6155.8	160867	12043.5
Repeat: 2	0.224001	1.11915	6152.29	161041	11945.5
Repeat: 3	0.223905	1.11943	6162.24	160473	11880.2
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6156.78	160794	11956.4
Std Dev:	5.04753	290.523	82.1987
%RSD:	0.0819832	0.18068	0.687486
Repeat: 1	6155.8	160867	12043.5
Repeat: 2	6152.29	161041	11945.5
Repeat: 3	6162.24	160473	11880.2

Sample Name	**Acquisition Date**
M8939D	10/12/2016 1:58:46PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1920.4	2111.71	222.39	15894.4	34132
Std Dev:	13.1103	14.4774	0.55679	57.2551	250.007

%RSD:	0.682686	0.685577	0.250366	0.360221	0.732471
Repeat: 1	1909.35	2095.26	222.977	15884.6	33845.1
Repeat: 2	1916.98	2122.53	221.87	15955.9	34303
Repeat: 3	1934.89	2117.33	222.323	15842.7	34248
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	24260.9	161561	820.465	1128.03	3772.99
Std Dev:	71.5186	1253.06	1.28415	1.88468	7.89146
%RSD:	0.29479	0.775595	0.156515	0.167077	0.209157
Repeat: 1	24296.3	160118	819.006	1127.77	3769.32
Repeat: 2	24307.7	162378	821.424	1126.29	3782.05
Repeat: 3	24178.5	162187	820.964	1130.03	3767.6
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7987.98	5305.6	29364.4	6783.37	2562.63
Std Dev:	2.86314	33.9271	168.02	11.8248	15.9433
%RSD:	0.0358431	0.639458	0.572189	0.174321	0.622148
Repeat: 1	7984.67	5266.6	29183.8	6795.91	2544.22
Repeat: 2	7989.57	5328.33	29516.1	6772.42	2571.96
Repeat: 3	7989.7	5321.86	29393.3	6781.78	2571.71
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	12566.9	1739.08	932.427	142774	2737.26
Std Dev:	49.0976	4.63395	3.87732	1113.91	9.28383
%RSD:	0.39069	0.26646	0.415831	0.780192	0.339165
Repeat: 1	12599.7	1736.27	928.365	141510	2729.99
Repeat: 2	12590.6	1736.54	932.828	143614	2734.07
Repeat: 3	12510.5	1744.43	936.088	143196	2747.72
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1617.06	306.659	359.545	428.176	136.11
Std Dev:	3.66473	1.83581	0.562969	0.379934	0.440043
%RSD:	0.226629	0.598649	0.156578	0.0887331	0.3233
Repeat: 1	1617.93	307.208	359.889	427.842	136.492
Repeat: 2	1613.04	308.157	358.895	428.097	136.208
Repeat: 3	1620.21	304.611	359.849	428.59	135.629
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	2136.65	800.979	53712	1432.64	202.837
Std Dev:	16.6803	1.60804	407.789	6.29951	1.97316
%RSD:	0.780676	0.200759	0.759215	0.439713	0.972782
Repeat: 1	2117.4	799.627	53273.7	1425.37	200.6
Repeat: 2	2146.65	800.553	54080.2	1436.52	203.583
Repeat: 3	2145.91	802.757	53782	1436.04	204.329
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6324.85	13410.9	6597.17	166715	12965.3
Std Dev:	11.1523	30.0011	7.50616	946.052	127.861
%RSD:	0.176325	0.223707	0.113778	0.567466	0.986176
Repeat: 1	6328.37	13402.6	6593.17	165702	12817.8
Repeat: 2	6333.82	13386	6592.51	167576	13045.3
Repeat: 3	6312.36	13444.2	6605.83	166867	13032.7

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0501742	6.88799	0.278968	2.75754	0.604639
Std Dev:	0.000599053	0.0136993	0.00129457	0.013563	0.00148344
%RSD:	1.19395	0.198886	0.464057	0.491852	0.245343

Repeat: 1	0.0501793	6.90012	0.280377	2.77253	0.606336
Repeat: 2	0.0495725	6.89072	0.27783	2.75398	0.603992
Repeat: 3	0.0507706	6.87313	0.278697	2.74611	0.603589
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0539624	99.6677	0.0511172	0.106937	0.210751
Std Dev:	0.000343987	0.316676	7.90461e-005	0.000232357	0.000627919
%RSD:	0.637457	0.317731	0.154637	0.217284	0.297944
Repeat: 1	0.0543569	100.031	0.0510263	0.106974	0.211476
Repeat: 2	0.0538052	99.518	0.0511696	0.106688	0.210385
Repeat: 3	0.0537251	99.4537	0.0511558	0.107148	0.210391
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.266348	5.5707	53.6449	0.181711	19.5337
Std Dev:	0.00162242	0.0242875	0.22707	0.000299609	0.0818545
%RSD:	0.609133	0.435987	0.423285	0.164882	0.419041
Repeat: 1	0.268019	5.59866	53.8779	0.181387	19.6275
Repeat: 2	0.264779	5.55861	53.6325	0.181978	19.4976
Repeat: 3	0.266247	5.55482	53.4242	0.181767	19.4762
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.174931	0.550867	77.8879	76.4621	0.522368
Std Dev:	0.00134297	0.000808079	0.653861	0.224227	0.00136666
%RSD:	0.767709	0.146692	0.83949	0.293253	0.261628
Repeat: 1	0.176467	0.550136	77.8093	76.7022	0.521353
Repeat: 2	0.17435	0.550729	77.2769	76.4259	0.521829
Repeat: 3	0.173977	0.551735	78.5775	76.2581	0.523922
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.35377	0.110859	0.109536	0.532407	0.173447
Std Dev:	0.00765655	0.00102321	0.000966558	0.00108627	0.00100524
%RSD:	0.143012	0.92298	0.882412	0.204031	0.579564
Repeat: 1	5.35918	0.110895	0.110576	0.533661	0.174225
Repeat: 2	5.34501	0.111864	0.108666	0.531806	0.173804
Repeat: 3	5.35712	0.109819	0.109365	0.531754	0.172312
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	13.0356	0.516779	0.884618	0.253841	0.397329
Std Dev:	0.0301554	0.000474363	0.00385204	0.000134948	0.0045895
%RSD:	0.23133	0.0917921	0.435447	0.0531623	1.15509
Repeat: 1	13.0699	0.516263	0.888081	0.253928	0.392366
Repeat: 2	13.0132	0.51688	0.885304	0.253908	0.401419
Repeat: 3	13.0238	0.517196	0.880469	0.253685	0.398202
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.222633	1.10491	6316.1	163993	12102.8
Std Dev:	0.00160165	0.00114767	8.19647	951.13	131.247

%RSD:	0.71941	0.103869	0.129771	0.579983	1.08444
Repeat: 1	0.224472	1.10489	6311.84	162983	11951.3
Repeat: 2	0.221884	1.10378	6310.91	164872	12183
Repeat: 3	0.221544	1.10607	6325.55	164123	12174.1
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6316.1	163993	12102.8
Std Dev:	8.19647	951.13	131.247
%RSD:	0.129771	0.579983	1.08444
Repeat: 1	6311.84	162983	11951.3
Repeat: 2	6310.91	164872	12183
Repeat: 3	6325.55	164123	12174.1

Sample Name	**Acquisition Date**
M894A	10/12/2016 2:03:33PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1234.81	1757.35	171.836	11025.4	31825.9
Std Dev:	12.3595	19.7799	0.608339	45.8547	274.85
%RSD:	1.00092	1.12555	0.354024	0.415899	0.863606
Repeat: 1	1232.65	1763.84	171.263	11016.5	31772.2
Repeat: 2	1223.67	1773.08	172.474	11075.1	32123.6
Repeat: 3	1248.11	1735.14	171.769	10984.7	31581.9
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1718.66	88053.2	219.376	356.722	753.439
Std Dev:	15.8274	776.395	1.37489	2.65043	6.06432
%RSD:	0.920914	0.881734	0.626726	0.742994	0.804886
Repeat: 1	1707.57	87938.1	218.794	357.314	753.191
Repeat: 2	1711.63	88880.7	218.388	353.826	747.502
Repeat: 3	1736.79	87340.8	220.946	359.027	759.623
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	2009.35	6348.35	6795.42	5880.08	1434.55
Std Dev:	4.74404	72.5734	5.82998	24.3678	11.8093
%RSD:	0.236099	1.14318	0.0857928	0.414412	0.823204
Repeat: 1	2005.53	6359.54	6801.45	5860.99	1435.41
Repeat: 2	2007.84	6414.69	6789.81	5871.73	1445.9
Repeat: 3	2014.66	6270.84	6795.01	5907.53	1422.33
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	6348.06	179.849	704.408	47894.7	376.702
Std Dev:	27.1051	0.648414	2.12421	500.968	1.81093
%RSD:	0.426982	0.360532	0.301559	1.04598	0.480734
Repeat: 1	6337.01	180.247	704.196	47885	376.921
Repeat: 2	6378.95	179.101	702.398	48400.4	374.792
Repeat: 3	6328.23	180.2	706.63	47398.6	378.394
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	99.0227	200.339	242.214	141.302	90.712
Std Dev:	0.523896	2.70708	1.56428	0.93212	0.51465
%RSD:	0.529067	1.35125	0.645828	0.659666	0.567345
Repeat: 1	98.4205	203.43	243.463	142.299	90.9364

Repeat: 2	99.374	199.191	240.46	140.453	90.1232
Repeat: 3	99.2736	198.394	242.719	141.153	91.0763
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	1540.94	83.4138	26814.4	1139.22	57.3527
Std Dev:	10.801	0.711623	338.317	5.51917	0.430396
%RSD:	0.700934	0.853123	1.2617	0.484469	0.750438
Repeat: 1	1540.51	83.2323	26795.6	1136.66	57.4275
Repeat: 2	1551.95	82.8105	27161.8	1145.55	56.8898
Repeat: 3	1530.36	84.1986	26485.9	1135.44	57.7408
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1755.97	3333.79	6617.06	167421	13030.9
Std Dev:	5.79953	15.1666	57.5243	2283.26	195.693
%RSD:	0.330275	0.454936	0.869334	1.36378	1.50176
Repeat: 1	1752.54	3321.79	6556.52	165112	12836.6
Repeat: 2	1752.7	3350.84	6671	169677	13228
Repeat: 3	1762.66	3328.75	6623.65	167475	13028.2

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000247582	5.3969	0.183645	1.84714	0.557688
Std Dev:	0.000429627	0.116145	0.00119855	0.0237413	0.00690457
%RSD:	173.529	2.15207	0.652644	1.2853	1.23807
Repeat: 1	-0.000606207	5.5159	0.184893	1.8742	0.565596
Repeat: 2	-0.00036512	5.39095	0.18354	1.8298	0.554608
Repeat: 3	0.000228582	5.28384	0.182503	1.83742	0.552859
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00145128	53.8976	0.000104069	0.00683366	0.0098563
Std Dev:	3.09411e-005	0.686646	7.2355e-005	8.20799e-005	0.000352528
%RSD:	2.13198	1.27398	69.5258	1.20111	3.57668
Repeat: 1	0.0014408	54.6891	2.2086e-005	0.00692838	0.0098095
Repeat: 2	0.00142695	53.5422	0.000159	0.00678909	0.00952951
Repeat: 3	0.0014861	53.4614	0.000131121	0.0067835	0.0102299
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0213773	6.65883	4.13619	0.0876737	10.331
Std Dev:	0.000205482	0.106988	0.0935892	0.00114734	0.150314
%RSD:	0.961214	1.6067	2.26269	1.30864	1.45499
Repeat: 1	0.021562	6.77987	4.24218	0.087009	10.503
Repeat: 2	0.0214141	6.61976	4.10145	0.0889985	10.2647
Repeat: 3	0.021156	6.57688	4.06493	0.0870136	10.2252
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0847504	0.0266043	24.646	23.7276	0.0113424
Std Dev:	0.000946775	0.000448235	0.64625	0.337524	0.0001336
%RSD:	1.11713	1.68482	2.62213	1.42249	1.17788
Repeat: 1	0.0858266	0.0271215	25.2881	24.1003	0.0114057
Repeat: 2	0.0840458	0.0263289	24.6542	23.6401	0.0114326
Repeat: 3	0.0843789	0.0263624	23.9957	23.4425	0.0111889

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.178925	0.00990875	0.00872356	0.0139397	0.0217195
Std Dev:	0.00134876	0.00343739	0.00148488	0.00224569	0.00183801
%RSD:	0.753812	34.6904	17.0214	16.11	8.4625
Repeat: 1	0.177678	0.0138771	0.0103661	0.0158329	0.0224955
Repeat: 2	0.180356	0.0078571	0.00747648	0.0145277	0.0230422
Repeat: 3	0.178741	0.00799202	0.00832805	0.0114585	0.0196207
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	9.11209	0.000961216	0.425951	0.184474	0.00298905
Std Dev:	0.128137	9.39924e-005	0.00592617	0.00123298	0.000123764
%RSD:	1.40623	9.7785	1.39128	0.668374	4.14059
Repeat: 1	9.26004	0.000852684	0.432235	0.185878	0.00307614
Repeat: 2	9.03791	0.00101593	0.425155	0.18398	0.00284738
Repeat: 3	9.0383	0.00101504	0.420463	0.183565	0.00304363
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0255934	0.26199	6342.09	164699	12161.5
Std Dev:	0.000226549	0.00134754	59.7182	2306.66	194.982
%RSD:	0.885183	0.514347	0.941616	1.40053	1.60327
Repeat: 1	0.0257722	0.263544	6280.27	162379	11968.1
Repeat: 2	0.0253386	0.261148	6399.45	166992	12358
Repeat: 3	0.0256694	0.261277	6346.56	164726	12158.5
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6342.09	164699	12161.5
Std Dev:	59.7182	2306.66	194.982
%RSD:	0.941616	1.40053	1.60327
Repeat: 1	6280.27	162379	11968.1
Repeat: 2	6399.45	166992	12358
Repeat: 3	6346.56	164726	12158.5

Sample Name	**Acquisition Date**
M894C	10/12/2016 2:08:30PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1212.21	1428.92	162.182	10440.7	28801.2
Std Dev:	7.07278	3.78268	0.44646	25.661	111.664
%RSD:	0.583463	0.264723	0.275284	0.245779	0.387708
Repeat: 1	1220.37	1426.44	162.344	10412.8	28924.6
Repeat: 2	1207.93	1433.27	162.524	10445.8	28707.2
Repeat: 3	1208.32	1427.04	161.677	10463.4	28771.7
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1537.92	82578.3	211.374	334.51	705.254
Std Dev:	6.43382	349.187	0.635955	0.345379	3.82694

%RSD:	0.418346	0.422855	0.300867	0.103249	0.542633
Repeat: 1	1539.11	82979.6	211.641	334.111	709.298
Repeat: 2	1530.98	82411.3	210.648	334.704	701.689
Repeat: 3	1543.68	82343.9	211.833	334.714	704.777
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1834.43	4342.76	6544.5	5751.36	1331.54
Std Dev:	1.26844	22.7973	15.4993	8.70238	7.0224
%RSD:	0.0691463	0.524949	0.23683	0.15131	0.527388
Repeat: 1	1834.75	4354.03	6527.48	5742.67	1337.12
Repeat: 2	1833.03	4316.53	6557.8	5760.07	1323.66
Repeat: 3	1835.51	4357.74	6548.22	5751.35	1333.85
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	5059.21	171.011	715.831	55313.9	355.901
Std Dev:	29.6337	0.946891	3.34432	236.252	1.20213
%RSD:	0.585736	0.553702	0.467194	0.427111	0.337769
Repeat: 1	5049.88	170.614	714.193	55544.4	354.515
Repeat: 2	5035.37	170.327	719.679	55072.3	356.647
Repeat: 3	5092.39	172.092	713.622	55324.8	356.543
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	87.0821	191.884	232.333	138.218	87.7351
Std Dev:	0.594407	1.70018	2.25485	1.01645	0.527802
%RSD:	0.682583	0.886047	0.970527	0.735396	0.601587
Repeat: 1	86.8328	192.289	231.781	137.203	88.0589
Repeat: 2	86.6529	193.345	234.813	138.215	87.126
Repeat: 3	87.7605	190.018	230.406	139.236	88.0202
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	1252.45	81.524	24352.8	949.1	55.0976
Std Dev:	2.53227	0.577187	133.568	2.42242	0.212498
%RSD:	0.202186	0.707996	0.548469	0.255234	0.385675
Repeat: 1	1252.69	81.6286	24432.6	946.738	55.3209
Repeat: 2	1249.8	82.0417	24198.6	948.983	55.0743
Repeat: 3	1254.85	80.9016	24427.3	951.579	54.8978
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1619.31	6631.54	6571.25	167592	13032
Std Dev:	8.40936	5.42056	4.1639	118.61	42.7144
%RSD:	0.519319	0.081739	0.0633654	0.0707731	0.327764
Repeat: 1	1623.65	6634.97	6575.18	167643	13078.5
Repeat: 2	1609.61	6625.29	6571.69	167677	13023
Repeat: 3	1624.65	6634.37	6566.89	167457	12994.6

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	6.59039e-005	4.05949	0.16891	1.73839	0.500047
Std Dev:	0.000555814	0.0301058	0.001199	0.00527331	0.00125587
%RSD:	843.37	0.741617	0.709841	0.303345	0.251151
Repeat: 1	0.000401472	4.02727	0.168924	1.73307	0.500227
Repeat: 2	-0.000575667	4.0869	0.170103	1.73847	0.49871
Repeat: 3	0.000371907	4.06429	0.167705	1.74362	0.501203
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0010737	50.459	6.84561e-005	0.00503335	0.00753732

Std Dev:	1.75512e-005	0.0550417	0.000101004	4.71514e-005	0.000385682
%RSD:	1.63464	0.109082	147.545	0.936781	5.11696
Repeat: 1	0.00106764	50.5041	7.22473e-005	0.00508643	0.00732709
Repeat: 2	0.00105999	50.3977	-3.43897e-005	0.00501728	0.00730243
Repeat: 3	0.00109348	50.4754	0.000167511	0.00499633	0.00798244
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0152985	4.51216	3.70912	0.0799179	9.49351
Std Dev:	0.000121995	0.0293058	0.0394777	0.000684047	0.0616532
%RSD:	0.79743	0.649485	1.06434	0.855937	0.649425
Repeat: 1	0.0151583	4.5079	3.66548	0.0799979	9.49462
Repeat: 2	0.0153562	4.48522	3.71955	0.0791974	9.43131
Repeat: 3	0.0153809	4.54337	3.74234	0.0805585	9.5546
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0662308	0.0247208	28.1242	27.8156	0.00887332
Std Dev:	0.000485693	0.000438112	0.71818	0.10419	0.000333443
%RSD:	0.733333	1.77224	2.5536	0.374574	3.75781
Repeat: 1	0.0660052	0.0244811	27.2966	27.8326	0.00856787
Repeat: 2	0.0658991	0.0244549	28.492	27.7039	0.00882305
Repeat: 3	0.0667883	0.0252265	28.5839	27.9102	0.00922905
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.14348	0.00606893	0.00614442	0.0142199	0.0178625
Std Dev:	0.00144122	0.00188856	0.00185448	0.00296774	0.00192063
%RSD:	1.00447	31.1184	30.1816	20.8703	10.7523
Repeat: 1	0.143625	0.00670853	0.00545566	0.0108324	0.0190531
Repeat: 2	0.141972	0.00755464	0.00824474	0.0154653	0.0156468
Repeat: 3	0.144844	0.00394364	0.00473287	0.0163621	0.0188876
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	7.23645	0.000920364	0.383987	0.140659	0.000666743
Std Dev:	0.0346252	0.000442451	0.00248414	0.000738158	0.00074025
%RSD:	0.478484	48.0735	0.646934	0.524786	111.025
Repeat: 1	7.21182	0.00122869	0.383906	0.139831	0.00151618
Repeat: 2	7.22149	0.00111899	0.381544	0.140895	0.000159454
Repeat: 3	7.27604	0.000413407	0.386511	0.14125	0.000324598
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0206099	0.541531	6303.36	164915	12177.6
Std Dev:	0.000531733	0.000676153	3.84039	129.321	44.2774
%RSD:	2.57999	0.12486	0.0609261	0.0784172	0.363598
Repeat: 1	0.020782	0.541412	6306.69	164961	12225.7
Repeat: 2	0.0200134	0.540922	6304.22	165014	12168.4
Repeat: 3	0.0210342	0.542258	6299.16	164768	12138.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**

Avg. of Repeats:	6303.36	164915	12177.6
Std Dev:	3.84039	129.321	44.2774
%RSD:	0.0609261	0.0784172	0.363598
Repeat: 1	6306.69	164961	12225.7
Repeat: 2	6304.22	165014	12168.4
Repeat: 3	6299.16	164768	12138.6

Sample Name	**Acquisition Date**
M894D	10/12/2016 2:13:30PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1200.8	3711.46	126.915	9820.78	40880.7
Std Dev:	1.44135	5.18228	0.465085	14.136	39.5677
%RSD:	0.120033	0.139629	0.366455	0.143939	0.096788
Repeat: 1	1199.5	3707.49	127.452	9815.5	40836.6
Repeat: 2	1200.55	3709.56	126.64	9810.05	40912.9
Repeat: 3	1202.35	3717.32	126.652	9836.8	40892.7
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	2302.05	92321.7	232.42	415.231	919.083
Std Dev:	8.38436	113.746	1.29681	1.40151	4.6439
%RSD:	0.364213	0.123206	0.557962	0.337526	0.505275
Repeat: 1	2296.55	92217.4	231.418	413.926	923.95
Repeat: 2	2297.9	92304.8	231.957	415.056	914.7
Repeat: 3	2311.7	92443	233.884	416.712	918.6
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	2516.47	15840.1	7397.81	5863.5	1508.59
Std Dev:	0.480451	24.9612	23.5364	7.33617	6.6334
%RSD:	0.0190923	0.157582	0.318154	0.125116	0.43971
Repeat: 1	2516.55	15821.7	7370.83	5855.37	1501.4
Repeat: 2	2515.95	15830	7408.47	5869.63	1509.9
Repeat: 3	2516.9	15868.5	7414.14	5865.5	1514.47
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	10067.3	182.525	683.232	44793.5	429.04
Std Dev:	7.04651	0.822326	4.41108	82.7289	0.781649
%RSD:	0.0699938	0.450528	0.645619	0.184689	0.182185
Repeat: 1	10071.6	181.741	686.689	44725.2	428.138
Repeat: 2	10059.2	182.453	678.264	44769.8	429.512
Repeat: 3	10071.2	183.381	684.744	44885.5	429.471
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	130.22	227.25	273.48	144.494	90.8471
Std Dev:	0.484144	1.08513	1.11528	0.592697	0.638889
%RSD:	0.371789	0.477504	0.407811	0.410189	0.703257
Repeat: 1	129.778	226	272.193	144.05	90.374
Repeat: 2	130.737	227.95	274.088	145.167	90.5936
Repeat: 3	130.145	227.8	274.16	144.264	91.5739
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	2988.56	87.6547	32667.4	1786.06	58.3787
Std Dev:	8.95291	0.187012	46.2068	5.8156	0.221796
%RSD:	0.299573	0.213351	0.141446	0.325611	0.379926
Repeat: 1	2980.69	87.8608	32706.2	1784.62	58.1228

Repeat: 2	2998.3	87.4958	32616.3	1781.09	58.4971
Repeat: 3	2986.68	87.6075	32679.8	1792.46	58.5161
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	2149.5	1205.57	6718.62	170181	13311.3
Std Dev:	5.11102	3.2368	16.5381	320.766	30.7298
%RSD:	0.237777	0.268486	0.246153	0.188485	0.230856
Repeat: 1	2145.9	1201.85	6699.83	169836	13275.8
Repeat: 2	2147.25	1207.19	6725.11	170239	13330.1
Repeat: 3	2155.35	1207.68	6730.94	170470	13327.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000492858	13.2053	0.0895624	1.59633	0.713372
Std Dev:	0.000396115	0.0273065	0.00201035	0.00272972	0.00116567
%RSD:	80.371	0.206784	2.24464	0.171	0.163403
Repeat: 1	-0.000938537	13.2358	0.0918835	1.59913	0.714656
Repeat: 2	-0.000180941	13.1831	0.0884282	1.59367	0.713078
Repeat: 3	-0.000359096	13.1971	0.0883754	1.59618	0.712381
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00278446	55.1771	0.000141056	0.0137993	0.0207165
Std Dev:	9.40526e-006	0.0928459	7.59219e-005	9.69591e-005	0.000369804
%RSD:	0.337777	0.168269	53.8241	0.702637	1.78507
Repeat: 1	0.00277684	55.2725	0.000150429	0.0137124	0.0210699
Repeat: 2	0.00278157	55.087	6.08822e-005	0.0137817	0.0203322
Repeat: 3	0.00279497	55.1719	0.000211856	0.0139039	0.0207474
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0423779	16.3969	5.5161	0.0930189	10.6858
Std Dev:	0.00024063	0.0275734	0.0228414	0.00115295	0.00869843
%RSD:	0.56782	0.168162	0.414085	1.23948	0.0814015
Repeat: 1	0.04255	16.4205	5.48979	0.0939619	10.6779
Repeat: 2	0.0424807	16.3666	5.52765	0.0933614	10.6844
Repeat: 3	0.0421029	16.4036	5.53087	0.0917335	10.6952
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.136015	0.0261749	21.9446	21.5304	0.0212772
Std Dev:	0.000316773	0.000167009	1.50582	0.0418567	0.000194663
%RSD:	0.232895	0.638052	6.86192	0.194407	0.914889
Repeat: 1	0.13638	0.0259826	23.5299	21.5704	0.0213212
Repeat: 2	0.135807	0.0262578	20.5333	21.4869	0.0214461
Repeat: 3	0.135859	0.0262842	21.7706	21.5339	0.0210643
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.278461	0.0332462	0.0308369	0.0105043	0.0107477
Std Dev:	0.00118233	0.00127673	0.000823788	0.00161581	0.00247544
%RSD:	0.424595	3.84024	2.67143	15.3824	23.0322
Repeat: 1	0.27778	0.0317884	0.0300409	0.00936262	0.00824178

Repeat: 2	0.279826	0.033785	0.0316859	0.0123531	0.01081
Repeat: 3	0.277777	0.0341652	0.030784	0.00979708	0.0131915
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	18.0704	0.00186214	0.512647	0.33103	0.000859228
Std Dev:	0.0421139	0.000533482	0.00187332	0.00172568	0.00156605
%RSD:	0.233055	28.6488	0.365422	0.521306	182.262
Repeat: 1	18.0712	0.00235186	0.514722	0.332543	-0.000339844
Repeat: 2	18.1121	0.00129365	0.511082	0.329151	0.00263101
Repeat: 3	18.0279	0.00194091	0.512136	0.331396	0.000286515
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0424817	0.0818783	6443.17	167516	12461.1
Std Dev:	6.46874e-005	5.37886e-005	16.2448	323.05	30.0309
%RSD:	0.152271	0.0656934	0.252124	0.192848	0.240997
Repeat: 1	0.0425554	0.081832	6424.65	167167	12426.4
Repeat: 2	0.0424551	0.0819373	6449.84	167576	12478.2
Repeat: 3	0.0424345	0.0818656	6455.02	167804	12478.7
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6443.17	167516	12461.1
Std Dev:	16.2448	323.05	30.0309
%RSD:	0.252124	0.192848	0.240997
Repeat: 1	6424.65	167167	12426.4
Repeat: 2	6449.84	167576	12478.2
Repeat: 3	6455.02	167804	12478.7

Sample Name	**Acquisition Date**
M894E	10/12/2016 2:18:24PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1218.47	1580.85	118.694	9781.92	32649.4
Std Dev:	5.04142	6.71888	0.420677	31.6907	55.1132
%RSD:	0.41375	0.425018	0.35442	0.323972	0.168803
Repeat: 1	1212.86	1587.81	118.585	9802.84	32713
Repeat: 2	1219.93	1580.32	118.339	9797.47	32618.9
Repeat: 3	1222.62	1574.41	119.159	9745.46	32616.3
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1599.1	88531.9	213.766	339.431	723.349
Std Dev:	9.58596	168.93	1.3801	1.93155	1.88771
%RSD:	0.599461	0.190812	0.645614	0.569055	0.260968
Repeat: 1	1588.18	88663.9	213.572	337.671	724.405
Repeat: 2	1606.15	88590.2	215.232	341.497	724.471
Repeat: 3	1602.95	88341.5	212.493	339.124	721.169
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1822.21	4731.48	6681.57	5761.09	1379.14
Std Dev:	3.71952	25.6164	22.7575	13.8447	7.44727

%RSD:	0.204122	0.541403	0.3406	0.240313	0.539995
Repeat: 1	1825.18	4726.72	6695.4	5759.69	1386.01
Repeat: 2	1823.39	4759.14	6694.01	5748	1380.17
Repeat: 3	1818.04	4708.57	6655.31	5775.58	1371.23
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	4975.75	174.564	699.244	46827	361.503
Std Dev:	29.1024	0.847327	1.60142	119.994	0.820541
%RSD:	0.584885	0.485397	0.229021	0.25625	0.226981
Repeat: 1	5004.25	173.788	700.899	46854.6	360.603
Repeat: 2	4976.91	175.468	697.702	46930.8	362.209
Repeat: 3	4946.08	174.435	699.131	46695.6	361.696
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	86.8875	201.468	241.562	137.024	87.8141
Std Dev:	0.637906	2.75622	1.0488	1.38646	0.271521
%RSD:	0.734174	1.36807	0.434174	1.01184	0.309199
Repeat: 1	86.8409	198.41	240.44	135.778	87.5608
Repeat: 2	87.5475	202.234	241.728	138.517	88.1008
Repeat: 3	86.2742	203.761	242.517	136.778	87.7808
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	1396.82	82.7545	27463.5	940.501	55.6007
Std Dev:	7.36002	1.01425	74.4062	3.73591	0.396645
%RSD:	0.526912	1.22562	0.270928	0.397225	0.713381
Repeat: 1	1402.35	82.0012	27470.6	944.306	55.143
Repeat: 2	1399.65	83.9077	27534.1	940.36	55.8429
Repeat: 3	1388.47	82.3545	27385.8	936.838	55.8163
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1661.08	996.038	6559.97	167068	12996
Std Dev:	4.13348	1.49339	6.71143	489.767	9.83115
%RSD:	0.248843	0.149933	0.102309	0.293154	0.0756475
Repeat: 1	1664.07	997.587	6563.46	167038	13002.1
Repeat: 2	1656.36	994.607	6552.23	166595	12984.7
Repeat: 3	1662.81	995.92	6564.22	167573	13001.2

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000114344	4.70131	0.0820598	1.62297	0.574652
Std Dev:	0.000301682	0.0315375	0.0010348	0.0114149	0.00109319
%RSD:	263.838	0.670824	1.26103	0.703336	0.190236
Repeat: 1	0.000461201	4.72776	0.0825027	1.62907	0.575817
Repeat: 2	-3.11731e-005	4.70977	0.0808773	1.63004	0.574491
Repeat: 3	-8.69974e-005	4.66641	0.0827994	1.6098	0.573648
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00121882	54.3039	0.000120974	0.00550589	0.00868664
Std Dev:	2.7941e-005	0.125988	2.77466e-005	0.00014869	0.000282256
%RSD:	2.29246	0.232006	22.936	2.70055	3.24932
Repeat: 1	0.00118662	54.3838	0.000152992	0.00539282	0.00899474
Repeat: 2	0.00123659	54.3693	0.000103959	0.00567432	0.00844053
Repeat: 3	0.00123326	54.1587	0.000105971	0.00545054	0.00862466
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0145861	4.94427	4.0174	0.0804826	9.92034
Std Dev:	0.000189076	0.0295803	0.0650256	0.000721994	0.0583969
%RSD:	1.29628	0.598274	1.6186	0.89708	0.588658
Repeat: 1	0.0147319	4.94052	4.04782	0.0797919	9.97061
Repeat: 2	0.0146539	4.97555	4.06163	0.0804237	9.93413
Repeat: 3	0.0143724	4.91675	3.94273	0.0812323	9.85629
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0652771	0.0258069	23.8756	23.2133	0.00964573
Std Dev:	0.000583571	0.000173885	0.742892	0.0857869	0.000113296
%RSD:	0.89399	0.673791	3.11151	0.369558	1.17458
Repeat: 1	0.0657138	0.0256725	24.408	23.2219	0.00975302
Repeat: 2	0.0655033	0.0260033	24.192	23.2945	0.00952726
Repeat: 3	0.0646143	0.0257449	23.0269	23.1236	0.00965691
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.142328	0.0135665	0.0120774	0.0100997	0.0154594
Std Dev:	0.00125118	0.00326533	0.00191373	0.000880696	0.00228116
%RSD:	0.879082	24.069	15.8456	8.72005	14.7558
Repeat: 1	0.143147	0.00998521	0.0121605	0.00927744	0.0158357
Repeat: 2	0.142948	0.0143358	0.0101235	0.011029	0.0130136
Repeat: 3	0.140887	0.0163785	0.0139482	0.00999253	0.0175291
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	8.20092	0.00128607	0.43804	0.13831	0.000740082
Std Dev:	0.0460513	0.000532197	0.00160306	0.00107768	0.00328305
%RSD:	0.561538	41.3817	0.365963	0.779181	443.607
Repeat: 1	8.22863	0.00117532	0.438239	0.139256	-0.00303337
Repeat: 2	8.22637	0.00186493	0.439534	0.138535	0.00294176
Repeat: 3	8.14776	0.000817964	0.436347	0.137137	0.00231185
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0225575	0.0680298	6290.8	164370	12138
Std Dev:	0.000166604	0.000153094	7.36718	495.554	7.32836
%RSD:	0.738576	0.22504	0.11711	0.301487	0.0603756
Repeat: 1	0.0226824	0.068196	6295.64	164338	12137.8
Repeat: 2	0.0223683	0.0678945	6282.32	163892	12130.7
Repeat: 3	0.0226217	0.0679989	6294.44	164881	12145.4
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6290.8	164370	12138
Std Dev:	7.36718	495.554	7.32836
%RSD:	0.11711	0.301487	0.0603756
Repeat: 1	6295.64	164338	12137.8
Repeat: 2	6282.32	163892	12130.7
Repeat: 3	6294.44	164881	12145.4

Sample Name	Acquisition Date
M894F	10/12/2016 2:23:21PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1209.36	1449.02	122.03	9987.67	32765.1
Std Dev:	9.52933	7.16214	0.578926	55.6399	125.035
%RSD:	0.787962	0.494274	0.474411	0.557086	0.38161
Repeat: 1	1200.49	1453.38	121.484	10023.4	32909.5
Repeat: 2	1219.44	1440.75	122.637	9923.56	32692.1
Repeat: 3	1208.17	1452.93	121.97	10016	32693.8
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Avg. of Repeats:	1497.12	89316.8	211.445	331.258	693.186
Std Dev:	2.91117	422.231	0.627008	0.321435	4.48021
%RSD:	0.194451	0.472735	0.296535	0.0970347	0.646322
Repeat: 1	1500.45	89785.8	212.165	331.223	690.938
Repeat: 2	1495.86	88966.9	211.152	331.596	698.345
Repeat: 3	1495.05	89197.6	211.019	330.956	690.274
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Avg. of Repeats:	1791.97	4165.03	6634.7	5772.05	1374.51
Std Dev:	6.16298	27.8346	16.0904	16.3909	3.82121
%RSD:	0.343922	0.668293	0.242519	0.28397	0.278005
Repeat: 1	1785.31	4193.78	6618.58	5753.65	1378.92
Repeat: 2	1797.47	4163.08	6634.75	5777.43	1372.33
Repeat: 3	1793.13	4138.22	6650.76	5785.08	1372.28
Element/Wavelength	Mn2576A	Mo2020A	aN	Na5895R	Ni2316A
Avg. of Repeats:	4687.89	174.712	678.426	43193.3	353.008
Std Dev:	16.0439	0.671933	6.0828	247.343	0.847507
%RSD:	0.342241	0.384594	0.896604	0.572641	0.240081
Repeat: 1	4704.49	175.33	674.146	43478.8	353.959
Repeat: 2	4672.47	174.81	675.743	43055.5	352.733
Repeat: 3	4686.73	173.997	685.389	43045.5	352.333
Element/Wavelength	P_1782A	bP	Pb2203A	Sb2068A	Se1960A
Avg. of Repeats:	84.3132	197.201	237.483	136.968	87.575
Std Dev:	0.187276	1.23489	0.550385	0.0785884	0.338383
%RSD:	0.222119	0.626205	0.231757	0.057377	0.386392
Repeat: 1	84.2954	196.239	237.613	137.035	87.8616
Repeat: 2	84.1354	198.594	236.88	136.988	87.6616
Repeat: 3	84.5087	196.771	237.957	136.882	87.2017
Element/Wavelength	Si2506R	Sn1899A	Sr4215R	Ti3349R	Tl1908A
Avg. of Repeats:	1288.27	81.398	27819.7	796.342	55.4015
Std Dev:	6.66388	0.149992	225.269	2.4928	0.514706
%RSD:	0.517273	0.18427	0.809746	0.313031	0.929046
Repeat: 1	1295.82	81.2292	28079.8	794.873	55.6259
Repeat: 2	1283.21	81.4491	27694.5	794.933	55.7659
Repeat: 3	1285.78	81.5158	27684.8	799.22	54.8127
Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	1608.27	835.546	6587.91	166361	12960.3
Std Dev:	5.23758	0.6521	3.16037	868.766	65.4602
%RSD:	0.325665	0.0780448	0.0479722	0.522216	0.505084
Repeat: 1	1612.32	836.242	6590.8	167159	13034.6

Repeat: 2	1610.14	834.949	6588.39	165435	12934.7
Repeat: 3	1602.36	835.449	6584.54	166490	12911.4

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000364947	4.16927	0.0880711	1.66705	0.57881
Std Dev:	2.71539e-005	0.0265316	0.00130306	0.00341711	0.000762261
%RSD:	7.44051	0.636361	1.47955	0.204979	0.131694
Repeat: 1	-0.000351029	4.17176	0.0865803	1.66413	0.578246
Repeat: 2	-0.000347575	4.14158	0.0889926	1.66621	0.578507
Repeat: 3	-0.000396239	4.19447	0.0886404	1.67081	0.579677
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000969371	54.9361	3.44461e-005	0.00451708	0.00663311
Std Dev:	1.45528e-005	0.154864	2.35494e-005	0.000142116	6.90264e-005
%RSD:	1.50126	0.281898	68.366	3.14619	1.04063
Repeat: 1	0.000975773	54.8673	5.34891e-005	0.00435681	0.0065907
Repeat: 2	0.000952715	54.8275	8.11396e-006	0.00462772	0.00671276
Repeat: 3	0.000979626	55.1134	4.17351e-005	0.00456672	0.00659588
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0134179	4.35102	3.93841	0.0829428	9.90227
Std Dev:	0.000138876	0.00652992	0.0239485	0.00139836	0.0310099
%RSD:	1.035	0.150078	0.608075	1.68593	0.313159
Repeat: 1	0.0132919	4.3553	3.9195	0.0845524	9.88033
Repeat: 2	0.0135668	4.35425	3.9304	0.0822492	9.88873
Repeat: 3	0.013395	4.3435	3.96534	0.0820269	9.93775
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0613947	0.0257644	20.2396	21.2695	0.00793038
Std Dev:	0.000145938	0.000207421	0.33761	0.04148	0.000130075
%RSD:	0.237705	0.805067	1.66807	0.195021	1.64021
Repeat: 1	0.0612689	0.0259207	20.2464	21.312	0.0079147
Repeat: 2	0.0615547	0.0258434	19.8987	21.2291	0.00806759
Repeat: 3	0.0613606	0.0255291	20.5738	21.2674	0.00780886
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.132236	0.00999534	0.0103198	0.0107428	0.0161682
Std Dev:	0.00192588	0.000973425	0.0017733	0.0018994	0.00110812
%RSD:	1.45639	9.73879	17.1834	17.6806	6.8537
Repeat: 1	0.131702	0.0091355	0.00856424	0.00966215	0.0174088
Repeat: 2	0.130633	0.0110522	0.0102849	0.00963032	0.0152764
Repeat: 3	0.134373	0.00979831	0.0121103	0.012936	0.0158196
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	7.5197	0.000618703	0.44536	0.105422	0.000349983
Std Dev:	0.0124771	0.000316811	0.00141905	0.00129091	0.00120805

%RSD:	0.165925	51.2057	0.318631	1.22452	345.175
Repeat: 1	7.52539	0.000335383	0.446909	0.104287	0.00119976
Repeat: 2	7.50539	0.000559947	0.444122	0.105152	0.000883114
Repeat: 3	7.52831	0.00096078	0.44505	0.106826	-0.00103292
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0201903	0.0543505	6319.78	163689	12105.9
Std Dev:	0.000391703	5.63911e-005	3.34273	886.306	70.2125
%RSD:	1.94005	0.103754	0.0528931	0.541458	0.579987
Repeat: 1	0.0204461	0.0542968	6322.79	164487	12185.2
Repeat: 2	0.0197394	0.0543455	6320.37	162735	12080.6
Repeat: 3	0.0203856	0.0544093	6316.18	163844	12051.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6319.78	163689	12105.9
Std Dev:	3.34273	886.306	70.2125
%RSD:	0.0528931	0.541458	0.579987
Repeat: 1	6322.79	164487	12185.2
Repeat: 2	6320.37	162735	12080.6
Repeat: 3	6316.18	163844	12051.8

Sample Name	**Acquisition Date**
M894G	10/12/2016 2:28:17PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1227.99	2888.18	153.214	8696.53	33322.9
Std Dev:	8.91883	12.9647	0.558649	48.6014	319.726
%RSD:	0.726294	0.448889	0.364621	0.55886	0.959478
Repeat: 1	1228.98	2876.87	152.971	8651.97	33211.3
Repeat: 2	1236.37	2885.35	153.853	8689.26	33074
Repeat: 3	1218.62	2902.33	152.818	8748.36	33683.5
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	2640.33	88081.9	229.299	435.582	983.402
Std Dev:	10.6373	665.408	0.613733	1.5454	1.45555
%RSD:	0.402878	0.755443	0.267657	0.354789	0.148012
Repeat: 1	2640.12	87834	229.736	436.624	985.007
Repeat: 2	2651.08	87576	229.563	436.315	983.031
Repeat: 3	2629.81	88835.7	228.597	433.806	982.168
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	2495.04	13300.4	7004.88	5908.49	1527.43
Std Dev:	8.90201	86.7084	31.235	38.0487	10.7539
%RSD:	0.356788	0.651926	0.445904	0.643966	0.704051
Repeat: 1	2500.65	13234.2	7019.65	5929.53	1516.11
Repeat: 2	2484.78	13268.3	7025.98	5931.38	1528.68
Repeat: 3	2499.7	13398.5	6968.99	5864.57	1537.51
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	9232.02	185.711	688.319	42917.7	457.503
Std Dev:	9.24497	0.735949	0.846959	298.273	0.787186

%RSD:	0.10014	0.396288	0.123047	0.694987	0.172062
Repeat: 1	9241.78	185.878	689.258	42656.4	456.961
Repeat: 2	9223.4	186.348	687.612	42854	458.406
Repeat: 3	9230.87	184.905	688.088	43242.7	457.141
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	145.46	211.404	255.674	145.618	90.1235
Std Dev:	0.283292	1.52368	0.518804	0.933513	0.373737
%RSD:	0.194755	0.720744	0.202916	0.641068	0.414694
Repeat: 1	145.284	212.991	255.751	145.017	89.6949
Repeat: 2	145.787	211.27	255.122	146.694	90.3813
Repeat: 3	145.31	209.952	256.151	145.144	90.2944
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	2229.08	86.1193	32985.4	2363.56	57.6601
Std Dev:	14.2137	0.700708	253.747	17.9729	0.515945
%RSD:	0.637649	0.813648	0.769269	0.760414	0.894804
Repeat: 1	2213.79	85.7181	32757.7	2350.34	57.1343
Repeat: 2	2231.55	86.9284	32939.7	2356.32	58.1656
Repeat: 3	2241.9	85.7114	33259	2384.03	57.6805
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	2394.95	787.965	6747.9	170434	13218.4
Std Dev:	3.70944	1.80021	33.2615	1339.16	157
%RSD:	0.154886	0.228463	0.492916	0.785735	1.18773
Repeat: 1	2396.49	787.277	6713.18	169953	13112.7
Repeat: 2	2397.63	790.008	6779.48	169402	13143.8
Repeat: 3	2390.72	786.611	6751.04	171948	13398.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000556127	9.92471	0.140867	1.38491	0.577296
Std Dev:	0.000367399	0.0776749	0.000862214	0.00616483	0.00232751
%RSD:	66.0638	0.782642	0.612078	0.445144	0.403174
Repeat: 1	-0.000963745	9.96234	0.141833	1.38124	0.579959
Repeat: 2	-0.000454143	9.9764	0.140591	1.39202	0.576278
Repeat: 3	-0.000250495	9.83539	0.140176	1.38146	0.57565
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00353177	53.0801	9.20295e-005	0.0159224	0.0243155
Std Dev:	5.41923e-005	0.317781	6.37894e-005	0.000167306	0.000173726
%RSD:	1.53442	0.598683	69.3141	1.05076	0.714465
Repeat: 1	0.00355244	53.386	0.000164979	0.0161093	0.024516
Repeat: 2	0.00357258	53.1025	4.67288e-005	0.0157867	0.02422
Repeat: 3	0.00347028	52.7517	6.4381e-005	0.0158712	0.0242104
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0405051	13.8681	4.5957	0.0926528	10.9128
Std Dev:	0.000376069	0.0881863	0.0492395	0.00217014	0.068494
%RSD:	0.928449	0.635892	1.07143	2.34223	0.627648
Repeat: 1	0.0409213	13.9124	4.62572	0.0930226	10.9206
Repeat: 2	0.0401898	13.9254	4.6225	0.0946144	10.9771
Repeat: 3	0.0404041	13.7666	4.53887	0.0903216	10.8407

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.12392	0.027274	21.1637	20.6622	0.0271623
Std Dev:	0.00101804	0.000260196	0.578177	0.10502	0.000104803
%RSD:	0.82153	0.954008	2.73192	0.50827	0.38584
Repeat: 1	0.12445	0.0275519	20.5308	20.6886	0.0271232
Repeat: 2	0.124564	0.027234	21.2964	20.7515	0.0270826
Repeat: 3	0.122746	0.0270361	21.6641	20.5465	0.027281
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.327828	0.016467	0.0162496	0.0134154	0.0106936
Std Dev:	0.000983945	0.0016721	0.000434201	0.00104441	0.000914758
%RSD:	0.30014	10.1542	2.67207	7.78517	8.55428
Repeat: 1	0.328232	0.0183977	0.016071	0.0125584	0.0108163
Repeat: 2	0.326707	0.0155174	0.0159332	0.0145787	0.00972364
Repeat: 3	0.328546	0.015486	0.0167446	0.0131091	0.0115408
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	13.3665	0.00137864	0.521923	0.467687	-0.00202998
Std Dev:	0.112561	0.00045643	0.00267996	0.00137911	0.00286827
%RSD:	0.842111	33.1073	0.513478	0.294878	141.296
Repeat: 1	13.3871	0.00142266	0.522334	0.46848	-0.00515341
Repeat: 2	13.4674	0.00181147	0.524373	0.468486	-0.00142227
Repeat: 3	13.2451	0.000901796	0.51906	0.466095	0.000485739
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0517689	0.0474976	6470.93	167710	12354.3
Std Dev:	0.000267398	0.000160875	33.0229	1355.37	159.854
%RSD:	0.516523	0.338702	0.510327	0.808165	1.29391
Repeat: 1	0.0519775	0.0476833	6436.45	167221	12247.4
Repeat: 2	0.0518617	0.0474082	6502.27	166667	12277.4
Repeat: 3	0.0514675	0.0474013	6474.06	169242	12538.1
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6470.93	167710	12354.3
Std Dev:	33.0229	1355.37	159.854
%RSD:	0.510327	0.808165	1.29391
Repeat: 1	6436.45	167221	12247.4
Repeat: 2	6502.27	166667	12277.4
Repeat: 3	6474.06	169242	12538.1

Sample Name	**Acquisition Date**
M8939P	10/12/2016 2:33:10PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**

Avg. of Repeats:	1210.8	638.228	89.3277	2387.66	7650.02
Std Dev:	8.44632	3.14689	0.0413691	13.1819	46.7941
%RSD:	0.697584	0.493067	0.0463117	0.552085	0.611686
Repeat: 1	1217.67	637.595	89.2945	2376.25	7617.6
Repeat: 2	1213.36	641.643	89.3145	2384.63	7628.8
Repeat: 3	1201.37	635.446	89.374	2402.08	7703.67
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1137.38	16305	199.54	295.724	612.182
Std Dev:	5.29797	160.111	1.14375	1.55734	2.21529
%RSD:	0.465804	0.981979	0.573191	0.526618	0.361868
Repeat: 1	1139.1	16237.6	200.859	297.502	614.239
Repeat: 2	1131.44	16189.6	198.828	295.07	612.47
Repeat: 3	1141.61	16487.8	198.933	294.6	609.836
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1538.42	943.206	5261.31	5238.97	385.079
Std Dev:	4.70412	5.72513	6.19033	19.5557	2.75858
%RSD:	0.305777	0.606986	0.117658	0.373273	0.716366
Repeat: 1	1543	941.174	5254.6	5225.46	387.695
Repeat: 2	1533.6	938.774	5266.79	5261.4	382.197
Repeat: 3	1538.66	949.67	5262.54	5230.06	385.346
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	1429.05	106.088	631.847	13767.5	316.5
Std Dev:	4.56265	0.173918	3.19403	61.0621	1.10151
%RSD:	0.319279	0.163938	0.505507	0.443525	0.34803
Repeat: 1	1425.77	106.282	629.348	13728.3	317.72
Repeat: 2	1427.12	106.036	635.446	13736.3	316.201
Repeat: 3	1434.26	105.946	630.748	13837.8	315.579
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	49.8723	182.47	218.37	125.065	79.2927
Std Dev:	0.213276	2.9114	1.60432	0.139234	0.511722
%RSD:	0.427645	1.59555	0.734679	0.111329	0.645358
Repeat: 1	50.1166	185.283	220.216	125.175	79.4751
Repeat: 2	49.7768	182.658	217.574	124.908	79.6882
Repeat: 3	49.7234	179.469	217.319	125.112	78.7148
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	340.464	76.2343	6035.54	470.395	50.6496
Std Dev:	4.03478	0.27371	52.7941	1.55287	0.44328
%RSD:	1.18508	0.359038	0.874721	0.33012	0.875189
Repeat: 1	337.515	76.4839	6002.3	468.663	51.0825
Repeat: 2	338.814	76.2774	6007.9	470.862	50.6695
Repeat: 3	345.062	75.9416	6096.41	471.661	50.1967
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1232.59	1584.8	6550.5	166872	12655.3
Std Dev:	12.7983	7.55233	42.6187	1333.01	136.028
%RSD:	1.03833	0.476549	0.650618	0.798826	1.07487
Repeat: 1	1246.21	1576.1	6503.17	165468	12591.8
Repeat: 2	1230.73	1589.67	6562.47	167026	12562.7
Repeat: 3	1220.82	1588.63	6585.85	168121	12811.5

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000504061	0.774361	0.0335433	0.251813	0.0993897

Std Dev:	0.000751149	0.0131315	0.000715231	0.000187383	0.000259822
%RSD:	149.019	1.69579	2.13226	0.0744134	0.261418
Repeat: 1	-0.00115367	0.788148	0.0327912	0.25189	0.0994734
Repeat: 2	0.000318472	0.772932	0.0336237	0.251599	0.0995973
Repeat: 3	-0.00067699	0.762002	0.0342149	0.251949	0.0990983
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000220662	10.0076	2.60228e-005	0.00114061	0.00167263
Std Dev:	9.3155e-006	0.0206679	0.000104303	9.40024e-005	0.00019982
%RSD:	4.22162	0.206522	400.814	8.24139	11.9464
Repeat: 1	0.000216465	10.0188	8.49388e-005	0.00112787	0.00160012
Repeat: 2	0.000214183	10.0203	-9.44067e-005	0.00105363	0.00189859
Repeat: 3	0.000231338	9.98374	8.75364e-005	0.00124034	0.00151919
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0031028	0.92072	0.712387	0.015403	1.88859
Std Dev:	0.000253865	0.00475586	0.0295899	0.000733529	0.0357568
%RSD:	8.1818	0.516537	4.15362	4.76224	1.8933
Repeat: 1	0.00282894	0.924171	0.742894	0.0162399	1.92973
Repeat: 2	0.00333027	0.922695	0.683808	0.0150977	1.86501
Repeat: 3	0.00314919	0.915295	0.710459	0.0148715	1.87103
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0144616	0.00471179	6.15356	5.0139	0.00194902
Std Dev:	8.15196e-005	6.3216e-005	0.41947	0.0257041	0.000235677
%RSD:	0.563697	1.34166	6.81669	0.512656	12.0921
Repeat: 1	0.0145548	0.00467732	6.63621	5.02831	0.00183393
Repeat: 2	0.0144038	0.0046733	5.87695	5.02917	0.001793
Repeat: 3	0.0144262	0.00478475	5.94754	4.98422	0.00222013
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.028201	0.000718329	0.000843945	0.00196648	0.00572834
Std Dev:	0.000562853	0.00242477	0.000371332	0.00135541	0.000627263
%RSD:	1.99586	337.557	43.9995	68.9257	10.9502
Repeat: 1	0.0288486	0.00281868	0.00078052	0.000436232	0.00629844
Repeat: 2	0.0278295	0.00127156	0.0012429	0.00244718	0.00583021
Repeat: 3	0.027925	-0.00193525	0.000508411	0.00301602	0.00505638
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.35975	-6.17011e-006	0.0767141	0.0276378	-0.00239208
Std Dev:	0.0194956	8.40734e-005	4.0708e-005	0.000599697	0.00101184
%RSD:	1.43376	1362.59	0.0530646	2.16984	42.2994
Repeat: 1	1.34307	-5.65357e-005	0.0766685	0.0282065	-0.00134087
Repeat: 2	1.35501	9.08864e-005	0.0767269	0.0270113	-0.0033593
Repeat: 3	1.38118	-5.28609e-005	0.0767468	0.0276955	-0.00247608
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----

Avg. of Repeats:	0.00439477	0.118694	6287.38	164220	11783.3
Std Dev:	0.000217564	0.00029533	44.4391	1347.05	143.345
%RSD:	4.95051	0.248817	0.706798	0.820273	1.21651
Repeat: 1	0.00451157	0.118852	6238.16	162800	11720.9
Repeat: 2	0.004529	0.118877	6299.41	164380	11681.7
Repeat: 3	0.00414375	0.118353	6324.56	165480	11947.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6287.38	164220	11783.3
Std Dev:	44.4391	1347.05	143.345
%RSD:	0.706798	0.820273	1.21651
Repeat: 1	6238.16	162800	11720.9
Repeat: 2	6299.41	164380	11681.7
Repeat: 3	6324.56	165480	11947.3

Sample Name	**Acquisition Date**
CCV	10/12/2016 2:38:07PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	15080.8	6408.84	338.089	11460.5	106713
Std Dev:	34.0368	85.3636	1.15338	46.1782	1325.75
%RSD:	0.225696	1.33197	0.341148	0.402932	1.24235
Repeat: 1	15115	6311.11	336.914	11408.1	105233
Repeat: 2	15080.5	6446.58	339.219	11478.4	107791
Repeat: 3	15046.9	6468.83	338.134	11495.1	107115
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	858823	80619	6077.29	15600.2	30684.4
Std Dev:	5820.35	1087.45	22.0633	43.3093	159.125
%RSD:	0.677712	1.34887	0.363045	0.277619	0.518585
Repeat: 1	852155	79372.5	6052.04	15555.6	30516.1
Repeat: 2	861431	81373.4	6092.83	15642.1	30704.9
Repeat: 3	862883	81111.2	6087.01	15603	30832.4
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	51033.4	23046.9	27341.9	24564.6	6124.09
Std Dev:	74.9132	326.855	287.279	258.292	82.3505
%RSD:	0.146792	1.41822	1.05069	1.05148	1.3447
Repeat: 1	50949.8	22669.4	27011	24266.5	6030.33
Repeat: 2	51056.2	23236.7	27487	24722.3	6157.21
Repeat: 3	51094.3	23234.5	27527.8	24705.1	6184.72
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	139406	6032.8	807.293	94129.7	9626.49
Std Dev:	1076.66	14.5393	3.54471	1233.74	26.1119
%RSD:	0.772317	0.241004	0.439086	1.31068	0.271251
Repeat: 1	138207	6016.8	809.664	92705.1	9599.99
Repeat: 2	139722	6045.2	803.218	94831.5	9652.19
Repeat: 3	140289	6036.39	808.997	94852.4	9627.29
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	638.011	728.707	812.808	447.457	236.526
Std Dev:	2.46917	1.78374	5.12668	0.679439	0.57788

%RSD:	0.38701	0.244781	0.630737	0.151844	0.24432
Repeat: 1	635.514	728.113	807.158	447.155	237.014
Repeat: 2	640.452	730.712	817.164	446.982	235.888
Repeat: 3	638.068	727.295	814.101	448.235	236.676
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	439.309	2863.94	118337	8690.56	432.49
Std Dev:	4.27333	7.98668	1725.25	120.63	2.82241
%RSD:	0.972737	0.27887	1.45791	1.38806	0.652595
Repeat: 1	434.489	2855.34	116349	8551.37	429.464
Repeat: 2	442.634	2871.13	119211	8755.55	432.956
Repeat: 3	440.804	2865.35	119450	8764.76	435.051
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	47387.6	24037.9	6457.64	166174	12746.9
Std Dev:	254.489	29.4527	49.346	1135.82	169.125
%RSD:	0.537036	0.122526	0.764149	0.683511	1.3268
Repeat: 1	47105.9	24009	6427.07	164995	12554.5
Repeat: 2	47456	24067.9	6431.29	166267	12872.1
Repeat: 3	47600.9	24036.8	6514.57	167261	12814

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.02299	25.0983	0.508864	1.93654	2.02746
Std Dev:	0.00901174	0.115468	0.00404789	0.00515533	0.00258445
%RSD:	0.880925	0.460064	0.795476	0.266213	0.127472
Repeat: 1	1.03163	25.0681	0.510209	1.94159	2.02973
Repeat: 2	1.02369	25.001	0.512068	1.93676	2.02801
Repeat: 3	1.01364	25.2259	0.504315	1.93128	2.02465
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.01039	50.4043	0.510197	2.04722	2.00827
Std Dev:	0.00445845	0.0360817	0.00369485	0.0167793	0.0026994
%RSD:	0.22177	0.0715845	0.7242	0.819613	0.134414
Repeat: 1	2.0098	50.3971	0.510499	2.05141	2.01101
Repeat: 2	2.01512	50.3724	0.513731	2.0615	2.0082
Repeat: 3	2.00626	50.4434	0.50636	2.02874	2.00561
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.0383	25.0475	50.2399	2.03029	49.3095
Std Dev:	0.0112568	0.060384	0.127567	0.00328387	0.24806
%RSD:	0.552265	0.241077	0.253916	0.161744	0.503067
Repeat: 1	2.0495	25.0161	50.2678	2.02994	49.2809
Repeat: 2	2.03842	25.0094	50.1007	2.0272	49.077
Repeat: 3	2.02699	25.1172	50.3512	2.03374	49.5706
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.01521	2.05234	50.2517	50.3837	2.06638
Std Dev:	0.00267014	0.0157874	1.27427	0.118783	0.0168911
%RSD:	0.132499	0.769239	2.53577	0.235756	0.817426
Repeat: 1	2.0131	2.05715	51.3497	50.3561	2.07055

Repeat: 2	2.01821	2.06517	48.8545	50.2812	2.08079
Repeat: 3	2.01432	2.03471	50.5511	50.5139	2.04779
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.05621	0.508662	0.512566	0.519985	0.516335
Std Dev:	0.0195501	0.00516704	0.00483057	0.00311492	0.00501385
%RSD:	0.950785	1.01581	0.942429	0.59904	0.971046
Repeat: 1	2.05925	0.512384	0.511211	0.522656	0.522015
Repeat: 2	2.07406	0.510838	0.517929	0.520735	0.514466
Repeat: 3	2.03532	0.502762	0.508558	0.516564	0.512524
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.98192	2.05692	2.0159	2.01839	1.03174
Std Dev:	0.00430869	0.0167915	0.00735372	0.00673324	0.00392986
%RSD:	0.2174	0.816338	0.364787	0.333595	0.380896
Repeat: 1	1.97958	2.06116	2.01287	2.01504	1.02806
Repeat: 2	1.98689	2.07119	2.01054	2.01398	1.03588
Repeat: 3	1.97929	2.03842	2.02428	2.02614	1.03129
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	2.00269	2.03902	6141.36	163517	11900.6
Std Dev:	0.00412447	0.0162487	48.4956	1161.65	161.938
%RSD:	0.205947	0.796889	0.789655	0.710413	1.36075
Repeat: 1	2.00581	2.04648	6111.58	162302	11716.4
Repeat: 2	2.00424	2.05019	6115.19	163632	12020.5
Repeat: 3	1.99801	2.02038	6197.32	164617	11964.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6141.36	163517	11900.6
Std Dev:	48.4956	1161.65	161.938
%RSD:	0.789655	0.710413	1.36075
Repeat: 1	6111.58	162302	11716.4
Repeat: 2	6115.19	163632	12020.5
Repeat: 3	6197.32	164617	11964.8

Sample Name	**Acquisition Date**
CCB	10/12/2016 2:43:00PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1179.72	454.146	70.176	513.518	2551.5
Std Dev:	4.09108	1.82301	0.77615	4.22073	12.0946
%RSD:	0.346785	0.401414	1.106	0.821923	0.47402
Repeat: 1	1176.41	453.247	69.5632	515.955	2554.75
Repeat: 2	1178.45	456.244	71.0488	515.955	2538.11
Repeat: 3	1184.29	452.947	69.9161	508.645	2561.64
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**

Avg. of Repeats:	1021.87	558.292	193.349	281.05	577.373
Std Dev:	6.0456	2.53469	0.52766	0.846725	2.40084
%RSD:	0.591621	0.454008	0.272906	0.301272	0.415821
Repeat: 1	1016.95	557.792	193.135	281.449	575.09
Repeat: 2	1028.62	556.044	193.95	281.623	579.876
Repeat: 3	1020.04	561.039	192.962	280.077	577.154
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1424.4	107.193	4884.83	5040.33	158.408
Std Dev:	10.6736	0.997751	18.1103	15.2858	1.40335
%RSD:	0.749343	0.930801	0.370747	0.30327	0.885907
Repeat: 1	1423.41	108.342	4904.6	5049.35	158.541
Repeat: 2	1435.53	106.543	4869.03	5022.68	156.943
Repeat: 3	1414.25	106.693	4880.87	5048.95	159.74
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	415.59	89.9987	597.269	4978.14	300.932
Std Dev:	3.16619	0.329159	0.324995	18.7835	0.862543
%RSD:	0.761855	0.365738	0.0544135	0.37732	0.286624
Repeat: 1	413.442	90.1718	597.253	4994.11	301.924
Repeat: 2	419.226	90.2052	597.602	4957.44	300.513
Repeat: 3	414.102	89.6191	596.953	4982.87	300.36
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	40.3938	177.235	211.386	119.53	75.9969
Std Dev:	0.136648	2.11758	0.283265	0.542794	0.397526
%RSD:	0.338289	1.19478	0.134004	0.454108	0.523082
Repeat: 1	40.2783	177.154	211.235	120.036	76.0487
Repeat: 2	40.3585	175.16	211.21	118.957	76.3659
Repeat: 3	40.5447	179.392	211.713	119.596	75.576
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	135.231	73.5704	1619.11	353.813	49.576
Std Dev:	1.71608	0.382369	2.83544	3.26221	0.0316404
%RSD:	1.269	0.519732	0.175123	0.922017	0.0638221
Repeat: 1	137.213	73.7049	1616.13	355.844	49.6005
Repeat: 2	134.266	73.8673	1619.43	350.05	49.5402
Repeat: 3	134.216	73.1389	1621.78	355.544	49.5872
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1108.07	170.469	6561.25	168608	12742.5
Std Dev:	5.80552	0.819291	33.0895	1396.09	130.66
%RSD:	0.52393	0.48061	0.504318	0.828008	1.02539
Repeat: 1	1108.45	169.523	6531.61	167989	12602.6
Repeat: 2	1113.68	170.962	6555.19	167630	12861.3
Repeat: 3	1102.09	170.922	6596.95	170207	12763.7

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000468627	-0.000952028	-0.000253262	-0.0935512	0.000106016
Std Dev:	0.000473824	0.020254	0.00134412	0.000869949	0.00017964
%RSD:	101.109	2127.46	530.722	0.929917	169.446
Repeat: 1	-0.000421337	-0.00889255	-0.00163257	-0.0925601	-7.38345e-006
Repeat: 2	-0.000964323	0.0220691	0.00105266	-0.0939054	1.2296e-005
Repeat: 3	-2.02221e-005	-0.0160326	-0.000179874	-0.0941883	0.000313135
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.52554e-006	0.000740194	-8.78469e-006	5.38756e-005	8.56259e-005
Std Dev:	1.71931e-005	0.00209145	5.90144e-005	7.21678e-005	0.000267323
%RSD:	379.913	282.555	671.787	133.953	312.199
Repeat: 1	-1.25621e-005	-0.00011449	-5.5422e-005	0.00012229	-0.000174286
Repeat: 2	4.31654e-006	-0.000788561	-2.84942e-005	6.08723e-005	7.13733e-005
Repeat: 3	2.18222e-005	0.00312363	5.75621e-005	-2.15357e-005	0.00035979
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000475585	0.000395976	-0.0174709	1.91997e-005	-0.00520808
Std Dev:	0.000554655	0.000984225	0.0421793	0.000823341	0.00990061
%RSD:	116.626	248.557	241.426	4288.3	190.101
Repeat: 1	-0.000601052	0.00139209	0.0212368	0.000302482	-0.00141261
Repeat: 2	0.000131056	-0.000575909	-0.0112244	-0.000908383	-0.0164449
Repeat: 3	-0.00095676	0.000371743	-0.0624251	0.0006635	0.00223324
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.2774e-005	0.000355926	1.11084	0.0297532	-6.20281e-005
Std Dev:	9.97384e-006	3.93511e-005	0.762883	0.00495489	0.000171558
%RSD:	78.0792	11.056	68.6764	16.6533	276.582
Repeat: 1	-1.99403e-005	0.000361226	1.02471	0.0350274	-4.06154e-007
Repeat: 2	-1.69986e-005	0.000392358	1.91313	0.0290364	-0.000255886
Repeat: 3	-1.38313e-006	0.000314193	0.394671	0.0251957	7.0208e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.65433e-005	0.00148891	-0.000678049	-0.000530847	0.000519308
Std Dev:	0.000688877	0.0019707	0.000415455	0.001668	0.00139032
%RSD:	1218.32	132.358	61.2721	314.216	267.726
Repeat: 1	-0.000582544	0.000578003	-0.000777064	-0.000260374	-0.000261978
Repeat: 2	-3.40673e-005	0.000138445	-0.00103505	-0.00231756	0.00212452
Repeat: 3	0.000786241	0.00375028	-0.000222032	0.000985392	-0.000304621
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00715512	-9.20786e-005	0.000169108	0.000636291	0.00138559
Std Dev:	0.0195294	0.000381982	0.000199024	0.000491032	0.000617111
%RSD:	272.943	414.843	117.691	77.1711	44.5378
Repeat: 1	0.0131431	0.00018867	-4.87962e-005	0.00117004	0.000683814
Repeat: 2	-0.0258121	6.21568e-005	0.000341298	0.00020374	0.00162942
Repeat: 3	-0.00879631	-0.000527063	0.000214821	0.000535095	0.00184353
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-1.26578e-005	4.12102e-005	6302.61	166026	11893.2
Std Dev:	2.50448e-005	7.16909e-005	34.2214	1391.38	136.306
%RSD:	197.861	173.964	0.542972	0.83805	1.14608
Repeat: 1	-3.90921e-005	-2.87467e-005	6271.96	165416	11747.5
Repeat: 2	1.07164e-005	3.78597e-005	6296.34	165044	12017.7
Repeat: 3	-9.59776e-006	0.000114518	6339.53	167618	11914.4
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	6302.61	166026	11893.2
Std Dev:	34.2214	1391.38	136.306
%RSD:	0.542972	0.83805	1.14608
Repeat: 1	6271.96	165416	11747.5
Repeat: 2	6296.34	165044	12017.7
Repeat: 3	6339.53	167618	11914.4

Sample Name	Acquisition Date
M894H	10/12/2016 2:48:02PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1209.53	1801.67	144.563	8712.82	27350.8
Std Dev:	5.2311	1.60183	0.303959	24.0419	60.8143
%RSD:	0.432488	0.0889081	0.21026	0.275938	0.222349
Repeat: 1	1204.7	1803.5	144.378	8728.77	27302.3
Repeat: 2	1208.82	1801	144.914	8724.52	27331
Repeat: 3	1215.08	1800.51	144.398	8685.16	27419
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	2002.65	84256.8	214.545	368.036	802.122
Std Dev:	3.99097	142.491	0.154166	1.17889	8.67723
%RSD:	0.199284	0.169115	0.0718574	0.320318	1.08178
Repeat: 1	1999.15	84177.9	214.688	368.265	792.757
Repeat: 2	2007	84171.2	214.565	369.084	803.718
Repeat: 3	2001.8	84421.3	214.382	366.76	809.89
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	2026.63	6108.87	6665.37	5815.36	1427.16
Std Dev:	4.80944	20.1067	0.888584	18.2818	10.0833
%RSD:	0.237312	0.329139	0.0133314	0.31437	0.706524
Repeat: 1	2022.78	6113.49	6666.33	5797.1	1415.63
Repeat: 2	2025.08	6086.86	6664.59	5833.67	1431.52
Repeat: 3	2032.02	6126.28	6665.18	5815.31	1434.34
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	5998.48	177.586	677.392	40862.6	394.177
Std Dev:	13.2054	0.31609	5.01758	102.447	1.18304
%RSD:	0.220146	0.177993	0.740721	0.250711	0.30013
Repeat: 1	5989.86	177.225	677.273	40836.9	392.859
Repeat: 2	5991.9	177.723	682.468	40775.4	395.147
Repeat: 3	6013.69	177.811	672.434	40975.4	394.524
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	104.626	199.56	239.702	140.248	87.5339
Std Dev:	0.683619	2.55769	0.276117	0.0968812	0.293826
%RSD:	0.653391	1.28167	0.115192	0.0690786	0.335671
Repeat: 1	105.023	199.151	239.386	140.155	87.4167
Repeat: 2	105.019	197.232	239.824	140.348	87.8683
Repeat: 3	103.837	202.298	239.897	140.241	87.3168
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	1483.68	82.1992	28219.9	1459.18	55.8233
Std Dev:	1.25664	0.406211	92.4199	5.56166	0.143255

%RSD:	0.0846975	0.494179	0.327499	0.381151	0.256622
Repeat: 1	1482.62	82.4873	28193.6	1463.29	55.7154
Repeat: 2	1485.06	82.3757	28143.6	1452.85	55.9859
Repeat: 3	1483.35	81.7346	28322.7	1461.39	55.7687
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1951.79	836.43	6647.19	170387	13142.2
Std Dev:	10.2734	1.36789	17.8445	780.379	32.8765
%RSD:	0.526356	0.163539	0.268451	0.458003	0.25016
Repeat: 1	1940.01	837.277	6641.33	171283	13167.2
Repeat: 2	1958.87	837.162	6633.01	169855	13104.9
Repeat: 3	1956.49	834.852	6667.23	170024	13154.3

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000687665	5.54405	0.131857	1.38993	0.467992
Std Dev:	0.00055664	0.00317287	0.000702968	0.00609422	0.0012567
%RSD:	80.9465	0.0572302	0.53313	0.438454	0.26853
Repeat: 1	-0.000277405	5.54212	0.131659	1.38569	0.466572
Repeat: 2	-0.0013213	5.54771	0.132637	1.39692	0.468961
Repeat: 3	-0.000464294	5.54231	0.131274	1.38719	0.468443
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0020981	51.02	9.72613e-005	0.00902775	0.0134641
Std Dev:	1.23947e-005	0.132993	5.0829e-005	9.54401e-005	0.000440565
%RSD:	0.590757	0.260669	52.2602	1.05719	3.27215
Repeat: 1	0.00209206	50.8751	0.000137692	0.00911174	0.0129607
Repeat: 2	0.00211236	51.1365	4.02004e-005	0.00904755	0.0136521
Repeat: 3	0.00208988	51.0485	0.000113891	0.00892396	0.0137794
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0225631	6.33622	3.92098	0.0856172	10.1772
Std Dev:	0.000117098	0.00734955	0.0196879	0.00146394	0.0982078
%RSD:	0.518979	0.115993	0.502118	1.70987	0.964978
Repeat: 1	0.022455	6.33307	3.93926	0.0839374	10.0638
Repeat: 2	0.0226875	6.33098	3.90014	0.0866211	10.2366
Repeat: 3	0.0225467	6.34462	3.92353	0.086293	10.2312
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0783587	0.0264475	19.3384	19.6749	0.0166037
Std Dev:	0.00047969	0.000165149	1.15587	0.041481	4.13961e-005
%RSD:	0.612173	0.624441	5.97707	0.210832	0.249319
Repeat: 1	0.0778221	0.0263046	18.9623	19.6295	0.0165909
Repeat: 2	0.0785079	0.0264095	20.6355	19.6845	0.0165702
Repeat: 3	0.078746	0.0266283	18.4174	19.7108	0.01665
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.19903	0.0121371	0.0110655	0.016853	0.0152489
Std Dev:	0.00217766	0.0045866	0.000240058	0.000785897	0.000820878

%RSD:	1.09414	37.7898	2.16943	4.66325	5.38319
Repeat: 1	0.199443	0.013678	0.0109778	0.0163479	0.0149025
Repeat: 2	0.200972	0.0069785	0.0108816	0.0177584	0.014658
Repeat: 3	0.196675	0.0157549	0.0113371	0.0164526	0.0161862
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	8.66211	0.000751582	0.445299	0.258516	-0.000242023
Std Dev:	0.0337407	0.000339779	0.00117108	0.00115193	0.000708921
%RSD:	0.389521	45.2086	0.262988	0.445592	292.915
Repeat: 1	8.63594	0.00108826	0.444038	0.259338	-0.000289708
Repeat: 2	8.70019	0.000757706	0.445506	0.257199	0.000489537
Repeat: 3	8.6502	0.000408782	0.446353	0.25901	-0.000925897
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0342246	0.0536164	6378.1	167716	12290.1
Std Dev:	0.000251821	0.000261136	18.0159	806.598	34.4848
%RSD:	0.735788	0.487044	0.282465	0.48093	0.280592
Repeat: 1	0.0339414	0.053756	6372.51	168644	12311.9
Repeat: 2	0.0344231	0.0537781	6363.55	167179	12250.3
Repeat: 3	0.0343094	0.0533152	6398.25	167326	12308
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6378.1	167716	12290.1
Std Dev:	18.0159	806.598	34.4848
%RSD:	0.282465	0.48093	0.280592
Repeat: 1	6372.51	168644	12311.9
Repeat: 2	6363.55	167179	12250.3
Repeat: 3	6398.25	167326	12308

Sample Name	**Acquisition Date**
M894J	10/12/2016 2:52:59PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1200.02	1555.56	143.374	8899.71	26212.1
Std Dev:	0.81849	5.202	0.460838	20.5225	64.0596
%RSD:	0.0682066	0.334414	0.321424	0.230598	0.24439
Repeat: 1	1200.12	1550.5	143.379	8906.23	26138.4
Repeat: 2	1200.78	1560.89	143.832	8876.72	26254.9
Repeat: 3	1199.15	1555.28	142.91	8916.18	26242.9
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1832.37	85415.7	210.599	349.164	746.524
Std Dev:	4.93339	111.356	0.598364	0.655003	1.47864
%RSD:	0.269235	0.130369	0.284125	0.187592	0.19807
Repeat: 1	1828.31	85295	211.036	348.684	744.962
Repeat: 2	1830.94	85514.5	209.917	349.91	746.709
Repeat: 3	1837.86	85437.6	210.842	348.898	747.902
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**

Avg. of Repeats:	1866.44	4578.69	6628.73	5771.99	1440.5
Std Dev:	6.42166	7.71411	20.8732	15.0275	3.3509
%RSD:	0.34406	0.168479	0.31489	0.260352	0.23262
Repeat: 1	1869.41	4587.44	6641.08	5789.33	1438.38
Repeat: 2	1859.07	4572.86	6604.63	5762.92	1438.76
Repeat: 3	1870.83	4575.77	6640.48	5763.71	1444.37
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	4878.65	177.05	693.778	48388.2	375.076
Std Dev:	16.2489	0.728337	2.48623	128.82	0.45584
%RSD:	0.333062	0.411373	0.358361	0.266222	0.121533
Repeat: 1	4869.86	176.215	696.56	48270.9	374.755
Repeat: 2	4868.69	177.388	692.998	48367.7	374.875
Repeat: 3	4897.4	177.549	691.775	48526.1	375.598
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	95.4492	192.814	234.647	138.805	87.0428
Std Dev:	0.56472	1.18241	0.290622	0.719703	0.113549
%RSD:	0.591644	0.613237	0.123855	0.518499	0.130452
Repeat: 1	94.8617	193.635	234.377	137.974	87.1243
Repeat: 2	95.988	193.347	234.955	139.227	87.091
Repeat: 3	95.4978	191.459	234.61	139.214	86.9131
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	1314.07	81.6945	27503.3	1273.76	55.2649
Std Dev:	3.38061	0.538631	72.7432	4.71881	0.312163
%RSD:	0.257263	0.659323	0.264489	0.370461	0.56485
Repeat: 1	1310.37	81.0863	27427.7	1278.66	55.015
Repeat: 2	1314.83	81.886	27509.3	1269.25	55.6148
Repeat: 3	1317	82.1112	27572.8	1273.38	55.1648
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1831.97	2759.66	6652.84	169568	13219.6
Std Dev:	5.53601	3.20188	5.73979	523.066	26.4512
%RSD:	0.302189	0.116024	0.0862759	0.308469	0.20009
Repeat: 1	1830.06	2761.59	6648.72	168979	13189.3
Repeat: 2	1827.65	2755.97	6650.4	169747	13237.7
Repeat: 3	1838.21	2761.44	6659.39	169979	13231.9

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.79761e-005	4.522	0.130642	1.43281	0.443767
Std Dev:	0.00056717	0.0212024	0.00152273	0.00724899	0.000563859
%RSD:	978.284	0.468871	1.16557	0.505927	0.127062
Repeat: 1	0.000441655	4.5176	0.130206	1.44055	0.443116
Repeat: 2	0.000325784	4.54506	0.132335	1.42617	0.4441
Repeat: 3	-0.00059351	4.50335	0.129384	1.43172	0.444086
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00174339	51.3877	5.61348e-005	0.00697694	0.0104395
Std Dev:	7.81235e-006	0.0405658	9.78176e-005	0.000125313	9.48436e-006
%RSD:	0.448112	0.0789406	174.255	1.79611	0.0908509
Repeat: 1	0.00174426	51.4241	0.000162297	0.00703873	0.0104303
Repeat: 2	0.00175074	51.3951	-3.03448e-005	0.00705936	0.0104389
Repeat: 3	0.00173518	51.344	3.64519e-005	0.00683273	0.0104492

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0169606	4.6895	3.89712	0.0845538	10.2184
Std Dev:	0.000140621	0.0148046	0.0359084	0.000549574	0.0204216
%RSD:	0.829107	0.315697	0.921408	0.649969	0.19985
Repeat: 1	0.0170178	4.70658	3.90485	0.0839197	10.2097
Repeat: 2	0.0168003	4.68149	3.85797	0.0848924	10.2038
Repeat: 3	0.0170635	4.68042	3.92853	0.0848493	10.2418
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0629165	0.0265268	23.6272	23.6508	0.0131349
Std Dev:	0.000172535	0.000136906	0.395237	0.0468391	8.31532e-005
%RSD:	0.274229	0.516104	1.6728	0.198044	0.633072
Repeat: 1	0.0629934	0.0263723	23.8802	23.6298	0.0130395
Repeat: 2	0.0627188	0.0265749	23.8297	23.6182	0.0131732
Repeat: 3	0.0630371	0.0266332	23.1718	23.7045	0.0131919
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.170173	0.00901594	0.0091934	0.0162838	0.0158165
Std Dev:	0.000913333	0.00212878	0.000716142	0.000327748	0.00124742
%RSD:	0.536708	23.6113	7.78975	2.01273	7.8868
Repeat: 1	0.16919	0.00797255	0.00836821	0.0165377	0.0161447
Repeat: 2	0.170995	0.0114651	0.00965249	0.0159138	0.0144378
Repeat: 3	0.170334	0.00761014	0.00955948	0.0163998	0.016867
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	7.52141	0.000985861	0.430757	0.21448	-0.000179006
Std Dev:	0.00843972	0.000226972	0.000601299	0.00128105	0.0014284
%RSD:	0.112209	23.0227	0.139591	0.597281	797.962
Repeat: 1	7.51324	0.000744896	0.430261	0.215892	-0.00141919
Repeat: 2	7.5209	0.00101708	0.430585	0.213393	-0.000500598
Repeat: 3	7.5301	0.00119561	0.431426	0.214155	0.00138277
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0297224	0.213219	6386.69	166931	12371.5
Std Dev:	9.48536e-005	0.000290232	5.37746	507.619	24.0613
%RSD:	0.319132	0.136119	0.084198	0.304089	0.194489
Repeat: 1	0.0296844	0.213547	6383.02	166354	12343.8
Repeat: 2	0.0296524	0.212995	6384.18	167133	12385
Repeat: 3	0.0298303	0.213114	6392.86	167306	12385.9
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6386.69	166931	12371.5
Std Dev:	5.37746	507.619	24.0613
%RSD:	0.084198	0.304089	0.194489
Repeat: 1	6383.02	166354	12343.8
Repeat: 2	6384.18	167133	12385

Repeat: 3	6392.86	167306	12385.9

Sample Name	**Acquisition Date**
M89WC	10/12/2016 2:57:56PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1155.41	465.902	104.68	1220.7	2592.78
Std Dev:	5.09681	0.876264	0.129898	3.14808	4.98542
%RSD:	0.441125	0.188079	0.12409	0.257891	0.192281
Repeat: 1	1153.03	464.927	104.808	1219.57	2590.1
Repeat: 2	1151.94	466.157	104.684	1224.26	2598.53
Repeat: 3	1161.26	466.623	104.548	1218.28	2589.7
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1018.79	850.728	190.434	281.429	587
Std Dev:	3.86262	0.613027	0.357043	0.431234	2.87064
%RSD:	0.379139	0.0720591	0.187489	0.15323	0.489035
Repeat: 1	1014.42	851.177	190.125	281.529	589.186
Repeat: 2	1021.74	850.03	190.825	280.957	588.065
Repeat: 3	1020.2	850.978	190.352	281.802	583.749
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1409.19	230.131	5510.84	12325.2	157.109
Std Dev:	6.85749	1.82571	38.8087	21.4141	0.449347
%RSD:	0.486627	0.793332	0.704226	0.173743	0.286009
Repeat: 1	1405.53	230.892	5468.77	12303	157.254
Repeat: 2	1404.94	231.454	5545.24	12345.8	157.469
Repeat: 3	1417.1	228.048	5518.51	12326.7	156.605
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	453.832	215.625	2500.38	766951	299.463
Std Dev:	2.89197	0.399201	2.97079	13300.8	0.227126
%RSD:	0.637233	0.185137	0.118813	1.73424	0.0758446
Repeat: 1	452.314	215.421	2497.01	759807	299.594
Repeat: 2	457.167	216.085	2501.55	758748	299.2
Repeat: 3	452.015	215.368	2502.59	782297	299.594
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	199.581	175.745	208.367	119.004	77.3245
Std Dev:	0.672263	0.292022	0.398723	0.416451	0.539442
%RSD:	0.336838	0.166162	0.191356	0.349948	0.697634
Repeat: 1	199.654	175.529	207.917	119.357	76.9676
Repeat: 2	200.213	175.63	208.678	119.11	77.9451
Repeat: 3	198.875	176.077	208.505	118.544	77.0609
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	502.463	89.075	1679.18	348.818	49.9622
Std Dev:	4.26867	0.702472	9.76167	4.66763	0.154382
%RSD:	0.849549	0.788629	0.581334	1.33813	0.308997
Repeat: 1	498.104	89.8855	1672.72	343.594	50.1398
Repeat: 2	502.649	88.6994	1690.41	352.579	49.8601
Repeat: 3	506.635	88.6403	1674.42	350.279	49.8868
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	7344.84	178.454	6346.07	161338	12879.9
Std Dev:	6.67698	0.632479	24.6167	372.189	78.1985

%RSD:	0.0909072	0.354421	0.387904	0.230689	0.607138
Repeat: 1	7338.64	179.052	6317.66	160944	12789.8
Repeat: 2	7343.96	177.792	6359.62	161385	12930.8
Repeat: 3	7351.91	178.519	6360.94	161684	12919

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00093041	0.0869562	0.0683351	0.0450457	0.00228294
Std Dev:	0.000168186	0.0129863	0.000490376	0.000751318	5.97535e-005
%RSD:	18.0765	14.9343	0.717605	1.6679	2.61739
Repeat: 1	-0.000742703	0.0740246	0.0688527	0.0455437	0.00223494
Repeat: 2	-0.000981124	0.0868476	0.068275	0.0454118	0.00226402
Repeat: 3	-0.0010674	0.0999964	0.0678775	0.0441815	0.00234986
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-2.11801e-005	0.190057	-5.65524e-005	0.000375467	0.00156398
Std Dev:	9.22486e-006	0.00235263	7.86788e-005	6.2833e-005	0.000402963
%RSD:	43.5543	1.23786	139.125	16.7346	25.7652
Repeat: 1	-3.14881e-005	0.192567	-0.000136101	0.000317381	0.00202369
Repeat: 2	-1.83517e-005	0.187902	2.12262e-005	0.000366859	0.00139638
Repeat: 3	-1.37006e-005	0.189702	-5.4782e-005	0.00044216	0.00127186
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00046703	0.135493	1.62623	0.760214	0.022062
Std Dev:	0.000267403	0.00298534	0.0499963	0.00316495	0.00628876
%RSD:	57.2561	2.20332	3.07437	0.416323	28.505
Repeat: 1	0.000285218	0.138408	1.5687	0.763849	0.0150404
Repeat: 2	0.000341804	0.135629	1.65918	0.758722	0.0271764
Repeat: 3	0.000774067	0.132442	1.6508	0.758071	0.0239691
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00072791	0.0442241	450.907	424.677	0.000168865
Std Dev:	2.06896e-005	0.000201939	3.0546	6.5142	0.000170755
%RSD:	2.84233	0.456626	0.677434	1.53392	101.12
Repeat: 1	0.000731467	0.0443372	454.431	423.766	-1.62039e-005
Repeat: 2	0.000746591	0.044344	449.016	418.667	0.000202496
Repeat: 3	0.000705673	0.0439909	449.274	431.599	0.000320302
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.55894	0.000265213	-0.000656909	0.000725822	0.00677902
Std Dev:	0.00316897	0.00186	0.000264443	0.000806805	0.00134832
%RSD:	0.566962	701.322	40.2557	111.157	19.8896
Repeat: 1	0.562301	0.00198308	-0.000951819	0.00143806	0.00662795
Repeat: 2	0.558512	-0.00171009	-0.000440888	0.00088977	0.00819652
Repeat: 3	0.556007	0.000522649	-0.000578019	-0.000150365	0.00551261
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm

Avg. of Repeats:	2.4152	0.0105004	0.0019753	0.00114519	-0.000244113
Std Dev:	0.0217912	0.000579718	8.74144e-005	0.00101894	0.00130784
%RSD:	0.902252	5.52089	4.42537	88.9762	535.751
Repeat: 1	2.40373	0.0111115	0.00190372	0.000101729	0.00112625
Repeat: 2	2.40153	0.0104317	0.00207272	0.0021377	-0.00147885
Repeat: 3	2.44033	0.00995815	0.00194945	0.00119613	-0.000379746
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.279053	0.000782713	6090.93	158800	12050.2
Std Dev:	0.000727552	8.37729e-005	24.3072	372.454	74.2285
%RSD:	0.260722	10.7029	0.399071	0.234543	0.615994
Repeat: 1	0.279869	0.000865358	6062.87	158406	11964.5
Repeat: 2	0.278816	0.000697856	6104.77	158847	12090.7
Repeat: 3	0.278472	0.000784925	6105.16	159146	12095.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6090.93	158800	12050.2
Std Dev:	24.3072	372.454	74.2285
%RSD:	0.399071	0.234543	0.615994
Repeat: 1	6062.87	158406	11964.5
Repeat: 2	6104.77	158847	12090.7
Repeat: 3	6105.16	159146	12095.3

Sample Name	**Acquisition Date**
M89WCS	10/12/2016 3:03:06PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1869.89	947.704	160.448	6373.81	7818.67
Std Dev:	1.73109	0.460203	0.382185	10.3688	24.3458
%RSD:	0.0925772	0.0485598	0.238198	0.162677	0.31138
Repeat: 1	1867.95	948.231	160.889	6370.59	7808.91
Repeat: 2	1870.43	947.5	160.209	6365.44	7846.38
Repeat: 3	1871.28	947.382	160.247	6385.41	7800.72
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	22718.6	81422.8	779.881	1039.05	3531.92
Std Dev:	56.2514	338.853	1.30001	2.0208	8.12907
%RSD:	0.2476	0.416164	0.166693	0.194486	0.23016
Repeat: 1	22672.3	81239.7	779.215	1038.56	3522.97
Repeat: 2	22702.4	81813.8	779.049	1037.31	3533.95
Repeat: 3	22781.2	81214.9	781.379	1041.27	3538.85
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7405.67	1157.3	28604.1	13480.9	1354.92
Std Dev:	16.4111	4.46419	108.14	46.3457	6.64534
%RSD:	0.221602	0.385742	0.378057	0.343787	0.490461
Repeat: 1	7394.46	1159.15	28489.3	13435.3	1354.69
Repeat: 2	7398.04	1160.54	28704	13528	1361.68
Repeat: 3	7424.51	1152.21	28619.1	13479.4	1348.39
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**

Avg. of Repeats:	7224.31	1735.76	2739.58	860152	2583.69
Std Dev:	36.5272	5.75326	7.65599	4914.44	7.48358
%RSD:	0.505615	0.331455	0.279459	0.571346	0.289646
Repeat: 1	7182.83	1733.54	2733.06	856804	2581.31
Repeat: 2	7238.47	1731.45	2748.01	857858	2577.69
Repeat: 3	7251.65	1742.29	2737.66	865794	2592.08
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1679.88	282.898	329.018	392.721	125.064
Std Dev:	7.87716	1.61192	0.428129	1.84349	0.410779
%RSD:	0.468914	0.569789	0.130123	0.469413	0.328454
Repeat: 1	1679.71	283.586	328.591	393.389	124.87
Repeat: 2	1672.08	284.052	329.016	390.637	124.787
Repeat: 3	1687.83	281.057	329.447	394.137	125.536
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	709.573	773.395	30768.2	776.665	192.832
Std Dev:	9.93764	2.3001	75.2948	6.54728	1.13508
%RSD:	1.40051	0.297403	0.244716	0.842999	0.588637
Repeat: 1	700.23	773.804	30721.5	769.988	191.817
Repeat: 2	720.014	770.918	30855.1	783.074	192.621
Repeat: 3	708.475	775.463	30728.2	776.934	194.057
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	11952.7	6150.55	6332.9	160964	12917.2
Std Dev:	56.2366	18.3024	25.3441	737.433	58.781
%RSD:	0.470493	0.297574	0.400198	0.458136	0.455061
Repeat: 1	11893.7	6148.02	6320.23	160178	12871.1
Repeat: 2	11958.8	6133.64	6316.39	161072	12983.4
Repeat: 3	12005.6	6169.98	6362.08	161641	12897.1

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0512303	2.08132	0.171014	1.03155	0.102419
Std Dev:	4.4965e-005	0.0194491	0.000930953	0.00371127	0.000261653
%RSD:	0.0877704	0.934458	0.544373	0.359777	0.255474
Repeat: 1	0.0511873	2.10042	0.17167	1.0358	0.102721
Repeat: 2	0.0512264	2.08201	0.171423	1.02895	0.102265
Repeat: 3	0.051277	2.06154	0.169948	1.02989	0.10227
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0522258	50.1678	0.051043	0.101298	0.203328
Std Dev:	0.000137461	0.0374929	0.000120952	0.000277106	0.000378872
%RSD:	0.263205	0.074735	0.236962	0.273556	0.186336
Repeat: 1	0.0523843	50.2105	0.0511567	0.101507	0.203359
Repeat: 2	0.0521379	50.1402	0.0510564	0.101403	0.20369
Repeat: 3	0.0521554	50.1527	0.0509159	0.100983	0.202934
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.253495	1.13191	52.4009	0.878302	9.78004
Std Dev:	0.000440913	0.00389179	0.116535	0.00145747	0.0318153
%RSD:	0.173934	0.343826	0.22239	0.165942	0.325309
Repeat: 1	0.253986	1.13634	52.3266	0.877887	9.81623

Repeat: 2	0.253131	1.12906	52.3408	0.877097	9.76744
Repeat: 3	0.253369	1.13032	52.5352	0.879922	9.75646
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.101591	0.575383	505.75	475.574	0.512867
Std Dev:	0.000193088	0.000475903	1.16688	4.09571	0.000855952
%RSD:	0.190065	0.0827106	0.230722	0.861214	0.166896
Repeat: 1	0.101416	0.57579	506.69	475.204	0.513796
Repeat: 2	0.101798	0.5755	504.444	471.675	0.512695
Repeat: 3	0.101558	0.57486	506.116	479.842	0.51211
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.81047	0.100486	0.100109	0.50472	0.159297
Std Dev:	0.0088478	0.00393984	0.000816873	0.00329388	0.00163161
%RSD:	0.152273	3.9208	0.815986	0.652615	1.02426
Repeat: 1	5.82004	0.0990266	0.100976	0.507517	0.158307
Repeat: 2	5.80259	0.104947	0.0993544	0.501089	0.158404
Repeat: 3	5.80877	0.0974835	0.0999956	0.505554	0.16118
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	3.76641	0.520968	0.496835	0.102201	0.394629
Std Dev:	0.0484855	0.00107865	0.0011652	0.000851788	0.00208336
%RSD:	1.28732	0.207047	0.234524	0.833442	0.527927
Repeat: 1	3.71347	0.522205	0.497565	0.101506	0.393343
Repeat: 2	3.80865	0.520474	0.495491	0.103151	0.397033
Repeat: 3	3.7771	0.520224	0.497448	0.101947	0.393511
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.485452	0.518345	6063.34	158347	12077.3
Std Dev:	0.000639764	0.000947052	26.6832	740.696	57.4016
%RSD:	0.131787	0.182707	0.440074	0.467766	0.475286
Repeat: 1	0.484985	0.51924	6050.66	157560	12039.5
Repeat: 2	0.48519	0.518441	6045.36	158452	12143.3
Repeat: 3	0.486182	0.517354	6094	159030	12049
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6063.34	158347	12077.3
Std Dev:	26.6832	740.696	57.4016
%RSD:	0.440074	0.467766	0.475286
Repeat: 1	6050.66	157560	12039.5
Repeat: 2	6045.36	158452	12143.3
Repeat: 3	6094	159030	12049

Sample Name	**Acquisition Date**
M89WCD	10/12/2016 3:08:03PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1871.62	950.52	161.651	6473.26	7884.07
Std Dev:	3.19106	6.64132	0.643922	68.6115	34.7681
%RSD:	0.170497	0.698704	0.398342	1.05992	0.440992
Repeat: 1	1872.28	943.359	162.245	6435.14	7846.98
Repeat: 2	1874.43	951.726	160.967	6432.18	7915.92
Repeat: 3	1868.15	956.476	161.74	6552.47	7889.32
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	23110.6	82407.9	787.19	1047.95	3583.52
Std Dev:	160.489	464.685	3.34113	3.44977	19.8399
%RSD:	0.694439	0.563884	0.424438	0.329193	0.553643
Repeat: 1	23006.4	81909.1	785.05	1045.8	3561.76
Repeat: 2	23030	82828.5	785.48	1046.12	3588.2
Repeat: 3	23295.4	82486.1	791.04	1051.93	3600.61
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7479.21	1178.68	29170.6	13622.4	1379.5
Std Dev:	43.8231	6.92534	125.462	67.6839	10.8051
%RSD:	0.585932	0.58755	0.430097	0.496857	0.783261
Repeat: 1	7460.06	1171.27	29042.6	13546.7	1367.22
Repeat: 2	7448.23	1179.78	29293.3	13677.1	1383.7
Repeat: 3	7529.35	1184.99	29175.9	13643.5	1387.57
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	7381.07	1762.77	2739.87	869379	2611.88
Std Dev:	37.0212	3.61252	14.472	5381.5	1.42945
%RSD:	0.501569	0.204934	0.528201	0.619005	0.0547287
Repeat: 1	7354.5	1758.76	2725.07	869753	2611.38
Repeat: 2	7365.36	1763.79	2753.99	863821	2610.76
Repeat: 3	7423.36	1765.77	2740.56	874564	2613.49
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1710.38	284.786	330.971	397.454	126.008
Std Dev:	2.6995	2.73672	1.18895	1.79478	0.107135
%RSD:	0.157831	0.960972	0.359231	0.451569	0.0850226
Repeat: 1	1707.38	281.656	330.957	397.189	125.996
Repeat: 2	1711.13	285.978	329.789	395.807	126.12
Repeat: 3	1712.62	286.725	332.167	399.367	125.907
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	604.177	785.15	31367.8	787.06	194.202
Std Dev:	2.4947	1.6312	226.037	4.12411	1.29899
%RSD:	0.412909	0.207756	0.720602	0.523989	0.668888
Repeat: 1	601.815	784.497	31119.3	782.808	192.938
Repeat: 2	603.93	783.947	31561.2	791.043	194.133
Repeat: 3	606.786	787.007	31422.9	787.328	195.533
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	12090.5	6256.7	6360.69	160550	12909.1
Std Dev:	85.3506	6.59333	10.2523	1305.99	64.3344
%RSD:	0.705931	0.10538	0.161182	0.813446	0.498365
Repeat: 1	12017	6249.38	6355.03	159859	12865.2
Repeat: 2	12070.4	6262.17	6354.51	159735	12982.9
Repeat: 3	12184.1	6258.55	6372.52	162057	12879.2

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0520163	2.08653	0.172965	1.05245	0.103835
Std Dev:	0.000420238	0.0234794	0.000987334	0.00275708	0.000356263
%RSD:	0.807898	1.12528	0.570828	0.261967	0.343104
Repeat: 1	0.0523435	2.06723	0.173985	1.05129	0.103424
Repeat: 2	0.0521629	2.0797	0.172014	1.05047	0.104056
Repeat: 3	0.0515423	2.11267	0.172896	1.0556	0.104025
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0533153	50.7936	0.0515785	0.102204	0.20729
Std Dev:	7.10864e-005	0.168801	9.15984e-005	0.000217566	0.000984828
%RSD:	0.133332	0.332327	0.17759	0.212875	0.475097
Repeat: 1	0.0532954	50.6695	0.0514822	0.101956	0.206637
Repeat: 2	0.0533943	50.7256	0.051589	0.102292	0.208423
Repeat: 3	0.0532564	50.9858	0.0516645	0.102363	0.206809
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.257239	1.15433	53.6453	0.892676	9.97816
Std Dev:	0.000782131	0.00864921	0.11179	0.00392289	0.0789755
%RSD:	0.304048	0.749284	0.208387	0.439453	0.791483
Repeat: 1	0.258125	1.15024	53.5713	0.888182	9.92063
Repeat: 2	0.256642	1.14848	53.5908	0.894429	9.94565
Repeat: 3	0.256952	1.16426	53.7739	0.895416	10.0682
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.104149	0.582195	506.056	480.755	0.517097
Std Dev:	0.000346832	0.000796385	1.60863	5.42933	0.000869535
%RSD:	0.333015	0.13679	0.317877	1.12933	0.168157
Repeat: 1	0.104142	0.581565	504.547	482.707	0.517658
Repeat: 2	0.104499	0.58309	505.871	474.62	0.517537
Repeat: 3	0.103806	0.581929	507.748	484.939	0.516095
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.89072	0.102775	0.102194	0.512071	0.162769
Std Dev:	0.00880187	0.00182866	0.000672929	0.00154873	0.000373332
%RSD:	0.149419	1.77929	0.65848	0.302445	0.229363
Repeat: 1	5.88573	0.101475	0.101443	0.511851	0.162904
Repeat: 2	5.90088	0.101984	0.102743	0.510644	0.163056
Repeat: 3	5.88554	0.104866	0.102397	0.513718	0.162347
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	3.07822	0.527646	0.506981	0.104772	0.395433
Std Dev:	0.0240361	5.86365e-005	0.00217779	0.00113712	0.00165596
%RSD:	0.780847	0.0111128	0.429561	1.08533	0.418772
Repeat: 1	3.07939	0.527648	0.504691	0.103688	0.393576
Repeat: 2	3.05361	0.527704	0.507225	0.105956	0.396758
Repeat: 3	3.10164	0.527587	0.509026	0.104671	0.395965
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass

Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.493026	0.5251	6091.69	157944	12075.8
Std Dev:	0.000879546	0.000848473	9.44167	1313.19	66.4284
%RSD:	0.178397	0.161583	0.154993	0.831427	0.550097
Repeat: 1	0.492322	0.525105	6085.34	157265	12032.4
Repeat: 2	0.494012	0.525946	6087.19	157110	12152.2
Repeat: 3	0.492745	0.524249	6102.54	159458	12042.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	6091.69	157944	12075.8
Std Dev:	9.44167	1313.19	66.4284
%RSD:	0.154993	0.831427	0.550097
Repeat: 1	6085.34	157265	12032.4
Repeat: 2	6087.19	157110	12152.2
Repeat: 3	6102.54	159458	12042.6

Sample Name	Acquisition Date
M89WD	10/12/2016 3:13:00PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1330.55	77917.4	225.944	986.651	57875.7
Std Dev:	14.8169	291.776	0.863488	5.9833	260.166
%RSD:	1.11359	0.374469	0.382169	0.606425	0.449525
Repeat: 1	1313.61	77826.6	225.236	981.746	57827
Repeat: 2	1336.92	77681.9	226.906	993.317	57643.3
Repeat: 3	1341.11	78243.8	225.689	984.889	58156.7
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Avg. of Repeats:	66992.9	1.35428e+006	462.806	542.296	2616.06
Std Dev:	289.754	2629.69	1.70966	2.08091	8.14328
%RSD:	0.432514	0.194177	0.369411	0.383722	0.31128
Repeat: 1	66658.6	1.35639e+006	461.869	540.582	2606.67
Repeat: 2	67149	1.35133e+006	461.77	541.696	2620.39
Repeat: 3	67171.2	1.35511e+006	464.78	544.612	2621.14
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Avg. of Repeats:	25883.2	88984.9	17790.9	16973.8	1873.75
Std Dev:	117.824	340.679	56.553	43.4997	7.56832
%RSD:	0.455213	0.38285	0.317875	0.256275	0.403913
Repeat: 1	25960.8	88884.6	17750.2	16963.7	1867.06
Repeat: 2	25747.6	88705.7	17767	16936.3	1872.24
Repeat: 3	25941.2	89364.5	17855.5	17021.5	1881.96
Element/Wavelength	Mn2576A	Mo2020A	aN	Na5895R	Ni2316A
Avg. of Repeats:	101370	328.211	2356.87	714699	1702.49
Std Dev:	366.078	0.435911	5.42286	7965.65	3.90163
%RSD:	0.361132	0.132814	0.230088	1.11455	0.229172
Repeat: 1	101031	327.781	2361.73	705723	1698.43
Repeat: 2	101319	328.652	2351.02	720927	1702.85
Repeat: 3	101758	328.2	2357.86	717446	1706.21
Element/Wavelength	P_1782A	bP	Pb2203A	Sb2068A	Se1960A

Avg. of Repeats:	435.06	443.956	541.959	365.04	206.804
Std Dev:	0.746437	3.48037	2.65411	1.19664	1.13295
%RSD:	0.171571	0.783943	0.489725	0.327811	0.547839
Repeat: 1	434.514	440.038	538.93	365.359	207.533
Repeat: 2	435.91	446.689	543.877	363.716	205.499
Repeat: 3	434.754	445.143	543.071	366.045	207.38
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	2977.73	214.545	80925.9	8740.53	133.179
Std Dev:	16.8686	0.928095	390.725	42.2149	0.403018
%RSD:	0.566492	0.432587	0.482818	0.482979	0.302614
Repeat: 1	2959.75	213.601	80921.8	8729.43	132.883
Repeat: 2	2980.23	215.456	80537.3	8704.97	133.638
Repeat: 3	2993.21	214.58	81318.7	8787.18	133.016
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	8745.13	1353.53	6245.96	154423	12586
Std Dev:	26.4405	5.85364	7.31054	347.957	39.1457
%RSD:	0.302345	0.432471	0.117044	0.225327	0.311026
Repeat: 1	8717.39	1349.7	6242.82	154687	12590.5
Repeat: 2	8747.96	1350.63	6254.32	154029	12544.8
Repeat: 3	8770.05	1360.27	6240.75	154554	12622.7

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.2417e-005	334.486	0.0743067	-0.0187028	1.09907
Std Dev:	0.000469595	0.793352	0.000750143	0.00171842	0.00273635
%RSD:	3781.89	0.237186	1.00952	9.18801	0.24897
Repeat: 1	-0.00048056	333.57	0.0739526	-0.019636	1.0963
Repeat: 2	-1.53071e-005	334.964	0.0751684	-0.0167197	1.09915
Repeat: 3	0.000458617	334.924	0.0737992	-0.0197528	1.10177
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.165507	869.7	0.00241748	0.0167511	0.13616
Std Dev:	0.00102344	1.92646	0.000152818	0.000261226	0.000387261
%RSD:	0.618365	0.221509	6.32137	1.55945	0.284417
Repeat: 1	0.164368	869.427	0.00243028	0.0165142	0.135803
Repeat: 2	0.166348	871.748	0.00225867	0.0167078	0.136572
Repeat: 3	0.165806	867.924	0.0025635	0.0170312	0.136104
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.08072	98.885	29.7105	1.28174	14.364
Std Dev:	0.0032426	0.250719	0.0831689	0.00249239	0.0691218
%RSD:	0.300041	0.253546	0.279931	0.194454	0.481215
Repeat: 1	1.08316	98.5961	29.6147	1.2798	14.285
Repeat: 2	1.07704	99.0136	29.7529	1.28086	14.4131
Repeat: 3	1.08196	99.0454	29.764	1.28455	14.394
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.57861	0.0258932	426.789	408.317	0.294975
Std Dev:	0.00698259	0.000115653	0.613569	5.68831	0.000876903

%RSD:	0.442326	0.446655	0.143764	1.39311	0.29728
Repeat: 1	1.57055	0.0259738	427.491	402.396	0.294359
Repeat: 2	1.58227	0.0259451	426.357	413.74	0.294588
Repeat: 3	1.58299	0.0257607	426.518	408.814	0.295979
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.24798	0.0496616	0.0355383	0.0100764	0.00582969
Std Dev:	0.00265348	0.000838087	0.00213227	0.00497656	0.00605731
%RSD:	0.212622	1.68759	5.99991	49.3882	103.905
Repeat: 1	1.24501	0.0492811	0.0335621	0.0129395	0.0119835
Repeat: 2	1.24879	0.0506225	0.0377982	0.00432999	-0.000126226
Repeat: 3	1.25013	0.0490814	0.0352546	0.0129598	0.00563175
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	19.1431	0.0181417	1.3949	2.0471	-0.00467378
Std Dev:	0.129798	0.000848796	0.0027772	0.005877	0.0015093
%RSD:	0.678039	4.6787	0.199097	0.287089	32.2928
Repeat: 1	18.9955	0.0174881	1.39273	2.04157	-0.00304062
Repeat: 2	19.2395	0.019101	1.39394	2.04646	-0.0060172
Repeat: 3	19.1944	0.017836	1.39803	2.05327	-0.00496353
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.346487	0.0800118	5890.19	151226	11677.1
Std Dev:	0.00123672	0.00060822	7.95729	369.344	45.8268
%RSD:	0.356931	0.760163	0.135094	0.244233	0.392452
Repeat: 1	0.34506	0.0798185	5889.83	151508	11698.5
Repeat: 2	0.347256	0.0795237	5898.32	150808	11624.5
Repeat: 3	0.347144	0.0806931	5882.42	151362	11708.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5890.19	151226	11677.1
Std Dev:	7.95729	369.344	45.8268
%RSD:	0.135094	0.244233	0.392452
Repeat: 1	5889.83	151508	11698.5
Repeat: 2	5898.32	150808	11624.5
Repeat: 3	5882.42	151362	11708.3

Sample Name	**Acquisition Date**
M89WDS	10/12/2016 3:18:09PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	2009.45	71094.8	273.156	5681.21	49976.3
Std Dev:	2.88675	105.87	0.804319	19.5938	114.921
%RSD:	0.143659	0.148914	0.294455	0.344888	0.229951
Repeat: 1	2008.88	71037.3	272.545	5662.26	50002.6
Repeat: 2	2012.58	71217	272.855	5679.98	50075.8

Repeat: 3	2006.89	71030.1	274.067	5701.39	49850.5
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	55492.4	1.63473e+006	974.739	1205.53	5384.49
Std Dev:	178.011	9615.53	2.22891	2.13998	21.1029
%RSD:	0.320785	0.588203	0.228667	0.177514	0.39192
Repeat: 1	55332	1.6281e+006	972.271	1203.78	5369.19
Repeat: 2	55461.3	1.63033e+006	975.34	1207.91	5375.72
Repeat: 3	55683.9	1.64576e+006	976.606	1204.89	5408.56
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	22814.4	102546	37741.2	23552.4	3099.08
Std Dev:	45.0856	173.401	58.3426	14.0914	3.70943
%RSD:	0.197619	0.169096	0.154586	0.0598298	0.119694
Repeat: 1	22773.7	102600	37680.7	23538.8	3094.85
Repeat: 2	22806.5	102685	37797.1	23551.4	3100.61
Repeat: 3	22862.8	102352	37745.9	23567	3101.79
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	121148	1620.57	2020.85	576700	3533.9
Std Dev:	406.871	7.73478	2.62265	5269.45	8.33939
%RSD:	0.335845	0.477287	0.12978	0.913725	0.235983
Repeat: 1	120695	1612.71	2023.79	580914	3526.03
Repeat: 2	121267	1628.18	2020	570792	3542.64
Repeat: 3	121483	1620.83	2018.75	578394	3533.03
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1731.08	528.915	643.863	588.121	244.667
Std Dev:	3.6948	2.77095	0.989412	1.53074	1.10943
%RSD:	0.213439	0.523894	0.153668	0.260277	0.453443
Repeat: 1	1729.52	528.998	643.043	587.192	243.51
Repeat: 2	1735.3	531.643	644.962	589.888	244.771
Repeat: 3	1728.42	526.103	643.584	587.283	245.721
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	2966.12	784.411	112271	7608.09	248.55
Std Dev:	1.75351	2.9556	105.929	21.8239	0.231912
%RSD:	0.0591178	0.376793	0.0943515	0.286851	0.0933057
Repeat: 1	2965.59	781.265	112280	7590.27	248.317
Repeat: 2	2968.08	784.839	112372	7632.43	248.554
Repeat: 3	2964.69	787.13	112160	7601.59	248.78
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	11651	6612.66	5981.75	148432	11808.6
Std Dev:	21.803	20.3511	9.9576	81.4109	39.1641
%RSD:	0.187134	0.307759	0.166466	0.0548473	0.331656
Repeat: 1	11631.7	6595.06	5973.79	148501	11844.4
Repeat: 2	11646.7	6634.95	5992.92	148342	11814.8
Repeat: 3	11674.6	6607.98	5978.55	148452	11766.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0523397	328.035	0.173883	0.962311	1.01231
Std Dev:	0.000212107	1.05013	0.00196529	0.00318608	0.00206211
%RSD:	0.405252	0.320127	1.13023	0.331086	0.203702
Repeat: 1	0.0525476	326.847	0.171834	0.958637	1.01004
Repeat: 2	0.0523479	328.421	0.174064	0.964302	1.01407
Repeat: 3	0.0521236	328.838	0.175752	0.963995	1.01283

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.141786	1128.73	0.0484825	0.111681	0.347335
Std Dev:	0.000509247	10.0605	0.000113054	0.000226615	0.00144316
%RSD:	0.359167	0.891311	0.233185	0.202913	0.415494
Repeat: 1	0.141273	1120.88	0.0484163	0.111762	0.346191
Repeat: 2	0.141792	1125.25	0.0484182	0.111855	0.346859
Repeat: 3	0.142292	1140.07	0.048613	0.111425	0.348956
QC Status Pass/Fail:	Pass	Fail	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.981644	122.576	80.2907	2.11107	26.4838
Std Dev:	0.00258378	0.26764	0.331736	0.00636045	0.117554
%RSD:	0.263209	0.218347	0.413169	0.30129	0.443872
Repeat: 1	0.979004	122.268	79.9116	2.10451	26.352
Repeat: 2	0.98176	122.701	80.4328	2.11149	26.5216
Repeat: 3	0.984167	122.758	80.5277	2.11721	26.5778
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.96856	0.517725	367.434	353.768	0.750076
Std Dev:	0.00747402	0.00200754	0.439708	3.30782	0.000771349
%RSD:	0.37967	0.387762	0.11967	0.935027	0.102836
Repeat: 1	1.96002	0.515638	366.966	355.368	0.749408
Repeat: 2	1.9717	0.519643	367.838	349.964	0.75092
Repeat: 3	1.97395	0.517892	367.499	355.971	0.7499
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	6.28749	0.142828	0.12973	0.473353	0.15043
Std Dev:	0.00951213	0.00294895	0.00487886	0.00276386	0.00355396
%RSD:	0.151287	2.06469	3.76079	0.583891	2.36253
Repeat: 1	6.29071	0.144564	0.13165	0.473045	0.147179
Repeat: 2	6.29498	0.144496	0.133356	0.476258	0.149886
Repeat: 3	6.27679	0.139423	0.124183	0.470756	0.154224
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	20.4855	0.481568	2.09299	1.89596	0.346399
Std Dev:	0.0695336	0.00208215	0.00569525	0.00783224	0.0022772
%RSD:	0.339429	0.432368	0.272111	0.413103	0.657391
Repeat: 1	20.4157	0.479878	2.087	1.88698	0.346746
Repeat: 2	20.4859	0.480934	2.09365	1.90138	0.343968
Repeat: 3	20.5548	0.483894	2.09833	1.89951	0.348483
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.500743	0.576636	5602.21	145061	10855.8
Std Dev:	0.00112304	0.000843955	9.55776	88.4387	34.1708
%RSD:	0.224275	0.146358	0.170607	0.0609667	0.314771
Repeat: 1	0.499468	0.575895	5593.65	145136	10887.3
Repeat: 2	0.501175	0.577555	5612.52	144963	10860.5

Repeat: 3	0.501586	0.576459	5600.45	145082	10819.5
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5602.21	145061	10855.8
Std Dev:	9.55776	88.4387	34.1708
%RSD:	0.170607	0.0609667	0.314771
Repeat: 1	5593.65	145136	10887.3
Repeat: 2	5612.52	144963	10860.5
Repeat: 3	5600.45	145082	10819.5

Sample Name	**Acquisition Date**
M89WDD	10/12/2016 3:23:09PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1981.88	148143	353.433	5937.07	70274.6
Std Dev:	6.8576	223.383	0.892394	20.7366	260.781
%RSD:	0.346015	0.150789	0.252493	0.349274	0.371089
Repeat: 1	1974.05	147961	352.461	5913.78	70040.3
Repeat: 2	1984.76	148392	353.622	5953.53	70555.6
Repeat: 3	1986.82	148075	354.215	5943.9	70228.1
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	61600.2	1.27374e+006	1038.77	1241.38	5210.21
Std Dev:	91.1409	15946.9	3.00031	3.4996	10.5397
%RSD:	0.147956	1.25197	0.288834	0.281912	0.202289
Repeat: 1	61498.6	1.26673e+006	1035.3	1238.65	5199.24
Repeat: 2	61674.6	1.29199e+006	1040.37	1240.15	5220.26
Repeat: 3	61627.4	1.2625e+006	1040.63	1245.32	5211.12
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	33765.7	99017.2	41997.3	22981.8	3188.59
Std Dev:	159.145	151.863	170.368	37.263	4.51999
%RSD:	0.471323	0.15337	0.405663	0.162142	0.141755
Repeat: 1	33583	99060.2	41844.2	22940.2	3190.5
Repeat: 2	33839.7	99142.8	42180.8	23012.2	3183.42
Repeat: 3	33874.3	98848.4	41966.9	22993	3191.83
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	105985	1778.45	2745.67	869963	4192.51
Std Dev:	154.275	2.04434	10.6972	5965.54	10.9858
%RSD:	0.145562	0.114951	0.389604	0.685724	0.262034
Repeat: 1	105841	1776.11	2733.46	867765	4179.84
Repeat: 2	106148	1779.37	2753.39	865409	4199.43
Repeat: 3	105967	1779.88	2750.15	876716	4198.25
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1848.7	687.114	813.493	774.266	327.776
Std Dev:	3.10251	0.710436	2.63822	1.97841	0.514174
%RSD:	0.167821	0.103394	0.324308	0.255521	0.156868
Repeat: 1	1845.32	687.139	812.377	771.988	327.186
Repeat: 2	1851.42	686.392	811.596	775.255	328.011
Repeat: 3	1849.38	687.812	816.506	775.555	328.131
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**

Avg. of Repeats:	3241.38	877.902	113473	9537.54	296.5
Std Dev:	5.83232	3.48952	247.29	4.18287	0.499833
%RSD:	0.179933	0.397485	0.21793	0.0438569	0.168578
Repeat: 1	3245.57	874.059	113439	9533.49	296.717
Repeat: 2	3243.87	878.774	113735	9541.84	295.928
Repeat: 3	3234.72	880.873	113244	9537.3	296.854
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	14825.2	7443.22	6405.23	156915	13004.6
Std Dev:	50.9405	10.3436	14.8159	517.783	57.901
%RSD:	0.343609	0.138967	0.23131	0.329977	0.445234
Repeat: 1	14772.4	7431.55	6389.48	156341	12968.7
Repeat: 2	14874.1	7446.86	6407.32	157056	13071.4
Repeat: 3	14829	7451.25	6418.89	157348	12973.7

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0531061	614.849	0.195671	0.956494	1.2972
Std Dev:	0.00033811	2.16583	0.00109641	0.000508139	0.00263456
%RSD:	0.636669	0.352253	0.560337	0.0531251	0.203096
Repeat: 1	0.0527435	615.759	0.195313	0.956422	1.29618
Repeat: 2	0.0534128	612.376	0.194798	0.957034	1.29522
Repeat: 3	0.053162	616.41	0.196901	0.956026	1.30019
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.149277	788.595	0.046757	0.1086	0.318276
Std Dev:	0.000303059	6.09599	7.87128e-005	0.000307413	0.00086163
%RSD:	0.203018	0.773019	0.168344	0.28307	0.270718
Repeat: 1	0.149542	786.445	0.0466662	0.108428	0.31891
Repeat: 2	0.149343	795.474	0.046806	0.108417	0.318624
Repeat: 3	0.148946	783.865	0.0467988	0.108955	0.317295
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.40803	106.076	81.7015	1.854	24.5341
Std Dev:	0.00181441	0.417753	0.126991	0.00572462	0.15735
%RSD:	0.128861	0.393825	0.155433	0.308771	0.641352
Repeat: 1	1.40596	106.421	81.6195	1.85414	24.5964
Repeat: 2	1.40937	105.611	81.6371	1.84821	24.3551
Repeat: 3	1.40876	106.194	81.8478	1.85965	24.6507
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.62148	0.497535	505.197	479.661	0.851558
Std Dev:	0.00423686	0.0012057	1.53239	5.23754	0.000808571
%RSD:	0.261296	0.242335	0.303325	1.09193	0.094952
Repeat: 1	1.6251	0.498226	504.281	479.796	0.851142
Repeat: 2	1.62252	0.498235	504.343	474.357	0.85249
Repeat: 3	1.61682	0.496142	506.966	484.829	0.851042
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm

Avg. of Repeats:	6.18374	0.142353	0.122233	0.472048	0.144146
Std Dev:	0.00980871	0.00125778	0.00293592	0.00157617	0.00227934
%RSD:	0.158621	0.883567	2.40191	0.333899	1.58127
Repeat: 1	6.18307	0.143571	0.122893	0.471099	0.146716
Repeat: 2	6.19387	0.142428	0.119023	0.473868	0.143356
Repeat: 3	6.17428	0.141059	0.124782	0.471178	0.142367
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	20.1781	0.464003	1.89739	2.16719	0.334976
Std Dev:	0.100926	0.000673587	0.00545314	0.00963582	0.00131663
%RSD:	0.500175	0.145169	0.287402	0.444622	0.393053
Repeat: 1	20.2701	0.463274	1.90214	2.17317	0.333637
Repeat: 2	20.0702	0.464603	1.89144	2.15608	0.335021
Repeat: 3	20.194	0.464132	1.89861	2.17234	0.33627
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.620985	0.601234	6033.42	153805	12113.7
Std Dev:	0.00132972	0.000548456	14.0949	513.117	58.9315
%RSD:	0.21413	0.0912218	0.233613	0.333615	0.486488
Repeat: 1	0.620775	0.60183	6018.47	153235	12080.2
Repeat: 2	0.622407	0.601121	6035.34	153949	12181.7
Repeat: 3	0.619773	0.600751	6046.46	154231	12079
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6033.42	153805	12113.7
Std Dev:	14.0949	513.117	58.9315
%RSD:	0.233613	0.333615	0.486488
Repeat: 1	6018.47	153235	12080.2
Repeat: 2	6035.34	153949	12181.7
Repeat: 3	6046.46	154231	12079

Sample Name	**Acquisition Date**
M89WE	10/12/2016 3:28:07PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1169.03	454.051	77.6997	639.932	6022.22
Std Dev:	8.59279	1.69978	0.446482	2.34027	9.0687
%RSD:	0.735035	0.37436	0.574625	0.365705	0.150587
Repeat: 1	1159.11	452.388	77.2074	638.734	6025.53
Repeat: 2	1174.09	455.785	77.8133	642.629	6029.18
Repeat: 3	1173.89	453.979	78.0784	638.434	6011.97
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1018.13	683.131	192.385	279.651	584.232
Std Dev:	5.39977	0.865545	0.66804	0.595092	5.09397
%RSD:	0.530362	0.126703	0.347241	0.212798	0.871908
Repeat: 1	1012.88	683.153	192.256	279.172	578.406
Repeat: 2	1023.67	682.254	193.108	279.465	586.446

Repeat: 3	1017.83	683.985	191.791	280.317	587.845
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1435.63	293.486	5245.37	6122.24	153.941
Std Dev:	0.476398	0.550759	7.4631	12.5513	2.27418
%RSD:	0.033184	0.187661	0.14228	0.205012	1.47731
Repeat: 1	1435.13	292.916	5244.7	6112.21	151.629
Repeat: 2	1436.08	294.015	5238.26	6118.21	156.175
Repeat: 3	1435.68	293.528	5253.14	6136.32	154.019
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	646.141	113.238	922.649	145016	301.623
Std Dev:	5.08343	0.318645	3.58489	566.31	1.02185
%RSD:	0.786737	0.281394	0.388543	0.390516	0.338784
Repeat: 1	640.282	113.557	925.51	144583	302.777
Repeat: 2	648.771	113.237	923.811	145657	300.832
Repeat: 3	649.371	112.92	918.628	144808	301.259
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	85.9827	179.019	210.801	121.59	78.0372
Std Dev:	0.498349	1.35331	0.667231	0.219966	0.687224
%RSD:	0.579593	0.755958	0.316521	0.180908	0.880636
Repeat: 1	85.4907	178.885	210.936	121.494	77.9132
Repeat: 2	85.9702	177.737	211.391	121.434	77.4204
Repeat: 3	86.4872	180.433	210.077	121.842	78.778
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	577.204	93.604	1624.5	351.765	50.6438
Std Dev:	0.679401	0.172184	0.77528	5.01642	0.176299
%RSD:	0.117706	0.183949	0.0477242	1.42607	0.348116
Repeat: 1	576.839	93.5944	1624.45	354.616	50.7857
Repeat: 2	577.988	93.7808	1623.75	345.973	50.6992
Repeat: 3	576.785	93.4368	1625.3	354.707	50.4464
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	2334.2	275.939	6420.82	164502	12594.6
Std Dev:	9.08154	0.567391	38.2119	846.249	64.6067
%RSD:	0.389065	0.205622	0.595125	0.514431	0.512973
Repeat: 1	2324.81	275.656	6382.41	163567	12520.8
Repeat: 2	2334.85	275.569	6421.21	164722	12621.7
Repeat: 3	2342.94	276.592	6458.84	165217	12641.2

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000804641	0.0549885	0.0103615	-0.0692383	0.0692845
Std Dev:	0.000397166	0.0119798	0.000683964	0.000929047	0.000653557
%RSD:	49.3595	21.786	6.60101	1.34181	0.943294
Repeat: 1	-0.00114682	0.0619937	0.00964271	-0.0682343	0.0698831
Repeat: 2	-0.000897986	0.0618159	0.0104375	-0.069413	0.0693833
Repeat: 3	-0.000369116	0.0411558	0.0110043	-0.0700676	0.0685872
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	8.8843e-006	0.0884273	-6.81065e-005	4.3025e-005	0.000978269
Std Dev:	8.37933e-006	0.00148754	1.43956e-005	3.52347e-005	0.000202398
%RSD:	94.3162	1.68222	21.137	81.8936	20.6894
Repeat: 1	1.80924e-005	0.0898522	-5.68689e-005	6.97131e-006	0.000754637

Repeat: 2	1.70708e-006	0.0868842	-6.31176e-005	4.47245e-005	0.00103129
Repeat: 3	6.85341e-006	0.0885455	-8.43329e-005	7.73793e-005	0.00114888
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000791481	0.211301	0.926909	0.121078	0.00777393
Std Dev:	0.000246525	0.000871769	0.0378809	0.000963824	0.0147416
%RSD:	31.1474	0.412572	4.0868	0.796038	189.629
Repeat: 1	0.000991888	0.21098	0.969933	0.121522	-0.0039237
Repeat: 2	0.000866355	0.212288	0.912224	0.121739	0.0243321
Repeat: 3	0.000516199	0.210636	0.898568	0.119972	0.00291344
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00345803	0.00822109	80.9826	80.04	0.000194651
Std Dev:	2.10364e-005	0.000192801	1.27588	0.352946	0.000359306
%RSD:	0.608335	2.3452	1.57549	0.440961	184.59
Repeat: 1	0.00343674	0.00841416	82.1929	80.2718	0.000568798
Repeat: 2	0.0034788	0.00822053	81.1049	80.2144	0.000162856
Repeat: 3	0.00345856	0.00802856	79.65	79.6338	-0.000147701
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.146873	0.00196335	-0.000784975	0.000760496	0.00476303
Std Dev:	0.00198059	0.00144212	0.00100113	0.00068808	0.00257891
%RSD:	1.34851	73.4516	127.536	90.4777	54.1443
Repeat: 1	0.148194	0.00360685	-0.000910377	0.00153873	0.0047048
Repeat: 2	0.147829	0.00137375	0.000272947	0.000232759	0.00221373
Repeat: 3	0.144595	0.00090946	-0.00171749	0.000509998	0.00737056
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.99632	0.0121136	0.000846379	0.00267227	-0.00312213
Std Dev:	0.016426	0.000445408	0.000129445	0.00127772	0.00265857
%RSD:	0.548204	3.67691	15.2939	47.8142	85.1524
Repeat: 1	3.01465	0.0122235	0.000990791	0.00289729	-9.07262e-005
Repeat: 2	2.99139	0.0124939	0.000740783	0.00129698	-0.00421839
Repeat: 3	2.98292	0.0116236	0.000807563	0.00382253	-0.00505727
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0543381	0.00915417	6164.37	161935	11754.3
Std Dev:	0.000384858	5.10309e-005	37.5396	815.776	58.6141
%RSD:	0.708265	0.55746	0.608977	0.503767	0.498661
Repeat: 1	0.0547299	0.00919916	6126.4	161037	11687.1
Repeat: 2	0.0539606	0.00916463	6165.24	162138	11780.7
Repeat: 3	0.0543237	0.00909872	6201.47	162630	11795
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6164.37	161935	11754.3
Std Dev:	37.5396	815.776	58.6141
%RSD:	0.608977	0.503767	0.498661

Repeat: 1	6126.4	161037	11687.1
Repeat: 2	6165.24	162138	11780.7
Repeat: 3	6201.47	162630	11795

Sample Name	**Acquisition Date**
M89WEP	10/12/2016 3:33:09PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1161.49	444.347	71.1996	508.423	3206.6
Std Dev:	8.63199	3.17995	0.277965	4.91942	16.4934
%RSD:	0.743183	0.715645	0.390402	0.967583	0.51436
Repeat: 1	1156.16	446.478	71.2287	504.497	3187.95
Repeat: 2	1156.86	440.692	70.9082	506.831	3219.27
Repeat: 3	1171.45	445.872	71.4619	513.942	3212.56
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1003.88	575.17	190.238	275.905	571.74
Std Dev:	1.44444	0.67108	0.340123	1.47654	5.94502
%RSD:	0.143886	0.116675	0.178788	0.535165	1.03981
Repeat: 1	1003.05	574.621	189.865	274.247	568.459
Repeat: 2	1003.04	575.918	190.531	276.388	568.159
Repeat: 3	1005.55	574.97	190.318	277.079	578.603
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1415.11	141.173	4901.38	5183.53	153.618
Std Dev:	10.8049	1.45696	20.4405	49.6267	1.36771
%RSD:	0.763539	1.03204	0.417036	0.957391	0.890332
Repeat: 1	1404.86	139.864	4879.69	5129.89	152.684
Repeat: 2	1414.09	140.912	4904.18	5192.89	152.983
Repeat: 3	1426.39	142.743	4920.28	5227.81	155.188
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	455.377	93.1829	650.426	33604.4	296.414
Std Dev:	1.86617	0.275527	5.71819	197.85	1.12365
%RSD:	0.409807	0.295684	0.879145	0.588761	0.379082
Repeat: 1	457.376	92.9304	644.653	33822.2	295.942
Repeat: 2	453.68	93.1416	650.539	33555.5	297.696
Repeat: 3	455.077	93.4768	656.088	33435.7	295.602
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	49.7312	174.501	207.795	118.63	75.6628
Std Dev:	0.373938	1.5491	0.752518	0.945334	0.0953404
%RSD:	0.751919	0.887732	0.362145	0.796875	0.126007
Repeat: 1	49.3937	172.946	206.979	117.95	75.6063
Repeat: 2	50.1332	174.511	208.461	119.71	75.6093
Repeat: 3	49.6668	176.044	207.945	118.23	75.7729
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	221.018	77.4281	1576.32	343.574	48.6121
Std Dev:	1.67588	0.376108	15.7031	3.312	0.220249
%RSD:	0.758254	0.485752	0.996187	0.963986	0.453075
Repeat: 1	219.723	77.1722	1558.26	340.632	48.3675
Repeat: 2	220.421	77.8599	1584	342.927	48.7948
Repeat: 3	222.911	77.2521	1586.72	347.161	48.674
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**

Avg. of Repeats:	1334.54	209.062	6588.7	170053	12967.6
Std Dev:	9.88229	0.853182	21.9963	864.615	69.0118
%RSD:	0.740502	0.4081	0.333849	0.508439	0.532185
Repeat: 1	1325.5	208.102	6563.31	169261	13040.7
Repeat: 2	1333.02	209.735	6600.83	170976	12958.7
Repeat: 3	1345.09	209.348	6601.97	169922	12903.5

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000635527	0.0260558	0.00203052	-0.0929229	0.01377
Std Dev:	7.97951e-005	0.0114994	0.000305187	0.000562541	0.000200815
%RSD:	12.5557	44.1337	15.03	0.605385	1.45835
Repeat: 1	-0.000547299	0.0368377	0.00232389	-0.0930229	0.0137717
Repeat: 2	-0.000702643	0.013953	0.00171475	-0.0934287	0.01397
Repeat: 3	-0.00065664	0.0273766	0.00205293	-0.092317	0.0135684
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.37213e-006	0.0192897	-2.05193e-005	-2.3777e-005	0.00050881
Std Dev:	5.15878e-006	0.00183742	5.1608e-005	0.000201062	0.000164882
%RSD:	375.967	9.52539	251.509	845.616	32.4054
Repeat: 1	3.17028e-006	0.0210862	1.45067e-005	-0.000246926	0.000666507
Repeat: 2	-6.98068e-006	0.019369	3.72009e-006	0.00014329	0.000337577
Repeat: 3	-3.06005e-007	0.0174139	-7.97848e-005	3.23049e-005	0.000522345
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	8.88631e-005	0.0421732	0.217262	0.0252367	0.00893072
Std Dev:	0.000105884	0.000197388	0.0248408	0.00201425	0.00198599
%RSD:	119.154	0.468041	11.4336	7.98146	22.2377
Repeat: 1	0.000160958	0.0420536	0.24438	0.0237917	0.0111439
Repeat: 2	0.000138332	0.0420649	0.211798	0.0243808	0.00834425
Repeat: 3	-3.27014e-005	0.042401	0.195608	0.0275375	0.00730402
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000684373	0.00179503	16.9683	15.9261	-0.000108578
Std Dev:	0.00010563	7.3507e-005	0.38072	0.0399239	0.000434762
%RSD:	15.4346	4.09504	2.24371	0.250682	400.415
Repeat: 1	0.000786383	0.00182538	16.529	15.9716	-0.000128484
Repeat: 2	0.000691275	0.0017112	17.2025	15.9095	0.000335795
Repeat: 3	0.000575461	0.00184849	17.1735	15.8971	-0.000533045
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0301829	0.000870671	-0.00134041	0.00057665	0.00271777
Std Dev:	0.000960187	0.00108746	0.00102149	0.00101415	0.00258182
%RSD:	3.18123	124.899	76.2074	175.869	94.9979
Repeat: 1	0.0308124	-9.28644e-005	-0.000165834	-0.000255185	0.00556008
Repeat: 2	0.0290777	0.00204977	-0.0020211	0.00170639	0.00207555
Repeat: 3	0.0306585	0.000655106	-0.0018343	0.000278749	0.000517672
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass

Element/Wavelength	Si2506R	Sn1899A	Sr4215R	Ti3349R	Tl1908A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.57915	0.00268338	0.000257693	0.000131055	-0.002763
Std Dev:	0.0111176	9.63285e-005	8.26377e-005	2.11642e-005	0.000715931
%RSD:	1.91965	3.58982	32.0683	16.1491	25.9113
Repeat: 1	0.574886	0.00257285	0.000162392	0.000124505	-0.00332003
Repeat: 2	0.570795	0.00274944	0.000301183	0.00015472	-0.00195548
Repeat: 3	0.591768	0.00272784	0.000309504	0.00011394	-0.0030135
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0106781	0.00344	6334.68	167499	12137.8
Std Dev:	0.000140073	1.4172e-005	20.8802	862.131	72.8749
%RSD:	1.31177	0.411976	0.329618	0.514708	0.600397
Repeat: 1	0.0105169	0.00345113	6310.57	166727	12214.5
Repeat: 2	0.0107701	0.00344482	6347.04	168429	12129.5
Repeat: 3	0.0107474	0.00342404	6346.42	167341	12069.4
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	6334.68	167499	12137.8
Std Dev:	20.8802	862.131	72.8749
%RSD:	0.329618	0.514708	0.600397
Repeat: 1	6310.57	166727	12214.5
Repeat: 2	6347.04	168429	12129.5
Repeat: 3	6346.42	167341	12069.4

Sample Name	Acquisition Date
CCV	10/12/2016 3:38:11PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	14637.7	6176.47	337.069	11163.2	102565
Std Dev:	78.4708	195.059	0.249341	67.6018	3926.14
%RSD:	0.536085	3.1581	0.0739731	0.605576	3.82796
Repeat: 1	14547.2	5951.27	337.16	11086.2	98033.8
Repeat: 2	14685.4	6285.76	336.787	11190.9	104697
Repeat: 3	14680.6	6292.39	337.26	11212.6	104963
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Avg. of Repeats:	865890	77746.8	6089.94	15552.4	30430.2
Std Dev:	1226.44	2544.62	4.32453	22.6102	78.498
%RSD:	0.141639	3.27296	0.0710111	0.145381	0.257961
Repeat: 1	867281	74819.6	6084.99	15551.2	30349
Repeat: 2	864965	78989	6092.99	15575.6	30505.7
Repeat: 3	865424	79431.6	6091.83	15530.5	30435.8
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Avg. of Repeats:	49093.9	22146.8	26783.5	23827	5923.41
Std Dev:	342.623	744.803	653.245	628.016	176.72
%RSD:	0.697893	3.36302	2.43898	2.63573	2.98342
Repeat: 1	48732.3	21287	26029.4	23102.4	5719.41
Repeat: 2	49413.8	22562.2	27145.9	24165.1	6029.72

Repeat: 3	49135.6	22591.3	27175.2	24213.5	6021.1
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	138042	5999.36	803.703	91419.1	9618.62
Std Dev:	463.747	4.77407	4.22771	2916.53	3.75344
%RSD:	0.335946	0.0795763	0.526029	3.19029	0.0390226
Repeat: 1	137593	5998.95	808.577	88052.3	9622.49
Repeat: 2	138520	6004.33	801.017	93033.8	9614.99
Repeat: 3	138014	5994.81	801.516	93171.2	9618.39
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	630.926	729.093	815.472	443.475	236.258
Std Dev:	1.39145	4.05562	1.03644	0.869436	0.597616
%RSD:	0.220541	0.556255	0.127097	0.196051	0.25295
Repeat: 1	630.211	727.907	815.632	442.471	235.954
Repeat: 2	630.037	725.763	814.366	443.983	235.874
Repeat: 3	632.529	733.61	816.42	443.97	236.947
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	426.5	2858.37	113716	8364.02	429.5
Std Dev:	5.54591	1.06841	4308.02	293.834	0.619108
%RSD:	1.30033	0.0373782	3.78841	3.51307	0.144146
Repeat: 1	420.582	2857.24	108742	8024.79	429.078
Repeat: 2	427.339	2858.5	116278	8528.18	430.211
Repeat: 3	431.578	2859.37	116127	8539.1	429.211
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	46731	23787.3	6445.3	161378	12890.8
Std Dev:	226.28	18.7444	9.28679	4175.22	552.505
%RSD:	0.484219	0.0787999	0.144086	2.58723	4.28604
Repeat: 1	46511.7	23785.2	6437.89	156572	13527.4
Repeat: 2	46963.6	23807	6442.3	164111	12536.5
Repeat: 3	46717.7	23769.7	6455.72	163450	12608.6

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.01765	23.8852	0.506377	1.93946	1.93002
Std Dev:	0.0200238	1.84657	0.000849718	0.0394032	0.156375
%RSD:	1.96766	7.73102	0.167803	2.03166	8.10226
Repeat: 1	1.04076	21.7538	0.507266	1.98455	1.7495
Repeat: 2	1.00565	25.0022	0.506291	1.91165	2.02395
Repeat: 3	1.00653	24.8997	0.505573	1.92217	2.01661
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.08986	48.1784	0.512615	2.04647	2.05257
Std Dev:	0.0591996	3.60286	0.000720941	0.00578137	0.050082
%RSD:	2.83271	7.47815	0.14064	0.282504	2.43996
Repeat: 1	2.15799	44.0182	0.512859	2.0482	2.11039
Repeat: 2	2.05099	50.2578	0.513182	2.05119	2.0225
Repeat: 3	2.0606	50.2593	0.511804	2.04003	2.02483
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.01798	23.8521	48.3919	1.9278	47.2414
Std Dev:	0.0397586	1.80601	3.62702	0.151706	3.42268

%RSD:	1.97022	7.57167	7.4951	7.86938	7.24509
Repeat: 1	2.06384	21.7677	44.206	1.75267	43.295
Repeat: 2	1.99691	24.9488	50.6015	2.0188	49.3996
Repeat: 3	1.99319	24.84	50.3683	2.01194	49.0296
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.05758	2.0465	48.4804	48.3815	2.06984
Std Dev:	0.0491313	0.00403158	2.77226	3.68597	0.00243946
%RSD:	2.38782	0.196998	5.71831	7.61855	0.117857
Repeat: 1	2.11431	2.048	45.4053	44.1279	2.07185
Repeat: 2	2.02874	2.04957	50.7881	50.6377	2.07056
Repeat: 3	2.02969	2.04194	49.2479	50.3788	2.06713
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.03692	0.519936	0.511585	0.510768	0.510616
Std Dev:	0.00357189	0.0127066	0.00120026	0.0022553	0.00215283
%RSD:	0.175357	2.44389	0.234616	0.441551	0.421615
Repeat: 1	2.03504	0.533364	0.512481	0.508634	0.512958
Repeat: 2	2.03468	0.508101	0.512053	0.513128	0.508723
Repeat: 3	2.04104	0.518341	0.510221	0.510542	0.510166
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.87637	2.0584	1.91965	1.92083	1.02421
Std Dev:	0.122429	0.00215383	0.153977	0.15199	0.00293073
%RSD:	6.5248	0.104636	8.02109	7.91276	0.286145
Repeat: 1	1.7363	2.0593	1.74205	1.74541	1.02576
Repeat: 2	1.92984	2.05996	2.01565	2.01342	1.02604
Repeat: 3	1.96297	2.05594	2.00127	2.00365	1.02083
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	2.03476	2.02358	6121.94	158645	12029
Std Dev:	0.0452157	0.00392364	7.8789	4190.27	527.248
%RSD:	2.22216	0.193896	0.128699	2.64128	4.38313
Repeat: 1	2.08695	2.02526	6117.06	153822	12636.5
Repeat: 2	2.01015	2.02639	6117.74	161390	11689.9
Repeat: 3	2.00719	2.0191	6131.03	160724	11760.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6121.94	158645	12029
Std Dev:	7.8789	4190.27	527.248
%RSD:	0.128699	2.64128	4.38313
Repeat: 1	6117.06	153822	12636.5
Repeat: 2	6117.74	161390	11689.9
Repeat: 3	6131.03	160724	11760.8

Sample Name	**Acquisition Date**
CCV	10/12/2016 3:54:45PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	14673.1	6290.26	336.335	11162.5	105389
Std Dev:	69.4103	21.8997	1.51905	47.8896	595.592
%RSD:	0.473044	0.348152	0.451647	0.42902	0.565139
Repeat: 1	14626.6	6309.11	337.493	11130.7	105903
Repeat: 2	14752.9	6295.43	336.896	11217.6	105528
Repeat: 3	14639.9	6266.24	334.615	11139.3	104736
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	865514	79281.6	6099.26	15586.4	30448.9
Std Dev:	3570.25	349.972	9.49102	20.0278	95.7909
%RSD:	0.4125	0.441429	0.155609	0.128495	0.314595
Repeat: 1	861395	79441.7	6095.42	15587.5	30369.9
Repeat: 2	867717	79523	6110.07	15605.9	30555.5
Repeat: 3	867431	78880.3	6092.3	15565.9	30421.4
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	49443	22669.8	27261.5	24134.9	6022.53
Std Dev:	245.674	112.526	82.2418	93.9368	15.8299
%RSD:	0.496884	0.496372	0.301678	0.389216	0.262844
Repeat: 1	49308.9	22774.1	27346.7	24211.6	6040.38
Repeat: 2	49726.6	22684.7	27255	24162.9	6017.01
Repeat: 3	49293.6	22550.5	27182.6	24030.1	6010.19
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	138403	6003.63	806.743	93002.9	9603.75
Std Dev:	344.459	13.4695	4.55874	533.738	12.9453
%RSD:	0.248881	0.224355	0.56508	0.573894	0.134794
Repeat: 1	138121	6005.88	801.519	93485.7	9602.89
Repeat: 2	138787	6015.83	808.797	93093.1	9617.1
Repeat: 3	138302	5989.17	809.914	92429.7	9591.25
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	630.266	731.806	817.349	444.151	235.797
Std Dev:	2.77209	0.165027	0.733261	1.44237	0.516677
%RSD:	0.439829	0.0225506	0.0897121	0.324748	0.219119
Repeat: 1	633.396	731.711	817.531	443.577	235.201
Repeat: 2	629.285	731.711	816.542	445.792	236.117
Repeat: 3	628.118	731.997	817.975	443.084	236.074
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	430.32	2857.25	116527	8571.4	429.813
Std Dev:	3.04948	5.25394	873.95	31.8217	1.26827
%RSD:	0.708654	0.183881	0.749999	0.371254	0.295076
Repeat: 1	426.944	2859.34	117461	8595.29	428.911
Repeat: 2	432.875	2861.14	116391	8583.63	429.265
Repeat: 3	431.141	2851.27	115729	8535.28	431.263
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	46943	23798	6368.08	162503	12490.2
Std Dev:	112.136	26.3324	12.3966	790.179	100.362
%RSD:	0.238876	0.11065	0.194668	0.486255	0.803521
Repeat: 1	46817.8	23819	6381.49	162095	12570.3
Repeat: 2	47034.2	23806.5	6365.72	163414	12522.8
Repeat: 3	46977	23768.4	6357.04	162000	12377.6

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.01324	25.1689	0.510866	1.92602	2.04732
Std Dev:	0.0012153	0.0974262	0.00275803	0.00142233	0.00553652
%RSD:	0.119942	0.387089	0.539874	0.0738482	0.270427
Repeat: 1	1.01184	25.0923	0.512979	1.9244	2.04372
Repeat: 2	1.01404	25.1359	0.511872	1.92709	2.04455
Repeat: 3	1.01384	25.2786	0.507746	1.92655	2.0537
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.07295	50.699	0.51981	2.07678	2.03821
Std Dev:	0.00969094	0.238903	0.00140967	0.00415734	0.00435196
%RSD:	0.467494	0.471219	0.27119	0.200182	0.213519
Repeat: 1	2.06862	50.4533	0.518213	2.07204	2.03761
Repeat: 2	2.06618	50.7133	0.52088	2.0798	2.03419
Repeat: 3	2.08405	50.9304	0.520338	2.07851	2.04283
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.01776	25.1883	51.1064	2.02739	49.5967
Std Dev:	0.00101061	0.0991802	0.184149	0.00417112	0.307776
%RSD:	0.0500859	0.393755	0.360324	0.205739	0.620556
Repeat: 1	2.01659	25.124	51.0438	2.02639	49.4171
Repeat: 2	2.01828	25.1383	50.9617	2.02381	49.421
Repeat: 3	2.0184	25.3025	51.3137	2.03197	49.9521
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.04707	2.07371	51.9159	50.8557	2.09215
Std Dev:	0.00556919	0.00451137	0.879531	0.123314	0.00418802
%RSD:	0.272057	0.21755	1.69415	0.242479	0.200177
Repeat: 1	2.04798	2.06944	50.9099	50.7996	2.0875
Repeat: 2	2.0411	2.07843	52.2981	50.7703	2.09562
Repeat: 3	2.05213	2.07327	52.5397	50.9971	2.09333
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.05828	0.520181	0.519927	0.517203	0.512612
Std Dev:	0.00709378	0.00135294	0.000479706	0.00287368	0.00333628
%RSD:	0.344646	0.260091	0.0922641	0.55562	0.65084
Repeat: 1	2.06628	0.521506	0.519538	0.516524	0.508803
Repeat: 2	2.0558	0.518802	0.519779	0.520356	0.514015
Repeat: 3	2.05276	0.520236	0.520463	0.51473	0.515017
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.96315	2.08359	2.03031	2.03404	1.03528
Std Dev:	0.0336382	0.00307463	0.00702478	0.00951259	0.00393846
%RSD:	1.71348	0.147564	0.345995	0.467671	0.380424
Repeat: 1	1.92509	2.08072	2.03304	2.02524	1.03174

Repeat: 2	1.97543	2.08683	2.02234	2.03273	1.03459
Repeat: 3	1.98891	2.08322	2.03557	2.04413	1.03952
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	2.02891	2.04981	6045.64	159801	11634.2
Std Dev:	0.00791078	0.00271963	13.8851	805.263	99.9404
%RSD:	0.389903	0.132677	0.229671	0.503915	0.859024
Repeat: 1	2.02889	2.04671	6060.11	159385	11714.5
Repeat: 2	2.02101	2.0509	6044.37	160730	11665.8
Repeat: 3	2.03683	2.05182	6032.43	159290	11522.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6045.64	159801	11634.2
Std Dev:	13.8851	805.263	99.9404
%RSD:	0.229671	0.503915	0.859024
Repeat: 1	6060.11	159385	11714.5
Repeat: 2	6044.37	160730	11665.8
Repeat: 3	6032.43	159290	11522.3

Sample Name	**Acquisition Date**
CCB	10/12/2016 3:59:36PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1203.97	452.746	71.3886	507.904	2560.38
Std Dev:	7.46962	2.55914	0.66461	0.918501	7.78194
%RSD:	0.620418	0.565249	0.930975	0.180841	0.303937
Repeat: 1	1207.42	452.448	71.7351	508.925	2563.39
Repeat: 2	1195.39	450.349	70.6223	507.144	2551.55
Repeat: 3	1209.08	455.441	71.8084	507.644	2566.21
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1031.1	553.379	197.795	288.042	590.182
Std Dev:	5.81839	3.26645	0.846215	1.23563	4.02962
%RSD:	0.564288	0.590273	0.427826	0.428976	0.682777
Repeat: 1	1032.61	551.149	197.795	288.859	594.136
Repeat: 2	1024.68	557.129	196.948	286.62	586.081
Repeat: 3	1036.02	551.86	198.641	288.646	590.328
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1453.81	105.351	4918.31	5066.51	155.505
Std Dev:	7.91493	1.95454	14.5183	12.7789	1.87541
%RSD:	0.544426	1.85527	0.295188	0.252222	1.20601
Repeat: 1	1462.31	107.542	4932.32	5062.69	156.543
Repeat: 2	1446.64	103.789	4919.29	5056.08	153.34
Repeat: 3	1452.49	104.721	4903.33	5080.77	156.631
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	422.512	91.9021	595.081	5142.84	307.687
Std Dev:	3.69542	0.921567	1.36817	15.7178	0.642752
%RSD:	0.874631	1.00277	0.229913	0.305624	0.208898
Repeat: 1	425.708	91.831	595.654	5155.84	307.816

Repeat: 2	418.465	91.0181	593.519	5147.31	306.99
Repeat: 3	423.361	92.8571	596.069	5125.38	308.256
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.007	180.319	215.481	122.297	76.7568
Std Dev:	0.263537	0.683157	1.27077	0.123822	0.58999
%RSD:	0.642663	0.37886	0.589736	0.101247	0.768648
Repeat: 1	40.8515	179.597	216.518	122.355	76.8324
Repeat: 2	40.8582	180.406	214.064	122.155	76.1327
Repeat: 3	41.3113	180.955	215.863	122.381	77.3054
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	133.047	74.8534	1610.28	349.193	49.8778
Std Dev:	0.980878	0.468934	5.05755	1.4743	0.0742969
%RSD:	0.737241	0.626469	0.314079	0.422203	0.148958
Repeat: 1	133.467	75.0067	1604.45	349.6	49.9334
Repeat: 2	133.749	75.2265	1612.91	347.557	49.9067
Repeat: 3	131.926	74.327	1613.47	350.42	49.7934
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1123.42	173.454	6528.02	166568	12548.8
Std Dev:	4.44424	0.425814	32.4624	802.036	20.7051
%RSD:	0.395601	0.245491	0.497278	0.481508	0.164996
Repeat: 1	1128.34	173.601	6500.19	165684	12530.2
Repeat: 2	1119.7	172.974	6520.19	166768	12571.1
Repeat: 3	1122.2	173.787	6563.68	167250	12545.2

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000294191	0.00279457	0.000165708	-0.0952815	0.000220241
Std Dev:	0.000683088	0.00883509	0.00093837	0.000218495	8.97012e-005
%RSD:	232.191	316.152	566.279	0.229315	40.7286
Repeat: 1	0.000129233	0.00486792	0.000112588	-0.0953004	0.000258842
Repeat: 2	-0.00108222	-0.00689281	-0.000744973	-0.0950542	0.000117701
Repeat: 3	7.04143e-005	0.0104086	0.00112951	-0.0954899	0.00028418
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-3.33686e-006	-2.19722e-005	-3.13546e-005	0.000247183	0.000148338
Std Dev:	1.73367e-005	0.00188162	8.24749e-005	0.000194659	0.000100399
%RSD:	519.552	8563.66	263.039	78.7508	67.6828
Repeat: 1	-2.20525e-005	-0.00031304	-0.000113865	0.000207342	0.000251503
Repeat: 2	1.21737e-005	0.00198822	-3.12836e-005	7.55277e-005	0.000142557
Repeat: 3	-1.31805e-007	-0.0017411	5.10847e-005	0.00045868	5.09542e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-8.90341e-005	0.000319505	0.0146503	0.000149248	-0.0117549
Std Dev:	2.9481e-005	0.00230888	0.0416862	0.000796122	0.0248192
%RSD:	33.112	722.644	284.542	533.423	211.14
Repeat: 1	-0.000112653	0.00264573	0.0497009	0.000559069	0.0166966
Repeat: 2	-5.59941e-005	-0.00197164	0.0256965	-0.000768295	-0.0289599
Repeat: 3	-9.84552e-005	0.000284424	-0.0314465	0.000656969	-0.0230013
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.73812e-005	0.000469433	0.911659	0.102773	-1.24384e-006
Std Dev:	1.31568e-005	0.000301113	0.531006	0.0148128	0.000263145
%RSD:	48.0506	64.1439	58.2462	14.4131	21155.8
Repeat: 1	2.98106e-005	0.0003103	1.16993	0.113093	-0.000148969
Repeat: 2	1.3179e-005	0.000281276	0.300922	0.109425	0.000302571
Repeat: 3	3.9154e-005	0.000816724	1.26412	0.0857998	-0.000157333
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000389597	0.000659776	-0.00133935	-0.000998196	0.000792846
Std Dev:	0.00105665	0.00287333	0.0013977	0.000342933	0.00288948
%RSD:	271.215	435.5	104.357	34.3552	364.445
Repeat: 1	-0.00158814	-0.0026022	-0.000790957	-0.00136113	-0.000540627
Repeat: 2	1.18955e-005	0.0028158	-0.00292809	-0.000679569	-0.0011891
Repeat: 3	0.000407457	0.00176573	-0.000299008	-0.000953892	0.00410826
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.014942	0.000111338	4.97552e-005	-0.000731192	-0.00215031
Std Dev:	0.020129	0.000297831	4.46068e-005	0.000629856	0.00113347
%RSD:	134.715	267.503	89.6525	86.141	52.7119
Repeat: 1	-0.00760428	0.000208072	9.59238e-005	-4.25795e-005	-0.00323875
Repeat: 2	0.000488875	0.000348777	6.89446e-006	-0.000872819	-0.00223556
Repeat: 3	-0.0377105	-0.000222836	4.64472e-005	-0.00127818	-0.000976624
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-0.000132277	5.26777e-005	6264.88	163921	11688.4
Std Dev:	0.00018461	1.54562e-005	32.2802	811.359	30.5285
%RSD:	139.564	29.3411	0.515256	0.494969	0.261187
Repeat: 1	-0.000345187	3.49494e-005	6236.74	163021	11671.3
Repeat: 2	-3.49224e-005	6.3324e-005	6257.79	164146	11723.6
Repeat: 3	-1.67205e-005	5.97597e-005	6300.12	164596	11670.2
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6264.88	163921	11688.4
Std Dev:	32.2802	811.359	30.5285
%RSD:	0.515256	0.494969	0.261187
Repeat: 1	6236.74	163021	11671.3
Repeat: 2	6257.79	164146	11723.6
Repeat: 3	6300.12	164596	11670.2

Sample Name	**Acquisition Date**
M89WES	10/12/2016 4:04:38PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1869.36	919.815	133.798	5931.88	11123.2
Std Dev:	2.93584	1.32601	0.855823	6.86658	27.3837

%RSD:	0.157051	0.14416	0.639637	0.115757	0.246185
Repeat: 1	1872.68	918.547	133.027	5925.95	11139.5
Repeat: 2	1867.1	919.705	133.649	5930.29	11091.6
Repeat: 3	1868.3	921.192	134.719	5939.41	11138.6
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	22805.7	80279.5	788.318	1060.57	3619.05
Std Dev:	59.0202	397.867	2.58385	3.61048	7.57149
%RSD:	0.258796	0.495601	0.327768	0.340429	0.209212
Repeat: 1	22782.5	80421.7	785.412	1056.55	3624.83
Repeat: 2	22872.8	79830.1	790.355	1061.62	3621.84
Repeat: 3	22761.8	80586.7	789.189	1063.54	3610.47
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7640.84	1209.21	28037.7	7008.45	1337.64
Std Dev:	18.1124	6.8743	98.7153	29.029	2.35875
%RSD:	0.237047	0.568497	0.35208	0.414201	0.176337
Repeat: 1	7623.53	1212.72	28022.9	6976.19	1338.74
Repeat: 2	7659.66	1201.29	27947.3	7032.48	1334.93
Repeat: 3	7639.33	1213.62	28143	7016.67	1339.24
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	7685.21	1672.02	1118.71	230766	2636.37
Std Dev:	4.62717	9.38985	1.1488	1181.41	11.0021
%RSD:	0.0602088	0.561588	0.10269	0.511949	0.417321
Repeat: 1	7684.74	1664.66	1117.39	231214	2625.14
Repeat: 2	7680.84	1668.8	1119.5	229427	2636.84
Repeat: 3	7690.05	1682.59	1119.24	231659	2647.13
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1554.71	286.085	334.358	403.347	127.475
Std Dev:	7.82423	1.38919	1.79227	1.56003	1.17642
%RSD:	0.50326	0.485587	0.536033	0.38677	0.922863
Repeat: 1	1546.05	286.948	334.21	401.679	126.126
Repeat: 2	1556.81	284.483	332.645	403.593	128.016
Repeat: 3	1561.27	286.825	336.22	404.77	128.284
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	1062.58	800.759	30556	774.508	202.363
Std Dev:	5.9716	3.20719	192.187	2.29483	1.02144
%RSD:	0.561989	0.400518	0.628967	0.296295	0.504758
Repeat: 1	1066.08	798.648	30639.4	774.406	201.286
Repeat: 2	1055.69	799.18	30336.2	772.265	202.486
Repeat: 3	1065.98	804.45	30692.4	776.852	203.317
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6995.55	6308.07	6330.2	164615	12617.4
Std Dev:	15.0605	26.2087	24.1073	417.887	53.8057
%RSD:	0.215287	0.415478	0.380831	0.253858	0.426441
Repeat: 1	6978.88	6282.41	6307.53	164231	12639.8
Repeat: 2	7008.17	6307.01	6327.54	165060	12556
Repeat: 3	6999.6	6334.8	6355.52	164554	12656.3

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0506049	2.04826	0.113738	0.922749	0.170325
Std Dev:	0.00039003	0.0163283	0.00132954	0.0028397	0.000463634
%RSD:	0.770736	0.797179	1.16895	0.307743	0.272205

Repeat: 1	0.0503616	2.03145	0.112728	0.923543	0.170769
Repeat: 2	0.0503984	2.06405	0.113243	0.919597	0.170364
Repeat: 3	0.0510548	2.04927	0.115244	0.925108	0.169844
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0512902	50.6889	0.0517518	0.104512	0.204989
Std Dev:	7.28175e-005	0.0282149	0.000136319	0.000143593	0.000981474
%RSD:	0.141971	0.0556629	0.26341	0.137393	0.478794
Repeat: 1	0.0513322	50.7181	0.0517456	0.104362	0.206096
Repeat: 2	0.0513322	50.6618	0.0518911	0.104648	0.204226
Repeat: 3	0.0512061	50.6867	0.0516187	0.104527	0.204644
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.257518	1.21805	52.3403	0.22016	9.89071
Std Dev:	0.000178613	0.00340943	0.0188926	0.000949384	0.0283307
%RSD:	0.0693594	0.27991	0.0360958	0.431225	0.286437
Repeat: 1	0.257335	1.22177	52.3374	0.219171	9.90791
Repeat: 2	0.257692	1.21509	52.323	0.221064	9.9062
Repeat: 3	0.257527	1.21728	52.3605	0.220244	9.85801
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.106105	0.552891	130.059	128.665	0.524827
Std Dev:	0.000233387	0.00115771	0.609832	0.0935546	0.00065632
%RSD:	0.219958	0.209392	0.46889	0.0727117	0.125054
Repeat: 1	0.106282	0.552186	130.723	128.751	0.524125
Repeat: 2	0.10584	0.55226	129.927	128.566	0.525425
Repeat: 3	0.106192	0.554227	129.525	128.679	0.524932
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.36143	0.101977	0.104293	0.525479	0.1649
Std Dev:	0.0131688	0.00286423	0.00173622	0.000702895	0.00401527
%RSD:	0.24562	2.8087	1.66475	0.133763	2.43498
Repeat: 1	5.34672	0.101005	0.104851	0.524732	0.160264
Repeat: 2	5.37212	0.0997255	0.102347	0.526127	0.167159
Repeat: 3	5.36546	0.105201	0.105683	0.525579	0.167276
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	6.24245	0.540107	0.505569	0.104281	0.419886
Std Dev:	0.0138539	0.00102484	0.00116804	0.000324135	0.00156954
%RSD:	0.221931	0.189747	0.231035	0.310829	0.373801
Repeat: 1	6.25794	0.540529	0.506454	0.104497	0.418075
Repeat: 2	6.23123	0.538938	0.504245	0.104438	0.420853
Repeat: 3	6.23819	0.540853	0.506009	0.103908	0.42073
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.257401	0.532297	6060.32	162010	11787.1
Std Dev:	0.000508132	0.000290955	23.0472	417.62	55.7134

%RSD:	0.197408	0.0546604	0.380296	0.257774	0.472666
Repeat: 1	0.256955	0.531971	6039.38	161622	11803.5
Repeat: 2	0.257296	0.532532	6056.58	162452	11725
Repeat: 3	0.257954	0.532386	6085.01	161955	11832.7
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6060.32	162010	11787.1
Std Dev:	23.0472	417.62	55.7134
%RSD:	0.380296	0.257774	0.472666
Repeat: 1	6039.38	161622	11803.5
Repeat: 2	6056.58	162452	11725
Repeat: 3	6085.01	161955	11832.7

Sample Name	**Acquisition Date**
M89WED	10/12/2016 4:09:26PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1876.99	924.436	133.436	5951.6	11332.2
Std Dev:	11.8074	2.34046	0.64845	34.5174	41.2794
%RSD:	0.629058	0.253177	0.485965	0.579969	0.364267
Repeat: 1	1864.16	924.087	132.812	5918.53	11327.5
Repeat: 2	1879.42	922.29	133.389	5948.87	11293.5
Repeat: 3	1887.4	926.932	134.106	5987.4	11375.6
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	22848.7	78843.8	791.515	1063.97	3635.68
Std Dev:	91.3622	324.918	2.63126	2.83499	25.288
%RSD:	0.399857	0.412103	0.332433	0.266453	0.695551
Repeat: 1	22774.1	78716.4	788.599	1060.72	3617.75
Repeat: 2	22821.4	78602	792.234	1065.27	3624.68
Repeat: 3	22950.6	79213.2	793.712	1065.93	3664.6
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7688.41	1204.8	27590.6	7085.85	1318.73
Std Dev:	41.0132	3.34894	50.2856	25.2566	8.05504
%RSD:	0.533442	0.277967	0.182256	0.356437	0.61082
Repeat: 1	7641.82	1204.28	27577.7	7059.94	1315.68
Repeat: 2	7704.36	1201.74	27548	7087.19	1312.64
Repeat: 3	7719.05	1208.37	27646	7110.4	1327.86
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	7674.84	1680.8	1137.89	236274	2645.95
Std Dev:	32.6178	3.0178	9.13456	606.31	6.50092
%RSD:	0.424996	0.179545	0.802766	0.256614	0.245693
Repeat: 1	7645.65	1679.54	1132.61	235837	2640.63
Repeat: 2	7668.81	1678.62	1132.61	236018	2644.03
Repeat: 3	7710.05	1684.25	1148.43	236966	2653.2
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1565.58	287.642	334.036	404.304	127.751
Std Dev:	4.13735	2.4913	0.921645	0.893818	0.449553
%RSD:	0.26427	0.866111	0.275912	0.221076	0.351899
Repeat: 1	1562.85	285.928	334.021	403.39	127.238

Repeat: 2	1563.54	286.499	333.122	404.346	128.076
Repeat: 3	1570.34	290.5	334.965	405.176	127.938
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	1087.64	805.179	30746.9	777.467	202.696
Std Dev:	5.32614	2.1122	95.0753	3.5187	0.99136
%RSD:	0.489696	0.262327	0.309219	0.452584	0.489087
Repeat: 1	1082.95	803.583	30665	773.957	201.572
Repeat: 2	1093.43	804.379	30724.5	777.451	203.073
Repeat: 3	1086.54	807.574	30851.2	780.994	203.444
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	7083.97	6342.64	6326.3	164811	12657
Std Dev:	18.4584	24.5707	13.2433	692.638	19.8204
%RSD:	0.260565	0.387389	0.209337	0.420262	0.156597
Repeat: 1	7069.16	6321.37	6320.79	164013	12643.2
Repeat: 2	7078.09	6337.02	6316.7	165258	12647.9
Repeat: 3	7104.65	6369.54	6341.41	165162	12679.7

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0511873	2.06161	0.112422	0.924974	0.173709
Std Dev:	0.000630215	0.0223806	0.00068668	0.00394196	0.000486379
%RSD:	1.23119	1.08559	0.610803	0.42617	0.279996
Repeat: 1	0.0506459	2.08397	0.111899	0.923141	0.173993
Repeat: 2	0.0518791	2.03921	0.112169	0.922283	0.173148
Repeat: 3	0.0510368	2.06166	0.1132	0.929499	0.173987
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0513441	49.6008	0.0521025	0.105052	0.205782
Std Dev:	0.000165123	0.123237	0.000174219	0.000347487	0.0011636
%RSD:	0.3216	0.248458	0.334376	0.330777	0.56545
Repeat: 1	0.0514379	49.5999	0.0519198	0.104745	0.205507
Repeat: 2	0.0511534	49.4779	0.0522668	0.105429	0.204781
Repeat: 3	0.0514409	49.7244	0.052121	0.104982	0.207059
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.259198	1.20952	51.1697	0.227151	9.70896
Std Dev:	0.000568913	0.00218636	0.106156	0.000947345	0.0495372
%RSD:	0.21949	0.180762	0.207458	0.417056	0.510221
Repeat: 1	0.258594	1.21133	51.2789	0.226607	9.7058
Repeat: 2	0.259724	1.20709	51.0668	0.226601	9.66107
Repeat: 3	0.259275	1.21015	51.1635	0.228244	9.76
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.105803	0.556479	133.873	131.338	0.527582
Std Dev:	0.000378732	0.000251062	2.2234	0.102234	0.000678871
%RSD:	0.35796	0.0451162	1.66082	0.0778401	0.128676
Repeat: 1	0.105947	0.556309	132.902	131.293	0.526917
Repeat: 2	0.105373	0.556767	132.301	131.267	0.528274
Repeat: 3	0.106088	0.556361	136.417	131.455	0.527556

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.40103	0.102815	0.103883	0.527287	0.166566
Std Dev:	0.00633562	0.00164291	0.000538605	0.00112615	0.00118967
%RSD:	0.117304	1.59792	0.518472	0.213574	0.714236
Repeat: 1	5.39376	0.10375	0.104465	0.525995	0.165198
Repeat: 2	5.40392	0.100918	0.103402	0.527805	0.167136
Repeat: 3	5.40539	0.103778	0.103782	0.528061	0.167363
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	6.38714	0.543898	0.507139	0.104947	0.418788
Std Dev:	0.0306664	0.00068626	0.000624535	0.00095266	0.00302633
%RSD:	0.480127	0.126174	0.123149	0.907753	0.72264
Repeat: 1	6.36639	0.543129	0.506646	0.104004	0.415492
Repeat: 2	6.42236	0.544446	0.50693	0.104928	0.421442
Repeat: 3	6.37266	0.54412	0.507841	0.105909	0.419429
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.260862	0.535643	6056.54	162209	11828.6
Std Dev:	0.00061208	0.00124085	13.9561	680.404	23.6155
%RSD:	0.234637	0.231656	0.23043	0.419461	0.199647
Repeat: 1	0.26156	0.534237	6052.44	161429	11809.1
Repeat: 2	0.260418	0.536103	6045.08	162677	11821.9
Repeat: 3	0.260607	0.536587	6072.08	162522	11854.9
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6056.54	162209	11828.6
Std Dev:	13.9561	680.404	23.6155
%RSD:	0.23043	0.419461	0.199647
Repeat: 1	6052.44	161429	11809.1
Repeat: 2	6045.08	162677	11821.9
Repeat: 3	6072.08	162522	11854.9

Sample Name	**Acquisition Date**
M89W1	10/12/2016 4:14:14PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1154.64	450.499	93.063	1009.89	2537.82
Std Dev:	2.2867	2.67281	0.162243	3.73136	8.73296
%RSD:	0.198045	0.593299	0.174337	0.369483	0.344112
Repeat: 1	1157.04	447.505	92.9751	1005.95	2546.61
Repeat: 2	1152.48	451.347	92.9638	1013.37	2529.14
Repeat: 3	1154.39	452.645	93.2503	1010.35	2537.72
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1022.95	754.491	191.48	282.049	585.993
Std Dev:	7.39648	1.47269	0.680196	1.28857	4.85863

%RSD:	0.723055	0.19519	0.355231	0.456862	0.829129
Repeat: 1	1027.54	756.188	191.051	281.496	582.367
Repeat: 2	1014.42	753.543	191.125	281.13	584.098
Repeat: 3	1026.89	753.743	192.264	283.522	591.513
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1413.91	187.059	5390.98	10532.3	151.963
Std Dev:	7.90138	1.87397	9.25139	8.46084	0.762238
%RSD:	0.558831	1.00181	0.171608	0.0803321	0.501595
Repeat: 1	1411.34	188.872	5401.65	10528.9	152.794
Repeat: 2	1407.62	185.13	5386.23	10542	151.796
Repeat: 3	1422.78	187.176	5385.08	10526.1	151.297
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	432.006	189.079	2108.9	622812	301.821
Std Dev:	0.990955	0.378578	8.99344	9271.07	1.06444
%RSD:	0.229385	0.200222	0.426452	1.48858	0.352673
Repeat: 1	430.928	189.513	2098.6	613646	301.305
Repeat: 2	432.213	188.913	2112.87	622606	301.113
Repeat: 3	432.877	188.813	2115.22	632185	303.045
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	152.947	176.447	210.63	120.602	77.5082
Std Dev:	0.234151	2.44711	0.487389	0.419512	0.319978
%RSD:	0.153093	1.38688	0.231396	0.347847	0.412831
Repeat: 1	152.683	177.629	210.092	120.455	77.1741
Repeat: 2	153.025	173.633	210.754	120.276	77.5386
Repeat: 3	153.132	178.079	211.043	121.075	77.8118
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	520.193	90.3628	1632.85	342.848	50.2819
Std Dev:	2.04915	0.33116	13.1889	2.84489	0.252833
%RSD:	0.393921	0.366478	0.807722	0.829784	0.50283
Repeat: 1	520.06	90.6046	1645.66	345.16	50.5726
Repeat: 2	522.305	90.4984	1619.31	339.671	50.1599
Repeat: 3	518.214	89.9853	1633.58	343.713	50.1133
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6601.55	177.881	6409.83	165538	12854.8
Std Dev:	27.7006	0.483077	13.6614	1319.6	83.906
%RSD:	0.419607	0.271573	0.213132	0.797156	0.65272
Repeat: 1	6570.82	177.88	6400.03	164147	12764.3
Repeat: 2	6609.24	177.399	6404.03	166772	12929.9
Repeat: 3	6624.6	178.365	6425.44	165695	12870.3

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00051269	0.0552628	0.0429883	0.00102851	0.00129232
Std Dev:	0.000535573	0.0179435	0.0005568	0.00071218	0.000142758
%RSD:	104.463	32.4694	1.29524	69.2442	11.0466
Repeat: 1	-0.000281639	0.0351622	0.0423689	0.00145824	0.00145716
Repeat: 2	-0.000131427	0.0609605	0.0431485	0.000206434	0.00121089
Repeat: 3	-0.001125	0.0696657	0.0434474	0.00142084	0.00120892
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-2.81523e-005	0.133192	-7.80908e-005	0.000241378	0.00147063

Std Dev:	1.49381e-005	0.00143931	6.39348e-005	0.000155486	0.000431668
%RSD:	53.0618	1.08063	81.8723	64.416	29.3525
Repeat: 1	-1.88323e-005	0.134261	-0.000139449	8.87678e-005	0.000996551
Repeat: 2	-4.53821e-005	0.133761	-8.29656e-005	0.000235777	0.00184099
Repeat: 3	-2.02424e-005	0.131556	-1.18582e-005	0.000399588	0.00157436
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000320775	0.0913308	1.34003	0.571735	-0.00843981
Std Dev:	0.000172162	0.00248146	0.00591789	0.00305829	0.0122308
%RSD:	53.6706	2.717	0.441624	0.534914	144.918
Repeat: 1	0.000449189	0.0933098	1.33602	0.575266	-0.0155021
Repeat: 2	0.00038799	0.0885468	1.34683	0.57	0.00568313
Repeat: 3	0.000125145	0.0921358	1.33724	0.569937	-0.0155004
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000356506	0.0344963	360.869	345.059	7.56099e-005
Std Dev:	1.2498e-005	0.000233585	1.0216	4.25081	0.000253178
%RSD:	3.50568	0.67713	0.283095	1.23191	334.847
Repeat: 1	0.000370806	0.0347046	361.024	342.346	-0.000135843
Repeat: 2	0.000351037	0.0345404	359.779	342.873	6.50856e-006
Repeat: 3	0.000347675	0.0342438	361.805	349.958	0.000356164
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.389561	0.000627838	0.000434638	0.00250166	0.00557825
Std Dev:	0.000906508	0.00270129	0.001355	0.00212003	0.00244008
%RSD:	0.2327	430.253	311.754	84.745	43.7427
Repeat: 1	0.388912	0.00184461	0.00194489	0.000817379	0.00296558
Repeat: 2	0.390597	-0.00246783	-0.000674577	0.00180531	0.0059711
Repeat: 3	0.389175	0.00250674	3.35999e-005	0.00488228	0.00779806
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.55775	0.0107915	0.00126427	0.000974487	-0.00116418
Std Dev:	0.00880688	0.000149012	0.000159564	0.000526117	0.000660935
%RSD:	0.344321	1.38083	12.6211	53.9891	56.7728
Repeat: 1	2.5663	0.0107127	0.00144057	0.00155686	-0.00130548
Repeat: 2	2.55825	0.0109633	0.00112977	0.000533541	-0.000444015
Repeat: 3	2.5487	0.0106984	0.00122246	0.000833057	-0.00174303
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.239595	0.000634284	6153.46	163011	12027.2
Std Dev:	0.00104729	6.45896e-005	13.1376	1332.59	79.4775
%RSD:	0.437109	10.1831	0.213499	0.817479	0.660816
Repeat: 1	0.240187	0.000568687	6143.63	161601	11942.1
Repeat: 2	0.238385	0.000697817	6148.36	164249	12099.6
Repeat: 3	0.240211	0.000636347	6168.38	163185	12039.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**

Avg. of Repeats:	6153.46	163011	12027.2
Std Dev:	13.1376	1332.59	79.4775
%RSD:	0.213499	0.817479	0.660816
Repeat: 1	6143.63	161601	11942.1
Repeat: 2	6148.36	164249	12099.6
Repeat: 3	6168.38	163185	12039.8

Sample Name	**Acquisition Date**
M89W3	10/12/2016 4:19:25PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1364.65	74933.1	260.57	1131.38	51265.8
Std Dev:	9.85202	126.333	0.457834	6.62654	141.837
%RSD:	0.721944	0.168594	0.175705	0.585703	0.27667
Repeat: 1	1355.42	74787.5	260.041	1123.87	51102.2
Repeat: 2	1363.5	74998.4	260.817	1133.85	51342.1
Repeat: 3	1375.02	75013.5	260.85	1136.42	51353.2
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	44369.1	2.10149e+006	471.157	565.341	2920.97
Std Dev:	158.086	11454.5	0.665271	0.405763	16.4828
%RSD:	0.356297	0.545068	0.141199	0.071773	0.564292
Repeat: 1	44190.4	2.0887e+006	470.529	564.899	2903.43
Repeat: 2	44425.9	2.1108e+006	471.088	565.429	2923.35
Repeat: 3	44490.9	2.10496e+006	471.854	565.696	2936.14
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	18248.8	80093.9	18490.4	20174.5	2882.2
Std Dev:	33.4349	112.326	69.1802	19.7036	6.93765
%RSD:	0.183217	0.140242	0.37414	0.0976659	0.240706
Repeat: 1	18210.4	79964.6	18411.2	20155.9	2875.02
Repeat: 2	18264	80167.4	18538.6	20172.4	2882.71
Repeat: 3	18271.9	80149.7	18521.6	20195.2	2888.87
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	135127	347.11	2217.83	662860	1472.57
Std Dev:	535.007	0.169526	8.58201	8117.98	3.36584
%RSD:	0.395929	0.0488393	0.386955	1.22469	0.228569
Repeat: 1	134509	347.208	2213.07	661546	1469.4
Repeat: 2	135418	346.914	2227.74	655479	1472.21
Repeat: 3	135453	347.207	2212.69	671554	1476.1
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	522.672	467.048	575.866	369.213	211.496
Std Dev:	2.18939	3.95737	2.07183	0.522927	0.947459
%RSD:	0.418884	0.847314	0.359777	0.141633	0.44798
Repeat: 1	521.435	462.793	576.359	369.063	210.954
Repeat: 2	521.381	467.734	573.591	369.795	210.944
Repeat: 3	525.2	470.618	577.646	368.782	212.59
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	2195.11	218.942	141530	9766.04	139.45
Std Dev:	8.38157	0.762646	320.835	15.9713	0.245475
%RSD:	0.381829	0.348332	0.226691	0.163539	0.17603
Repeat: 1	2186.76	218.09	141168	9768.57	139.212

Repeat: 2	2195.05	219.561	141643	9780.59	139.703
Repeat: 3	2203.53	219.175	141779	9748.95	139.436
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	7015.87	1822.81	6125.83	156486	12631
Std Dev:	39.615	4.6525	13.8643	381.777	20.868
%RSD:	0.564649	0.255237	0.226325	0.243968	0.165212
Repeat: 1	6973.64	1817.91	6113.92	156046	12625.7
Repeat: 2	7021.74	1823.37	6122.52	156683	12613.3
Repeat: 3	7052.22	1827.17	6141.05	156730	12654

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-6.65898e-005	320.759	0.125428	0.00864321	0.966344
Std Dev:	0.000193582	0.738225	0.00229882	0.000696735	0.00262697
%RSD:	290.709	0.230149	1.83278	8.06107	0.271846
Repeat: 1	-0.000119704	320.551	0.124298	0.00808295	0.964255
Repeat: 2	-0.000228071	321.579	0.128073	0.00942336	0.969293
Repeat: 3	0.000148006	320.148	0.123912	0.00842333	0.965485
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.106401	1344.48	0.00341224	0.0184795	0.155375
Std Dev:	0.000118204	7.57864	2.88962e-005	0.000126451	0.000461863
%RSD:	0.111092	0.563684	0.846839	0.68428	0.297257
Repeat: 1	0.106278	1337.85	0.00340249	0.0183335	0.155002
Repeat: 2	0.106412	1352.74	0.00338949	0.0185565	0.155232
Repeat: 3	0.106513	1342.86	0.00344476	0.0185484	0.155892
QC Status Pass/Fail:	Pass	Fail	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.729627	88.7332	31.3875	1.62335	22.7953
Std Dev:	0.000879327	0.21814	0.122287	0.00191527	0.0520422
%RSD:	0.120517	0.245837	0.389605	0.117983	0.228303
Repeat: 1	0.730514	88.6933	31.2549	1.62323	22.7352
Repeat: 2	0.728755	88.9686	31.4959	1.62532	22.8279
Repeat: 3	0.729612	88.5378	31.4115	1.6215	22.8227
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.08342	0.0315841	392.796	377.522	0.244958
Std Dev:	0.00279446	0.000288619	1.55209	3.79132	0.000330469
%RSD:	0.134128	0.91381	0.39514	1.00427	0.134908
Repeat: 1	2.0802	0.0317641	392.441	377.216	0.244765
Repeat: 2	2.08491	0.0317371	394.495	373.893	0.24477
Repeat: 3	2.08516	0.0312512	391.452	381.457	0.24534
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.58048	0.0735073	0.0584814	0.0100317	0.00398137
Std Dev:	0.00335254	0.00152098	0.000564217	0.00383995	0.00192939
%RSD:	0.212121	2.06916	0.964781	38.2781	48.4606
Repeat: 1	1.58054	0.0723839	0.0590982	0.0131678	0.00262306

Repeat: 2	1.5771	0.0728998	0.0579913	0.0111782	0.0031312
Repeat: 3	1.58381	0.0752381	0.0583547	0.0057491	0.00618984
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	13.8327	0.017271	2.45418	2.28489	-0.00573218
Std Dev:	0.0264676	0.000490848	0.00542345	0.00977441	0.00117941
%RSD:	0.191341	2.84205	0.220988	0.427785	20.5752
Repeat: 1	13.8021	0.0169085	2.45074	2.28744	-0.00444361
Repeat: 2	13.8483	0.0178295	2.46043	2.29313	-0.00675816
Repeat: 3	13.8476	0.0170749	2.45137	2.27409	-0.00599476
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.260685	0.126222	5760.6	153026	11711.2
Std Dev:	0.000809686	0.000150594	13.4682	374.612	28.9509
%RSD:	0.310599	0.119308	0.233799	0.244803	0.247206
Repeat: 1	0.259913	0.126056	5750.12	152595	11697.9
Repeat: 2	0.260614	0.12635	5755.88	153212	11691.3
Repeat: 3	0.261528	0.12626	5775.79	153271	11744.4
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5760.6	153026	11711.2
Std Dev:	13.4682	374.612	28.9509
%RSD:	0.233799	0.244803	0.247206
Repeat: 1	5750.12	152595	11697.9
Repeat: 2	5755.88	153212	11691.3
Repeat: 3	5775.79	153271	11744.4

Sample Name	**Acquisition Date**
M890C	10/12/2016 4:24:33PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1178.38	461.515	97.3152	1076.58	2613.36
Std Dev:	18.7556	5.73009	0.862721	3.94441	33.5128
%RSD:	1.59164	1.24158	0.886523	0.366383	1.28236
Repeat: 1	1186.53	457.792	98.0423	1072.12	2630.03
Repeat: 2	1191.69	468.114	97.5413	1079.61	2635.28
Repeat: 3	1156.93	458.641	96.3619	1078.02	2574.79
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1038.77	749.918	193.105	284.324	598.057
Std Dev:	15.3406	2.216	2.41941	2.75327	8.81299
%RSD:	1.4768	0.295499	1.2529	0.968356	1.4736
Repeat: 1	1043.98	751.75	195.898	287.495	598.111
Repeat: 2	1050.83	747.455	191.718	282.536	606.844
Repeat: 3	1021.5	750.549	191.698	282.942	589.218
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1430.21	203.278	5588.26	11222	154.411
Std Dev:	17.5974	0.989837	22.0225	108.079	1.36392

%RSD:	1.2304	0.486937	0.394084	0.963102	0.883307
Repeat: 1	1429.98	202.14	5584.77	11126.3	154.481
Repeat: 2	1447.92	203.942	5611.83	11200.5	155.739
Repeat: 3	1412.73	203.752	5568.2	11339.2	153.013
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	446.722	195.146	2188.58	644968	304.469
Std Dev:	9.28579	0.703695	30.3797	17241.5	3.50566
%RSD:	2.07865	0.3606	1.3881	2.67324	1.1514
Repeat: 1	446.921	194.853	2167.53	628180	308.516
Repeat: 2	455.906	194.636	2174.8	644094	302.505
Repeat: 3	437.337	195.949	2223.41	662630	302.385
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	166.055	178.593	212.328	120.768	78.3007
Std Dev:	1.71486	2.68957	2.9337	1.06622	0.571257
%RSD:	1.0327	1.50598	1.38169	0.882862	0.729568
Repeat: 1	164.083	179.428	215.708	121.92	78.9186
Repeat: 2	166.884	180.766	210.443	120.569	78.1916
Repeat: 3	167.197	175.585	210.832	119.816	77.7918
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	716.584	91.1754	1655.66	348.553	50.1819
Std Dev:	14.8389	0.563942	11.1012	2.74764	0.746581
%RSD:	2.07078	0.618525	0.670502	0.788298	1.48775
Repeat: 1	704.341	91.8032	1652.78	349.92	50.9455
Repeat: 2	712.325	90.7116	1667.91	350.349	50.1466
Repeat: 3	733.087	91.0115	1646.28	345.39	49.4536
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6640.44	184.638	6344.42	162160	12526.6
Std Dev:	48.9	1.14889	81.0185	2825.15	301.23
%RSD:	0.736398	0.62224	1.27701	1.7422	2.40471
Repeat: 1	6608.06	185.964	6250.94	160224	12284
Repeat: 2	6616.57	184.022	6394.4	160854	12432.1
Repeat: 3	6696.69	183.929	6387.91	165402	12863.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000529339	0.0705782	0.0510831	0.0144249	0.00206352
Std Dev:	6.82823e-005	0.0172374	0.00028164	0.0012001	0.000168598
%RSD:	12.8995	24.4232	0.551338	8.31965	8.17041
Repeat: 1	-0.000478706	0.0508713	0.0507665	0.0154171	0.00222002
Repeat: 2	-0.000606997	0.0828517	0.0513057	0.0147666	0.00208556
Repeat: 3	-0.000502313	0.0780116	0.0511771	0.013091	0.00188499
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-3.11632e-005	0.132568	-9.34199e-006	0.000295152	0.00160499
Std Dev:	1.04706e-005	0.00371345	2.49972e-005	0.000208701	8.03186e-005
%RSD:	33.5993	2.80116	267.579	70.7096	5.00429
Repeat: 1	-3.13892e-005	0.13684	-3.51063e-005	0.000116522	0.00152935
Repeat: 2	-2.05814e-005	0.130114	-7.72966e-006	0.00024438	0.00159635
Repeat: 3	-4.1519e-005	0.13075	1.481e-005	0.000524554	0.00168928
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000107441	0.110588	1.66618	0.652972	0.00393526
Std Dev:	0.000226291	0.00329775	0.0272175	0.00248344	0.00326624
%RSD:	210.62	2.98201	1.63353	0.380329	82.9992
Repeat: 1	-1.979e-006	0.112549	1.66545	0.655718	0.000988559
Repeat: 2	-4.33449e-005	0.112435	1.63933	0.652312	0.00744724
Repeat: 3	0.000367646	0.106781	1.69375	0.650884	0.00336999
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000503437	0.0365922	389.088	367.928	0.000348327
Std Dev:	1.71291e-005	0.000383013	2.87226	2.37212	0.000137827
%RSD:	3.40244	1.04671	0.738204	0.644723	39.5683
Repeat: 1	0.000521139	0.036745	392.398	366.431	0.000261493
Repeat: 2	0.000502226	0.0361564	387.612	370.663	0.000276241
Repeat: 3	0.000486945	0.0368752	387.253	366.69	0.000507249
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.439072	-0.000970138	-3.45023e-005	0.00115986	0.00872111
Std Dev:	0.00200756	0.00136703	0.000890829	0.00121518	0.000793101
%RSD:	0.457229	140.911	2581.94	104.769	9.09404
Repeat: 1	0.437699	0.000480144	0.000232596	0.000231275	0.00788402
Repeat: 2	0.43814	-0.00115558	-0.00102832	0.00253518	0.00881798
Repeat: 3	0.441376	-0.00223498	0.000692222	0.000713142	0.00946133
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	3.95299	0.0112276	0.00131581	0.00138706	-0.0029574
Std Dev:	0.00458177	0.000238945	0.000184969	0.000279676	0.00065972
%RSD:	0.115907	2.12819	14.0574	20.1632	22.3074
Repeat: 1	3.95811	0.0112729	0.00111999	0.00148514	-0.00306783
Repeat: 2	3.95155	0.0109693	0.00133988	0.00107156	-0.00224944
Repeat: 3	3.94929	0.0114407	0.00148757	0.00160449	-0.00355494
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.245649	0.00114633	6086.33	159580	11684
Std Dev:	0.0017328	4.71257e-005	82.8682	2855.92	325.09
%RSD:	0.705397	4.11101	1.36155	1.78965	2.78236
Repeat: 1	0.247066	0.00111458	5990.75	157658	11422.3
Repeat: 2	0.246164	0.00112393	6138.08	158219	11581.7
Repeat: 3	0.243717	0.00120048	6130.15	162861	12047.9
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6086.33	159580	11684
Std Dev:	82.8682	2855.92	325.09
%RSD:	1.36155	1.78965	2.78236
Repeat: 1	5990.75	157658	11422.3
Repeat: 2	6138.08	158219	11581.7
Repeat: 3	6130.15	162861	12047.9

Sample Name	Acquisition Date	Analyst Name	Method Name
M890D	10/12/2016 4:29:44PM	kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1338.12	74448.6	230.928	1180.75	44044
Std Dev:	7.06861	390.129	1.35184	3.97259	270.344
%RSD:	0.528251	0.524025	0.585395	0.336446	0.613804
Repeat: 1	1335.35	74020.2	231.422	1176.44	43802.8
Repeat: 2	1332.85	74783.4	229.399	1181.54	44336.2
Repeat: 3	1346.15	74542.2	231.964	1184.27	43992.9
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	29811.1	2.1205e+006	427.431	515.967	2666.95
Std Dev:	110.662	13184.4	0.971735	0.311378	5.94161
%RSD:	0.371211	0.621762	0.227343	0.0603484	0.222787
Repeat: 1	29684.1	2.10591e+006	428.546	515.821	2662.5
Repeat: 2	29862.8	2.12402e+006	426.986	515.756	2664.65
Repeat: 3	29886.5	2.13156e+006	426.762	516.325	2673.7
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	17531.2	63801.6	17916.4	31450.3	2891.46
Std Dev:	28.4208	289.715	92.5798	149.638	12.9501
%RSD:	0.162116	0.454086	0.516733	0.475791	0.447875
Repeat: 1	17500.2	63501.4	17820.5	31311	2877.74
Repeat: 2	17556.2	64079.6	18005.2	31608.5	2893.16
Repeat: 3	17537.1	63823.8	17923.4	31431.4	2903.47
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	125521	315.412	1716.7	474406	1327.3
Std Dev:	395.529	1.39191	2.54284	2087.43	1.62002
%RSD:	0.315109	0.441301	0.148124	0.44001	0.122054
Repeat: 1	125077	315.282	1715.51	472081	1327.81
Repeat: 2	125654	314.09	1719.62	476119	1325.48
Repeat: 3	125833	316.864	1714.96	475018	1328.59
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	485.083	438.179	546.533	361.497	208.56
Std Dev:	0.63499	1.31271	0.709965	0.570069	0.673468
%RSD:	0.130903	0.299584	0.129903	0.157697	0.322914
Repeat: 1	484.618	439.686	545.745	361.659	209.003
Repeat: 2	484.824	437.288	546.732	360.864	207.785
Repeat: 3	485.807	437.562	547.123	361.969	208.892
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	1929.86	209.337	111625	7814.32	136.611
Std Dev:	13.4938	0.325397	652.212	58.93	0.167918
%RSD:	0.699212	0.155442	0.584291	0.754129	0.122917
Repeat: 1	1918.11	209.269	110918	7776.91	136.496
Repeat: 2	1926.88	209.051	112203	7882.25	136.804
Repeat: 3	1944.6	209.691	111752	7783.79	136.533
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	7962.93	1498.83	6197.48	159386	12932.5
Std Dev:	27.8283	2.13517	8.3483	107.512	71.3591
%RSD:	0.349472	0.142456	0.134705	0.0674541	0.551782
Repeat: 1	7932.29	1497.84	6197.12	159391	12884.2

Repeat: 2	7969.87	1497.38	6189.32	159490	13014.4
Repeat: 3	7986.63	1501.29	6206.01	159275	12898.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-9.50839e-005	310.472	0.0678512	0.0187231	0.802752
Std Dev:	5.85543e-005	1.09574	0.00257691	0.00130066	0.0013587
%RSD:	61.5817	0.352926	3.79788	6.94681	0.169255
Repeat: 1	-0.000122566	309.964	0.0692614	0.0176352	0.801215
Repeat: 2	-2.78437e-005	309.723	0.064877	0.0183705	0.803244
Repeat: 3	-0.000134842	311.73	0.0694152	0.0201638	0.803795
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0686764	1321.59	0.00192571	0.0140751	0.136346
Std Dev:	0.000262055	9.45991	0.000123777	2.60239e-005	0.000162235
%RSD:	0.381579	0.7158	6.42759	0.184893	0.118988
Repeat: 1	0.0683772	1317.94	0.00205535	0.0140965	0.136276
Repeat: 2	0.0687869	1314.49	0.001913	0.0140827	0.136231
Repeat: 3	0.0688651	1332.33	0.00180878	0.0140461	0.136532
QC Status Pass/Fail:	Pass	Fail	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.686092	68.8304	29.4112	2.74149	22.3016
Std Dev:	0.000648662	0.203909	0.103518	0.00571495	0.143603
%RSD:	0.0945445	0.296248	0.351967	0.208461	0.643917
Repeat: 1	0.685346	68.7752	29.2929	2.73638	22.267
Repeat: 2	0.686402	68.6599	29.4556	2.74043	22.1783
Repeat: 3	0.686528	69.0563	29.4851	2.74766	22.4593
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.89894	0.0215674	266.993	262.471	0.211467
Std Dev:	0.00666565	0.000482037	0.922919	1.00199	0.000301079
%RSD:	0.351019	2.23502	0.345672	0.381752	0.142376
Repeat: 1	1.89212	0.0215777	267.793	262.257	0.211754
Repeat: 2	1.89926	0.0210803	265.983	261.594	0.211494
Repeat: 3	1.90544	0.0220443	267.203	263.563	0.211153
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.42864	0.0529318	0.0419369	0.00734309	0.00728042
Std Dev:	0.0012613	0.00153935	0.0018406	0.00299162	0.00174896
%RSD:	0.0882868	2.90818	4.38898	40.7406	24.0228
Repeat: 1	1.42804	0.0544187	0.0398259	0.0102697	0.0064782
Repeat: 2	1.43009	0.0530317	0.0432056	0.00429041	0.00607648
Repeat: 3	1.42779	0.0513449	0.0427794	0.00746919	0.00928658
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	11.7529	0.0124362	1.88034	1.75948	-0.00340834
Std Dev:	0.125391	0.000651247	0.00646147	0.00347441	0.000891394

%RSD:	1.06689	5.23669	0.343632	0.197468	26.1533
Repeat: 1	11.7216	0.0124615	1.876	1.75951	-0.00322358
Repeat: 2	11.6461	0.0117727	1.87727	1.76294	-0.00262381
Repeat: 3	11.891	0.0130745	1.88777	1.756	-0.00437764
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.30044	0.098043	5843.49	155962	12022
Std Dev:	0.0013781	0.000122161	9.02421	122.125	73.688
%RSD:	0.458693	0.124599	0.154432	0.0783043	0.612943
Repeat: 1	0.298944	0.0979139	5842.68	155980	11972.1
Repeat: 2	0.300718	0.0981567	5834.91	156075	12106.6
Repeat: 3	0.301658	0.0980584	5852.9	155832	11987.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5843.49	155962	12022
Std Dev:	9.02421	122.125	73.688
%RSD:	0.154432	0.0783043	0.612943
Repeat: 1	5842.68	155980	11972.1
Repeat: 2	5834.91	156075	12106.6
Repeat: 3	5852.9	155832	11987.3

Sample Name	**Acquisition Date**
M89N7	10/12/2016 4:34:52PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1714.94	864.648	172.514	5407.6	7507.52
Std Dev:	12.0927	2.87712	0.659452	30.2995	57.5069
%RSD:	0.705141	0.33275	0.38226	0.560313	0.765991
Repeat: 1	1702.02	864.963	172.777	5373.83	7442.82
Repeat: 2	1716.81	867.354	171.764	5416.58	7552.8
Repeat: 3	1725.98	861.626	173.002	5432.39	7526.95
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	23345.1	77897.6	752.676	30525.3	6916.62
Std Dev:	154.938	973.654	3.80047	112.731	49.95
%RSD:	0.663686	1.24992	0.504927	0.369303	0.722174
Repeat: 1	23166.3	76865.1	748.707	30395.3	6859.5
Repeat: 2	23438.8	78799.2	753.04	30584.1	6938.31
Repeat: 3	23430.3	78028.6	756.282	30596.5	6952.07
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	7305.24	1827.32	26351.8	5598.63	1262.39
Std Dev:	16.8942	23.9725	243.609	11.1506	8.15776
%RSD:	0.231261	1.31189	0.924449	0.199167	0.646218
Repeat: 1	7295.69	1802.9	26102.9	5603.46	1255.23
Repeat: 2	7324.75	1850.82	26589.8	5585.87	1271.27
Repeat: 3	7295.29	1828.25	26362.7	5606.55	1260.66
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	9345.7	1676.5	745.633	91140.4	3102.89
Std Dev:	50.8219	4.34391	2.44901	1097.23	13.0761

%RSD:	0.5438	0.259106	0.328447	1.20389	0.421418
Repeat: 1	9287.45	1671.56	745.866	90064.3	3088.37
Repeat: 2	9381	1678.2	743.076	92257.6	3106.53
Repeat: 3	9368.63	1679.74	747.958	91099.3	3113.76
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	1727.53	277.53	320.964	371.676	165.294
Std Dev:	2.83554	5.68361	1.37752	1.75653	0.596217
%RSD:	0.164138	2.04793	0.429181	0.472596	0.3607
Repeat: 1	1724.84	276.064	319.413	369.784	164.625
Repeat: 2	1727.26	272.723	322.046	371.99	165.491
Repeat: 3	1730.49	283.803	321.432	373.255	165.767
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	808.013	903.62	29937.1	754.915	80.8311
Std Dev:	6.16051	4.87795	395.448	6.47661	0.445473
%RSD:	0.762427	0.539823	1.32093	0.857926	0.551116
Repeat: 1	802.052	898.5	29542.1	747.559	80.6692
Repeat: 2	814.355	904.146	30333	757.422	80.4893
Repeat: 3	807.631	908.213	29936.1	759.763	81.3349
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5593.49	6505.42	6253.03	168893	13075.8
Std Dev:	25.2812	14.3846	18.0319	1098.04	166.54
%RSD:	0.451976	0.221118	0.288371	0.650141	1.27365
Repeat: 1	5566.81	6489.32	6235.75	167739	12897.5
Repeat: 2	5596.57	6509.91	6251.62	169925	13227.3
Repeat: 3	5617.09	6517.02	6271.73	169014	13102.5

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0450664	1.85417	0.139583	0.784806	0.0978827
Std Dev:	0.000153866	0.00952899	0.0016194	0.00335388	0.000212737
%RSD:	0.341421	0.513921	1.16017	0.427352	0.217339
Repeat: 1	0.0449547	1.86386	0.141452	0.785505	0.0978406
Repeat: 2	0.0450026	1.84481	0.138613	0.781158	0.0976942
Repeat: 3	0.0452419	1.85385	0.138683	0.787755	0.0981134
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0513611	47.1496	0.0496187	4.16264	0.417914
Std Dev:	0.000133434	0.0597517	0.000124602	0.00864229	0.00128321
%RSD:	0.259796	0.126728	0.251119	0.207616	0.30705
Repeat: 1	0.0513029	47.2156	0.0494757	4.15551	0.417099
Repeat: 2	0.0512666	47.0992	0.0496763	4.17225	0.41725
Repeat: 3	0.0515137	47.1341	0.0497041	4.16015	0.419393
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.241282	1.82694	47.1879	0.101176	8.96253
Std Dev:	0.00131208	0.00337708	0.117266	0.00165351	0.0514344
%RSD:	0.543796	0.184849	0.248509	1.6343	0.573882
Repeat: 1	0.242767	1.82755	47.3208	0.0993002	9.02165
Repeat: 2	0.240799	1.82997	47.1438	0.102423	8.92799
Repeat: 3	0.24028	1.8233	47.099	0.101805	8.93796

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.127411	0.557733	47.1171	47.2914	0.637836
Std Dev:	0.000365672	0.000545534	0.659185	0.105563	0.00121497
%RSD:	0.287002	0.0978127	1.39903	0.223219	0.190484
Repeat: 1	0.127562	0.557717	47.4919	47.3865	0.636538
Repeat: 2	0.126994	0.558286	46.356	47.3098	0.638946
Repeat: 3	0.127677	0.557195	47.5035	47.1778	0.638023
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.88603	0.0918475	0.0932667	0.440703	0.237167
Std Dev:	0.00844214	0.00316036	0.000261968	0.00147135	0.00118486
%RSD:	0.143427	3.44088	0.280881	0.333865	0.499586
Repeat: 1	5.89177	0.0931601	0.0930105	0.439004	0.236972
Repeat: 2	5.88998	0.0882423	0.0935341	0.441528	0.236092
Repeat: 3	5.87633	0.09414	0.0932554	0.441577	0.238438
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.34157	0.587324	0.475971	0.101177	-0.0241972
Std Dev:	0.023307	0.00144718	0.000826157	0.000569651	0.00331127
%RSD:	0.536833	0.246402	0.173573	0.563027	13.6845
Repeat: 1	4.36676	0.585747	0.476232	0.100823	-0.0208902
Repeat: 2	4.33716	0.587634	0.476635	0.100873	-0.0275128
Repeat: 3	4.32078	0.588591	0.475045	0.101834	-0.0241887
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.194768	0.555218	5991.21	166510	12297.4
Std Dev:	0.000746672	0.000672229	16.417	1086.47	170.945
%RSD:	0.383366	0.121075	0.274017	0.652495	1.39009
Repeat: 1	0.195083	0.55534	5976.08	165369	12115.6
Repeat: 2	0.193915	0.555821	5988.89	167532	12454.9
Repeat: 3	0.195305	0.554493	6008.67	166630	12321.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5991.21	166510	12297.4
Std Dev:	16.417	1086.47	170.945
%RSD:	0.274017	0.652495	1.39009
Repeat: 1	5976.08	165369	12115.6
Repeat: 2	5988.89	167532	12454.9
Repeat: 3	6008.67	166630	12321.8

Sample Name	**Acquisition Date**
M89N7D	10/12/2016 4:39:39PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**

Avg. of Repeats:	1069.64	419.253	119.6	592.791	2362.77
Std Dev:	1.84723	2.28087	1.16671	2.01117	22.6652
%RSD:	0.172697	0.544031	0.975512	0.339272	0.959264
Repeat: 1	1071.16	416.683	118.305	591.39	2337.31
Repeat: 2	1070.16	420.04	120.57	591.888	2370.24
Repeat: 3	1067.58	421.037	119.924	595.096	2380.76
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	927.31	577.233	186.693	30737.2	4048.66
Std Dev:	5.33323	4.81958	0.520494	126.738	30.5233
%RSD:	0.57513	0.834944	0.278797	0.412328	0.753912
Repeat: 1	932.681	572.278	187.257	30590.9	4032.26
Repeat: 2	922.015	577.517	186.231	30814.6	4029.85
Repeat: 3	927.233	581.904	186.591	30806.1	4083.88
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1375.36	941.188	4635.11	4693.03	144.46
Std Dev:	4.89321	2.15334	30.98	48.1772	3.81088
%RSD:	0.355778	0.22879	0.668376	1.02657	2.63802
Repeat: 1	1372.45	943.057	4601.1	4638.76	140.06
Repeat: 2	1381	938.833	4642.52	4709.57	146.61
Repeat: 3	1372.61	941.675	4661.71	4730.76	146.71
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	2673.65	173.115	547.666	5192.61	913.445
Std Dev:	28.4045	1.19327	8.09824	6.79794	2.61727
%RSD:	1.06238	0.689295	1.47868	0.130916	0.286528
Repeat: 1	2654.51	173.168	539.161	5200.25	910.585
Repeat: 2	2660.16	171.896	548.554	5190.33	914.029
Repeat: 3	2706.29	174.281	555.284	5187.24	915.721
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	303.006	176.241	211.775	136.404	110.236
Std Dev:	1.61227	1.18376	1.86319	0.390754	0.362742
%RSD:	0.53209	0.67167	0.879797	0.286468	0.329059
Repeat: 1	301.199	174.89	210.354	135.971	109.952
Repeat: 2	304.297	177.098	211.087	136.731	110.645
Repeat: 3	303.524	176.734	213.884	136.511	110.112
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	136.895	296.256	1490.6	343.961	71.0743
Std Dev:	2.36508	2.2137	10.611	3.85509	0.0653807
%RSD:	1.72765	0.747225	0.711859	1.12079	0.0919893
Repeat: 1	134.166	293.705	1478.92	339.51	71.1497
Repeat: 2	138.335	297.395	1493.22	346.112	71.0365
Repeat: 3	138.185	297.669	1499.65	346.261	71.0365
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1019.5	208.906	6306.67	169692	12827.1
Std Dev:	2.02684	0.535026	8.72809	1384.01	54.4868
%RSD:	0.198807	0.256108	0.138395	0.815601	0.424778
Repeat: 1	1021.82	208.3	6298.31	168328	12826.9
Repeat: 2	1018.59	209.313	6305.96	169653	12772.7
Repeat: 3	1018.09	209.106	6315.73	171095	12881.7

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000273621	0.0321466	0.0357061	-0.0942504	0.000306877

Std Dev:	0.0002675	0.00769356	0.0027314	0.00106876	0.000106833
%RSD:	97.7632	23.9327	7.64967	1.13396	34.813
Repeat: 1	-0.000475877	0.0401896	0.0327558	-0.0951655	0.000405566
Repeat: 2	-0.00037467	0.031392	0.0381468	-0.0930758	0.000321633
Repeat: 3	2.96851e-005	0.0248581	0.0362157	-0.0945099	0.000193433
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-8.0291e-006	0.037329	-0.00021442	4.14854	0.229707
Std Dev:	6.82231e-006	0.000402075	8.34275e-005	0.0130111	0.000816756
%RSD:	84.9698	1.07711	38.9084	0.313631	0.355565
Repeat: 1	-6.1211e-007	0.0369066	-0.000149687	4.134	0.230142
Repeat: 2	-1.40365e-005	0.0377071	-0.000185002	4.15907	0.228765
Repeat: 3	-9.43867e-006	0.0373734	-0.000308572	4.15255	0.230214
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0026588	0.909112	0.181033	0.00125786	-0.00193426
Std Dev:	0.000224152	0.00355885	0.0487092	0.00106899	0.0248256
%RSD:	8.43057	0.391464	26.9063	84.985	1283.47
Repeat: 1	0.00276815	0.912133	0.237277	0.00243404	-0.0305068
Repeat: 2	0.0028073	0.910014	0.153086	0.00034544	0.0143567
Repeat: 3	0.00240096	0.905189	0.152735	0.000994097	0.0103473
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0324533	0.0255548	-0.449473	0.335393	0.138334
Std Dev:	0.000175148	0.000427402	0.776386	0.0327584	0.000448792
%RSD:	0.539694	1.67249	172.733	9.76715	0.324426
Repeat: 1	0.0324112	0.0255645	-1.14172	0.37134	0.137817
Repeat: 2	0.032303	0.0251226	-0.596671	0.327618	0.138559
Repeat: 3	0.0326456	0.0259772	0.389976	0.307223	0.138626
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.751856	0.00127204	-0.00119267	-0.00292231	0.0432663
Std Dev:	0.00369185	0.00142838	0.00152419	0.00116376	0.00197128
%RSD:	0.491032	112.291	127.796	39.8233	4.55615
Repeat: 1	0.748589	-0.000360802	-0.00191211	-0.00215635	0.0430962
Repeat: 2	0.755861	0.00229009	-0.00222399	-0.00234909	0.0453171
Repeat: 3	0.751117	0.00188682	0.000558076	-0.00426149	0.0413856
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0307165	0.123742	0.00023177	0.00460245	-0.0449846
Std Dev:	0.00988851	0.00112696	9.67249e-005	0.000383974	0.00200954
%RSD:	32.1928	0.910734	41.7332	8.34282	4.46718
Repeat: 1	0.0194917	0.12244	0.000340043	0.00419022	-0.0437965
Repeat: 2	0.0381415	0.124382	0.000153896	0.00494993	-0.0438524
Repeat: 3	0.0345163	0.124402	0.000201372	0.00466719	-0.0473047
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----

Avg. of Repeats:	0.00104162	0.00245778	6055.63	167356	12039.9
Std Dev:	8.02666e-005	2.34692e-005	7.7149	1388.63	52.3404
%RSD:	7.70594	0.954892	0.1274	0.829746	0.434725
Repeat: 1	0.00111716	0.00245539	6047.83	166000	12050
Repeat: 2	0.000957339	0.00248236	6055.8	167291	11983.2
Repeat: 3	0.00105037	0.0024356	6063.26	168775	12086.4
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6055.63	167356	12039.9
Std Dev:	7.7149	1388.63	52.3404
%RSD:	0.1274	0.829746	0.434725
Repeat: 1	6047.83	166000	12050
Repeat: 2	6055.8	167291	11983.2
Repeat: 3	6063.26	168775	12086.4

Sample Name	**Acquisition Date**
M89N9Z2	10/12/2016 4:44:38PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1219.38	635.878	96.5827	595.889	2857.71
Std Dev:	13.9249	2.22198	0.16389	6.19221	17.8473
%RSD:	1.14196	0.349435	0.169689	1.03916	0.624533
Repeat: 1	1211.04	633.327	96.6482	591.431	2837.11
Repeat: 2	1235.46	636.917	96.7037	602.959	2867.67
Repeat: 3	1211.64	637.39	96.3962	593.276	2868.36
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1191.31	757596	297.651	376.543	2141.81
Std Dev:	8.32073	7175.26	0.700161	0.817777	10.5955
%RSD:	0.698454	0.947108	0.235229	0.21718	0.4947
Repeat: 1	1182.11	752522	296.915	375.851	2130.59
Repeat: 2	1198.32	754462	298.309	377.446	2151.64
Repeat: 3	1193.49	765806	297.728	376.332	2143.21
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	3756.32	45947.8	4723.58	4846.75	945.596
Std Dev:	3.66711	69.2302	29.4781	24.7434	4.06174
%RSD:	0.097625	0.150671	0.624064	0.510516	0.429542
Repeat: 1	3752.24	46006.5	4690.92	4818.91	946.699
Repeat: 2	3759.35	45871.5	4748.21	4866.22	948.993
Repeat: 3	3757.38	45965.5	4731.61	4855.12	941.097
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	27521.5	134.41	606.822	13124.3	624.975
Std Dev:	37.7778	0.645827	0.397195	30.3378	1.95684
%RSD:	0.137266	0.480489	0.0654549	0.231158	0.313107
Repeat: 1	27506.4	135.07	606.751	13139.1	623.009
Repeat: 2	27564.5	134.381	607.25	13089.4	626.923
Repeat: 3	27493.7	133.78	606.465	13144.4	624.993
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	149.947	235.011	293.713	152.207	97.4797
Std Dev:	0.159996	2.64146	0.890799	0.790039	0.552337

%RSD:	0.106702	1.12398	0.303289	0.519055	0.566617
Repeat: 1	149.783	236.133	294.007	153.102	97.0281
Repeat: 2	150.103	236.905	292.713	151.914	98.0955
Repeat: 3	149.953	231.993	294.42	151.605	97.3155
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	228.332	184.928	19598.8	459.456	67.2483
Std Dev:	3.40891	0.36822	45.6149	3.43239	0.614732
%RSD:	1.49296	0.199116	0.232743	0.747055	0.914123
Repeat: 1	224.771	184.96	19636.3	456.123	67.102
Repeat: 2	228.66	184.544	19548	459.264	67.923
Repeat: 3	231.565	185.278	19612.2	462.98	66.72
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1454.95	93345.7	6146.58	162740	12532.2
Std Dev:	13.0409	82.8794	33.1664	863.855	51.038
%RSD:	0.896311	0.0887875	0.539591	0.530818	0.407256
Repeat: 1	1443.74	93322.8	6109.15	162167	12520.2
Repeat: 2	1469.26	93276.6	6158.25	162320	12488.2
Repeat: 3	1451.87	93437.6	6172.32	163734	12588.1

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00067123	0.880393	0.00283767	-0.0840205	0.00880588
Std Dev:	0.000650083	0.0139264	0.000945119	0.000848948	7.85745e-005
%RSD:	96.8495	1.58184	33.3062	1.01041	0.892295
Repeat: 1	-0.000454364	0.86457	0.00366976	-0.084545	0.00872257
Repeat: 2	-0.000157301	0.890788	0.00303315	-0.083041	0.00881641
Repeat: 3	-0.00140202	0.885822	0.0018101	-0.0844755	0.00887866
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000317318	486.56	0.00148825	0.00763879	0.102456
Std Dev:	1.327e-005	2.94509	2.32744e-005	3.76344e-005	0.000462845
%RSD:	4.18193	0.605288	1.56387	0.492674	0.451748
Repeat: 1	-0.00031669	483.553	0.00146402	0.00766911	0.102511
Repeat: 2	-0.000330891	486.688	0.00149032	0.00765059	0.102889
Repeat: 3	-0.000304373	489.44	0.00151043	0.00759667	0.101968
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0955025	51.0339	0.138952	0.00798204	6.63631
Std Dev:	0.000413136	0.204881	0.0240639	0.000323525	0.0761636
%RSD:	0.432592	0.40146	17.3182	4.05316	1.14768
Repeat: 1	0.0959278	51.1329	0.147865	0.00795916	6.65393
Repeat: 2	0.0954768	51.1705	0.157288	0.00831639	6.70212
Repeat: 3	0.0951028	50.7983	0.111703	0.00767055	6.55288
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.400532	0.00592376	4.51766	4.86955	0.0628733
Std Dev:	0.00250828	0.000320181	0.860939	0.02673	0.000202043
%RSD:	0.626238	5.40503	19.0572	0.548921	0.32135
Repeat: 1	0.401894	0.00628538	5.26644	4.89906	0.0629541

Repeat: 2	0.402064	0.00580958	4.70959	4.86264	0.0630224
Repeat: 3	0.397637	0.00567632	3.57696	4.84695	0.0626433
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.344615	0.0382824	0.0373214	0.00329472	0.0052149
Std Dev:	0.0014826	0.00181252	0.00218006	0.00206534	0.00129671
%RSD:	0.430218	4.73459	5.84133	62.6864	24.8656
Repeat: 1	0.345496	0.0396036	0.0379359	0.0055619	0.00430533
Repeat: 2	0.342904	0.0390276	0.0349	0.00152037	0.00669972
Repeat: 3	0.345446	0.0362161	0.0391283	0.00280189	0.00463964
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.623254	0.0703765	0.317143	0.0170921	-0.00359886
Std Dev:	0.0150703	0.000487715	0.00113071	0.000946046	0.00196123
%RSD:	2.41801	0.693009	0.356531	5.53499	54.496
Repeat: 1	0.606702	0.0705095	0.318223	0.0168854	-0.00333747
Repeat: 2	0.626878	0.0698361	0.317238	0.0162665	-0.00178142
Repeat: 3	0.636182	0.0707839	0.315968	0.0181244	-0.00567767
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0129815	8.42692	5850.66	159871	11670.7
Std Dev:	0.00022612	0.0438569	32.2219	851.734	55.2047
%RSD:	1.74186	0.520438	0.55074	0.532762	0.47302
Repeat: 1	0.0127422	8.47752	5814.14	159337	11665.6
Repeat: 2	0.0131916	8.40332	5862.76	159423	11618.2
Repeat: 3	0.0130108	8.39992	5875.08	160853	11728.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	5850.66	159871	11670.7
Std Dev:	32.2219	851.734	55.2047
%RSD:	0.55074	0.532762	0.47302
Repeat: 1	5814.14	159337	11665.6
Repeat: 2	5862.76	159423	11618.2
Repeat: 3	5875.08	160853	11728.3

Sample Name	**Acquisition Date**
CRDL01	10/12/2016 4:49:44PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1332.63	493.617	77.3519	1619.43	3059.96
Std Dev:	6.02327	4.65929	0.631715	8.86842	14.5042
%RSD:	0.451983	0.943908	0.816677	0.547626	0.474
Repeat: 1	1337.33	488.435	77.743	1609.95	3064.31
Repeat: 2	1334.73	497.46	76.6231	1620.83	3043.78
Repeat: 3	1325.84	494.957	77.6896	1627.52	3071.8
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**

Avg. of Repeats:	3325.16	8586.19	259.93	685.942	740.155
Std Dev:	4.35621	25.8701	0.486297	2.02363	3.07091
%RSD:	0.131008	0.301299	0.187088	0.295015	0.414901
Repeat: 1	3323.35	8559.02	260.472	683.609	739.315
Repeat: 2	3322	8610.53	259.785	686.995	743.559
Repeat: 3	3330.13	8589.03	259.532	687.222	737.592
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	2087.97	199.972	7257.29	5526.73	755.34
Std Dev:	6.52995	2.23629	16.6953	23.5986	6.87067
%RSD:	0.312741	1.1183	0.230049	0.426991	0.909612
Repeat: 1	2091.02	199.302	7245.06	5526.32	750.15
Repeat: 2	2092.42	198.147	7250.5	5503.34	752.74
Repeat: 3	2080.48	202.467	7276.31	5550.53	763.132
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	1511.04	212.498	613.589	14070.4	502.117
Std Dev:	4.98271	1.27734	1.43017	18.813	0.964452
%RSD:	0.329754	0.601108	0.233083	0.133706	0.192077
Repeat: 1	1508.24	211.025	614.756	14052.1	502.413
Repeat: 2	1508.09	213.298	614.017	14069.3	501.04
Repeat: 3	1516.79	213.172	611.993	14089.7	502.9
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	135.28	188.742	229.425	156.728	81.1892
Std Dev:	0.834111	1.7461	1.02588	0.110002	0.239505
%RSD:	0.616582	0.925123	0.447154	0.0701867	0.294996
Repeat: 1	134.469	188.486	229.903	156.619	81.3625
Repeat: 2	136.135	187.138	228.247	156.839	80.9159
Repeat: 3	135.235	190.602	230.125	156.726	81.2892
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	206.071	223.364	4484.64	555.483	54.6061
Std Dev:	1.69904	1.18432	24.2561	2.66381	0.620025
%RSD:	0.824491	0.530219	0.540871	0.479549	1.13545
Repeat: 1	204.835	222.15	4459.37	552.841	53.8995
Repeat: 2	205.37	223.424	4486.8	555.439	54.8594
Repeat: 3	208.009	224.517	4507.74	558.169	55.0593
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1721.14	444.898	6559.63	170998	12688.6
Std Dev:	4.0395	1.59751	16.603	429.472	47.5047
%RSD:	0.234699	0.359073	0.253109	0.251157	0.374388
Repeat: 1	1717.5	443.774	6545.89	170502	12666.8
Repeat: 2	1720.44	446.727	6578.08	171229	12743.1
Repeat: 3	1725.48	444.194	6554.93	171262	12655.9

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00991784	0.214297	0.00911792	0.105487	0.0104444
Std Dev:	0.000506553	0.0137974	0.00127621	0.00130744	7.10622e-005
%RSD:	5.10749	6.43842	13.9968	1.23943	0.680387
Repeat: 1	0.0101143	0.201369	0.00968078	0.104356	0.0105252
Repeat: 2	0.0102967	0.228824	0.00765703	0.105186	0.0103917
Repeat: 3	0.00934249	0.212699	0.0100159	0.106918	0.0104163
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00519036	5.07392	0.00519448	0.0520009	0.0103776
Std Dev:	1.97132e-005	0.0119705	8.00466e-005	0.000149212	0.000175346
%RSD:	0.379804	0.235923	1.54099	0.286941	1.68965
Repeat: 1	0.00519814	5.06726	0.00526637	0.0518287	0.0102195
Repeat: 2	0.00516794	5.06676	0.00520883	0.0520927	0.0105662
Repeat: 3	0.00520499	5.08774	0.00510822	0.0520813	0.0103472
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0254994	0.104239	5.233	0.0512915	5.00188
Std Dev:	3.97459e-005	0.00265079	0.0215806	0.000887916	0.0556381
%RSD:	0.15587	2.543	0.412396	1.73111	1.11234
Repeat: 1	0.0254544	0.10458	5.23432	0.0510704	4.96853
Repeat: 2	0.0255299	0.101434	5.21078	0.0505351	4.971
Repeat: 3	0.0255138	0.106702	5.25388	0.0522691	5.06611
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0152898	0.0407007	6.26011	5.20977	0.041957
Std Dev:	0.000103824	0.000396432	1.06013	0.0146573	0.000104561
%RSD:	0.679042	0.974018	16.9348	0.281343	0.249209
Repeat: 1	0.0152554	0.0402446	5.74384	5.20578	0.0420374
Repeat: 2	0.0152075	0.0409627	7.47949	5.19752	0.0418388
Repeat: 3	0.0154064	0.0408947	5.55701	5.22601	0.041995
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.319344	0.00996258	0.0110775	0.0604995	0.0121873
Std Dev:	0.00142649	0.00232864	0.000689753	0.000874599	0.000554624
%RSD:	0.446694	23.3739	6.22662	1.44563	4.55083
Repeat: 1	0.317714	0.00926159	0.0118681	0.0613953	0.0125234
Repeat: 2	0.320363	0.00806496	0.0105986	0.0604553	0.0124914
Repeat: 3	0.319956	0.0125612	0.0107658	0.0596478	0.0115472
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.482825	0.106428	0.0501223	0.0510005	0.00897621
Std Dev:	0.00839978	0.000975873	0.000403733	0.000448422	0.00315699
%RSD:	1.73971	0.916936	0.805496	0.879251	35.1707
Repeat: 1	0.477687	0.105412	0.0497837	0.0508187	0.00536627
Repeat: 2	0.47827	0.106513	0.0500142	0.0506715	0.010342
Repeat: 3	0.492519	0.107358	0.0505691	0.0515113	0.0112203
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.025275	0.0224712	6295.96	168401	11847.9
Std Dev:	0.000243326	9.62307e-005	17.4931	429.409	46.7958
%RSD:	0.962712	0.42824	0.277847	0.254992	0.394972
Repeat: 1	0.0252182	0.0224044	6282.09	167905	11825.1
Repeat: 2	0.0250651	0.0225815	6315.61	168632	11901.7
Repeat: 3	0.0255417	0.0224278	6290.19	168665	11816.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	6295.96	168401	11847.9
Std Dev:	17.4931	429.409	46.7958
%RSD:	0.277847	0.254992	0.394972
Repeat: 1	6282.09	167905	11825.1
Repeat: 2	6315.61	168632	11901.7
Repeat: 3	6290.19	168665	11816.8

Sample Name	Acquisition Date
CCV	10/12/2016 4:54:41PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	15242.9	6343.23	340.378	11653.4	106338
Std Dev:	57.5699	11.952	0.253232	54.8504	343.88
%RSD:	0.377682	0.188421	0.0743971	0.470682	0.323383
Repeat: 1	15192.8	6329.95	340.392	11601.4	106073
Repeat: 2	15230.3	6346.6	340.119	11648.1	106727
Repeat: 3	15305.8	6353.13	340.625	11710.7	106215
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	869255	79925.4	6130.96	15700.9	31161.9
Std Dev:	2581.87	284.551	3.4494	9.56155	63.7096
%RSD:	0.297021	0.356021	0.056262	0.0608983	0.204447
Repeat: 1	872232	79633.4	6134.86	15711.6	31099.7
Repeat: 2	867906	80201.8	6129.74	15697.6	31159
Repeat: 3	867628	79941.1	6128.29	15693.3	31227.1
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	52089.6	22801.3	27578.7	24473.7	6068.17
Std Dev:	243.324	83.9314	97.716	53.576	37.0374
%RSD:	0.467126	0.368099	0.354317	0.218913	0.610355
Repeat: 1	51868.2	22714.3	27468.1	24411.9	6026.18
Repeat: 2	52050.5	22881.8	27614.8	24502.6	6096.2
Repeat: 3	52350.1	22807.8	27653.3	24506.5	6082.14
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	141928	6053.55	800.522	94137.7	9681.46
Std Dev:	346.686	1.922	5.77169	325.065	11.9918
%RSD:	0.244269	0.03175	0.72099	0.345308	0.123864
Repeat: 1	141642	6055.73	804.917	93762.9	9674.25
Repeat: 2	141828	6052.1	802.663	94307.6	9674.83
Repeat: 3	142314	6052.82	793.986	94342.6	9695.31
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	645.041	740.966	821.366	450.088	239.93
Std Dev:	2.48978	4.9386	0.641823	1.24322	0.283268
%RSD:	0.385988	0.666509	0.0781409	0.276218	0.118063
Repeat: 1	643.128	738.407	821.436	448.655	239.652
Repeat: 2	644.138	746.659	820.691	450.73	240.219
Repeat: 3	647.856	737.832	821.969	450.879	239.919
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	434.393	2884.41	117851	8637.78	435.384
Std Dev:	3.9194	3.78416	398.943	32.0218	1.46393

%RSD:	0.902272	0.131193	0.338514	0.370717	0.336238
Repeat: 1	433.24	2888.41	117395	8608.38	436.35
Repeat: 2	438.759	2880.89	118136	8671.9	433.7
Repeat: 3	431.179	2883.94	118022	8633.05	436.103
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	48130.3	24250.1	6506.53	169130	12706.7
Std Dev:	104.119	11.3915	4.86516	876.862	53.5631
%RSD:	0.216327	0.0469751	0.0747735	0.518454	0.421535
Repeat: 1	48029.5	24258	6506.69	168448	12646.3
Repeat: 2	48124	24237.1	6501.59	168823	12748.4
Repeat: 3	48237.5	24255.3	6511.32	170119	12725.4

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.01591	24.9166	0.507547	1.93481	2.02651
Std Dev:	0.000189506	0.0614192	0.000672379	0.00168245	0.00379138
%RSD:	0.0186538	0.246499	0.132476	0.0869568	0.187089
Repeat: 1	1.01605	24.9699	0.507223	1.934	2.02982
Repeat: 2	1.01599	24.8494	0.507097	1.93674	2.02733
Repeat: 3	1.0157	24.9304	0.50832	1.93367	2.02238
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.99873	50.1256	0.510755	2.0455	2.00316
Std Dev:	0.0154667	0.0294906	0.000612232	0.00218525	0.00687747
%RSD:	0.773827	0.0588336	0.119868	0.106832	0.343331
Repeat: 1	2.01393	50.1564	0.511134	2.04665	2.00674
Repeat: 2	1.99924	50.1226	0.511083	2.04687	2.00752
Repeat: 3	1.98301	50.0976	0.510049	2.04298	1.99524
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.04484	24.8536	50.8063	2.02211	48.9938
Std Dev:	0.00210486	0.00928029	0.0943392	0.00369447	0.134373
%RSD:	0.102936	0.0373398	0.185684	0.182704	0.274265
Repeat: 1	2.04408	24.864	50.8058	2.02586	48.839
Repeat: 2	2.04721	24.8509	50.7122	2.01847	49.0803
Repeat: 3	2.04321	24.846	50.9009	2.02199	49.0622
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.01543	2.04399	49.9087	50.5238	2.06296
Std Dev:	0.00591941	0.00144268	1.54209	0.0730198	0.00160908
%RSD:	0.293704	0.0705815	3.08982	0.144525	0.0779986
Repeat: 1	2.01973	2.04425	51.292	50.5301	2.06124
Repeat: 2	2.01789	2.04529	50.188	50.4478	2.06321
Repeat: 3	2.00868	2.04244	48.246	50.5935	2.06443
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.06278	0.510505	0.512912	0.516765	0.518687
Std Dev:	0.00920771	0.00551009	0.00103389	0.00396512	0.00278514

%RSD:	0.446375	1.07934	0.201572	0.767297	0.53696
Repeat: 1	2.05516	0.50996	0.511888	0.512288	0.515979
Repeat: 2	2.06016	0.516268	0.513955	0.519835	0.521543
Repeat: 3	2.07301	0.505289	0.512893	0.518172	0.51854
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.94761	2.05617	2.01407	2.01233	1.02726
Std Dev:	0.0222107	0.00220046	0.00159017	0.00227566	0.00505623
%RSD:	1.14041	0.107017	0.0789528	0.113086	0.492208
Repeat: 1	1.94671	2.05871	2.01454	2.01384	1.03068
Repeat: 2	1.97026	2.05479	2.0123	2.01344	1.02145
Repeat: 3	1.92587	2.05502	2.01537	2.00971	1.02963
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	1.99868	2.04227	6184.75	166456	11862.6
Std Dev:	0.00628366	0.00092649	4.76433	884.062	46.3413
%RSD:	0.314391	0.0453657	0.0770334	0.53111	0.390649
Repeat: 1	2.00199	2.04287	6184.88	165781	11812.1
Repeat: 2	2.00261	2.04273	6179.93	166129	11903.1
Repeat: 3	1.99143	2.0412	6189.46	167456	11872.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6184.75	166456	11862.6
Std Dev:	4.76433	884.062	46.3413
%RSD:	0.0770334	0.53111	0.390649
Repeat: 1	6184.88	165781	11812.1
Repeat: 2	6179.93	166129	11903.1
Repeat: 3	6189.46	167456	11872.8

Sample Name	**Acquisition Date**
CCB	10/12/2016 4:59:34PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1217.52	454.24	72.4991	500.715	2596.78
Std Dev:	23.9119	1.68661	0.110763	6.69566	41.5598
%RSD:	1.96398	0.371304	0.152778	1.33722	1.60044
Repeat: 1	1192.31	453.397	72.5147	493.069	2553.75
Repeat: 2	1220.38	453.141	72.3814	503.54	2599.9
Repeat: 3	1239.88	456.181	72.6013	505.535	2636.69
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1044.86	552.457	200.748	292.433	596.347
Std Dev:	16.0134	5.57999	1.14447	1.58085	10.4784
%RSD:	1.53259	1.01003	0.570103	0.540585	1.7571
Repeat: 1	1026.63	546.204	199.427	290.612	586.109
Repeat: 2	1051.31	554.237	201.406	293.45	595.882
Repeat: 3	1056.64	556.929	201.413	293.237	607.05
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**

Avg. of Repeats:	1464.4	105.352	5012.06	5166.89	156.849
Std Dev:	23.3897	4.51462	44.4907	57.158	2.16388
%RSD:	1.59722	4.28529	0.887673	1.10624	1.37959
Repeat: 1	1439.72	101.499	4962.94	5105.84	154.695
Repeat: 2	1467.24	104.237	5023.58	5175.67	156.83
Repeat: 3	1486.24	110.319	5049.65	5219.14	159.023
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	424.761	93.3458	605.897	5189.47	312.711
Std Dev:	5.82684	1.02231	9.23354	48.618	0.938869
%RSD:	1.37179	1.09519	1.52395	0.936859	0.300235
Repeat: 1	418.428	94.0765	596.454	5134.97	311.627
Repeat: 2	425.957	93.7833	606.331	5205.08	313.273
Repeat: 3	429.896	92.1775	614.905	5228.36	313.233
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.7533	181.542	218.55	124.3	78.0295
Std Dev:	0.34121	4.74775	0.787686	0.73176	0.251909
%RSD:	0.817204	2.61524	0.360414	0.588703	0.322838
Repeat: 1	41.4312	176.107	218.65	123.474	77.7452
Repeat: 2	41.7178	183.636	217.717	124.867	78.1183
Repeat: 3	42.1109	184.882	219.283	124.56	78.2249
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	135.3	75.8773	1638.56	354.12	50.7085
Std Dev:	1.26187	0.108536	17.6221	4.41211	0.308261
%RSD:	0.932648	0.143041	1.07546	1.24594	0.607907
Repeat: 1	133.866	75.7529	1619.63	349.201	50.3731
Repeat: 2	135.793	75.9262	1641.58	355.434	50.7729
Repeat: 3	136.241	75.9528	1654.49	357.727	50.9795
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1140.07	175.804	6377.72	166784	12203.1
Std Dev:	23.1806	0.126833	27.8551	2582.25	171.695
%RSD:	2.03326	0.0721444	0.436756	1.54826	1.40699
Repeat: 1	1113.83	175.673	6406.06	169689	12394.7
Repeat: 2	1148.63	175.813	6350.37	165911	12151.4
Repeat: 3	1157.76	175.926	6376.73	164751	12063.1

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000521659	-0.0152359	0.000438951	-0.097804	0.000225652
Std Dev:	0.000641519	0.0215467	0.00102137	0.00011304	0.000211098
%RSD:	122.977	141.42	232.685	0.115578	93.5501
Repeat: 1	0.000212833	0.00710263	0.00161335	-0.097743	0.000144687
Repeat: 2	-0.000805611	-0.0169182	-0.000241981	-0.0977346	6.70224e-005
Repeat: 3	-0.0009722	-0.0358922	-5.45217e-005	-0.0979344	0.000465247
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-2.27151e-005	-0.00290606	-5.49994e-005	8.70845e-005	0.000298681
Std Dev:	5.17888e-006	0.00066908	5.02999e-005	5.70763e-005	0.000157783
%RSD:	22.7993	23.0236	91.4553	65.5413	52.8268
Repeat: 1	-2.39042e-005	-0.00339363	-9.87173e-005	5.09718e-005	0.000452662
Repeat: 2	-1.70451e-005	-0.00214326	-6.6256e-005	5.73955e-005	0.000137352
Repeat: 3	-2.7196e-005	-0.00318129	-2.497e-008	0.000152886	0.000306027

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000287011	-0.000912277	0.0100129	3.41002e-005	-0.0235624
Std Dev:	0.000106108	0.00488978	0.0216266	0.000294446	0.00420672
%RSD:	36.9699	535.997	215.987	863.474	17.8536
Repeat: 1	-0.000400163	-0.0045559	0.0326682	4.96334e-005	-0.0237948
Repeat: 2	-0.000271131	-0.00282583	0.00778295	0.000320472	-0.027648
Repeat: 3	-0.000189738	0.0046449	-0.0104123	-0.000267805	-0.0192442
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-3.33427e-005	0.00050563	0.907639	0.0835738	-4.63589e-006
Std Dev:	3.07323e-005	0.000419103	1.12478	0.00482084	0.000111086
%RSD:	92.171	82.8872	123.924	5.76837	2396.21
Repeat: 1	2.95942e-008	0.000887684	0.667819	0.0883858	-3.25265e-005
Repeat: 2	-3.95793e-005	0.000571845	-0.0778917	0.0835914	0.000117737
Repeat: 3	-6.04783e-005	5.73615e-005	2.13299	0.0787442	-9.91185e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0016805	-0.000850543	-0.00109293	0.000891995	0.00092499
Std Dev:	0.000504945	0.0015982	0.00163767	0.000698221	0.000437014
%RSD:	30.0473	187.903	149.842	78.2763	47.2452
Repeat: 1	0.00141954	-0.00255781	-0.00089001	0.000371788	0.00134812
Repeat: 2	0.00226252	-0.00060368	-0.0028226	0.00168553	0.000475305
Repeat: 3	0.00135943	0.000609859	0.000433823	0.000618665	0.000951545
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.0017157	-0.00020995	9.63287e-005	-0.000267216	-0.000833626
Std Dev:	0.0119719	0.000116252	1.55211e-005	0.00058428	0.00225964
%RSD:	697.782	55.3712	16.1127	218.655	271.062
Repeat: 1	-0.00804807	-0.000293892	9.95734e-005	-0.000884127	-0.0024592
Repeat: 2	0.0120924	-7.72607e-005	0.000109971	-0.000195295	0.00174668
Repeat: 3	-0.00919148	-0.000258697	7.94417e-005	0.000277775	-0.00178835
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	6.72903e-005	9.66627e-005	6111.37	164113	11337.5
Std Dev:	0.000123535	1.313e-005	28.0642	2650.19	192.586
%RSD:	183.586	13.5833	0.459212	1.61486	1.69867
Repeat: 1	-7.53314e-005	0.000110019	6140.07	167087	11550.6
Repeat: 2	0.000140905	9.61981e-005	6083.99	163251	11285.9
Repeat: 3	0.000136298	8.37711e-005	6110.04	162001	11175.9
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6111.37	164113	11337.5
Std Dev:	28.0642	2650.19	192.586
%RSD:	0.459212	1.61486	1.69867
Repeat: 1	6140.07	167087	11550.6
Repeat: 2	6083.99	163251	11285.9

Repeat: 3	6110.04	162001	11175.9

Sample Name	**Acquisition Date**
M89WFZ500	10/12/2016 5:06:30PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1197.14	446.636	73.6813	502.947	2539.21
Std Dev:	6.6234	1.97879	0.581218	2.16268	9.57149
%RSD:	0.553271	0.443043	0.788827	0.430003	0.376948
Repeat: 1	1193.6	444.489	73.834	502.344	2528.65
Repeat: 2	1204.78	448.386	73.039	505.347	2547.33
Repeat: 3	1193.03	447.035	74.171	501.149	2541.63
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1030.1	566.648	199.951	288.716	152615
Std Dev:	2.93873	2.2378	0.475871	0.581182	751.705
%RSD:	0.285287	0.394919	0.237994	0.201299	0.49255
Repeat: 1	1028.63	566.893	199.6	288.993	152782
Repeat: 2	1033.48	568.752	199.76	288.048	151794
Repeat: 3	1028.18	564.297	200.493	289.106	153269
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1455.16	111.446	4882.61	5043.47	154.582
Std Dev:	7.09062	2.0679	27.5566	47.8349	1.32272
%RSD:	0.487274	1.85552	0.564382	0.948451	0.855671
Repeat: 1	1448.58	109.125	4867.76	4992.16	153.055
Repeat: 2	1462.67	113.093	4914.41	5086.84	155.341
Repeat: 3	1454.23	112.121	4865.66	5051.42	155.351
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	430.773	93.6928	610.312	12876.7	306.998
Std Dev:	2.80763	0.290118	6.9682	45.6196	0.0948831
%RSD:	0.651766	0.309649	1.14174	0.354279	0.0309068
Repeat: 1	428.237	93.5434	603.684	12835.2	306.91
Repeat: 2	433.79	93.5078	617.577	12869.4	306.985
Repeat: 3	430.292	94.0272	609.675	12925.6	307.098
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.8457	179.806	215.523	226.738	77.4488
Std Dev:	0.211199	2.16164	0.633998	0.53627	0.275887
%RSD:	0.504708	1.20221	0.294168	0.236515	0.356219
Repeat: 1	41.7178	179.533	215.974	226.373	77.7319
Repeat: 2	41.7299	182.091	214.798	226.488	77.1807
Repeat: 3	42.0895	177.793	215.797	227.354	77.4337
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	135.16	75.5084	1598.95	368.728	51.1743
Std Dev:	1.06406	0.381902	10.3517	4.19212	0.59787
%RSD:	0.787264	0.505775	0.647404	1.13691	1.1683
Repeat: 1	134.135	75.4131	1589.26	364.117	50.8129
Repeat: 2	136.259	75.1831	1609.85	372.31	50.8457
Repeat: 3	135.084	75.9289	1597.74	369.758	51.8644
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1127.61	204.968	6523.39	169900	12666.4

Std Dev:	2.91996	0.312424	25.1953	1078.99	98.7177
%RSD:	0.258952	0.152425	0.38623	0.635072	0.779364
Repeat: 1	1124.33	204.824	6496.01	169634	12715.9
Repeat: 2	1129.92	204.754	6528.55	168979	12552.8
Repeat: 3	1128.57	205.327	6545.6	171087	12730.6

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000264047	0.000647329	0.00128457	-0.0956645	0.000220085
Std Dev:	0.000396643	0.0128414	0.00131524	0.000499657	0.00027212
%RSD:	150.217	1983.75	102.388	0.522301	123.643
Repeat: 1	0.000177536	-0.0112315	0.00070515	-0.0962402	0.000472139
Repeat: 2	-0.000379583	-0.00109893	0.000358523	-0.0953433	-6.84257e-005
Repeat: 3	-0.000590095	0.0142724	0.00279003	-0.0954101	0.000256543
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.18672e-005	0.00979465	0.000151837	-0.000556799	9.93227
Std Dev:	8.35371e-006	0.00197162	4.88956e-005	0.000134559	0.0263278
%RSD:	70.3933	20.1296	32.2027	24.1666	0.265073
Repeat: 1	-6.24889e-006	0.0119472	9.81097e-005	-0.000709827	9.95774
Repeat: 2	-2.14668e-005	0.00936034	0.000193728	-0.000503584	9.93392
Repeat: 3	-7.8859e-006	0.00807639	0.000163674	-0.000456985	9.90516
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000702083	0.00852555	-0.0141773	0.000691235	-0.00147073
Std Dev:	0.000139437	0.000957722	0.0347371	0.000733733	0.00829614
%RSD:	19.8605	11.2335	245.02	106.148	564.081
Repeat: 1	-0.000848363	0.00742202	0.0244407	0.000129648	0.00695784
Repeat: 2	-0.000687204	0.00913971	-0.0240972	0.000422638	-0.00962777
Repeat: 3	-0.000570682	0.00901493	-0.0428753	0.00152142	-0.00174227
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.88711e-005	0.000519803	6.00044	4.5092	5.89868e-005
Std Dev:	7.64423e-005	1.72986e-005	0.568955	0.00752603	0.000229469
%RSD:	264.771	3.32792	9.48189	0.166904	389.018
Repeat: 1	-5.62694e-005	0.000523846	5.67424	4.50253	-2.14049e-005
Repeat: 2	5.12735e-005	0.000500841	6.65741	4.51736	0.000317836
Repeat: 3	9.16092e-005	0.000534722	5.66968	4.50771	-0.00011947
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000297148	0.00156561	-0.000665668	-0.0112092	0.00244995
Std Dev:	0.0012173	0.00165804	0.000565347	0.0012375	0.000435347
%RSD:	409.661	105.904	84.9293	11.04	17.7696
Repeat: 1	0.000606705	0.00273982	-6.51208e-005	-0.0126381	0.00252966
Repeat: 2	-0.00104504	0.00228807	-0.00118758	-0.0105067	0.00198026
Repeat: 3	0.00132978	-0.000331081	-0.000744301	-0.0104829	0.00283994
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0130335	-0.000315115	0.000136097	0.00555315	-0.000338794
Std Dev:	0.00584515	0.00041304	3.30903e-005	0.0007976	0.00146439
%RSD:	44.8473	131.076	24.3138	14.363	432.236
Repeat: 1	0.0088067	-0.000492185	0.000152936	0.00466863	-0.00201776
Repeat: 2	0.0105898	-0.000610101	9.79737e-005	0.00621765	0.000674592
Repeat: 3	0.0197039	0.000156939	0.000157381	0.00577315	0.000326788
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.00141347	0.00268111	6177	167287	11819.4
Std Dev:	0.000497678	1.06123e-005	26.0975	1088.87	98.264
%RSD:	35.2096	0.395816	0.422494	0.650897	0.831382
Repeat: 1	0.00163362	0.0026689	6148.65	167046	11870.4
Repeat: 2	0.000843684	0.00268816	6182.34	166339	11706.1
Repeat: 3	0.0017631	0.00268626	6200.02	168477	11881.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6177	167287	11819.4
Std Dev:	26.0975	1088.87	98.264
%RSD:	0.422494	0.650897	0.831382
Repeat: 1	6148.65	167046	11870.4
Repeat: 2	6182.34	166339	11706.1
Repeat: 3	6200.02	168477	11881.6

Sample Name	**Acquisition Date**
M89WFXZ500	10/12/2016 5:11:31PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1211.45	450.545	74.3838	508.711	2563.69
Std Dev:	4.14734	1.66905	0.408991	0.806194	19.7276
%RSD:	0.342345	0.370451	0.549839	0.158478	0.769498
Repeat: 1	1214.64	448.884	74.2842	509.176	2557.74
Repeat: 2	1206.76	452.222	74.0338	507.78	2547.63
Repeat: 3	1212.95	450.529	74.8334	509.176	2585.71
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1038.38	555.124	202.194	291.982	148266
Std Dev:	2.97945	3.72101	0.383421	0.0867429	387.243
%RSD:	0.286931	0.670303	0.18963	0.0297083	0.261182
Repeat: 1	1041.74	555.201	202.031	291.976	147819
Repeat: 2	1037.35	551.365	202.632	291.898	148480
Repeat: 3	1036.06	558.806	201.919	292.071	148498
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1453.92	106.139	4932.53	5097.63	156.209
Std Dev:	7.73183	0.495918	25.916	16.0823	1.27484
%RSD:	0.531792	0.467235	0.52541	0.315486	0.816108
Repeat: 1	1456.06	106.367	4912.71	5094.71	155.092
Repeat: 2	1445.34	105.57	4923.03	5083.2	155.939
Repeat: 3	1460.35	106.48	4961.86	5114.97	157.598

Element/Wavelength	Mn2576A	Mo2020A	aN	Na5895R	Ni2316A
Avg. of Repeats:	421.487	93.778	615.162	12574.8	309.773
Std Dev:	3.6655	0.208563	3.51334	57.5891	0.183027
%RSD:	0.869658	0.222401	0.571125	0.457972	0.0590842
Repeat: 1	421.504	93.9872	611.698	12510.7	309.888
Repeat: 2	425.145	93.7767	618.723	12591.7	309.868
Repeat: 3	417.814	93.5701	615.066	12622.1	309.562
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.6951	180.231	218.095	224.835	78.0098
Std Dev:	0.34379	2.2056	0.601495	0.633717	0.548532
%RSD:	0.824533	1.22376	0.275795	0.281859	0.703157
Repeat: 1	41.7765	181.029	217.827	224.118	78.639
Repeat: 2	41.9909	177.738	217.673	225.067	77.6319
Repeat: 3	41.318	181.927	218.783	225.32	77.7585
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	136.85	76.0782	1618.89	373.075	51.4454
Std Dev:	2.23882	0.738069	9.46461	4.65397	0.627381
%RSD:	1.63596	0.970145	0.584635	1.24746	1.21951
Repeat: 1	135.114	75.3429	1611.15	374.701	52.0442
Repeat: 2	136.06	76.0728	1616.08	367.826	51.4992
Repeat: 3	139.377	76.819	1629.44	376.697	50.7929
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1135.73	197.422	6504.65	168733	12453.7
Std Dev:	2.13007	0.918587	21.6256	343.172	69.882
%RSD:	0.187551	0.465291	0.332464	0.203381	0.561135
Repeat: 1	1133.95	196.744	6489.11	168344	12387.9
Repeat: 2	1135.15	198.467	6495.5	168865	12527.1
Repeat: 3	1138.09	197.055	6529.35	168991	12446.1

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000299185	0.0137943	0.0021153	-0.0954736	0.000122547
Std Dev:	0.000220117	0.0115092	7.71853e-005	0.00105716	0.000214081
%RSD:	73.5719	83.4347	3.64891	1.10728	174.693
Repeat: 1	0.000398926	0.0202757	0.0020271	-0.0942543	4.87533e-005
Repeat: 2	0.000451776	0.0206014	0.00214832	-0.0961334	-4.48762e-005
Repeat: 3	4.6855e-005	0.000505917	0.00217048	-0.0960332	0.000363764
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.55853e-005	0.000786156	0.000174686	-0.000646075	9.71864
Std Dev:	1.27577e-005	0.00180733	7.38971e-005	0.000127237	0.00648091
%RSD:	81.8575	229.894	42.303	19.6938	0.0666854
Repeat: 1	-2.9302e-005	-0.00123568	9.38826e-005	-0.000758758	9.71164
Repeat: 2	-1.33796e-005	0.00134923	0.000238835	-0.000671379	9.72443
Repeat: 3	-4.07417e-006	0.00224492	0.000191339	-0.000508087	9.71984
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000982193	0.00205999	-0.0199853	0.000692131	0.00672923
Std Dev:	0.000391017	0.00172216	0.0221115	0.000624606	0.015799
%RSD:	39.8106	83.6004	110.639	90.2439	234.782

Repeat: 1	-0.000962032	0.0040427	-0.033331	0.00134598	0.0168482
Repeat: 2	-0.0013829	0.0012008	0.00553795	0.000628812	-0.0114761
Repeat: 3	-0.000601647	0.000936459	-0.0321629	0.000101596	0.0148156
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000177091	0.000338015	6.38521	4.38017	-0.000178617
Std Dev:	5.7166e-005	0.000145189	1.1249	0.0193128	9.04245e-005
%RSD:	32.2805	42.9535	17.6172	0.440914	50.6247
Repeat: 1	-0.000195747	0.00049934	6.33499	4.37032	-0.000165324
Repeat: 2	-0.000112928	0.000296858	7.53437	4.36778	-0.000274953
Repeat: 3	-0.000222599	0.000217847	5.28626	4.40243	-9.55754e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000427983	-9.61199e-005	-0.000104553	-0.0120632	0.00180134
Std Dev:	0.00167742	0.00130453	0.000162406	0.00196618	0.00144331
%RSD:	391.936	1357.19	155.334	16.299	80.1242
Repeat: 1	0.000960081	0.000757554	-0.000276401	-0.0142295	0.00258393
Repeat: 2	4.78955e-005	-0.00159777	4.63861e-005	-0.0103918	0.00268433
Repeat: 3	-0.00229192	0.000551859	-8.36438e-005	-0.0115682	0.000135757
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0148214	-0.000197869	0.000233073	0.00506797	-0.00198581
Std Dev:	0.0144401	0.000450172	5.92858e-005	0.00149012	0.00250123
%RSD:	97.4274	227.509	25.4366	29.4026	125.955
Repeat: 1	-0.000546225	-0.000652609	0.000168855	0.00560937	-0.000549764
Repeat: 2	0.0169022	-0.00018859	0.000244643	0.00338284	-0.000533695
Repeat: 3	0.0281081	0.000247591	0.000285721	0.0062117	-0.00487397
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.00100409	0.00185959	6157.29	166092	11606.2
Std Dev:	5.73794e-005	9.20772e-005	21.5109	349.432	72.4423
%RSD:	5.71458	4.95147	0.349357	0.210384	0.624169
Repeat: 1	0.000946423	0.00177708	6141.74	165695	11547.7
Repeat: 2	0.00106118	0.00195892	6148.29	166231	11687.2
Repeat: 3	0.00100466	0.00184278	6181.84	166351	11583.7
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6157.29	166092	11606.2
Std Dev:	21.5109	349.432	72.4423
%RSD:	0.349357	0.210384	0.624169
Repeat: 1	6141.74	165695	11547.7
Repeat: 2	6148.29	166231	11687.2
Repeat: 3	6181.84	166351	11583.7

Sample Name	**Acquisition Date**
M89WGZ100	10/12/2016 5:16:34PM

Analyst Name **Method Name**

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1221.35	457.851	71.2128	491.183	2601.2
Std Dev:	7.49236	3.65406	0.358044	1.21159	11.5871
%RSD:	0.613449	0.79809	0.50278	0.246669	0.44545
Repeat: 1	1212.97	462.064	71.4133	490.656	2591.28
Repeat: 2	1227.41	455.944	71.4257	490.325	2613.94
Repeat: 3	1223.67	455.544	70.7995	492.569	2598.4
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Avg. of Repeats:	1043.66	561.211	198.341	289.181	630.128
Std Dev:	7.5766	5.24486	0.698864	1.72948	4.63474
%RSD:	0.725963	0.934561	0.352355	0.598063	0.735524
Repeat: 1	1038.53	566.201	198.707	290.753	624.825
Repeat: 2	1040.1	561.688	198.781	289.46	632.156
Repeat: 3	1052.36	555.744	197.535	287.328	633.403
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Avg. of Repeats:	1466.76	107.569	4963.19	5137.54	155.591
Std Dev:	13.0799	1.78493	14.5237	26.0956	1.75033
%RSD:	0.891759	1.65933	0.292629	0.507939	1.12495
Repeat: 1	1455.83	109.571	4952.49	5131.01	154.835
Repeat: 2	1463.2	106.144	4979.72	5166.28	157.592
Repeat: 3	1481.25	106.993	4957.34	5115.33	154.346
Element/Wavelength	Mn2576A	Mo2020A	aN	Na5895R	Ni2316A
Avg. of Repeats:	433.829	91.586	597.503	5167.21	309.354
Std Dev:	2.86847	0.359105	3.63427	26.0405	0.871348
%RSD:	0.661198	0.392095	0.608243	0.503955	0.281667
Repeat: 1	435.739	91.82	599.551	5178.32	309.84
Repeat: 2	430.531	91.1726	599.65	5185.86	309.873
Repeat: 3	435.218	91.7655	593.307	5137.46	308.348
Element/Wavelength	P_1782A	bP	Pb2203A	Sb2068A	Se1960A
Avg. of Repeats:	41.1218	22556.8	24243.3	122.226	76.8237
Std Dev:	0.258258	74.9703	66.4965	0.881475	0.374959
%RSD:	0.628031	0.332362	0.274288	0.721187	0.488078
Repeat: 1	41.42	22497.4	24210.1	121.587	77.2533
Repeat: 2	40.9727	22532.1	24199.9	123.231	76.6556
Repeat: 3	40.9727	22641	24319.9	121.859	76.5623
Element/Wavelength	Si2506R	Sn1899A	Sr4215R	Ti3349R	Tl1908A
Avg. of Repeats:	135.192	75.6796	1647.24	366.62	51.7903
Std Dev:	0.343853	0.54961	6.38854	4.77111	0.240807
%RSD:	0.254345	0.726233	0.387834	1.30138	0.464965
Repeat: 1	134.796	75.24	1650.8	369.84	51.9333
Repeat: 2	135.365	76.2958	1651.05	368.881	51.9254
Repeat: 3	135.415	75.503	1639.86	361.139	51.5123
Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	1137.41	192.403	6522.81	167294	12394.5
Std Dev:	8.54554	0.860159	13.7099	339.384	50.2654
%RSD:	0.751315	0.447061	0.210184	0.202867	0.405548
Repeat: 1	1127.82	192.047	6524.92	167369	12452.5
Repeat: 2	1140.19	193.384	6508.17	166923	12364.9
Repeat: 3	1144.23	191.779	6535.34	167590	12365.9

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.67413e-005	0.0197818	-0.00063451	-0.100071	0.000563781
Std Dev:	0.00023897	0.0204212	0.00055588	0.000562479	0.000222166
%RSD:	893.634	103.232	87.6077	0.562078	39.4065
Repeat: 1	-0.000167145	0.0336502	7.25299e-006	-0.0995857	0.000353498
Repeat: 2	0.000293721	-0.00366835	-0.000945017	-0.0999403	0.000541667
Repeat: 3	-4.63525e-005	0.0293636	-0.000965768	-0.100688	0.000796177
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-2.64061e-005	0.00426728	-4.57208e-005	4.38799e-005	0.00243947
Std Dev:	6.71644e-006	0.0042589	3.86943e-005	0.000180625	0.000206271
%RSD:	25.4352	99.8038	84.6317	411.635	8.45556
Repeat: 1	-3.27692e-005	0.00915867	-3.34315e-006	0.000252097	0.00225544
Repeat: 2	-2.70643e-005	0.00226202	-7.91712e-005	-4.97492e-005	0.00266243
Repeat: 3	-1.93848e-005	0.00138115	-5.46479e-005	-7.07075e-005	0.00240054
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000426312	0.00188964	-0.0255375	0.000526731	-0.0156129
Std Dev:	4.87491e-005	0.00239316	0.00881521	0.00128989	0.0174242
%RSD:	11.4351	126.647	34.5187	244.885	111.601
Repeat: 1	-0.00047478	0.00436153	-0.0295318	0.00103429	-0.0347596
Repeat: 2	-0.000377287	-0.000416143	-0.0316485	0.00148563	-0.000686464
Repeat: 3	-0.000426868	0.00172353	-0.0154322	-0.000939729	-0.0113927
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	7.6224e-005	-1.93275e-005	0.662941	0.0811834	-4.10306e-005
Std Dev:	3.58222e-005	0.000201173	0.727914	0.00752242	0.000253982
%RSD:	46.996	1040.86	109.801	9.26597	619.006
Repeat: 1	7.96165e-005	-0.000109534	1.50331	0.0897768	0.000251466
Repeat: 2	3.88262e-005	-0.000159609	0.228735	0.0779831	-0.000205746
Repeat: 3	0.000110229	0.000211161	0.256781	0.0757902	-0.000168811
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000335022	21.5775	21.5683	-0.000339776	2.54883e-005
Std Dev:	0.000490789	0.0515405	0.032283	0.00152888	0.000183555
%RSD:	146.495	0.238862	0.149678	449.968	720.152
Repeat: 1	0.000836514	21.5181	21.5323	-0.00147	-4.89869e-005
Repeat: 2	-0.000144313	21.6061	21.5775	0.00139983	-0.000109124
Repeat: 3	0.000312864	21.6085	21.5949	-0.000949152	0.000234576
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000681774	0.000272252	0.000440758	0.00347086	-0.000235794
Std Dev:	0.00431191	0.000557021	0.000157147	0.000991529	0.00208916
%RSD:	632.455	204.597	35.6538	28.5672	886.009
Repeat: 1	-0.00404512	-0.000354013	0.000622121	0.00449193	-0.0025367
Repeat: 2	0.00439983	0.000712335	0.000345003	0.00340888	0.00154231
Repeat: 3	0.00169061	0.000458436	0.00035515	0.00251178	0.000287009

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-0.000102812	0.00161038	6256.48	164639	11535.5
Std Dev:	0.000103366	5.35031e-005	13.4414	348.59	49.398
%RSD:	100.538	3.32239	0.21484	0.21173	0.428227
Repeat: 1	-0.000205464	0.00157493	6258.71	164727	11592.2
Repeat: 2	1.25282e-006	0.00167193	6242.06	164255	11502.2
Repeat: 3	-0.000104226	0.00158429	6268.66	164935	11512.1
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6256.48	164639	11535.5
Std Dev:	13.4414	348.59	49.398
%RSD:	0.21484	0.21173	0.428227
Repeat: 1	6258.71	164727	11592.2
Repeat: 2	6242.06	164255	11502.2
Repeat: 3	6268.66	164935	11512.1

Sample Name	**Acquisition Date**
M89WGXZ100	10/12/2016 5:21:36PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1195.66	450.149	70.5996	479.575	2559.88
Std Dev:	6.80876	1.05122	0.291239	1.48738	12.2944
%RSD:	0.569454	0.233527	0.412522	0.310146	0.480274
Repeat: 1	1189.14	450.05	70.473	480.312	2546.76
Repeat: 2	1195.13	449.151	70.3931	477.863	2561.74
Repeat: 3	1202.72	451.246	70.9327	480.551	2571.14
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1025.45	556.837	195.61	284.668	619.949
Std Dev:	6.53426	4.35122	1.20275	1.45634	3.61662
%RSD:	0.637211	0.781418	0.614872	0.511592	0.583373
Repeat: 1	1018.64	552.393	194.464	283.791	617.879
Repeat: 2	1026.03	561.089	195.503	283.864	624.126
Repeat: 3	1031.67	557.029	196.862	286.349	617.844
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1439.11	108.447	4900.32	5071.85	156.851
Std Dev:	7.47283	1.17513	20.6913	5.76159	1.61986
%RSD:	0.519269	1.0836	0.422245	0.113599	1.03274
Repeat: 1	1432.64	109.771	4879.41	5065.2	154.985
Repeat: 2	1437.39	108.042	4900.75	5074.93	157.892
Repeat: 3	1447.29	107.527	4920.79	5075.42	157.677
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	422.112	90.5996	592.104	5102.92	305.305
Std Dev:	5.06626	0.45151	5.423	26.2639	1.98965
%RSD:	1.20022	0.498358	0.915887	0.514684	0.65169
Repeat: 1	416.8	91.026	585.842	5073.23	303.245
Repeat: 2	422.646	90.1266	595.305	5112.39	305.456
Repeat: 3	426.89	90.6462	595.165	5123.13	307.215

Element/Wavelength	P_1782A	bP	Pb2203A	Sb2068A	Se1960A
Avg. of Repeats:	40.7706	22273.8	23852.7	121.466	76.2358
Std Dev:	0.317162	55.3912	10.1929	0.319995	0.150011
%RSD:	0.777919	0.248683	0.0427328	0.263445	0.196772
Repeat: 1	41.0993	22210	23849.1	121.479	76.0893
Repeat: 2	40.7462	22308.9	23844.7	121.139	76.2292
Repeat: 3	40.4664	22302.7	23864.2	121.779	76.3891
Element/Wavelength	Si2506R	Sn1899A	Sr4215R	Ti3349R	Tl1908A
Avg. of Repeats:	132.426	74.9167	1629.68	355.967	51.0437
Std Dev:	2.65221	0.613033	5.01811	3.31819	0.266517
%RSD:	2.00278	0.818286	0.307919	0.932163	0.522134
Repeat: 1	132.453	74.9034	1623.93	357.029	51.3125
Repeat: 2	135.065	74.3105	1631.97	352.248	50.7795
Repeat: 3	129.761	75.5363	1633.15	358.624	51.0393
Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	1111.46	195.805	6575.22	170844	12651.8
Std Dev:	4.18032	0.309799	3.87639	694.223	59.4022
%RSD:	0.376111	0.158218	0.0589545	0.406348	0.469517
Repeat: 1	1106.94	196.163	6574.92	170116	12583.4
Repeat: 2	1115.18	195.616	6579.24	171499	12690.7
Repeat: 3	1112.26	195.636	6571.51	170918	12681.2

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.0004423	0.00352001	-0.00104024	-0.100671	0.000313455
Std Dev:	0.000620832	0.00717263	0.000305346	0.000945909	0.000105978
%RSD:	140.365	203.767	29.3533	0.939605	33.8096
Repeat: 1	-0.000676118	0.0117699	-0.00118073	-0.0997091	0.000303773
Repeat: 2	-0.000912272	-0.00123795	-0.00068994	-0.1016	0.000212651
Repeat: 3	0.00026149	2.80487e-005	-0.00125006	-0.100704	0.000423943
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.28639e-005	0.00350285	2.12168e-005	-1.16549e-005	0.00270799
Std Dev:	4.07999e-006	0.00281716	7.52803e-005	0.000151697	0.000367682
%RSD:	31.7166	80.4247	354.815	1301.57	13.5777
Repeat: 1	-1.20439e-005	0.00111464	-6.53773e-005	-0.000184062	0.00268816
Repeat: 2	-1.72916e-005	0.00660973	5.79391e-005	0.000101359	0.00308518
Repeat: 3	-9.25623e-006	0.00278417	7.10885e-005	4.7739e-005	0.00235062
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000415184	0.00483932	-0.0566935	-0.000232455	0.00752477
Std Dev:	0.000119678	0.00234055	0.0129056	0.000887791	0.0119954
%RSD:	28.8252	48.3653	22.7639	381.92	159.412
Repeat: 1	-0.000340644	0.00754126	-0.0514528	0.000788488	-0.00630713
Repeat: 2	-0.000553229	0.00343544	-0.0713951	-0.000662743	0.0150717
Repeat: 3	-0.000351679	0.00354125	-0.0472326	-0.000823109	0.0138097
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	Mn2576A	Mo2020A	aN	Na5895R	Ni2316A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	3.24146e-005	0.000241144	0.879335	0.0810257	0.000152723

Std Dev:	4.0468e-005	0.000341	0.936376	0.00157142	0.000306535
%RSD:	124.845	141.409	106.487	1.93941	200.713
Repeat: 1	-1.23538e-005	0.000627875	-0.173779	0.081648	-0.000164213
Repeat: 2	4.32018e-005	0.000111886	1.19373	0.0821907	0.000447674
Repeat: 3	6.6396e-005	-1.63304e-005	1.61806	0.0792385	0.000174709
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000526935	20.851	21.0267	0.0005497	0.00064347
Std Dev:	0.00162781	0.044483	0.0208344	0.000737561	0.00119049
%RSD:	308.92	0.213337	0.0990857	134.175	185.011
Repeat: 1	5.55146e-005	20.8743	21.018	0.00125008	-0.0002568
Repeat: 2	0.00233842	20.7997	21.0116	-0.000220127	0.00199327
Repeat: 3	-0.000813133	20.879	21.0504	0.000619143	0.000193938
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.0109903	5.21088e-005	0.000480053	0.00158905	-0.00118015
Std Dev:	0.0178077	0.000136179	0.000156086	0.000903479	0.000643252
%RSD:	162.031	261.337	32.5143	56.8565	54.5059
Repeat: 1	-0.0142613	0.000154833	0.000634998	0.00232901	-0.0019013
Repeat: 2	0.00822608	-0.000102358	0.000482308	0.00058219	-0.000973641
Repeat: 3	-0.0269357	0.000103852	0.000322851	0.00185595	-0.000665516
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-0.000202598	0.0020301	6314.38	168249	11803
Std Dev:	0.000111961	6.90883e-005	4.60049	678.298	52.279
%RSD:	55.2626	3.40321	0.0728573	0.403151	0.442929
Repeat: 1	-0.000236935	0.00207856	6316.04	167541	11742.8
Repeat: 2	-7.74897e-005	0.00206074	6317.92	168893	11836.4
Repeat: 3	-0.000293369	0.00195099	6309.18	168314	11829.9
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6314.38	168249	11803
Std Dev:	4.60049	678.298	52.279
%RSD:	0.0728573	0.403151	0.442929
Repeat: 1	6316.04	167541	11742.8
Repeat: 2	6317.92	168893	11836.4
Repeat: 3	6309.18	168314	11829.9

Sample Name	**Acquisition Date**
M89W5Z500	10/12/2016 5:26:37PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1223.34	455.729	75.171	507.838	2595.55
Std Dev:	12.971	5.13997	0.668219	6.36693	13.6362
%RSD:	1.0603	1.12786	0.888931	1.25373	0.525367
Repeat: 1	1208.86	453.066	74.7268	500.798	2583.58

Repeat: 2	1227.26	452.467	74.8467	513.192	2592.67
Repeat: 3	1233.89	461.654	75.9395	509.525	2610.4
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1047.1	562.18	204.506	296.695	139431
Std Dev:	8.51833	3.39463	1.1595	2.04384	673.02
%RSD:	0.813518	0.603835	0.566976	0.688868	0.48269
Repeat: 1	1038.35	559.167	203.172	294.383	138952
Repeat: 2	1055.37	565.858	205.264	298.261	139141
Repeat: 3	1047.58	561.514	205.084	297.441	140200
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1468.65	107.117	4985.67	5152.59	156.947
Std Dev:	18.8514	1.3858	34.9831	25.4393	1.4577
%RSD:	1.28359	1.29373	0.701673	0.493719	0.928783
Repeat: 1	1446.89	106.9	4957.61	5127.82	156.032
Repeat: 2	1479.91	105.852	4974.54	5151.29	156.181
Repeat: 3	1479.15	108.598	5024.87	5178.65	158.628
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	431.352	94.6295	619.832	12107.8	314.519
Std Dev:	5.68003	0.501242	3.94132	22.1559	2.45685
%RSD:	1.3168	0.529688	0.635868	0.182989	0.781144
Repeat: 1	424.796	94.0632	615.588	12133.3	311.774
Repeat: 2	434.789	94.8094	620.531	12096.2	316.511
Repeat: 3	434.47	95.016	623.377	12093.8	315.272
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	42.0243	183.545	222.77	219.892	78.758
Std Dev:	0.196872	0.97528	1.55995	1.33333	0.544136
%RSD:	0.468473	0.531358	0.700252	0.606357	0.690896
Repeat: 1	42.0842	183.024	220.971	218.437	78.1783
Repeat: 2	42.1842	182.94	223.747	221.055	78.838
Repeat: 3	41.8044	184.67	223.592	220.183	79.2577
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	135.311	76.7324	1628.79	379.086	51.7813
Std Dev:	1.5004	0.331553	8.97664	0.893642	0.0407123
%RSD:	1.10885	0.432089	0.551124	0.235736	0.0786236
Repeat: 1	133.763	76.4392	1629.37	380.068	51.8257
Repeat: 2	135.41	76.6658	1619.53	378.32	51.7457
Repeat: 3	136.759	77.0922	1637.46	378.87	51.7724
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1150.43	201.215	6523.44	168196	12363.1
Std Dev:	6.17406	2.0294	26.6948	685.975	20.3225
%RSD:	0.536675	1.00857	0.409213	0.407843	0.16438
Repeat: 1	1144.08	199.16	6496.02	168383	12360
Repeat: 2	1156.41	201.266	6524.96	167436	12384.8
Repeat: 3	1150.81	203.218	6549.35	168769	12344.5

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000237828	0.00190817	0.00212423	-0.0964879	0.000287358
Std Dev:	0.000228282	0.00847235	0.00149538	0.00051956	0.000163229
%RSD:	95.9862	444.003	70.3963	0.538472	56.8031
Repeat: 1	-0.000472345	0.00553548	0.00161304	-0.0967467	0.000350501
Repeat: 2	-0.000224801	-0.00777395	0.000951475	-0.0958897	0.000409583

Repeat: 3	-1.63384e-005	0.00796298	0.00380816	-0.0968272	0.000101991
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-3.19475e-006	0.0019702	0.000145583	-0.000533564	9.16627
Std Dev:	1.60072e-005	0.00328508	6.43305e-005	0.000100643	0.0366387
%RSD:	501.047	166.738	44.1883	18.8624	0.399713
Repeat: 1	1.45886e-005	0.00237893	0.000181822	-0.000619318	9.12397
Repeat: 2	-7.72255e-006	0.00503179	7.13074e-005	-0.000558611	9.18816
Repeat: 3	-1.64503e-005	-0.00150011	0.000183618	-0.000422762	9.18668
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00122778	0.000998901	-0.0233061	0.000501974	-0.023247
Std Dev:	0.000166594	0.00137571	0.00824877	0.00132906	0.0101522
%RSD:	13.5687	137.723	35.3932	264.768	43.6709
Repeat: 1	-0.00141976	0.00178345	-0.0318103	0.000633874	-0.0343581
Repeat: 2	-0.00112121	-0.000589597	-0.0153389	0.00176017	-0.0209279
Repeat: 3	-0.00114238	0.00180285	-0.0227691	-0.000888124	-0.0144551
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-7.45139e-005	0.000301893	3.63523	4.11372	7.91587e-005
Std Dev:	4.44733e-005	0.000101432	0.496536	0.0264625	0.000165152
%RSD:	59.6846	33.5987	13.659	0.643275	208.634
Repeat: 1	-0.000121319	0.000312189	3.43903	4.14362	-9.20222e-005
Repeat: 2	-6.94095e-005	0.000195705	3.26677	4.10423	9.19612e-005
Repeat: 3	-3.2813e-005	0.000397784	4.19989	4.09331	0.000237537
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00115935	0.00106426	0.00109302	-0.0135248	0.000670608
Std Dev:	0.000852575	0.00141867	0.000112333	0.000742164	0.00252387
%RSD:	73.539	133.302	10.2773	5.48742	376.355
Repeat: 1	0.00212469	0.0025015	0.00115895	-0.0130671	0.00283647
Repeat: 2	0.000843938	-0.000335085	0.000963316	-0.0131263	-0.00210102
Repeat: 3	0.000509425	0.00102635	0.0011568	-0.0143811	0.00127637
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00850498	-0.000340382	1.39442e-005	0.00580827	-0.00151028
Std Dev:	0.00537641	9.53717e-005	0.000153945	0.00048028	0.000835009
%RSD:	63.2148	28.019	1104.01	8.26891	55.2882
Repeat: 1	-0.0129208	-0.00044428	0.000191689	0.00632442	-0.00247156
Repeat: 2	-0.00251803	-0.00032005	-7.29202e-005	0.00572585	-0.00109449
Repeat: 3	-0.0100761	-0.000256816	-7.69364e-005	0.00537453	-0.0009648
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.00102481	0.00198469	6176.79	165533	11498.1
Std Dev:	0.000213171	9.04405e-005	25.0169	689.68	24.4025
%RSD:	20.8011	4.5569	0.405014	0.416642	0.21223
Repeat: 1	0.00125292	0.00195538	6151.43	165748	11498

Repeat: 2	0.000830651	0.00191255	6177.48	164761	11522.6
Repeat: 3	0.000990849	0.00208616	6201.45	166089	11473.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6176.79	165533	11498.1
Std Dev:	25.0169	689.68	24.4025
%RSD:	0.405014	0.416642	0.21223
Repeat: 1	6151.43	165748	11498
Repeat: 2	6177.48	164761	11522.6
Repeat: 3	6201.45	166089	11473.8

Sample Name	**Acquisition Date**
M89W7Z100	10/12/2016 5:31:41PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1212.91	454.625	71.5064	482.72	2592.07
Std Dev:	2.40122	2.23166	0.404867	3.60608	17.6118
%RSD:	0.197972	0.490879	0.566197	0.747035	0.679448
Repeat: 1	1210.15	452.048	71.2533	480.251	2573.33
Repeat: 2	1214.57	455.932	71.9733	486.858	2608.28
Repeat: 3	1213.99	455.894	71.2925	481.049	2594.61
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1035	561.597	197.807	286.721	606.062
Std Dev:	8.54574	1.98319	0.368788	0.58274	1.3237
%RSD:	0.825673	0.353135	0.186438	0.203243	0.218409
Repeat: 1	1025.13	559.74	197.753	286.173	604.578
Repeat: 2	1039.98	561.366	198.2	287.333	606.486
Repeat: 3	1039.9	563.686	197.468	286.656	607.121
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1468.03	108.453	4934.08	5109.86	157.871
Std Dev:	7.56451	0.521343	16.4516	11.8587	1.50517
%RSD:	0.515282	0.480709	0.333429	0.232074	0.953417
Repeat: 1	1462.85	108.591	4931.57	5105.49	156.793
Repeat: 2	1476.71	107.876	4951.65	5123.28	157.228
Repeat: 3	1464.54	108.891	4919.03	5100.8	159.59
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	431.567	90.9575	599.917	5128.42	307.672
Std Dev:	2.80566	0.349688	5.68074	15.0588	1.17018
%RSD:	0.65011	0.384452	0.946921	0.293635	0.380333
Repeat: 1	428.386	90.6133	605.794	5121.78	306.513
Repeat: 2	433.69	90.9467	599.501	5145.66	308.853
Repeat: 3	432.625	91.3125	594.456	5117.83	307.648
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	40.6244	29543	31663.1	122.577	76.7696
Std Dev:	0.464844	171.109	101.492	0.41758	0.418077
%RSD:	1.14425	0.579186	0.320536	0.340666	0.544586
Repeat: 1	41.16	29388.8	31605.2	122.867	76.32
Repeat: 2	40.3867	29513	31603.9	122.767	77.1467
Repeat: 3	40.3264	29727.1	31780.3	122.099	76.8421

Element/Wavelength	Si2506R	Sn1899A	Sr4215R	Ti3349R	Tl1908A
Avg. of Repeats:	134.626	75.0612	1628.47	354.494	52.0996
Std Dev:	1.15778	0.758108	5.6077	2.68292	0.404644
%RSD:	0.859997	1.00999	0.344355	0.756832	0.776674
Repeat: 1	134.665	74.56	1623.33	353.447	52.2067
Repeat: 2	133.45	75.9333	1634.45	352.493	52.44
Repeat: 3	135.764	74.6902	1627.62	357.542	51.6522
Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	1126.92	193.877	6582.36	170481	12598.6
Std Dev:	4.58026	0.293705	11.4841	147.542	17.2758
%RSD:	0.406438	0.15149	0.174467	0.0865448	0.137124
Repeat: 1	1125.77	194.127	6574.59	170650	12612.6
Repeat: 2	1131.97	193.553	6576.94	170412	12604
Repeat: 3	1123.03	193.951	6595.55	170380	12579.3

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.6911e-005	0.0191703	-8.59339e-005	-0.1007	0.000577081
Std Dev:	0.000232552	0.00554829	0.000874488	0.000440413	0.000362794
%RSD:	864.15	28.9421	1017.63	0.437352	62.867
Repeat: 1	-0.000237905	0.0175755	-0.000523447	-0.100923	0.000160289
Repeat: 2	0.000120786	0.0253413	0.000920963	-0.100984	0.000748972
Repeat: 3	0.000197852	0.014594	-0.000655318	-0.100193	0.000821982
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.44478e-005	0.00440582	3.16411e-005	3.34839e-005	0.00128531
Std Dev:	2.07898e-005	0.000620897	7.18535e-005	3.13794e-005	0.000254595
%RSD:	143.896	14.0927	227.089	93.7147	19.808
Repeat: 1	-3.84455e-005	0.00407371	2.34109e-005	1.23254e-005	0.00157923
Repeat: 2	-2.9965e-006	0.00512213	0.000107255	6.95368e-005	0.00113315
Repeat: 3	-1.90141e-006	0.00402161	-3.5743e-005	1.85897e-005	0.00114355
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	9.70729e-005	0.00349954	-0.0309476	0.000317146	-0.00125211
Std Dev:	0.00025857	0.000742865	0.0388253	0.000229349	0.0129863
%RSD:	266.367	21.2275	125.455	72.3164	1037.16
Repeat: 1	-0.000137992	0.00264288	0.0076433	0.00055867	-0.00174696
Repeat: 2	0.000374032	0.00396602	-0.0304832	0.000290463	-0.0139839
Repeat: 3	5.51792e-005	0.00388971	-0.070003	0.000102307	0.0119746
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	Mn2576A	Mo2020A	aN	Na5895R	Ni2316A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.71967e-005	-0.00013841	0.677063	0.0715979	4.67463e-005
Std Dev:	3.88088e-006	9.10424e-005	1.17353	0.00164753	0.000108659
%RSD:	8.22278	65.7774	173.326	2.30108	232.445
Repeat: 1	5.1584e-005	-0.000192348	1.9462	0.0710953	-7.58738e-005
Repeat: 2	4.42124e-005	-3.32952e-005	0.453773	0.0734382	8.50322e-005
Repeat: 3	4.57937e-005	-0.000189586	-0.36878	0.0702602	0.000131081
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	P_1782A	bP	Pb2203A	Sb2068A	Se1960A

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000667358	27.7691	27.9625	0.000388596	0.00108321
Std Dev:	0.00150593	0.185961	0.0465319	0.000789468	0.00181832
%RSD:	225.656	0.66967	0.166408	203.159	167.864
Repeat: 1	0.00234383	27.5892	27.9379	0.00122349	-0.000849884
Repeat: 2	0.000229024	27.7576	27.9333	0.000288118	0.00275944
Repeat: 3	-0.000570776	27.9606	28.0161	-0.000345823	0.00134007
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000560978	-0.0003847	0.000243321	0.000704553	-0.00189258
Std Dev:	0.0134905	0.000633566	4.85155e-005	0.00110656	0.000482642
%RSD:	2404.81	164.691	19.9389	157.058	25.5018
Repeat: 1	0.00336766	-0.000687901	0.000191821	0.00115859	-0.00148597
Repeat: 2	-0.0155797	0.000343492	0.000249978	-0.000556807	-0.00176581
Repeat: 3	0.0105291	-0.000809692	0.000288165	0.00151188	-0.00242595
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-5.06725e-006	0.00177173	6316.81	167814	11742.4
Std Dev:	7.40591e-005	4.06301e-005	9.62358	159.04	16.4694
%RSD:	1461.52	2.29324	0.152349	0.0947716	0.140256
Repeat: 1	-4.80448e-005	0.0017957	6311.01	167998	11757.4
Repeat: 2	8.04484e-005	0.00179467	6311.49	167728	11745.1
Repeat: 3	-4.76054e-005	0.00172482	6327.91	167717	11724.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6316.81	167814	11742.4
Std Dev:	9.62358	159.04	16.4694
%RSD:	0.152349	0.0947716	0.140256
Repeat: 1	6311.01	167998	11757.4
Repeat: 2	6311.49	167728	11745.1
Repeat: 3	6327.91	167717	11724.8

Sample Name	**Acquisition Date**
M89XKZ500	10/12/2016 5:36:43PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1213.83	454.104	74.8168	507.605	2573.05
Std Dev:	9.60441	0.941356	0.385044	6.38582	10.6139
%RSD:	0.791247	0.2073	0.514649	1.25803	0.412504
Repeat: 1	1202.83	453.075	74.9101	501.349	2560.85
Repeat: 2	1218.14	454.922	74.3937	507.351	2578.08
Repeat: 3	1220.53	454.314	75.1466	514.113	2580.21
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1042.64	586.003	203.36	294.076	153587
Std Dev:	8.39003	3.09924	0.328062	0.650662	1915.16
%RSD:	0.804691	0.528877	0.161321	0.221257	1.24696
Repeat: 1	1033.03	585.613	203.323	293.961	152287

Repeat: 2	1048.51	583.117	203.705	294.776	152687
Repeat: 3	1046.38	589.279	203.052	293.49	155786
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1475.5	113.128	4923.18	5102.73	155.879
Std Dev:	6.45169	1.47652	17.5518	23.5574	1.6462
%RSD:	0.437253	1.30518	0.356513	0.461663	1.05608
Repeat: 1	1468.32	112.869	4904.25	5089.41	154.004
Repeat: 2	1477.4	114.716	4926.37	5088.86	156.55
Repeat: 3	1480.8	111.798	4938.92	5129.93	157.084
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	435.711	94.8128	615.584	12770	312.861
Std Dev:	4.6197	0.264409	5.1048	9.61117	0.41809
%RSD:	1.06027	0.278874	0.829262	0.0752638	0.133634
Repeat: 1	431.791	94.693	613.019	12763	312.392
Repeat: 2	434.537	95.1159	612.27	12766	313.193
Repeat: 3	440.804	94.6295	621.463	12780.9	313
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	42.1349	181.535	220.234	227.361	78.8361
Std Dev:	0.283488	0.569081	0.188558	1.46125	0.432591
%RSD:	0.67281	0.313483	0.0856172	0.6427	0.548722
Repeat: 1	41.8098	180.991	220.336	227.793	78.4059
Repeat: 2	42.3308	181.486	220.016	228.558	79.2711
Repeat: 3	42.2641	182.126	220.349	225.733	78.8313
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	135.076	76.1225	1622.34	367.85	51.7165
Std Dev:	1.36232	0.2438	6.92142	1.09837	0.141977
%RSD:	1.00856	0.320273	0.426633	0.298592	0.27453
Repeat: 1	135.134	75.8423	1614.62	368.161	51.5581
Repeat: 2	133.686	76.2393	1624.4	368.76	51.8324
Repeat: 3	136.409	76.286	1627.99	366.63	51.7591
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1144.74	205.76	6799.81	165930	12567.2
Std Dev:	12.8314	1.01919	399.602	7521.36	34.3823
%RSD:	1.12091	0.495328	5.87666	4.53287	0.273588
Repeat: 1	1129.92	206.146	6553.97	170359	12584.4
Repeat: 2	1151.88	206.53	6584.57	170184	12589.6
Repeat: 3	1152.4	204.604	7260.89	157245	12527.6

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000203841	0.00288572	0.00314536	-0.0965324	0.000237822
Std Dev:	9.6384e-005	0.0190696	0.00357765	0.00149352	0.000110624
%RSD:	47.2838	660.824	113.744	1.54717	46.5155
Repeat: 1	-0.000252648	-0.00983271	0.00268068	-0.0976841	0.000154467
Repeat: 2	-9.28166e-005	0.0248119	-0.00017725	-0.0970681	0.000363325
Repeat: 3	-0.00026606	-0.00632198	0.00693264	-0.0948449	0.000195674
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-3.88777e-006	0.0198599	0.000107429	-0.000680153	10.2592
Std Dev:	6.88547e-006	0.00354301	8.43329e-006	7.51274e-005	0.614556
%RSD:	177.106	17.84	7.85009	11.0457	5.99028

Repeat: 1	-1.09291e-005	0.0187262	9.89391e-005	-0.000716334	9.88682
Repeat: 2	2.83045e-006	0.0170224	0.000115804	-0.000593781	9.92229
Repeat: 3	-3.56464e-006	0.023831	0.000107544	-0.000730343	10.9686
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000394714	0.00887946	-0.0589735	0.000258807	-0.00672117
Std Dev:	0.00041883	0.0017997	0.0274842	0.000981616	0.0157506
%RSD:	106.11	20.2681	46.6043	379.285	234.343
Repeat: 1	-9.17484e-005	0.0087676	-0.0867317	0.000315261	-0.0213869
Repeat: 2	-0.000872659	0.0107325	-0.0317718	-0.000749817	-0.00870322
Repeat: 3	-0.000219734	0.00713831	-0.0584169	0.00121098	0.00992665
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.30458e-005	0.00041016	4.51132	4.44647	0.000197965
Std Dev:	2.76486e-005	9.41347e-005	0.85901	0.0107557	0.000158811
%RSD:	52.1221	22.9507	19.0412	0.241893	80.2218
Repeat: 1	6.92367e-005	0.000413083	4.3711	4.4469	1.65297e-005
Repeat: 2	2.11211e-005	0.000502799	3.73104	4.43551	0.000311745
Repeat: 3	6.87797e-005	0.000314598	5.43181	4.45701	0.000265619
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000480077	-0.000471989	0.000715738	-0.0293421	0.00208282
Std Dev:	0.00175914	0.001761	0.000775504	0.0245502	0.000517107
%RSD:	366.428	373.102	108.35	83.6689	24.8273
Repeat: 1	-0.00155085	0.00152477	0.00121229	-0.0148027	0.00267693
Repeat: 2	0.00146303	-0.00180331	0.00111282	-0.0155365	0.00183748
Repeat: 3	0.00152806	-0.00113743	-0.000177894	-0.057687	0.00173404
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00675881	-0.00039087	0.000108116	0.00393031	-0.000668882
Std Dev:	0.0103472	5.57497e-005	0.000116369	0.000890901	0.00119707
%RSD:	153.092	14.263	107.634	22.6674	178.967
Repeat: 1	0.0154748	-0.000386666	8.19083e-005	0.0043892	-0.00193167
Repeat: 2	-0.00467652	-0.000337341	0.000235353	0.00449823	0.000449358
Repeat: 3	0.00947815	-0.000448602	7.085e-006	0.00290352	-0.000524338
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.00127894	0.00232343	6448.76	163283	11708.5
Std Dev:	0.000283923	0.00030355	399.452	7524.3	32.3373
%RSD:	22.1999	13.0647	6.19425	4.60814	0.276188
Repeat: 1	0.000951445	0.00246956	6203.69	167730	11724.5
Repeat: 2	0.00142952	0.00252628	6232.89	167523	11729.7
Repeat: 3	0.00145585	0.00197445	6909.7	154595	11671.2
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6448.76	163283	11708.5
Std Dev:	399.452	7524.3	32.3373

%RSD:	6.19425	4.60814	0.276188
Repeat: 1	6203.69	167730	11724.5
Repeat: 2	6232.89	167523	11729.7
Repeat: 3	6909.7	154595	11671.2

Sample Name	**Acquisition Date**
M89XLZ100	10/12/2016 5:41:46PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1215.29	451.496	71.1021	483.683	2579.21
Std Dev:	5.34291	5.65947	0.390393	2.51891	4.18847
%RSD:	0.439642	1.25349	0.54906	0.520777	0.162393
Repeat: 1	1209.75	457.228	71	484.79	2576.67
Repeat: 2	1215.69	445.912	70.7728	480.8	2584.05
Repeat: 3	1220.42	451.349	71.5333	485.459	2576.92
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1038.93	556.203	198.114	289.318	598.178
Std Dev:	5.86711	0.762772	0.740473	0.728362	2.33364
%RSD:	0.564728	0.137139	0.373762	0.251752	0.390124
Repeat: 1	1032.17	555.384	198.1	288.62	599.791
Repeat: 2	1042.69	556.331	198.861	290.073	595.502
Repeat: 3	1041.92	556.893	197.38	289.26	599.24
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1458.91	106.851	4937.42	5100.16	154.29
Std Dev:	5.56881	0.931496	17.9173	10.9836	2.2389
%RSD:	0.381709	0.87177	0.362888	0.215358	1.4511
Repeat: 1	1452.82	105.783	4949.2	5112.66	156.78
Repeat: 2	1463.74	107.278	4916.8	5095.76	152.443
Repeat: 3	1460.17	107.493	4946.25	5092.06	153.646
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	428.903	91.5107	595.462	5115.26	309.236
Std Dev:	1.62971	0.595153	1.67425	19.0624	0.0445953
%RSD:	0.379971	0.650365	0.281168	0.372658	0.0144211
Repeat: 1	430.78	91.6067	594.167	5135.19	309.187
Repeat: 2	428.087	92.052	594.865	5097.21	309.274
Repeat: 3	427.843	90.8733	597.353	5113.39	309.247
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	40.7287	27041.4	28991.6	122.264	76.7208
Std Dev:	0.0708911	112.575	125.872	0.384591	0.56055
%RSD:	0.174057	0.416305	0.434165	0.314558	0.730635
Repeat: 1	40.7933	26951.7	28857.9	122.573	76.6333
Repeat: 2	40.6529	27004.7	29009.2	122.385	76.2092
Repeat: 3	40.74	27167.7	29107.8	121.833	77.32
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	135.267	76.1008	1626.63	349.118	52.0639
Std Dev:	1.66397	0.56182	5.18401	2.2823	0.294711
%RSD:	1.23014	0.738258	0.318696	0.653734	0.566057
Repeat: 1	137.188	75.4867	1631.26	348.305	52.1933
Repeat: 2	134.297	76.5889	1627.62	351.695	52.2718
Repeat: 3	134.316	76.2267	1621.03	347.353	51.7267

Element/Wavelength	V_2924A	Zn2138A	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	1130.59	193.841	6562.16	169488	12523.5
Std Dev:	8.44842	0.297603	24.3576	571.795	131.576
%RSD:	0.747254	0.153529	0.371183	0.337367	1.05064
Repeat: 1	1124.78	193.647	6537.55	169062	12371.7
Repeat: 2	1140.29	194.184	6562.69	169263	12593.9
Repeat: 3	1126.72	193.693	6586.25	170138	12604.9

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000262029	0.011999	-0.000887719	-0.100788	0.000467516
Std Dev:	0.000121582	0.0313686	0.00126039	0.000216048	0.000256764
%RSD:	46.4004	261.426	141.981	0.214359	54.9209
Repeat: 1	-0.000326099	0.0481653	-0.00101963	-0.100955	0.000203754
Repeat: 2	-0.000121811	-0.00435516	-0.00207697	-0.100864	0.000716657
Repeat: 3	-0.000338177	-0.00781302	0.000433445	-0.100544	0.000482137
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	Be3130A	Ca3179R	Cd2265A	Co2286A	Cr2677A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-5.83954e-006	0.00280635	3.31303e-005	0.000158953	0.00048499
Std Dev:	4.68424e-006	0.000978887	5.07213e-005	4.67997e-005	0.000164802
%RSD:	80.216	34.8811	153.096	29.4424	33.9805
Repeat: 1	-1.07665e-005	0.00346241	8.37109e-005	0.000158349	0.000579311
Repeat: 2	-5.30895e-006	0.00327544	3.34106e-005	0.000112458	0.000580964
Repeat: 3	-1.44318e-006	0.00168119	-1.77305e-005	0.000206052	0.000294695
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	Cu3247A	Fe2599R	K_7664R	Li6707R	Mg2790R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000366548	0.00273799	-0.0148359	-0.000252202	-0.0205269
Std Dev:	0.000460861	0.00189212	0.0351447	0.000658084	0.0117642
%RSD:	125.73	69.1061	236.889	260.935	57.3112
Repeat: 1	-0.000787079	0.000562852	-0.0554123	-0.000151687	-0.00976539
Repeat: 2	0.000126133	0.00364755	0.00488434	0.000349841	-0.0330868
Repeat: 3	-0.000438699	0.00400357	0.00602009	-0.000954761	-0.0187286
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	Mn2576A	Mo2020A	aN	Na5895R	Ni2316A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	5.92762e-005	-9.83364e-005	1.30145	0.0768213	6.52893e-005
Std Dev:	3.74493e-005	0.000104891	1.00949	0.00618074	0.00013767
%RSD:	63.1776	106.666	77.5665	8.04561	210.861
Repeat: 1	8.45367e-005	-9.365e-005	0.265834	0.0835768	0.00017115
Repeat: 2	1.62506e-005	4.13297e-006	1.3559	0.07145	-9.03452e-005
Repeat: 3	7.70414e-005	-0.000205492	2.2826	0.0754372	0.000115063
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	P_1782A	bP	Pb2203A	Sb2068A	Se1960A
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000109557	25.5475	25.6653	-0.000143521	-0.000318247
Std Dev:	0.00108586	0.0279352	0.018397	0.000427734	0.00432304
%RSD:	991.134	0.109346	0.0716803	298.028	1358.39
Repeat: 1	-0.00113802	25.5223	25.6441	-0.000464951	0.00106149
Repeat: 2	-0.000216456	25.5427	25.6771	-0.000307566	-0.00516274
Repeat: 3	0.0010258	25.5776	25.6748	0.000341952	0.00314651

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00861375	0.000421028	0.00029845	-0.000631772	-0.00355756
Std Dev:	0.0073345	0.000457506	4.73973e-005	0.000626812	0.00118996
%RSD:	85.1487	108.664	15.8811	99.215	33.4489
Repeat: 1	0.0159556	-8.13591e-006	0.000313089	-0.00133952	-0.00433546
Repeat: 2	0.00859895	0.000902398	0.000336801	-0.000146711	-0.00218771
Repeat: 3	0.00128667	0.000368823	0.00024546	-0.000409082	-0.00414951
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-1.76126e-005	0.00173094	6296.54	166838	11668.5
Std Dev:	0.000241054	1.11426e-005	24.0233	562.663	129.841
%RSD:	1368.64	0.643733	0.381532	0.337251	1.11275
Repeat: 1	-0.000138711	0.00172736	6272.5	166415	11518.6
Repeat: 2	0.000259981	0.00174343	6296.57	166622	11740.8
Repeat: 3	-0.000174108	0.00172202	6320.55	167476	11746.1
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6296.54	166838	11668.5
Std Dev:	24.0233	562.663	129.841
%RSD:	0.381532	0.337251	1.11275
Repeat: 1	6272.5	166415	11518.6
Repeat: 2	6296.57	166622	11740.8
Repeat: 3	6320.55	167476	11746.1

Sample Name	**Acquisition Date**
M89WGP500	10/12/2016 5:46:47PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1206.31	450.899	71.6508	478.146	2565.35
Std Dev:	7.24217	4.23516	0.731378	2.69589	19.7104
%RSD:	0.600358	0.939271	1.02075	0.563821	0.76833
Repeat: 1	1199.25	447.502	70.9467	475.499	2542.76
Repeat: 2	1205.95	455.644	72.4067	478.05	2574.28
Repeat: 3	1213.72	449.55	71.5989	480.888	2579.02
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1033.01	556.993	197.083	287.932	593.612
Std Dev:	6.29793	3.83316	1.13564	0.714793	5.61945
%RSD:	0.60967	0.688188	0.576227	0.248251	0.946654
Repeat: 1	1026.2	552.597	196.54	287.453	587.425
Repeat: 2	1034.2	559.64	196.32	288.753	598.4
Repeat: 3	1038.62	558.741	198.388	287.588	595.01
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1450.02	105.877	4908.33	5093.71	155.511
Std Dev:	10.844	1.3124	34.0386	27.8666	0.872817
%RSD:	0.747853	1.23954	0.693487	0.547079	0.561257
Repeat: 1	1438.67	105.095	4869.13	5061.69	154.545

Repeat: 2	1451.1	105.145	4925.37	5106.94	155.744
Repeat: 3	1460.28	107.393	4930.47	5112.49	156.244
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	421.569	91.1352	595.604	5054.78	307.816
Std Dev:	3.70009	0.296357	6.5102	29.3734	1.52356
%RSD:	0.877695	0.325183	1.09304	0.581102	0.494958
Repeat: 1	421.507	90.8333	589.56	5020.98	306.093
Repeat: 2	417.9	91.1467	594.755	5069.23	308.987
Repeat: 3	425.299	91.4257	602.498	5074.13	308.368
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.4486	4588.87	4883.63	122.913	77.2674
Std Dev:	0.300658	18.386	14.3291	0.149116	0.643528
%RSD:	0.725376	0.400665	0.29341	0.121319	0.832858
Repeat: 1	41.1933	4567.91	4868.24	122.76	77.22
Repeat: 2	41.78	4596.4	4886.07	122.92	77.9333
Repeat: 3	41.3724	4602.3	4896.59	123.058	76.6489
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	133.283	75.0435	1615.97	353.613	49.9711
Std Dev:	0.5341	0.710724	13.4658	3.61796	0.160737
%RSD:	0.400725	0.947083	0.833297	1.02314	0.32166
Repeat: 1	133.566	74.9733	1600.5	357.742	49.82
Repeat: 2	132.667	75.7867	1625.07	350.999	50.14
Repeat: 3	133.616	74.3704	1622.33	352.098	49.9534
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1122.77	196.223	6588.31	170948	12670.9
Std Dev:	11.8764	0.381858	17.1564	490.217	42.2468
%RSD:	1.05778	0.194604	0.260407	0.286764	0.333417
Repeat: 1	1110.93	196.327	6568.77	170746	12706.1
Repeat: 2	1122.7	195.8	6600.91	171507	12682.5
Repeat: 3	1134.68	196.542	6595.25	170591	12624

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000390907	0.00118516	-0.000287172	-0.101118	0.000388121
Std Dev:	0.000208168	0.0124724	0.00156557	0.000554261	8.40925e-005
%RSD:	53.2526	1052.38	545.167	0.548133	21.6666
Repeat: 1	-0.000323793	0.00282246	-0.00197652	-0.100708	0.000328441
Repeat: 2	-0.000624353	0.0127581	0.0011148	-0.101749	0.000484296
Repeat: 3	-0.000224574	-0.0120251	1.98202e-007	-0.100897	0.000351627
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-4.13596e-006	0.00213911	-7.02769e-005	0.000113856	0.000485872
Std Dev:	6.43547e-006	0.00169228	7.26105e-005	0.000110055	0.000252733
%RSD:	155.598	79.1113	103.321	96.6614	52.0163
Repeat: 1	2.6423e-007	0.000210345	-8.21977e-005	0.000208879	0.000225434
Repeat: 2	-1.1522e-005	0.00337498	-0.000136189	0.000139419	0.00073012
Repeat: 3	-1.15011e-006	0.00283202	7.55638e-006	-6.73072e-006	0.000502063
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000285054	0.00189595	-0.0451172	0.00106	-0.00241078

Std Dev:	0.000121606	0.00207581	0.0191407	0.00109059	0.00947925
%RSD:	42.6608	109.487	42.4243	102.885	393.203
Repeat: 1	-0.000421354	0.00168695	-0.0663191	0.00211633	-0.0128594
Repeat: 2	-0.000187666	-6.74577e-005	-0.02911	0.00112557	-1.06076e-005
Repeat: 3	-0.000246143	0.00406835	-0.0399226	-6.1889e-005	0.00563768
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-5.2415e-005	6.45838e-005	1.2341	0.0438945	-1.79503e-005
Std Dev:	5.56278e-005	9.19148e-005	0.697275	0.00146356	0.000188503
%RSD:	106.129	142.319	56.5005	3.33427	1050.13
Repeat: 1	1.06431e-005	-1.358e-005	0.428984	0.0455439	-0.000224746
Repeat: 2	-7.33517e-005	4.14874e-005	1.6313	0.0433889	0.000144269
Repeat: 3	-9.45365e-005	0.000165844	1.64203	0.0427508	2.6625e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00125485	4.15077	4.14073	0.000822878	0.00114703
Std Dev:	0.00132838	0.0180111	0.00621947	0.000754691	0.000882918
%RSD:	105.86	0.433923	0.150202	91.7136	76.9745
Repeat: 1	8.20655e-005	4.13714	4.13995	0.00115793	0.000453661
Repeat: 2	0.00269741	4.14398	4.13494	-4.13288e-005	0.00214099
Repeat: 3	0.000985055	4.17119	4.1473	0.00135203	0.000846424
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00126999	-6.07269e-005	0.000196077	0.00077847	-0.00105539
Std Dev:	0.00989941	0.000307684	3.88053e-005	0.0016106	0.00036184
%RSD:	779.484	506.668	19.7908	206.893	34.2849
Repeat: 1	0.00759911	-0.00021573	0.000155326	0.00257281	-0.00104357
Repeat: 2	-0.0119497	0.000293632	0.000232588	-0.00054212	-0.001423
Repeat: 3	0.000540651	-0.000260082	0.000200317	0.000304722	-0.000699611
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-3.77778e-005	0.0019043	6325.02	168309	11821.3
Std Dev:	0.000246522	8.20234e-005	15.9961	479.831	50.7279
%RSD:	652.558	4.30728	0.252902	0.28509	0.429122
Repeat: 1	-0.000284915	0.00199316	6306.67	168131	11862.9
Repeat: 2	-3.65434e-005	0.00183149	6336.04	168852	11836.2
Repeat: 3	0.000208125	0.00188824	6332.34	167943	11764.8
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6325.02	168309	11821.3
Std Dev:	15.9961	479.831	50.7279
%RSD:	0.252902	0.28509	0.429122
Repeat: 1	6306.67	168131	11862.9
Repeat: 2	6336.04	168852	11836.2
Repeat: 3	6332.34	167943	11764.8

Sample Name	**Acquisition Date**
CCV	10/12/2016 5:51:48PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	15054.4	6317.73	340.701	11547.3	105521
Std Dev:	28.1911	8.56895	1.66468	5.23543	236.884
%RSD:	0.187261	0.135633	0.488606	0.0453389	0.224489
Repeat: 1	15055.5	6319.12	338.78	11548.3	105431
Repeat: 2	15025.7	6325.52	341.724	11541.6	105343
Repeat: 3	15082.1	6308.55	341.598	11552	105790
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	875044	79903.8	6178.61	15727.4	31088.9
Std Dev:	4035.58	164.897	17.6888	43.6691	75.2479
%RSD:	0.461186	0.206369	0.286291	0.277663	0.242041
Repeat: 1	871721	79735.3	6158.98	15682.3	31015.4
Repeat: 2	873875	79911.2	6183.54	15730.3	31085.4
Repeat: 3	879535	80064.9	6193.31	15769.5	31165.8
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	50600.9	22706.8	27390.7	24430.7	6065.48
Std Dev:	88.0378	34.1454	36.2633	36.1932	12.8039
%RSD:	0.173985	0.150375	0.132393	0.148146	0.211095
Repeat: 1	50534.2	22707.1	27391.2	24399.4	6067.18
Repeat: 2	50567.7	22672.5	27354.1	24422.5	6051.91
Repeat: 3	50700.7	22740.8	27426.6	24470.3	6077.35
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	141141	6057.73	803.56	93789.2	9742.97
Std Dev:	351.787	16.1226	0.997868	94.2533	33.4396
%RSD:	0.249245	0.266149	0.124181	0.100495	0.343217
Repeat: 1	140758	6039.68	804.409	93853.9	9705.47
Repeat: 2	141214	6062.81	802.46	93681.1	9753.76
Repeat: 3	141451	6070.7	803.81	93832.7	9769.68
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	642.293	739.72	825.417	449.486	239.643
Std Dev:	3.14327	1.00224	1.24253	0.768172	0.324967
%RSD:	0.489382	0.13549	0.150534	0.1709	0.135604
Repeat: 1	640.518	739.606	824.056	448.602	239.3
Repeat: 2	645.922	738.779	825.704	449.987	239.945
Repeat: 3	640.439	740.774	826.49	449.87	239.685
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	436.437	2891.45	117255	8586.49	432.804
Std Dev:	2.13196	9.70604	189.908	22.312	1.94132
%RSD:	0.488493	0.33568	0.161962	0.25985	0.448545
Repeat: 1	438.111	2880.76	117454	8579.09	430.57
Repeat: 2	434.037	2893.88	117076	8568.81	434.082
Repeat: 3	437.163	2899.71	117235	8611.56	433.76
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	47759.9	24125.2	6498.18	166801	12590.3
Std Dev:	95.3962	43.9499	25.0529	676.847	64.9696
%RSD:	0.199741	0.182174	0.385538	0.405781	0.516028
Repeat: 1	47719.8	24075.4	6469.29	166405	12545.8
Repeat: 2	47691.1	24158.4	6513.99	166416	12560.3
Repeat: 3	47868.8	24141.9	6511.25	167583	12664.9

Concentration

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.01516	25.0409	0.507979	1.94333	2.03221
Std Dev:	0.00209369	0.163647	0.00106402	0.0057359	0.00648844
%RSD:	0.206242	0.653519	0.209462	0.295158	0.319281
Repeat: 1	1.01741	25.1382	0.506775	1.9482	2.03841
Repeat: 2	1.0148	25.1325	0.508795	1.94479	2.03274
Repeat: 3	1.01327	24.8519	0.508366	1.93701	2.02547
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.04119	50.6458	0.515821	2.05271	2.02692
Std Dev:	0.00313975	0.168997	0.000827426	0.00425582	0.00426651
%RSD:	0.153819	0.333683	0.160409	0.207326	0.210493
Repeat: 1	2.03764	50.7212	0.516472	2.05606	2.02664
Repeat: 2	2.04362	50.764	0.51489	2.04792	2.03131
Repeat: 3	2.04231	50.4522	0.516102	2.05416	2.02279
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.01263	25.0206	50.8489	2.03596	49.4827
Std Dev:	0.00410631	0.095469	0.252103	0.00769827	0.178657
%RSD:	0.204027	0.381562	0.495789	0.378115	0.361049
Repeat: 1	2.01523	25.1135	51.1036	2.04221	49.664
Repeat: 2	2.01476	25.0255	50.8435	2.0383	49.4772
Repeat: 3	2.00789	24.9227	50.5995	2.02736	49.3068
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.03329	2.04984	51.2266	50.849	2.07956
Std Dev:	0.00577419	0.00329449	0.609844	0.25219	0.00257414
%RSD:	0.283983	0.160719	1.19048	0.495959	0.123783
Repeat: 1	2.03217	2.05301	51.9097	51.0755	2.08092
Repeat: 2	2.03954	2.04644	51.0332	50.8943	2.07659
Repeat: 3	2.02816	2.05008	50.7369	50.5773	2.08117
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.05693	0.513007	0.514892	0.513596	0.516804
Std Dev:	0.0087018	0.00277144	0.000502722	0.00105969	0.00187497
%RSD:	0.423048	0.540235	0.0976364	0.206327	0.362801
Repeat: 1	2.06078	0.516179	0.515368	0.514739	0.51876
Repeat: 2	2.06305	0.511788	0.51494	0.512646	0.516629
Repeat: 3	2.04697	0.511054	0.514366	0.513404	0.515023
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.97572	2.06573	2.02515	2.02018	1.02268
Std Dev:	0.019385	0.00317221	0.0115342	0.0053587	0.00282563
%RSD:	0.981158	0.153564	0.569549	0.265258	0.276296
Repeat: 1	1.99718	2.06698	2.03618	2.02488	1.01961

Repeat: 2	1.95946	2.06212	2.0261	2.02132	1.02326
Repeat: 3	1.97054	2.06809	2.01317	2.01435	1.02517
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	2.01102	2.03572	6172.02	164075	11738.2
Std Dev:	0.00429549	0.00429938	24.2112	678.652	59.3616
%RSD:	0.213597	0.211197	0.392273	0.413622	0.505713
Repeat: 1	2.01423	2.04069	6144.13	163707	11696
Repeat: 2	2.01269	2.03317	6187.65	163660	11712.6
Repeat: 3	2.00614	2.03331	6184.28	164859	11806.1
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6172.02	164075	11738.2
Std Dev:	24.2112	678.652	59.3616
%RSD:	0.392273	0.413622	0.505713
Repeat: 1	6144.13	163707	11696
Repeat: 2	6187.65	163660	11712.6
Repeat: 3	6184.28	164859	11806.1

Sample Name	**Acquisition Date**
CCB	10/12/2016 5:56:41PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1209.84	446.97	71.876	491.772	2550.25
Std Dev:	3.37798	1.6969	0.598405	3.04261	3.6495
%RSD:	0.279208	0.379644	0.832552	0.618703	0.143104
Repeat: 1	1206.67	448.804	72.3798	491.773	2551.99
Repeat: 2	1209.46	445.455	72.0336	494.815	2546.05
Repeat: 3	1213.4	446.653	71.2145	488.729	2552.7
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1031.88	547.322	196.68	286.66	589.456
Std Dev:	10.8252	0.79381	0.569398	1.42835	1.54284
%RSD:	1.04908	0.145035	0.289505	0.498272	0.26174
Repeat: 1	1019.69	546.66	196.691	285.417	587.754
Repeat: 2	1040.39	547.103	197.243	288.221	589.848
Repeat: 3	1035.56	548.202	196.105	286.343	590.764
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1447.23	105.125	4902.66	5080.28	154.111
Std Dev:	6.66987	0.477281	4.2267	12.019	1.84728
%RSD:	0.460872	0.454013	0.0862123	0.236581	1.19867
Repeat: 1	1444.26	104.586	4899.25	5066.7	151.994
Repeat: 2	1442.56	105.295	4907.39	5089.56	155.395
Repeat: 3	1454.87	105.495	4901.35	5084.57	154.945
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	421.481	91.2749	592.728	5025.75	306.042
Std Dev:	1.9539	0.0101713	1.13958	8.80092	1.21154
%RSD:	0.463579	0.0111436	0.19226	0.175117	0.395873
Repeat: 1	419.226	91.2638	594.018	5016.3	306.366

Repeat: 2	422.667	91.2838	591.858	5027.22	307.058
Repeat: 3	422.551	91.2771	592.308	5033.72	304.701
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.3237	179.792	216.037	122.218	77.1452
Std Dev:	0.256856	0.496822	0.224256	0.520073	0.459223
%RSD:	0.621569	0.276331	0.103804	0.42553	0.595272
Repeat: 1	41.5102	180.345	216.296	121.714	76.8411
Repeat: 2	41.4303	179.647	215.908	122.187	77.6735
Repeat: 3	41.0308	179.384	215.908	122.753	76.921
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	131.297	74.899	1605.61	347.686	50.1487
Std Dev:	0.986869	0.21662	6.67752	1.37644	0.469204
%RSD:	0.751629	0.289216	0.415886	0.395886	0.935626
Repeat: 1	132.004	74.9101	1597.91	349.103	49.6071
Repeat: 2	131.718	75.1099	1609.24	347.602	50.4328
Repeat: 3	130.17	74.6771	1609.69	346.354	50.4062
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1123.06	173.381	6593.48	170127	12633.4
Std Dev:	5.70198	0.469015	19.468	181.822	101.365
%RSD:	0.507716	0.270512	0.295262	0.106874	0.80236
Repeat: 1	1116.62	173.652	6574.4	169925	12535.4
Repeat: 2	1125.1	172.839	6592.71	170179	12626.9
Repeat: 3	1127.47	173.652	6613.32	170277	12737.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.60767e-005	0.00303085	0.00125927	-0.0988903	0.000205913
Std Dev:	0.000388309	0.0167599	0.00137883	0.000686919	0.000148086
%RSD:	2415.36	552.976	109.495	0.694628	71.9169
Repeat: 1	0.000318547	0.019686	0.00266204	-0.0984464	0.000369798
Repeat: 2	7.50763e-005	0.00323838	0.00121006	-0.0985429	0.000166227
Repeat: 3	-0.000441853	-0.0138318	-9.43008e-005	-0.0996815	8.17132e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-2.01742e-006	-0.00171249	-9.61735e-005	7.49231e-005	0.000199816
Std Dev:	1.20387e-005	0.00164647	5.03792e-005	0.000145203	0.000165606
%RSD:	596.738	96.1448	52.3836	193.803	82.8794
Repeat: 1	-1.57116e-005	-0.000333494	-3.86531e-005	-5.90854e-005	0.000374253
Repeat: 2	2.76022e-006	-0.00353541	-0.000117409	0.000229192	4.47438e-005
Repeat: 3	6.89911e-006	-0.00126857	-0.000132458	5.46623e-005	0.00018045
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000446157	0.000220079	-0.0340749	0.000902229	-0.00489186
Std Dev:	0.0003574	0.000907174	0.00389562	0.000730008	0.022065
%RSD:	80.1064	412.204	11.4325	80.9117	451.056
Repeat: 1	-0.000108978	0.00103387	-0.0380758	7.07031e-005	-0.0251597
Repeat: 2	-0.000820823	0.000384385	-0.0302939	0.00119826	0.0186128
Repeat: 3	-0.000408669	-0.000758019	-0.033855	0.00143772	-0.00812874
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	8.10889e-006	0.000166682	1.24467	0.0350157	-7.72931e-005
Std Dev:	2.00738e-005	6.51611e-005	0.660368	0.00122267	0.000283522
%RSD:	247.552	39.093	53.0558	3.49176	366.813
Repeat: 1	-1.16217e-005	0.000240537	1.92455	0.0361098	0.000167246
Repeat: 2	7.43924e-006	0.0001173	0.605715	0.0336959	-1.10555e-005
Repeat: 3	2.85091e-005	0.000142209	1.20374	0.0352416	-0.00038807
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000765654	-0.00115857	0.000680113	-0.00024576	0.00107259
Std Dev:	0.00139535	0.000208234	0.00104275	0.00117133	0.000795228
%RSD:	182.243	17.9733	153.32	476.613	74.1408
Repeat: 1	0.00209394	-0.000941082	0.00093591	-0.00156801	0.00181633
Repeat: 2	0.00089128	-0.00117852	-0.000466735	0.000661838	0.000234323
Repeat: 3	-0.000688259	-0.00135611	0.00157117	0.000168889	0.00116712
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.0178077	-0.000101224	0.000156187	-0.000222299	0.000594227
Std Dev:	0.00722745	9.17921e-005	9.62291e-005	0.000349372	0.00186211
%RSD:	40.5861	90.6826	61.6114	157.163	313.366
Repeat: 1	-0.0114547	-5.87425e-005	4.8021e-005	-0.000180018	-0.0015331
Repeat: 2	-0.0162975	-3.8367e-005	0.000188246	0.000104008	0.00192861
Repeat: 3	-0.0256709	-0.000206561	0.000232295	-0.000590889	0.00138718
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000172	7.22979e-005	6330.65	167487	11789.3
Std Dev:	0.000234814	7.50953e-005	18.8298	166.317	96.0916
%RSD:	136.519	103.869	0.297439	0.0993015	0.815076
Repeat: 1	0.000408298	0.000152756	6312.4	167303	11696.9
Repeat: 2	0.000169005	4.06639e-006	6329.54	167531	11782.2
Repeat: 3	-6.13014e-005	6.00708e-005	6350.01	167627	11888.7
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6330.65	167487	11789.3
Std Dev:	18.8298	166.317	96.0916
%RSD:	0.297439	0.0993015	0.815076
Repeat: 1	6312.4	167303	11696.9
Repeat: 2	6329.54	167531	11782.2
Repeat: 3	6350.01	167627	11888.7

Sample Name	**Acquisition Date**
M89WFZ500	10/12/2016 6:01:44PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1233.16	454.447	75.0755	516.324	2591.31
Std Dev:	7.42923	4.51001	0.241881	0.726694	16.3642

%RSD:	0.602454	0.992417	0.322183	0.140744	0.631505
Repeat: 1	1228.41	454.564	74.9634	517.006	2580.21
Repeat: 2	1229.35	449.88	75.3531	515.56	2583.62
Repeat: 3	1241.72	458.898	74.9101	516.407	2610.1
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1044.37	581.759	204.254	296.599	154065
Std Dev:	1.28152	2.43764	1.23577	1.49022	485.966
%RSD:	0.122707	0.419012	0.605018	0.502435	0.315428
Repeat: 1	1042.89	580.709	203.13	294.939	154084
Repeat: 2	1045.08	580.022	205.577	297.035	154542
Repeat: 3	1045.13	584.546	204.055	297.823	153571
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1484.22	109.944	4963.73	5135.78	157.388
Std Dev:	10.1817	1.48739	27.0674	36.2044	0.47086
%RSD:	0.685992	1.35286	0.545304	0.704945	0.299171
Repeat: 1	1473.17	111.648	4943.25	5106.52	157.931
Repeat: 2	1486.29	109.275	4953.52	5124.55	157.099
Repeat: 3	1493.22	108.908	4994.42	5176.27	157.134
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	434.736	94.9961	623.472	12837.3	314.009
Std Dev:	1.71334	0.388386	5.45891	77.343	2.14101
%RSD:	0.394111	0.408844	0.875567	0.602484	0.68183
Repeat: 1	433.772	94.6997	617.627	12871.5	311.606
Repeat: 2	433.722	95.4358	624.351	12891.7	314.705
Repeat: 3	436.715	94.8528	628.438	12748.8	315.714
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	42.4208	183.29	220.703	231.038	78.8719
Std Dev:	0.402198	1.96804	1.5959	0.447089	0.478972
%RSD:	0.948114	1.07373	0.723101	0.193513	0.607279
Repeat: 1	41.963	184.221	218.904	231.183	78.5724
Repeat: 2	42.7172	181.029	221.948	230.537	79.4243
Repeat: 3	42.5822	184.62	221.257	231.396	78.619
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	137.397	76.6762	1631.26	370.727	51.8894
Std Dev:	1.17643	0.245471	6.15601	3.42842	0.466077
%RSD:	0.856225	0.320139	0.377378	0.924784	0.898214
Repeat: 1	136.16	76.395	1629.68	371.911	51.8045
Repeat: 2	137.53	76.7857	1626.05	366.863	52.3921
Repeat: 3	138.501	76.8478	1638.05	373.406	51.4716
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1157.56	206.283	6510.38	167929	12418.1
Std Dev:	3.91548	1.22755	3.33493	412.985	118.258
%RSD:	0.338254	0.59508	0.0512248	0.245928	0.952309
Repeat: 1	1157.64	204.894	6512.89	167904	12411.3
Repeat: 2	1161.43	207.223	6511.66	168354	12539.5
Repeat: 3	1153.6	206.732	6506.6	167529	12303.3

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000243171	0.00565761	0.00172241	-0.0961613	0.000261675
Std Dev:	0.000367428	0.0205194	0.000971996	0.00052822	0.000167839
%RSD:	151.098	362.687	56.4324	0.549306	64.1402

Repeat: 1	-0.000127266	0.0089857	0.00189796	-0.0959159	0.000344799
Repeat: 2	-0.000654576	-0.0163224	0.00259466	-0.0967676	6.84959e-005
Repeat: 3	5.23276e-005	0.0243095	0.0006746	-0.0958005	0.000371729
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.03782e-005	0.0155922	6.94919e-005	-0.000549123	10.1501
Std Dev:	7.20381e-006	0.000775956	1.32127e-005	9.42773e-005	0.00747433
%RSD:	69.4126	4.97656	19.0132	17.1687	0.0736381
Repeat: 1	-1.00775e-005	0.0149115	5.70885e-005	-0.000604131	10.1516
Repeat: 2	-1.77277e-005	0.0154281	8.33872e-005	-0.000602976	10.1567
Repeat: 3	-3.32951e-006	0.0164371	6.80001e-005	-0.000440263	10.142
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000872691	0.00508877	-0.0365565	-0.000164028	-0.0138671
Std Dev:	0.000438518	0.00117596	0.00556626	0.000998781	0.00828863
%RSD:	50.2489	23.1088	15.2265	608.909	59.7719
Repeat: 1	-0.00137616	0.00644156	-0.0349604	-0.00116407	-0.0204106
Repeat: 2	-0.000667696	0.00451401	-0.0319626	-0.000161504	-0.00454652
Repeat: 3	-0.000574214	0.00431073	-0.0427464	0.000833489	-0.0166442
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-8.92692e-005	0.000379522	6.3579	4.53082	-7.07371e-005
Std Dev:	8.62748e-005	0.000121799	0.228459	0.0176712	0.000250406
%RSD:	96.6457	32.0928	3.59331	0.390021	353.995
Repeat: 1	-9.82616e-005	0.000368199	6.09482	4.55012	-0.000296659
Repeat: 2	-0.000170695	0.000506588	6.47255	4.51543	-0.000114053
Repeat: 3	1.14964e-006	0.00026378	6.50632	4.52691	0.000198501
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00104879	-0.000332365	0.000186147	-0.0132908	0.001275
Std Dev:	0.00112653	0.00260724	0.000327232	0.00192651	0.0018532
%RSD:	107.412	784.453	175.793	14.4951	145.349
Repeat: 1	-6.34404e-005	0.00241949	8.29437e-005	-0.0138734	0.000893316
Repeat: 2	0.00102073	-0.00276573	0.000552538	-0.0148588	0.00328932
Repeat: 3	0.00218909	-0.000650854	-7.70417e-005	-0.0111403	-0.000357637
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0124991	-0.000243688	0.000133567	0.00399712	-0.000256858
Std Dev:	0.00280983	0.000107951	6.92801e-005	0.000780672	0.00354142
%RSD:	22.4802	44.2987	51.8691	19.5309	1378.75
Repeat: 1	0.0156472	-0.000288864	0.00021295	0.00472038	0.0002731
Repeat: 2	0.010245	-0.000321711	8.5302e-005	0.00316953	0.00298971
Repeat: 3	0.0116052	-0.000120488	0.00010245	0.00410144	-0.00403339
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.00120424	0.00245721	6157.44	165253	11556.4
Std Dev:	0.000227096	4.57033e-005	4.25111	418.564	117.858

%RSD:	18.8579	1.85997	0.0690402	0.253287	1.01985
Repeat: 1	0.00113895	0.00242329	6161.62	165249	11554.9
Repeat: 2	0.00145683	0.00250918	6157.58	165673	11675.1
Repeat: 3	0.00101695	0.00243916	6153.12	164836	11439.4
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6157.44	165253	11556.4
Std Dev:	4.25111	418.564	117.858
%RSD:	0.0690402	0.253287	1.01985
Repeat: 1	6161.62	165249	11554.9
Repeat: 2	6157.58	165673	11675.1
Repeat: 3	6153.12	164836	11439.4

Sample Name	**Acquisition Date**
M89WFXZ500	10/12/2016 6:06:47PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1210.03	450.018	74.6781	504.024	2566.62
Std Dev:	4.04052	3.89065	0.482672	2.53414	14.8479
%RSD:	0.33392	0.864554	0.646337	0.502782	0.578501
Repeat: 1	1208.57	446.642	74.6135	501.799	2550.52
Repeat: 2	1214.59	449.14	75.1898	506.782	2569.56
Repeat: 3	1206.91	454.273	74.2309	503.491	2579.77
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1035.24	560.652	202.425	293.586	151126
Std Dev:	8.56293	4.98159	1.36439	1.52767	399.852
%RSD:	0.827142	0.888536	0.674024	0.520349	0.264582
Repeat: 1	1026.43	555.849	203.751	291.884	150672
Repeat: 2	1035.76	560.312	202.497	294.84	151277
Repeat: 3	1043.54	565.795	201.025	294.034	151428
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1454.39	106.408	4917.54	5100.24	158.934
Std Dev:	1.72558	1.35453	32.5614	33.6443	0.774699
%RSD:	0.118646	1.27296	0.662149	0.659661	0.487433
Repeat: 1	1453.18	105.122	4887.55	5068.6	159.127
Repeat: 2	1453.62	107.822	4912.88	5096.52	158.082
Repeat: 3	1456.36	106.28	4952.18	5135.58	159.595
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	423.229	94.1766	614.249	12677.3	311.866
Std Dev:	3.94018	0.834594	7.92348	54.8229	1.59285
%RSD:	0.930982	0.886201	1.28995	0.43245	0.510748
Repeat: 1	418.799	93.217	606.168	12680.5	310.235
Repeat: 2	426.342	94.5798	614.573	12620.9	313.417
Repeat: 3	424.546	94.733	622.005	12730.4	311.946
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.8946	181.733	219.619	227.286	78.7073
Std Dev:	0.105027	1.96179	0.793678	1.26506	0.754535
%RSD:	0.250693	1.07949	0.361389	0.556593	0.958659
Repeat: 1	41.9776	183.79	219.638	225.833	77.8385

Repeat: 2	41.7765	179.882	220.402	228.14	79.1983
Repeat: 3	41.9297	181.528	218.815	227.887	79.0851
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	135.775	76.221	1619.66	365.459	51.3319
Std Dev:	1.42498	0.0813267	17.4938	2.7133	0.429753
%RSD:	1.04952	0.106699	1.08009	0.742437	0.837205
Repeat: 1	134.167	76.2527	1603.13	362.844	50.9395
Repeat: 2	136.277	76.1286	1617.87	365.273	51.7912
Repeat: 3	136.881	76.2818	1637.98	368.261	51.2651
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1141.19	190.085	6591.06	169874	12510.2
Std Dev:	4.42659	1.07866	19.4806	316.669	10.8496
%RSD:	0.387893	0.567461	0.295561	0.186414	0.0867265
Repeat: 1	1136.12	189.279	6570.6	169550	12518.3
Repeat: 2	1143.18	191.31	6593.19	169890	12514.3
Repeat: 3	1144.27	189.666	6609.39	170183	12497.9

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000203767	0.0069084	0.0021235	-0.0972877	0.000184519
Std Dev:	0.000391354	0.0166615	0.00153092	0.00059223	0.000127575
%RSD:	192.06	241.177	72.094	0.608741	69.1389
Repeat: 1	-0.000153996	-0.00691823	0.00254585	-0.0979512	0.000319222
Repeat: 2	0.000160321	0.00223621	0.00339891	-0.0968124	0.000168807
Repeat: 3	-0.000617625	0.0254072	0.000425748	-0.0970996	6.55285e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.11488e-007	0.00343768	0.000111958	-0.00071254	9.83827
Std Dev:	8.18318e-006	0.00126456	0.000168891	0.000168063	0.0109926
%RSD:	7339.94	36.7853	150.852	23.5865	0.111733
Repeat: 1	-7.69732e-006	0.00301089	0.000305157	-0.000883148	9.82774
Repeat: 2	-5.91846e-007	0.00244174	3.83707e-005	-0.000707329	9.84968
Repeat: 3	8.62363e-006	0.00486042	-7.65386e-006	-0.000547143	9.83739
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00131583	0.00123773	-0.0657544	-0.000563484	0.0195733
Std Dev:	0.000136731	0.00100549	0.0224631	0.00153853	0.0154751
%RSD:	10.3913	81.2368	34.1621	273.039	79.0622
Repeat: 1	-0.00115824	0.000388937	-0.0909048	0.000665559	0.0266866
Repeat: 2	-0.00140304	0.00234819	-0.058673	-0.00228894	0.00182057
Repeat: 3	-0.0013862	0.00097607	-0.0476854	-6.70738e-005	0.0302128
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000140036	0.000378301	4.00783	4.41586	3.621e-005
Std Dev:	4.87381e-005	0.000138246	0.632027	0.0279686	0.000197221
%RSD:	34.8039	36.5439	15.7698	0.633367	544.66
Repeat: 1	-0.000134353	0.000268633	3.72464	4.43181	-0.000189976
Repeat: 2	-9.43889e-005	0.000332677	3.56693	4.38356	0.000172238
Repeat: 3	-0.000191367	0.000533592	4.73193	4.4322	0.000126368

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000232151	0.000574368	0.000144677	-0.0147521	0.00163905
Std Dev:	0.000915971	0.00282666	0.000890733	0.000964087	0.00113941
%RSD:	394.558	492.134	615.671	6.53525	69.5166
Repeat: 1	-0.000656722	0.00382945	0.000994825	-0.0157487	0.000340803
Repeat: 2	0.000180168	-0.00126137	0.000220943	-0.0138243	0.0021033
Repeat: 3	0.00117301	-0.000844979	-0.000781737	-0.0146833	0.00247304
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00598241	-0.000292632	0.000143705	0.00331729	-0.00268754
Std Dev:	0.00785116	0.000180663	2.06991e-005	0.000606346	0.000533917
%RSD:	131.237	61.7374	14.4038	18.2783	19.8664
Repeat: 1	0.00443959	-0.000292132	0.000142766	0.0034617	-0.00243619
Repeat: 2	0.0144905	-0.000473544	0.000164858	0.00265178	-0.00232569
Repeat: 3	-0.000982806	-0.000112219	0.000123492	0.00383839	-0.00330074
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.00118776	0.00113703	6239.81	167245	11648.7
Std Dev:	4.33849e-005	6.22283e-005	19.0562	321.599	21.1283
%RSD:	3.65267	5.47286	0.305397	0.192292	0.181379
Repeat: 1	0.00114217	0.00111219	6220.04	166922	11673.1
Repeat: 2	0.00122854	0.00120785	6241.31	167248	11635.5
Repeat: 3	0.00119256	0.00109106	6258.06	167565	11637.6
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6239.81	167245	11648.7
Std Dev:	19.0562	321.599	21.1283
%RSD:	0.305397	0.192292	0.181379
Repeat: 1	6220.04	166922	11673.1
Repeat: 2	6241.31	167248	11635.5
Repeat: 3	6258.06	167565	11637.6

Sample Name	**Acquisition Date**
M89WGZ100	10/12/2016 6:11:49PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1207.44	450.715	71.7215	479.941	2573.16
Std Dev:	5.68133	0.59054	0.267136	0.818139	13.8511
%RSD:	0.470528	0.131023	0.372463	0.170466	0.538291
Repeat: 1	1210.92	450.399	71.7	479.712	2571.09
Repeat: 2	1200.88	451.396	71.4657	479.262	2587.94
Repeat: 3	1210.5	450.349	71.9987	480.85	2560.47
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1026.91	556.198	197.555	288.147	622.674
Std Dev:	2.76442	1.17369	0.592438	1.4452	6.41016

%RSD:	0.269196	0.211021	0.299886	0.50155	1.02946
Repeat: 1	1024.49	554.985	198.14	286.82	623.526
Repeat: 2	1026.33	557.328	196.955	287.935	615.88
Repeat: 3	1029.92	556.281	197.568	289.687	628.616
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1450.26	106.613	4904.77	5089.27	157.095
Std Dev:	1.88651	1.3573	21.2647	20.9351	2.41264
%RSD:	0.13008	1.2731	0.433551	0.411357	1.53578
Repeat: 1	1452.33	105.085	4908.72	5094.37	159.771
Repeat: 2	1448.63	107.677	4923.78	5107.18	156.431
Repeat: 3	1449.83	107.079	4881.8	5066.25	155.085
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	424.362	90.7043	594.334	5085.61	307.748
Std Dev:	3.50349	0.586356	2.8725	14.1203	0.20451
%RSD:	0.825591	0.646448	0.483314	0.277652	0.0664538
Repeat: 1	420.398	91.3733	594.118	5088.58	307.967
Repeat: 2	427.044	90.4597	597.308	5098.01	307.715
Repeat: 3	425.643	90.2798	591.575	5070.24	307.562
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.0752	10503.8	11180.4	122.812	76.9724
Std Dev:	0.443401	52.1963	30.1573	0.588079	0.206913
%RSD:	1.07949	0.496928	0.269733	0.478845	0.268815
Repeat: 1	41.5867	10444.4	11146.1	122.153	76.8
Repeat: 2	40.8394	10524.4	11202.7	122.998	76.9154
Repeat: 3	40.7995	10542.5	11192.5	123.284	77.2019
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	132.669	75.4153	1637.99	355.799	50.8063
Std Dev:	0.452332	0.290055	11.736	4.50432	0.206633
%RSD:	0.340948	0.38461	0.716493	1.26597	0.406708
Repeat: 1	132.253	75.1467	1641.97	358.425	50.88
Repeat: 2	132.602	75.7229	1647.21	358.375	50.966
Repeat: 3	133.151	75.3764	1624.78	350.598	50.573
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1124.72	193.13	6639.36	171337	12691.6
Std Dev:	8.54073	0.26032	32.2531	676.107	75.9228
%RSD:	0.759364	0.13479	0.485786	0.394607	0.598215
Repeat: 1	1127.52	192.887	6639.99	171003	12626.2
Repeat: 2	1115.13	193.404	6671.29	172115	12673.7
Repeat: 3	1131.51	193.098	6606.8	170892	12774.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000192005	0.00770242	0.000590408	-0.101093	0.0004766
Std Dev:	0.000274302	0.00591256	0.000830836	0.000442476	0.000139419
%RSD:	142.862	76.7623	140.723	0.437692	29.2529
Repeat: 1	0.000110249	0.00981722	0.000466315	-0.1006	0.000363217
Repeat: 2	-0.000425128	0.00102327	-0.000171403	-0.101455	0.000632266
Repeat: 3	-0.000261137	0.0122668	0.00147631	-0.101224	0.000434316
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.24652e-005	0.00209228	1.41423e-005	9.5184e-005	0.00246054

Std Dev:	5.55292e-006	0.00152369	0.000117168	0.00017935	0.000223953
%RSD:	44.5474	72.8244	828.492	188.424	9.10178
Repeat: 1	-1.68527e-005	0.000432689	0.000104212	-5.72846e-005	0.00237616
Repeat: 2	-6.2221e-006	0.00241616	-0.000118322	5.00454e-005	0.00229103
Repeat: 3	-1.43208e-005	0.00342799	5.65372e-005	0.000292791	0.00271442
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000541556	0.00200422	-0.0649231	0.000421825	-0.00184933
Std Dev:	0.000337663	0.00162903	0.0163769	0.00075701	0.016382
%RSD:	62.3505	81.28	25.225	179.461	885.834
Repeat: 1	-0.000411718	0.000204885	-0.0752517	-0.000290509	0.0157308
Repeat: 2	-0.000288084	0.00337879	-0.0460405	0.00121674	-0.0166872
Repeat: 3	-0.000924866	0.00242898	-0.0734771	0.000339244	-0.00459159
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	3.81275e-005	-6.75866e-005	0.82297	0.0630388	5.72364e-005
Std Dev:	9.8278e-005	0.000306068	0.272489	0.0055977	0.000114172
%RSD:	257.761	452.853	33.1104	8.87978	199.474
Repeat: 1	3.3602e-006	0.000227781	0.749718	0.0576084	0.0001885
Repeat: 2	0.000149063	-4.72044e-005	0.594595	0.0627179	2.21504e-006
Repeat: 3	-3.80409e-005	-0.000383336	1.1246	0.06879	-1.90057e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0015637	9.71061	9.65894	0.00070259	-0.000358141
Std Dev:	0.00190251	0.0541841	0.0511265	0.0011524	0.000334301
%RSD:	121.667	0.557988	0.529318	164.022	93.3433
Repeat: 1	0.00375861	9.67381	9.62461	-0.000613518	2.59773e-005
Repeat: 2	0.000545831	9.6852	9.63452	0.00119056	-0.00058332
Repeat: 3	0.00038667	9.77283	9.7177	0.00153073	-0.000517081
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.0121887	3.99553e-005	0.000527519	0.00176304	0.000417004
Std Dev:	0.0117311	0.000103882	0.000118749	0.00160871	0.0035519
%RSD:	96.246	259.996	22.5108	91.2464	851.767
Repeat: 1	-0.0245893	-7.90054e-005	0.000572198	0.00260141	0.00301868
Repeat: 2	-0.0107094	8.61041e-005	0.000617448	0.00277941	0.00186198
Repeat: 3	-0.00126736	0.000112767	0.000392911	-9.16936e-005	-0.00362965
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000137302	0.00166547	6375.71	168690	11837.6
Std Dev:	0.000389462	1.75837e-005	31.9354	682.704	73.402
%RSD:	283.653	1.05578	0.500891	0.404709	0.620075
Repeat: 1	0.000574493	0.00167067	6377.01	168364	11777.1
Repeat: 2	-0.000172554	0.00164587	6406.97	169475	11816.5
Repeat: 3	9.96737e-006	0.00167987	6343.14	168232	11919.3
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**

Avg. of Repeats:	6375.71	168690	11837.6
Std Dev:	31.9354	682.704	73.402
%RSD:	0.500891	0.404709	0.620075
Repeat: 1	6377.01	168364	11777.1
Repeat: 2	6406.97	169475	11816.5
Repeat: 3	6343.14	168232	11919.3

Sample Name	**Acquisition Date**
M89WGXZ100	10/12/2016 6:16:50PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1229.11	449.453	71.3418	483.431	2584.99
Std Dev:	7.16226	2.84589	0.454393	2.44939	9.8379
%RSD:	0.582721	0.633189	0.636923	0.506666	0.380578
Repeat: 1	1223.72	449.003	70.8267	481.498	2573.63
Repeat: 2	1226.36	452.498	71.6855	482.61	2590.71
Repeat: 3	1237.23	446.859	71.5133	486.186	2590.63
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1039.31	561.674	199.725	291.317	636.635
Std Dev:	3.81696	1.27322	0.404648	1.07805	2.60636
%RSD:	0.36726	0.226683	0.202603	0.370061	0.409396
Repeat: 1	1036.26	561.067	199.34	290.107	634.949
Repeat: 2	1038.08	563.137	199.687	291.672	635.319
Repeat: 3	1043.59	560.818	200.147	292.173	639.637
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1475.63	108.148	4934.19	5120.08	157.483
Std Dev:	3.5997	0.624608	2.66564	11.6947	1.90691
%RSD:	0.243944	0.577549	0.0540239	0.228408	1.21087
Repeat: 1	1474.02	108.475	4937.24	5113.91	158.973
Repeat: 2	1473.12	108.541	4932.32	5133.57	158.142
Repeat: 3	1479.75	107.428	4933	5112.76	155.334
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	429.136	91.4064	599.537	5114.97	310.751
Std Dev:	3.75347	0.24872	6.71638	7.16378	1.29802
%RSD:	0.874657	0.272103	1.12026	0.140055	0.417706
Repeat: 1	426.441	91.2733	602.692	5121.68	309.42
Repeat: 2	427.543	91.2525	604.096	5115.78	310.819
Repeat: 3	433.423	91.6933	591.825	5107.43	312.013
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.4175	10495.9	11139.7	123.972	77.6095
Std Dev:	0.249768	43.9714	11.6095	0.280305	0.260933
%RSD:	0.603051	0.418939	0.104218	0.226103	0.336213
Repeat: 1	41.2067	10445.7	11133.8	123.7	77.9
Repeat: 2	41.3524	10527.6	11153	123.957	77.3951
Repeat: 3	41.6933	10514.3	11132.1	124.26	77.5333
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	134.187	76.0831	1651.48	359.229	50.5866
Std Dev:	0.333634	0.554107	3.85879	0.675133	0.161791
%RSD:	0.248633	0.728292	0.233657	0.18794	0.31983
Repeat: 1	134.197	76.6533	1655.63	358.524	50.76

Repeat: 2	134.515	76.0493	1650.8	359.291	50.4397
Repeat: 3	133.848	75.5467	1648.01	359.87	50.56
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1141.29	185.899	6607.25	169913	12566.1
Std Dev:	7.79285	0.458307	4.6256	718.034	103.925
%RSD:	0.682808	0.246536	0.070008	0.42259	0.82703
Repeat: 1	1133.25	185.38	6606.85	169124	12553.7
Repeat: 2	1141.81	186.249	6612.07	170529	12468.9
Repeat: 3	1148.81	186.067	6602.84	170085	12675.6

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000150674	-0.0036912	-0.00167572	-0.10138	0.00038918
Std Dev:	0.000126828	0.0140798	0.000228783	0.000517367	0.000252066
%RSD:	84.1737	381.442	13.6528	0.510323	64.7685
Repeat: 1	0.000130245	0.0109356	-0.00182657	-0.100895	9.90784e-005
Repeat: 2	3.53006e-005	-0.00485775	-0.00141248	-0.101925	0.000513782
Repeat: 3	0.000286476	-0.0171514	-0.00178811	-0.101321	0.000554679
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-8.42542e-006	0.00505627	-3.69775e-006	0.000225852	0.00283755
Std Dev:	9.55876e-007	0.000849835	1.95225e-005	1.99996e-005	0.000176407
%RSD:	11.3451	16.8076	527.957	8.85521	6.21688
Repeat: 1	-8.68628e-006	0.00426351	-2.58125e-005	0.00021928	0.00277614
Repeat: 2	-7.36619e-006	0.00595351	3.57359e-006	0.00024831	0.00270005
Repeat: 3	-9.22378e-006	0.00495177	1.11456e-005	0.000209965	0.00303645
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	6.30373e-006	0.00299848	-0.0620625	0.000386407	0.0133234
Std Dev:	0.000185769	0.00140683	0.0311404	0.00099952	0.00756717
%RSD:	2946.97	46.918	50.1758	258.67	56.7961
Repeat: 1	0.000212413	0.00221483	-0.0601036	-0.000563689	0.0193831
Repeat: 2	-0.000148224	0.00462261	-0.0941361	0.000293979	0.0157454
Repeat: 3	-4.52779e-005	0.002158	-0.0319479	0.00142893	0.00484174
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.98306e-005	-8.85346e-005	1.36674	0.0610572	-2.03389e-005
Std Dev:	5.01058e-005	0.000135543	1.58569	0.00481179	4.39532e-005
%RSD:	252.669	153.097	116.02	7.88079	216.104
Repeat: 1	-2.921e-005	-0.000173159	2.57662	0.0615272	2.30024e-005
Repeat: 2	1.77641e-005	-0.000160245	1.95199	0.0560276	-1.91397e-005
Repeat: 3	7.09377e-005	6.77999e-005	-0.428396	0.0656167	-6.48795e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00108824	9.78467	9.67607	0.00208714	0.00104214
Std Dev:	0.00146777	0.00177369	0.00294221	0.000976309	0.00125674
%RSD:	134.875	0.0181273	0.0304071	46.7774	120.592
Repeat: 1	-0.000107002	9.78471	9.67302	0.00131219	0.00240099

Repeat: 2	0.000645249	9.78288	9.6789	0.00176554	-7.83334e-005
Repeat: 3	0.00272648	9.78643	9.67628	0.00318367	0.000803751
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00845428	0.000346162	0.000665525	0.00174486	-0.000898809
Std Dev:	0.0136966	0.000603145	3.58507e-005	0.000779269	0.00123312
%RSD:	162.008	174.238	5.38683	44.6608	137.195
Repeat: 1	-0.0226976	0.000972852	0.000671247	0.00111653	0.000524939
Repeat: 2	0.00462078	0.000295931	0.000627157	0.00261684	-0.00159347
Repeat: 3	-0.00728596	-0.000230297	0.00069817	0.00150121	-0.00162789
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000223339	0.000939028	6340.55	167250	11706
Std Dev:	0.00021989	1.82735e-005	4.62509	686.098	103.83
%RSD:	98.4555	1.946	0.0729446	0.410224	0.886985
Repeat: 1	-1.29691e-005	0.000930925	6341.08	166500	11688.5
Repeat: 2	0.000261055	0.000959951	6344.89	167846	11612
Repeat: 3	0.000421931	0.000926206	6335.68	167403	11817.4
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6340.55	167250	11706
Std Dev:	4.62509	686.098	103.83
%RSD:	0.0729446	0.410224	0.886985
Repeat: 1	6341.08	166500	11688.5
Repeat: 2	6344.89	167846	11612
Repeat: 3	6335.68	167403	11817.4

Sample Name	**Acquisition Date**
M89W5Z500	10/12/2016 6:21:53PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1213.78	449.254	74.8623	503.095	2561.05
Std Dev:	3.82936	2.4309	0.289745	4.36663	8.6919
%RSD:	0.31549	0.541097	0.387037	0.867952	0.339388
Repeat: 1	1212.57	447.274	74.6802	498.351	2551.23
Repeat: 2	1218.07	451.967	74.7103	506.946	2564.16
Repeat: 3	1210.7	448.522	75.1964	503.99	2567.76
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1043.67	558.718	203.456	294.878	140666
Std Dev:	6.68732	1.52348	1.07569	1.42475	448.257
%RSD:	0.640748	0.272675	0.528706	0.483168	0.318667
Repeat: 1	1043.12	557.669	202.592	293.257	140149
Repeat: 2	1037.28	560.465	203.116	295.445	140934
Repeat: 3	1050.62	558.019	204.661	295.932	140916
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1466.66	107.167	4904.67	5086.43	154.584
Std Dev:	3.64834	0.292564	20.6149	14.3315	1.98028

%RSD:	0.248752	0.272999	0.420312	0.28176	1.28104
Repeat: 1	1465.42	106.95	4894.9	5070.35	152.936
Repeat: 2	1470.77	107.5	4890.75	5097.86	154.034
Repeat: 3	1463.79	107.05	4928.35	5091.07	156.781
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	426.625	94.3589	612.576	12126.9	312.834
Std Dev:	1.89584	0.536883	4.76573	32.2976	0.52901
%RSD:	0.444381	0.56898	0.777982	0.266331	0.169102
Repeat: 1	424.445	94.7095	607.1	12140.8	312.56
Repeat: 2	427.543	93.7408	614.839	12090	312.498
Repeat: 3	427.887	94.6264	615.788	12149.9	313.444
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	42.3563	184.832	221.039	220.848	78.35
Std Dev:	0.0647314	2.2539	0.131881	1.16329	0.606254
%RSD:	0.152826	1.21943	0.0596642	0.526735	0.773777
Repeat: 1	42.2841	186.338	220.904	219.51	77.8718
Repeat: 2	42.3758	182.241	221.168	221.421	79.0318
Repeat: 3	42.4091	185.917	221.046	221.614	78.1462
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	135.177	76.7405	1612.29	370.099	52.0935
Std Dev:	1.51143	0.234927	6.50568	6.85195	0.173126
%RSD:	1.11811	0.306132	0.403505	1.85139	0.332337
Repeat: 1	135.41	76.4792	1606.7	367.935	51.9456
Repeat: 2	136.559	76.9343	1610.74	377.771	52.2839
Repeat: 3	133.563	76.8078	1619.43	364.59	52.0509
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1147.54	202.777	6600.92	170001	12581.3
Std Dev:	6.73576	1.16757	28.1579	640.395	17.3899
%RSD:	0.586972	0.575791	0.426575	0.376701	0.13822
Repeat: 1	1139.77	201.479	6569.92	169265	12564.7
Repeat: 2	1151.46	203.742	6607.92	170309	12599.4
Repeat: 3	1151.41	203.11	6624.92	170429	12580

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000382463	0.00375954	0.00194261	-0.0975227	0.000249695
Std Dev:	0.000758088	0.00699944	0.00074768	0.00105647	6.48162e-005
%RSD:	198.212	186.178	38.4884	1.08331	25.9582
Repeat: 1	7.18743e-005	-0.00300452	0.0027833	-0.0986081	0.000301769
Repeat: 2	3.83503e-005	0.0109727	0.00135209	-0.0974623	0.000177103
Repeat: 3	-0.00125761	0.00331041	0.00169245	-0.0964978	0.000270212
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-7.35526e-007	0.00366731	0.000133022	-0.000403841	9.14666
Std Dev:	2.78801e-005	0.000850915	6.1966e-005	7.89602e-005	0.00589782
%RSD:	3790.5	23.2027	46.5833	19.5523	0.0644806
Repeat: 1	1.64894e-005	0.00363253	8.54418e-005	-0.000493171	9.15086
Repeat: 2	-3.29017e-005	0.00453508	0.000110531	-0.000343372	9.14921
Repeat: 3	1.42057e-005	0.00283431	0.000203093	-0.000374979	9.13992
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00123109	0.00341213	-0.0672316	-1.75167e-005	-0.0151521
Std Dev:	0.000114976	0.00148546	0.0349059	0.00146095	0.0138395
%RSD:	9.33938	43.5346	51.9189	8340.32	91.3371
Repeat: 1	-0.00111234	0.00312754	-0.0345408	0.00125139	-0.0303675
Repeat: 2	-0.00134188	0.00501929	-0.103995	0.000310715	-0.0117754
Repeat: 3	-0.00123904	0.00208956	-0.0631589	-0.00161466	-0.00331347
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000117952	0.000316658	5.22725	4.07679	8.01287e-005
Std Dev:	3.87146e-005	0.000154515	1.03095	0.0273661	3.48814e-005
%RSD:	32.8223	48.7956	19.7226	0.671266	43.5318
Repeat: 1	-0.000151534	0.000413368	4.04363	4.10128	0.000114831
Repeat: 2	-0.000126715	0.000138456	5.9292	4.04725	4.50711e-005
Repeat: 3	-7.56071e-005	0.000398151	5.70893	4.08182	8.04836e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00119783	0.00207597	0.000621519	-0.0135975	0.000529704
Std Dev:	0.000676353	0.00382804	0.00077468	0.00101439	0.00136476
%RSD:	56.4647	184.397	124.643	7.4601	257.645
Repeat: 1	0.00149673	0.00330465	0.000912514	-0.0129637	-0.000599585
Repeat: 2	0.00167324	-0.00221554	0.00120857	-0.0130613	0.00204623
Repeat: 3	0.000423525	0.00513881	-0.000256523	-0.0147674	0.000142461
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00434422	0.000182659	9.39182e-005	0.00460771	-0.000287151
Std Dev:	0.0134994	0.000111999	2.22673e-005	0.00173973	0.000190681
%RSD:	310.744	61.316	23.7092	37.7569	66.4044
Repeat: 1	0.0164945	0.000241371	0.000114437	0.00423323	-0.000224433
Repeat: 2	0.00672558	5.35106e-005	7.02401e-005	0.00650418	-0.000501292
Repeat: 3	-0.0101874	0.000253094	9.70773e-005	0.00308571	-0.000135729
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.00119254	0.00220825	6254.34	167358	11733.6
Std Dev:	0.000320305	4.91808e-005	27.407	621.658	19.9643
%RSD:	26.8591	2.22714	0.438207	0.371454	0.170146
Repeat: 1	0.000879586	0.00216695	6224.56	166643	11715.1
Repeat: 2	0.00117831	0.00226266	6259.96	167656	11754.7
Repeat: 3	0.00151972	0.00219515	6278.5	167775	11731.1
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6254.34	167358	11733.6
Std Dev:	27.407	621.658	19.9643
%RSD:	0.438207	0.371454	0.170146
Repeat: 1	6224.56	166643	11715.1
Repeat: 2	6259.96	167656	11754.7
Repeat: 3	6278.5	167775	11731.1

Sample Name	Acquisition Date
M89W7Z100	10/12/2016 6:26:56PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	1206.97	448.705	71.0153	478.505	2563.08
Std Dev:	7.00482	2.52359	0.263561	4.91467	7.92435
%RSD:	0.580365	0.562416	0.371132	1.02709	0.309173
Repeat: 1	1199.33	446.959	71.0993	477.508	2564.36
Repeat: 2	1213.1	451.598	71.2267	483.842	2554.6
Repeat: 3	1208.47	447.557	70.72	474.166	2570.29
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1034.45	556.2	196.992	287.63	598.66
Std Dev:	4.33833	3.07815	0.639994	0.857727	4.4129
%RSD:	0.419386	0.553426	0.324884	0.298205	0.73713
Repeat: 1	1034.21	557.876	196.269	286.682	593.856
Repeat: 2	1038.9	552.647	197.487	288.353	602.533
Repeat: 3	1030.23	558.076	197.22	287.853	599.59
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1453.79	106.069	4894.38	5067.3	156.902
Std Dev:	4.09617	0.690223	8.16756	16.9912	1.50739
%RSD:	0.281758	0.650728	0.166876	0.335311	0.960725
Repeat: 1	1449.43	106.58	4885.54	5061.47	155.982
Repeat: 2	1457.56	106.344	4901.65	5054	158.641
Repeat: 3	1454.38	105.284	4895.96	5086.44	156.082
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	426.561	91.0066	592.563	5049.5	307.681
Std Dev:	4.3498	0.597451	6.25595	10.4404	1.44262
%RSD:	1.01974	0.656492	1.05574	0.20676	0.468868
Repeat: 1	421.654	90.3264	594.716	5041.53	306.216
Repeat: 2	428.087	91.2467	585.514	5045.65	309.1
Repeat: 3	429.942	91.4467	597.458	5061.32	307.727
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.1108	12395.5	13016.5	122.775	77.2206
Std Dev:	0.252903	11.0032	40.2128	0.529467	0.0849017
%RSD:	0.615174	0.0887682	0.308937	0.43125	0.109947
Repeat: 1	41.2791	12395.6	12971	123.364	77.2019
Repeat: 2	41.2333	12384.4	13031.3	122.34	77.1467
Repeat: 3	40.82	12406.4	13047.3	122.62	77.3133
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	132.841	75.4677	1617.52	352.677	51.0042
Std Dev:	1.67527	0.142028	1.94774	3.31577	0.370795
%RSD:	1.26111	0.188196	0.120415	0.940172	0.726989
Repeat: 1	131.705	75.4231	1619.74	356.032	51.1659
Repeat: 2	134.765	75.6267	1616.08	352.597	50.58
Repeat: 3	132.054	75.3533	1616.75	349.402	51.2667
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1124.11	187.705	6658.34	174043	12838.4
Std Dev:	8.31736	1.03273	23.8316	851.781	51.8766
%RSD:	0.739907	0.55019	0.357921	0.489408	0.404075
Repeat: 1	1116.7	186.589	6634.54	174105	12802.2

Repeat: 2	1133.1	188.627	6658.27	173162	12815
Repeat: 3	1122.53	187.9	6682.21	174862	12897.8

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000316034	0.00642916	-0.00174173	-0.10181	0.000548826
Std Dev:	0.000463045	0.0156166	0.000783439	0.000406637	0.000130518
%RSD:	146.518	242.903	44.9805	0.399408	23.7812
Repeat: 1	-0.000573518	0.0012916	-0.000865744	-0.102279	0.00067593
Repeat: 2	-0.000593108	0.0239673	-0.00198412	-0.101598	0.000555404
Repeat: 3	0.000218525	-0.00597147	-0.00237533	-0.101553	0.000415144
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-5.15072e-006	0.00343595	-6.60906e-005	0.000112742	0.000662311
Std Dev:	1.00552e-005	0.000852724	9.6822e-006	0.000139647	0.000312915
%RSD:	195.22	24.8177	14.6499	123.865	47.2459
Repeat: 1	4.94555e-006	0.00427409	-7.72702e-005	-3.89563e-005	0.000309807
Repeat: 2	-1.51644e-005	0.00256936	-6.04176e-005	0.000235942	0.000769852
Repeat: 3	-5.23331e-006	0.00346439	-6.05839e-005	0.000141239	0.000907274
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00041409	0.00344316	-0.0458541	0.000406776	0.00509516
Std Dev:	0.000122096	4.51517e-005	0.0169469	0.00106213	0.0150725
%RSD:	29.4853	1.31134	36.9584	261.11	295.82
Repeat: 1	-0.000280078	0.0034274	-0.0304836	0.00113196	0.000101944
Repeat: 2	-0.000443177	0.00349408	-0.0430509	-0.000812383	0.0220307
Repeat: 3	-0.000519017	0.003408	-0.0640279	0.000900751	-0.00684712
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	4.93202e-005	5.06797e-005	0.417634	0.0520546	-9.72371e-006
Std Dev:	4.83829e-005	0.000228839	1.35364	0.00431327	9.45765e-005
%RSD:	98.0995	451.539	324.122	8.28604	972.639
Repeat: 1	-6.38906e-006	-0.000103048	1.44365	0.0516924	-0.000118219
Repeat: 2	7.35331e-005	-5.85824e-005	-1.11656	0.0565376	5.53072e-005
Repeat: 3	8.08166e-005	0.00031367	0.925813	0.0479339	3.37409e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000751067	11.3128	11.2439	-0.000320377	0.000693475
Std Dev:	0.00116658	0.0464557	0.0150996	0.00246528	0.00105126
%RSD:	155.323	0.410646	0.134292	769.493	151.593
Repeat: 1	0.0015447	11.3027	11.247	0.00126489	0.00180591
Repeat: 2	0.00129687	11.3635	11.2572	-0.00316064	-0.000283468
Repeat: 3	-0.000588364	11.2723	11.2275	0.000934621	0.000557982
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00407062	5.75253e-005	0.000305771	0.00105053	-0.00121393
Std Dev:	0.0167214	0.000237425	0.000114484	0.00071935	0.00145403

%RSD:	410.781	412.732	37.4411	68.4752	119.779
Repeat: 1	-0.0213682	-0.000215439	0.000427224	0.00187131	-0.00150825
Repeat: 2	0.0120078	0.000171908	0.000199838	0.0007506	-0.00249828
Repeat: 3	-0.00285145	0.000216107	0.000290252	0.000529672	0.00036475
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.000138247	0.00123568	6394.17	171409	11989.4
Std Dev:	5.58636e-005	0.000105196	23.5889	861.705	48.7521
%RSD:	40.4085	8.51323	0.368913	0.502717	0.406627
Repeat: 1	0.000137097	0.00112306	6370.73	171467	11957
Repeat: 2	8.29671e-005	0.00133142	6393.87	170521	11965.7
Repeat: 3	0.000194677	0.00125255	6417.91	172241	12045.5
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6394.17	171409	11989.4
Std Dev:	23.5889	861.705	48.7521
%RSD:	0.368913	0.502717	0.406627
Repeat: 1	6370.73	171467	11957
Repeat: 2	6393.87	170521	11965.7
Repeat: 3	6417.91	172241	12045.5

Sample Name	**Acquisition Date**
M89XKZ500	10/12/2016 6:31:58PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1210.72	446.324	75.2221	502.582	2541.29
Std Dev:	4.72236	3.25795	0.317032	3.58056	9.76091
%RSD:	0.390045	0.729951	0.421462	0.712434	0.384093
Repeat: 1	1210.67	448.682	74.8568	498.501	2530.9
Repeat: 2	1215.47	447.684	75.3829	504.048	2550.27
Repeat: 3	1206.03	442.607	75.4264	505.197	2542.7
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1039.49	554.324	202.935	294.535	151176
Std Dev:	4.10799	4.25185	1.18783	1.76229	971.12
%RSD:	0.395192	0.767034	0.585323	0.598329	0.642378
Repeat: 1	1034.83	549.87	202.117	293.781	150206
Repeat: 2	1041.08	554.762	202.39	293.275	151173
Repeat: 3	1042.57	558.34	204.298	296.549	152148
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1464.39	107.207	4875.37	5055.36	154.45
Std Dev:	4.69195	0.192271	21.6489	23.8018	0.566944
%RSD:	0.320404	0.179346	0.444046	0.470822	0.367072
Repeat: 1	1463.17	107.079	4859.18	5030.8	154.752
Repeat: 2	1469.57	107.428	4899.96	5078.32	154.802
Repeat: 3	1460.42	107.114	4866.98	5056.94	153.796
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	427.21	94.3877	609.883	12665	312.716
Std Dev:	3.91566	0.0222728	1.78971	31.0672	0.403691

%RSD:	0.916566	0.0235972	0.293451	0.245299	0.129092
Repeat: 1	425.495	94.3734	610.024	12650.3	312.299
Repeat: 2	431.691	94.4134	608.027	12644.1	313.104
Repeat: 3	424.445	94.3763	611.598	12700.7	312.747
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	42.2342	182.757	219.663	226.694	78.8029
Std Dev:	0.222401	2.90099	1.07255	0.558873	0.287467
%RSD:	0.526591	1.58735	0.488269	0.246532	0.364793
Repeat: 1	42.236	183.74	218.604	226.668	79.1317
Repeat: 2	42.4557	185.039	219.636	226.149	78.599
Repeat: 3	42.0109	179.492	220.749	227.265	78.678
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	134.245	76.5207	1602.77	360.766	51.907
Std Dev:	1.88762	0.226399	2.26877	2.16272	0.305869
%RSD:	1.4061	0.295866	0.141554	0.599479	0.589264
Repeat: 1	135.783	76.2951	1600.44	358.976	52.2173
Repeat: 2	132.139	76.7479	1602.89	363.169	51.8977
Repeat: 3	134.815	76.5192	1604.97	360.153	51.6058
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1142.65	199.168	6628.61	172651	12786.4
Std Dev:	7.72103	0.449375	11.6071	1135.05	34.0211
%RSD:	0.675714	0.225627	0.175106	0.657426	0.266072
Repeat: 1	1142.76	199.354	6616.73	171680	12771.6
Repeat: 2	1150.31	198.655	6629.2	172374	12762.3
Repeat: 3	1134.87	199.494	6639.92	173899	12825.3

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000200174	0.00326782	0.00209727	-0.097839	0.000210948
Std Dev:	0.000173972	0.0201919	0.000665173	0.000972617	0.00020382
%RSD:	86.9107	617.901	31.7162	0.9941	96.6211
Repeat: 1	1.09465e-007	0.0206037	0.00174069	-0.0987582	0.000220984
Repeat: 2	-0.000286848	0.00810216	0.00286471	-0.0979382	0.000409565
Repeat: 3	-0.000313782	-0.0189024	0.00168641	-0.0968206	2.29526e-006
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-4.14647e-006	0.0016978	0.000126898	-0.000545755	9.68066
Std Dev:	1.18718e-005	0.00165308	8.59414e-005	0.000114951	0.0133437
%RSD:	286.311	97.366	67.7249	21.0627	0.137839
Repeat: 1	-1.18226e-005	0.000535873	7.80453e-005	-0.000549631	9.67358
Repeat: 2	-1.01444e-005	0.000967233	7.65175e-005	-0.000658719	9.69605
Repeat: 3	9.5276e-006	0.0035903	0.00022613	-0.000428916	9.67235
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00113801	0.00265518	-0.0594049	-0.000112043	-0.00474165
Std Dev:	0.000220422	0.000198137	0.0250578	0.000425919	0.00885193
%RSD:	19.369	7.46226	42.1813	380.139	186.685
Repeat: 1	-0.00089275	0.00272055	-0.0613446	-0.000581353	0.00406594
Repeat: 2	-0.00120174	0.00281237	-0.0334336	0.000249962	-0.0136373
Repeat: 3	-0.00131955	0.00243262	-0.0834364	-4.73778e-006	-0.00465362

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000129795	0.000218639	4.1976	4.32529	6.59119e-006
Std Dev:	3.23212e-005	0.000174937	1.35378	0.0101774	6.02999e-005
%RSD:	24.9018	80.0116	32.2512	0.235301	914.856
Repeat: 1	-0.000123084	0.000394768	5.28478	4.33343	4.26101e-005
Repeat: 2	-0.000101356	0.00021623	2.68126	4.31388	4.01865e-005
Repeat: 3	-0.000164945	4.49193e-005	4.62677	4.32856	-6.30231e-005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000254728	0.000746352	7.4293e-005	-0.014632	0.00188516
Std Dev:	0.00198357	0.002464	0.000332053	0.000728234	0.000954658
%RSD:	778.703	330.139	446.951	4.977	50.6407
Repeat: 1	0.00148582	0.000842804	-0.000305201	-0.0139713	0.0017247
Repeat: 2	0.00131187	0.00316071	0.000311449	-0.0154128	0.00290988
Repeat: 3	-0.0020335	-0.00176446	0.000216631	-0.0145119	0.0010209
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00933497	-0.000463836	0.000177047	0.00258357	-0.00180044
Std Dev:	0.011494	0.000106314	9.21813e-005	0.00108016	0.00189748
%RSD:	123.128	22.9206	52.0659	41.8087	105.39
Repeat: 1	0.0198043	-0.000586457	0.000259836	0.00280023	-1.93567e-005
Repeat: 2	-0.00296417	-0.000397452	7.7714e-005	0.00353898	-0.00158588
Repeat: 3	0.0111648	-0.0004076	0.000193592	0.00141151	-0.00379608
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.00122399	0.00187501	6278.32	170014	11938.8
Std Dev:	0.00020726	9.60395e-005	11.2766	1141.69	30.958
%RSD:	16.9331	5.12208	0.179612	0.671529	0.259305
Repeat: 1	0.00104508	0.00197713	6266.63	169043	11924.2
Repeat: 2	0.0014511	0.00178651	6279.2	169727	11917.9
Repeat: 3	0.0011758	0.00186139	6289.13	171271	11974.4
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6278.32	170014	11938.8
Std Dev:	11.2766	1141.69	30.958
%RSD:	0.179612	0.671529	0.259305
Repeat: 1	6266.63	169043	11924.2
Repeat: 2	6279.2	169727	11917.9
Repeat: 3	6289.13	171271	11974.4

Sample Name	**Acquisition Date**
M89XLZ100	10/12/2016 6:37:01PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**

Avg. of Repeats:	1224.7	456.144	71.5393	482.407	2594.81
Std Dev:	9.13991	1.9905	0.402049	3.30603	11.7134
%RSD:	0.746296	0.436374	0.561996	0.685319	0.451416
Repeat: 1	1218.23	455.045	71.0926	480.201	2583.07
Repeat: 2	1235.16	454.945	71.8721	486.208	2594.86
Repeat: 3	1220.72	458.442	71.6533	480.812	2606.49
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1042.33	560.823	199.967	291.539	599.595
Std Dev:	6.60966	3.10106	0.955799	0.510496	6.3895
%RSD:	0.634121	0.552949	0.47798	0.175104	1.06564
Repeat: 1	1036.26	557.443	201.019	291.992	592.46
Repeat: 2	1049.37	561.489	199.727	290.986	604.787
Repeat: 3	1041.38	563.536	199.153	291.64	601.539
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1471.94	106.86	4948.25	5137.68	156.327
Std Dev:	9.16942	0.67448	27.5192	8.54633	1.85175
%RSD:	0.622947	0.631182	0.55614	0.166346	1.18454
Repeat: 1	1463.45	106.194	4917.13	5130.82	154.545
Repeat: 2	1481.66	106.843	4958.24	5147.25	158.242
Repeat: 3	1470.72	107.542	4969.38	5134.97	156.194
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	427.045	92.2235	600.133	5117.15	311.87
Std Dev:	4.31728	0.275092	2.80448	12.82	0.487246
%RSD:	1.01097	0.298289	0.467309	0.25053	0.156234
Repeat: 1	423	91.9121	597.453	5102.35	311.792
Repeat: 2	426.544	92.3251	599.9	5124.73	312.392
Repeat: 3	431.591	92.4333	603.047	5124.38	311.427
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.3816	13914.9	14656.6	123.438	77.4545
Std Dev:	0.244557	33.2146	38.6481	0.225446	0.243246
%RSD:	0.590981	0.238698	0.263691	0.182639	0.31405
Repeat: 1	41.5256	13881.9	14666.7	123.664	77.5683
Repeat: 2	41.0993	13914.4	14613.9	123.438	77.1752
Repeat: 3	41.52	13948.3	14689.1	123.213	77.62
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	135.115	75.9528	1636.4	351.249	51.2661
Std Dev:	3.04818	0.579439	8.81308	1.94485	0.385152
%RSD:	2.25599	0.762893	0.538566	0.553695	0.75128
Repeat: 1	132.118	76.5556	1626.22	349.051	51.6722
Repeat: 2	138.212	75.9027	1641.71	352.747	50.9061
Repeat: 3	135.015	75.4	1641.26	351.948	51.22
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1133.97	193.474	6614.63	172136	12633.9
Std Dev:	5.84864	0.492354	13.7502	312.77	22.237
%RSD:	0.515768	0.254481	0.207876	0.1817	0.17601
Repeat: 1	1129.26	193.724	6610.28	172056	12648.2
Repeat: 2	1140.52	193.791	6603.58	171870	12645.3
Repeat: 3	1132.12	192.907	6630.03	172481	12608.3

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-2.8675e-005	0.023653	-0.00182848	-0.101742	0.000375741

Std Dev:	0.00059335	0.0144557	0.00110729	0.000233356	0.000161697
%RSD:	2069.22	61.1157	60.5581	0.22936	43.0341
Repeat: 1	-6.37543e-005	0.0386802	-0.00270533	-0.101577	0.000419658
Repeat: 2	0.000581437	0.0224324	-0.00058417	-0.101641	0.000196622
Repeat: 3	-0.000603708	0.00984625	-0.00219594	-0.102009	0.000510942
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-8.41572e-006	0.00287841	-1.92411e-005	0.000190346	0.000345094
Std Dev:	8.57817e-006	0.000919728	5.73982e-005	7.50884e-005	0.000214428
%RSD:	101.93	31.9526	298.31	39.4483	62.1359
Repeat: 1	9.42077e-007	0.00191684	3.83154e-005	0.000180515	0.000101727
Repeat: 2	-1.59069e-005	0.00296878	-1.95592e-005	0.000120658	0.000506256
Repeat: 3	-1.02824e-005	0.00374963	-7.64796e-005	0.000269866	0.0004273
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000215596	0.00080452	-0.0549239	0.000381553	-0.00758091
Std Dev:	7.0481e-005	0.000938878	0.0163753	0.00244632	0.00621413
%RSD:	32.6912	116.7	29.8145	641.15	81.9707
Repeat: 1	-0.00026972	-0.000204229	-0.045008	0.00265143	-0.00514722
Repeat: 2	-0.00024117	0.00165286	-0.045939	0.000702715	-0.00295197
Repeat: 3	-0.000135899	0.000964928	-0.0738249	-0.00220949	-0.0146435
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-5.41934e-006	6.81511e-005	-0.290941	0.0457378	7.34087e-005
Std Dev:	5.87255e-005	0.000116603	0.313408	0.0084328	0.000214235
%RSD:	1083.63	171.095	107.722	18.4373	291.839
Repeat: 1	-2.36314e-005	3.45082e-005	-0.130585	0.054946	3.18549e-005
Repeat: 2	-5.28812e-005	0.000197877	-0.65208	0.0438758	0.000305377
Repeat: 3	6.02546e-005	-2.79316e-005	-0.0901583	0.0383916	-0.000117005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000358573	12.8614	12.7742	0.000797938	-0.000190805
Std Dev:	0.00106055	0.0250718	0.0163535	0.000822223	0.000266013
%RSD:	295.769	0.194938	0.128019	103.044	139.416
Repeat: 1	-0.000326347	12.8369	12.7919	8.53372e-005	-0.000217487
Repeat: 2	0.00158019	12.887	12.7596	0.00169756	8.75436e-005
Repeat: 3	-0.000178127	12.8602	12.7712	0.000610914	-0.000442471
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00866106	-0.000169877	0.000295926	-0.000222922	-0.000759811
Std Dev:	0.00507477	0.000494958	4.68464e-005	0.000444188	0.00171199
%RSD:	58.5929	291.363	15.8305	199.258	225.317
Repeat: 1	-0.0140286	0.000392898	0.000267634	6.14838e-005	0.00115892
Repeat: 2	-0.00394126	-0.000537558	0.00035	-0.00073477	-0.00130716
Repeat: 3	-0.00801333	-0.00036497	0.000270143	4.52194e-006	-0.00213119
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----

Avg. of Repeats:	-0.000105333	0.00159511	6347.58	169458	11774.2
Std Dev:	0.000206983	2.89602e-005	13.6922	307.634	24.1217
%RSD:	196.504	1.81556	0.215707	0.18154	0.20487
Repeat: 1	3.57569e-005	0.00157939	6343.76	169406	11797
Repeat: 2	-8.80846e-006	0.00162853	6336.2	169180	11776.5
Repeat: 3	-0.000342947	0.0015774	6362.77	169789	11748.9
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6347.58	169458	11774.2
Std Dev:	13.6922	307.634	24.1217
%RSD:	0.215707	0.18154	0.20487
Repeat: 1	6343.76	169406	11797
Repeat: 2	6336.2	169180	11776.5
Repeat: 3	6362.77	169789	11748.9

Sample Name	**Acquisition Date**
M89WGP500	10/12/2016 6:42:04PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1210.7	446.455	71.7104	477.976	2556.91
Std Dev:	11.8867	2.16482	0.521162	1.01367	12.8658
%RSD:	0.981805	0.484892	0.726759	0.212076	0.503177
Repeat: 1	1212.25	447.652	72.1911	477.777	2558.19
Repeat: 2	1198.11	447.757	71.7836	477.078	2569.09
Repeat: 3	1221.73	443.956	71.1565	479.075	2543.46
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1038.4	554.275	198.503	289.834	599.547
Std Dev:	4.99476	1.96865	0.0949313	0.52386	4.1225
%RSD:	0.481003	0.355176	0.0478235	0.180745	0.687603
Repeat: 1	1043.45	554.995	198.521	289.871	600.829
Repeat: 2	1033.46	555.783	198.401	289.293	594.936
Repeat: 3	1038.3	552.048	198.588	290.339	602.877
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	1463.18	107.022	4901.17	5091.31	155.341
Std Dev:	6.74585	1.84881	31.7843	31.2533	2.94815
%RSD:	0.461041	1.72752	0.648504	0.613856	1.89785
Repeat: 1	1469.04	108.841	4893.51	5081.57	158.242
Repeat: 2	1455.8	107.079	4936.09	5126.27	155.434
Repeat: 3	1464.69	105.145	4873.93	5066.08	152.348
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	425.323	91.3732	595.091	5034.37	308.893
Std Dev:	1.32631	0.134735	2.04893	30.4211	0.661861
%RSD:	0.311837	0.147456	0.344305	0.604268	0.214269
Repeat: 1	426.089	91.4568	597.103	5027.32	308.683
Repeat: 2	423.791	91.4451	595.165	5067.7	308.362
Repeat: 3	426.089	91.2178	593.007	5008.09	309.634
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.6685	2188.64	2324.25	123.547	77.7124
Std Dev:	0.256398	16.7448	5.80571	0.146988	0.108759

%RSD:	0.615327	0.765077	0.249789	0.118974	0.13995
Repeat: 1	41.8499	2169.45	2318.51	123.704	77.6756
Repeat: 2	41.3752	2200.26	2324.12	123.413	77.6268
Repeat: 3	41.7804	2196.21	2330.12	123.524	77.8347
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	132.944	75.5474	1610.04	350.331	49.9066
Std Dev:	1.25494	0.227457	12.2906	1.97196	0.506451
%RSD:	0.943963	0.301078	0.763374	0.562883	1.0148
Repeat: 1	132.717	75.7764	1609.94	350.25	49.4269
Repeat: 2	134.297	75.3215	1622.38	352.343	49.8568
Repeat: 3	131.818	75.5443	1597.8	348.402	50.4361
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1127.3	202.221	6631.63	172881	12757.2
Std Dev:	9.80646	1.07491	20.0642	1036.04	188.763
%RSD:	0.869909	0.531552	0.302553	0.599282	1.47966
Repeat: 1	1124.55	203.072	6608.48	171693	12643.1
Repeat: 2	1119.16	201.013	6642.38	173596	12653.4
Repeat: 3	1138.18	202.577	6644.03	173355	12975.1

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00052587	-0.015124	-0.000873579	-0.102093	9.41193e-005
Std Dev:	0.000450138	0.00199004	0.000947397	0.000456461	8.0121e-005
%RSD:	85.5988	13.1581	108.45	0.447105	85.1271
Repeat: 1	-8.21582e-005	-0.0143473	0.000138641	-0.101566	2.11542e-005
Repeat: 2	-0.00051328	-0.0173853	-0.00173902	-0.102339	8.13429e-005
Repeat: 3	-0.000982171	-0.0136395	-0.00102036	-0.102373	0.000179861
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.26306e-005	0.000926535	-6.76686e-005	0.000196199	0.000678645
Std Dev:	7.93563e-006	0.000545617	1.52363e-005	9.57918e-005	0.000228061
%RSD:	62.8284	58.8879	22.516	48.8237	33.6054
Repeat: 1	-6.55823e-006	0.00114978	-8.3557e-005	8.67558e-005	0.00093649
Repeat: 2	-9.72387e-006	0.00132513	-6.62674e-005	0.000264801	0.000503368
Repeat: 3	-2.16098e-005	0.000304698	-5.31813e-005	0.000237041	0.000596077
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000317333	0.00272645	-0.0667858	-0.000307451	0.00486652
Std Dev:	0.000261412	0.00243196	0.0150973	0.000816214	0.00653089
%RSD:	82.3778	89.1987	22.6055	265.478	134.201
Repeat: 1	-0.000165574	0.00539029	-0.0836722	-0.00122243	0.0122074
Repeat: 2	-0.000167241	0.00216423	-0.0545923	-4.57223e-005	0.00269145
Repeat: 3	-0.000619185	0.000624847	-0.0620929	0.000345795	-0.000299299
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-1.71116e-005	8.53147e-005	1.45364	0.0279379	-0.000104948
Std Dev:	1.75855e-005	9.04747e-005	0.860499	0.00837757	0.000328753
%RSD:	102.77	106.048	59.196	29.9864	313.254
Repeat: 1	-1.96818e-005	6.97374e-005	2.13671	0.0192132	-0.000478748

Repeat: 2	1.61762e-006	3.64012e-006	0.48719	0.0359187	2.46504e-005
Repeat: 3	-3.32706e-005	0.000182567	1.73703	0.028682	0.000139255
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00107062	1.8689	1.85695	0.000507036	0.00110682
Std Dev:	0.000470362	0.0037154	0.00136986	0.000339851	0.000697221
%RSD:	43.9335	0.198801	0.0737694	67.0271	62.9934
Repeat: 1	0.00135789	1.86486	1.85683	0.000181579	0.00185592
Repeat: 2	0.000527803	1.87217	1.85565	0.000479877	0.00047682
Repeat: 3	0.00132618	1.86968	1.85838	0.000859651	0.000987712
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.00113325	0.000119347	0.000117532	-1.171e-007	-0.00263991
Std Dev:	0.00549182	0.000106333	8.84949e-005	0.00141907	0.00209565
%RSD:	484.61	89.0953	75.2943	1.21185e+006	79.3833
Repeat: 1	0.00114545	0.000205637	7.69051e-005	-0.0013702	-0.00444152
Repeat: 2	0.00285242	5.57002e-007	0.000219046	0.00146334	-0.00313818
Repeat: 3	-0.00739761	0.000151847	5.66456e-005	-9.34831e-005	-0.000340039
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-4.73471e-005	0.00231834	6367.22	170247	11913.9
Std Dev:	0.000293461	7.52775e-005	19.5438	1046.31	192.063
%RSD:	619.808	3.24704	0.306944	0.614583	1.61209
Repeat: 1	-0.00038593	0.00239204	6344.66	169051	11804.3
Repeat: 2	0.000110104	0.00224158	6378.03	170994	11801.8
Repeat: 3	0.000133785	0.0023214	6378.97	170695	12135.7
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6367.22	170247	11913.9
Std Dev:	19.5438	1046.31	192.063
%RSD:	0.306944	0.614583	1.61209
Repeat: 1	6344.66	169051	11804.3
Repeat: 2	6378.03	170994	11801.8
Repeat: 3	6378.97	170695	12135.7

Sample Name	**Acquisition Date**
CRDL01	10/12/2016 6:47:06PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1370.97	502.112	78.5945	1606.82	3085.65
Std Dev:	5.92071	0.67712	0.730484	2.34616	4.67944
%RSD:	0.431864	0.134854	0.929434	0.146012	0.151652
Repeat: 1	1366.44	501.349	78.2174	1607.25	3082.12
Repeat: 2	1377.67	502.348	78.1296	1604.3	3083.87
Repeat: 3	1368.8	502.64	79.4365	1608.93	3090.95
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**

Avg. of Repeats:	3343.22	8569.28	264.964	689.933	754.403
Std Dev:	18.5247	26.7203	1.48792	2.21183	2.20418
%RSD:	0.554099	0.311814	0.561554	0.320587	0.292175
Repeat: 1	3323.75	8541.96	264.315	687.457	752.646
Repeat: 2	3345.28	8595.35	263.911	690.628	753.687
Repeat: 3	3360.62	8570.53	266.667	691.713	756.877
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	2103.83	202.159	7242.56	5595.23	752.829
Std Dev:	3.87995	1.09236	7.57161	6.87229	3.73009
%RSD:	0.184423	0.54035	0.104543	0.122824	0.495476
Repeat: 1	2099.36	200.899	7244.31	5589.41	749.95
Repeat: 2	2105.79	202.847	7234.27	5593.46	757.043
Repeat: 3	2106.34	202.73	7249.1	5602.81	751.494
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	1511.3	212.73	618.271	13894.2	509.49
Std Dev:	1.8112	0.345431	0.769483	29.4754	2.0303
%RSD:	0.119843	0.16238	0.124457	0.212142	0.398497
Repeat: 1	1513.18	212.983	618.731	13867	507.301
Repeat: 2	1509.57	212.872	617.383	13925.5	509.859
Repeat: 3	1511.16	212.337	618.699	13889.9	511.311
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	135.866	196.196	234.135	159.175	81.9858
Std Dev:	0.927027	1.46135	0.621878	0.66873	0.467754
%RSD:	0.682309	0.744841	0.265606	0.420123	0.57053
Repeat: 1	135.052	195.227	233.424	158.433	82.1609
Repeat: 2	136.875	197.877	234.402	159.732	81.4558
Repeat: 3	135.671	195.485	234.579	159.359	82.3408
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	205.153	222.09	4449.58	554.327	55.3768
Std Dev:	1.87664	0.617493	16.218	1.8506	0.634793
%RSD:	0.91475	0.278038	0.364483	0.333845	1.14632
Repeat: 1	203.347	221.39	4460.19	552.198	55.3957
Repeat: 2	207.093	222.557	4457.64	555.544	54.7327
Repeat: 3	205.021	222.322	4430.91	555.24	56.0019
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1742.57	467.101	6613.22	171729	12676.6
Std Dev:	5.71342	1.02806	20.9911	792.897	63.2564
%RSD:	0.327874	0.220093	0.317411	0.461713	0.499003
Repeat: 1	1735.97	465.921	6590.64	171440	12606.8
Repeat: 2	1745.96	467.798	6616.88	171122	12692.7
Repeat: 3	1745.76	467.586	6632.14	172626	12730.2

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.00954041	0.214229	0.00987169	0.100218	0.0104265
Std Dev:	0.000568817	0.00428024	0.000720294	8.15464e-005	0.000188165
%RSD:	5.96218	1.99797	7.29657	0.0813689	1.80467
Repeat: 1	0.0101283	0.217188	0.00914384	0.10031	0.0106287
Repeat: 2	0.00950016	0.216178	0.00988704	0.100154	0.0103943
Repeat: 3	0.00899279	0.209321	0.0105842	0.100191	0.0102566
QC Status Pass/Fail:	Pass	Pass	Pass	Fail	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**

Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0051718	5.07408	0.00517577	0.051241	0.0102221
Std Dev:	1.82841e-005	0.0206048	4.96188e-005	0.000138622	0.00033505
%RSD:	0.353535	0.406079	0.958673	0.270529	3.27772
Repeat: 1	0.00515672	5.08681	0.0051932	0.0512598	0.0103203
Repeat: 2	0.00519214	5.08513	0.00511979	0.0513692	0.00984887
Repeat: 3	0.00516654	5.05031	0.00521432	0.0510939	0.010497
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.024661	0.10662	5.08487	0.0503392	4.97806
Std Dev:	0.000146807	0.00101897	0.0503972	0.000813683	0.0371237
%RSD:	0.5953	0.955701	0.991121	1.6164	0.745747
Repeat: 1	0.0248181	0.105492	5.14303	0.0499574	4.97478
Repeat: 2	0.0246375	0.106894	5.05743	0.0497867	5.01671
Repeat: 3	0.0245274	0.107474	5.05414	0.0512736	4.94268
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.0150643	0.0399653	6.60475	5.07281	0.0418281
Std Dev:	0.000105974	0.000356384	0.886646	0.0283576	0.000153238
%RSD:	0.703478	0.891732	13.4244	0.559013	0.366353
Repeat: 1	0.015185	0.0403029	7.45746	5.10032	0.0416823
Repeat: 2	0.0150213	0.0400003	5.68768	5.07443	0.0419878
Repeat: 3	0.0149866	0.0395927	6.66911	5.04367	0.0418142
QC Status Pass/Fail:	Pass	Pass	Fail	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.317508	0.0119667	0.0101555	0.0605306	0.00925235
Std Dev:	0.0020388	0.00267966	0.00133995	0.00111594	0.00171649
%RSD:	0.642126	22.3926	13.1942	1.84359	18.5519
Repeat: 1	0.316566	0.0126342	0.0100636	0.0603859	0.00839443
Repeat: 2	0.319847	0.0142496	0.0115391	0.0617119	0.00813396
Repeat: 3	0.31611	0.00901641	0.00886396	0.0594941	0.0112287
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.468291	0.104043	0.049247	0.0488751	0.0105205
Std Dev:	0.0209132	0.000304495	0.000546036	0.000155069	0.00124301
%RSD:	4.46586	0.292662	1.10877	0.317276	11.8152
Repeat: 1	0.452225	0.104059	0.0497055	0.0487043	0.0118953
Repeat: 2	0.491937	0.104339	0.0493925	0.048914	0.0101901
Repeat: 3	0.46071	0.103731	0.0486429	0.049007	0.00947607
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	0.0247483	0.0238521	6343.58	169047	11816.9
Std Dev:	0.000160831	7.79318e-005	20.9286	798.622	63.4532
%RSD:	0.649869	0.32673	0.329918	0.472425	0.53697
Repeat: 1	0.0248701	0.0238805	6320.73	168772	11748.1
Repeat: 2	0.024566	0.0239118	6348.18	168423	11829.4
Repeat: 3	0.0248088	0.0237639	6361.82	169947	11873.2
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	Y_2243A	Y_3710A	Y_3710R
Avg. of Repeats:	6343.58	169047	11816.9
Std Dev:	20.9286	798.622	63.4532
%RSD:	0.329918	0.472425	0.53697
Repeat: 1	6320.73	168772	11748.1
Repeat: 2	6348.18	168423	11829.4
Repeat: 3	6361.82	169947	11873.2

Sample Name	Acquisition Date
CCV	10/12/2016 6:52:03PM

Analyst Name	Method Name
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	Ag3280A	Al3082R	As1890A	B_2496A	Ba4554R
Avg. of Repeats:	15238.4	6291.15	343.667	11584.9	104870
Std Dev:	15.3472	13.0559	0.260916	53.0056	130.45
%RSD:	0.100714	0.207529	0.0759211	0.457539	0.124392
Repeat: 1	15239.7	6288.8	343.391	11545.8	104720
Repeat: 2	15222.5	6305.22	343.701	11563.7	104953
Repeat: 3	15253.1	6279.42	343.91	11645.3	104937
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	880446	80021.8	6228.38	15802.1	31327.9
Std Dev:	8834.1	201.829	12.6698	27.0131	133.911
%RSD:	1.00337	0.252218	0.20342	0.170947	0.427451
Repeat: 1	870688	79813.4	6213.94	15774.5	31175.7
Repeat: 2	887901	80035.5	6237.63	15828.5	31379.9
Repeat: 3	882748	80216.3	6233.57	15803.1	31427.9
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Avg. of Repeats:	50737.2	22470.8	27245.6	24305.9	6046.6
Std Dev:	80.6162	61.102	53.692	37.0858	5.76183
%RSD:	0.15889	0.271918	0.197066	0.152579	0.0952905
Repeat: 1	50701.5	22407.1	27192.4	24269.2	6039.95
Repeat: 2	50680.7	22529	27299.8	24305	6049.72
Repeat: 3	50829.5	22476.2	27244.7	24343.4	6050.12
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	141490	6072.1	813.575	93177	9827.08
Std Dev:	627.224	15.6452	2.57835	162.709	21.9317
%RSD:	0.4433	0.257657	0.316916	0.174624	0.223176
Repeat: 1	140839	6055.58	814.133	92994.5	9803.11
Repeat: 2	141539	6086.7	810.764	93307	9846.14
Repeat: 3	142091	6074.01	815.829	93229.5	9831.99
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	648.821	750.299	831.253	451.826	240.158
Std Dev:	1.67552	2.9062	3.99869	1.6132	0.756698
%RSD:	0.25824	0.387339	0.481044	0.357041	0.315083
Repeat: 1	646.891	747.108	826.901	449.983	239.332
Repeat: 2	649.893	750.997	832.09	452.983	240.818
Repeat: 3	649.68	752.793	834.766	452.512	240.325
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	434.061	2912.39	115701	8513.56	433.127
Std Dev:	0.599217	9.66399	246.099	9.97341	3.05725

%RSD:	0.138049	0.331824	0.212703	0.117147	0.705857
Repeat: 1	433.373	2906.71	115534	8502.04	429.701
Repeat: 2	434.339	2923.55	115984	8519.34	435.577
Repeat: 3	434.47	2906.91	115586	8519.3	434.102
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	48090.7	24175.3	6522.87	169013	12589
Std Dev:	126.739	59.9992	19.8564	416.18	3.25128
%RSD:	0.263541	0.248183	0.304412	0.246242	0.0258263
Repeat: 1	47952	24117.5	6502.87	168744	12591.2
Repeat: 2	48119.7	24237.3	6542.58	168802	12585.3
Repeat: 3	48200.5	24171.2	6523.17	169492	12590.7

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.01387	24.9351	0.510244	1.92282	2.01924
Std Dev:	0.00218477	0.070541	0.00158106	0.00377601	0.00388494
%RSD:	0.215489	0.282899	0.309864	0.196379	0.192397
Repeat: 1	1.01616	24.9251	0.511001	1.92082	2.01501
Repeat: 2	1.01361	25.0101	0.508427	1.92046	2.02265
Repeat: 3	1.01182	24.87	0.511304	1.92717	2.02005
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.02694	50.7371	0.51809	2.05508	2.01591
Std Dev:	0.0197441	0.136546	0.00068449	0.0026989	0.00744013
%RSD:	0.974082	0.269125	0.132118	0.131328	0.369072
Repeat: 1	2.00727	50.5817	0.518454	2.05765	2.00853
Repeat: 2	2.04675	50.7919	0.5173	2.05227	2.02341
Repeat: 3	2.02681	50.8378	0.518515	2.05532	2.01578
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.99132	24.7664	50.4629	2.01772	49.3407
Std Dev:	0.00227906	0.0861905	0.147897	0.00317189	0.0835797
%RSD:	0.11445	0.348014	0.29308	0.157201	0.169393
Repeat: 1	1.99342	24.6827	50.3286	2.01408	49.251
Repeat: 2	1.99164	24.8548	50.6214	2.0192	49.4164
Repeat: 3	1.9889	24.7617	50.4386	2.01989	49.3549
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.01133	2.04735	52.0116	50.4815	2.09023
Std Dev:	0.00559011	0.00141057	0.131077	0.116975	0.0020696
%RSD:	0.27793	0.0688974	0.252016	0.231719	0.0990134
Repeat: 1	2.00488	2.04777	51.8946	50.3598	2.09129
Repeat: 2	2.01466	2.04578	51.9869	50.5931	2.08784
Repeat: 3	2.01446	2.0485	52.1532	50.4916	2.09155
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	2.07144	0.513769	0.514187	0.512549	0.512633
Std Dev:	0.00207064	0.000880313	0.00349732	0.00114866	0.00225137

%RSD:	0.0999617	0.171344	0.680165	0.224107	0.439178
Repeat: 1	2.07131	0.514299	0.5118	0.511331	0.51038
Repeat: 2	2.06943	0.514255	0.512559	0.512704	0.514882
Repeat: 3	2.07357	0.512753	0.518202	0.513613	0.512636
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	1.96611	2.0727	1.99833	2.00193	1.01731
Std Dev:	0.00644605	0.00332176	0.00574918	0.00243039	0.00488623
%RSD:	0.327858	0.160262	0.2877	0.121402	0.48031
Repeat: 1	1.96839	2.0751	1.99463	1.9993	1.01187
Repeat: 2	1.97111	2.0741	2.00495	2.0041	1.02133
Repeat: 3	1.95884	2.06891	1.9954	2.00239	1.01872
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	1.9981	2.03273	6193.19	166275	11732.5
Std Dev:	0.00300352	0.00131408	19.4504	406.582	8.08722
%RSD:	0.150319	0.064646	0.314061	0.244523	0.0689303
Repeat: 1	1.99579	2.03411	6174.23	166027	11736.5
Repeat: 2	2.0015	2.0315	6213.1	166054	11723.1
Repeat: 3	1.99701	2.03258	6192.25	166745	11737.7
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6193.19	166275	11732.5
Std Dev:	19.4504	406.582	8.08722
%RSD:	0.314061	0.244523	0.0689303
Repeat: 1	6174.23	166027	11736.5
Repeat: 2	6213.1	166054	11723.1
Repeat: 3	6192.25	166745	11737.7

Sample Name	**Acquisition Date**
CCB	10/12/2016 6:56:55PM

Analyst Name	**Method Name**
kerry	MT0007(v23) HF 072516 (5)

RAW CTS/S

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Avg. of Repeats:	1219.17	452.393	72.5585	494.693	2574.18
Std Dev:	10.2838	3.0772	0.0967207	1.55708	13.4002
%RSD:	0.843509	0.680205	0.1333	0.314756	0.520561
Repeat: 1	1209.47	450.897	72.448	493.204	2559.37
Repeat: 2	1218.09	455.932	72.6279	494.565	2577.72
Repeat: 3	1229.96	450.35	72.5995	496.31	2585.46
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Avg. of Repeats:	1042.45	553.457	199.46	291.604	595.583
Std Dev:	4.11792	3.3567	0.485031	0.428589	2.71945
%RSD:	0.395025	0.606496	0.243172	0.146976	0.456602
Repeat: 1	1042.22	551.695	199.26	291.111	592.445
Repeat: 2	1038.44	557.328	199.107	291.891	597.078
Repeat: 3	1046.67	551.349	200.013	291.81	597.228
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**

Avg. of Repeats:	1462.39	106.07	4941.32	5129.47	157.232
Std Dev:	6.4051	0.844235	11.3933	14.0087	1.85456
%RSD:	0.437988	0.795924	0.230572	0.273103	1.1795
Repeat: 1	1455.58	105.633	4930.61	5116.7	159.372
Repeat: 2	1463.3	105.533	4953.29	5127.27	156.082
Repeat: 3	1468.29	107.043	4940.06	5144.46	156.244
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Avg. of Repeats:	426.401	92.7944	599.037	5062.97	312.575
Std Dev:	2.05416	0.493653	3.5823	3.03272	1.11266
%RSD:	0.481745	0.531985	0.598009	0.0599001	0.355965
Repeat: 1	424.745	93.3635	594.915	5064.61	311.334
Repeat: 2	425.758	92.5373	600.798	5059.47	312.906
Repeat: 3	428.7	92.4824	601.399	5064.84	313.484
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Avg. of Repeats:	41.6952	183.82	218.017	124.206	78.001
Std Dev:	0.306976	0.419421	1.11575	0.298118	0.481863
%RSD:	0.736239	0.228169	0.511773	0.240019	0.617765
Repeat: 1	41.4446	184.04	217.373	123.967	78.1383
Repeat: 2	42.0376	183.337	219.305	124.54	77.4654
Repeat: 3	41.6034	184.085	217.372	124.111	78.3993
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Avg. of Repeats:	132.641	76.2224	1619.5	350.549	50.7394
Std Dev:	1.14409	0.373493	7.13152	0.311955	0.366103
%RSD:	0.862545	0.490004	0.440352	0.0889903	0.721537
Repeat: 1	131.356	76.6458	1613.71	350.648	50.3731
Repeat: 2	133.549	75.9395	1627.47	350.199	50.7396
Repeat: 3	133.017	76.082	1617.33	350.799	51.1053
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	1138.58	175.521	6627.04	170895	12703.4
Std Dev:	6.03977	0.187202	13.0367	582.07	13.6487
%RSD:	0.530467	0.106655	0.19672	0.340601	0.107441
Repeat: 1	1133.47	175.307	6611.99	171494	12715.4
Repeat: 2	1145.24	175.653	6634.8	170331	12706.3
Repeat: 3	1137.02	175.603	6634.33	170860	12688.6

Concentration

Element/Wavelength	**Ag3280A**	**Al3082R**	**As1890A**	**B_2496A**	**Ba4554R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000107539	-0.00225358	8.79865e-005	-0.0994816	0.000154022
Std Dev:	0.000294645	0.0165006	0.000456996	0.000643792	0.000235346
%RSD:	273.989	732.194	519.393	0.647147	152.8
Repeat: 1	-0.000433746	-0.00945795	0.000486631	-0.0989929	-8.185e-005
Repeat: 2	-2.81464e-005	0.0166241	0.000188093	-0.0992407	0.000155078
Repeat: 3	0.000139275	-0.0139269	-0.000410764	-0.100211	0.000388838
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Be3130A**	**Ca3179R**	**Cd2265A**	**Co2286A**	**Cr2677A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	3.05593e-006	-0.000685277	-7.62151e-005	8.81574e-005	0.000172299
Std Dev:	1.74798e-005	0.00285734	4.95591e-005	7.24926e-005	0.0001477
%RSD:	571.996	416.961	65.0253	82.2308	85.723
Repeat: 1	1.76503e-005	-0.00182243	-5.84614e-005	8.60374e-005	5.07781e-005
Repeat: 2	-1.63159e-005	0.00256557	-0.000132206	0.000161687	0.000336693
Repeat: 3	7.83329e-006	-0.00279897	-3.79782e-005	1.67481e-005	0.000129427

QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Cu3247A**	**Fe2599R**	**K_7664R**	**Li6707R**	**Mg2790R**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.000540204	0.000482054	-0.0348641	0.000453639	0.00196618
Std Dev:	5.05081e-005	0.001955	0.0423868	0.000633508	0.0247577
%RSD:	9.34981	405.556	121.577	139.65	1259.18
Repeat: 1	-0.000560554	-0.00167099	0.0106454	0.000274826	0.0303766
Repeat: 2	-0.000577363	0.000970938	-0.0420206	-7.12448e-005	-0.0149921
Repeat: 3	-0.000482696	0.00214621	-0.0732171	0.00115734	-0.00948592
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Mn2576A**	**Mo2020A**	**aN**	**Na5895R**	**Ni2316A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-2.01293e-005	0.000308171	0.376606	0.0263097	0.000161415
Std Dev:	4.88194e-005	0.000123442	0.780877	0.00724237	0.000233115
%RSD:	242.529	40.0564	207.346	27.5274	144.419
Repeat: 1	1.83505e-006	0.000440234	-0.524124	0.0346081	-9.23719e-005
Repeat: 2	-7.60726e-005	0.000288588	0.791153	0.0230572	0.000366003
Repeat: 3	1.38497e-005	0.000195691	0.86279	0.0212637	0.000210614
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**P_1782A**	**bP**	**Pb2203A**	**Sb2068A**	**Se1960A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	0.000714558	0.00145014	-0.00200914	-0.00183315	0.00166605
Std Dev:	0.00155097	0.00214928	0.00200188	0.00151462	0.00184219
%RSD:	217.053	148.212	99.6385	82.6241	110.572
Repeat: 1	-0.000418789	0.00313459	-0.00284832	-0.0035805	0.00359293
Repeat: 2	0.00248213	-0.000970492	0.00027575	-0.00102385	-7.77787e-005
Repeat: 3	8.03338e-005	0.00218633	-0.00345486	-0.000895092	0.00148301
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**Si2506R**	**Sn1899A**	**Sr4215R**	**Ti3349R**	**Tl1908A**
Units:	ppm	ppm	ppm	ppm	ppm
Avg. of Repeats:	-0.0164555	0.000167133	5.88553e-005	-0.000188926	0.000739009
Std Dev:	0.00759164	0.000356131	9.06181e-005	0.000375708	0.00134232
%RSD:	46.1345	213.083	153.968	198.865	181.638
Repeat: 1	-0.0182733	0.000564817	5.68607e-005	0.000244388	-0.000798875
Repeat: 2	-0.0229731	-0.000122343	0.000150454	-0.000423901	0.00134061
Repeat: 3	-0.00811992	5.89239e-005	-3.0749e-005	-0.000387266	0.00167529
QC Status Pass/Fail:	Pass	Pass	Pass	Pass	Pass
Element/Wavelength	**V_2924A**	**Zn2138A**	**Y_2243A**	**Y_3710A**	**Y_3710R**
Units:	ppm	ppm	----	----	----
Avg. of Repeats:	-4.96326e-006	3.09907e-005	6360.7	168241	11846.6
Std Dev:	0.000388763	3.79381e-005	13.1743	603.248	18.1649
%RSD:	7832.81	122.418	0.207121	0.358561	0.153334
Repeat: 1	0.000130244	2.75196e-005	6345.59	168871	11867.3
Repeat: 2	0.000298143	7.05451e-005	6369.77	167668	11839.6
Repeat: 3	-0.000443277	-5.0926e-006	6366.74	168185	11833
QC Status Pass/Fail:	Pass	Pass	None	None	None

Internal Standards

Element/Wavelength	**Y_2243A**	**Y_3710A**	**Y_3710R**
Avg. of Repeats:	6360.7	168241	11846.6
Std Dev:	13.1743	603.248	18.1649
%RSD:	0.207121	0.358561	0.153334
Repeat: 1	6345.59	168871	11867.3
Repeat: 2	6369.77	167668	11839.6

Repeat: 3	6366.74	168185	11833

Raw Data
Mercury

TestAmerica Knoxville
Mercury Analysis Cover Sheet

Analyst	PJB	**Instrument**	**Leeman Hydra AA Mercury Analyzer**
Run Date	10/14/16	**Chart Name**	M101416A
Method	☒ 7470	☐ 7471A/7471B	☐ 245.1 ☐ 245.5

Daily Maintenance		As Needed Maintenance	
☒	Check tubing.	☐	Adjust/change Hg lamp.
☒	Check maintenance schedule flags.	☐	Clean or replace optical cell.
		☐	Lubricate pump and auto-sampler arm.
		☐	Change the drying tube.

```
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:       Instrument Upload                                    Run Log - Page  1 :
:       Started Fri Oct 14 13:49:54 2016 by WILBURND                           :
:       Data File: UPL$KNX_DATA_ROOT:<LHG>M101416A.PRN;1                       :
--------------------------------------------------------------------------------
```

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
1	CK2ICV	1.00	14-OCT-2016	10:39:23			HG
2	ICB	1.00	14-OCT-2016	10:41:41			HG
3	CRA	1.00	14-OCT-2016	10:43:57			HG
4	CK3CCV	1.00	14-OCT-2016	10:47:17			HG
5	CK1CCB	1.00	14-OCT-2016	10:49:57			HG
6	140-62111	1.00	14-OCT-2016	10:52:24			HG
7	140-62112	1.00	14-OCT-2016	10:54:54			HG
8	140-62113	1.00	14-OCT-2016	10:57:12			HG
9	140-62105	1.00	14-OCT-2016	10:59:49			HG
10	62105	1.00	14-OCT-2016	11:02:31			HG
11	62105	1.00	14-OCT-2016	11:05:20			HG
12	140-62106	1.00	14-OCT-2016	11:07:39			HG
13	140-62107	1.00	14-OCT-2016	11:10:00			HG
14	140-62108	1.00	14-OCT-2016	11:12:40			HG
15	140-62109	1.00	14-OCT-2016	11:14:57			HG
16	CK3CCV	1.00	14-OCT-2016	11:17:20			HG
17	CK1CCB	1.00	14-OCT-2016	11:19:38			HG
18	140-62110	1.00	14-OCT-2016	11:22:28			HG
19	140-62147	1.00	14-OCT-2016	11:25:56			HG
20	140-62148	1.00	14-OCT-2016	11:28:27			HG
21	140-62149	1.00	14-OCT-2016	11:31:00			HG
22	140-62132	1.00	14-OCT-2016	11:33:17			HG
23	140-62133	1.00	14-OCT-2016	11:35:48			HG
24	140-62134	1.00	14-OCT-2016	11:38:08			HG
25	140-62135	1.00	14-OCT-2016	11:41:07			HG
26	140-62136	1.00	14-OCT-2016	11:43:25			HG
27	62136	1.00	14-OCT-2016	11:46:04			HG
28	CK3CCV	1.00	14-OCT-2016	11:48:44			HG
29	CK1CCB	1.00	14-OCT-2016	11:51:06			HG
30	62136	1.00	14-OCT-2016	11:53:37			HG
31	140-62137	1.00	14-OCT-2016	11:55:54			HG
32	140-62138	1.00	14-OCT-2016	11:58:12			HG
33	140-62139	1.00	14-OCT-2016	12:00:39			HG
34	140-62140	1.00	14-OCT-2016	12:03:19			HG
35	140-62141	1.00	14-OCT-2016	12:05:47			HG
36	140-62142	1.00	14-OCT-2016	12:08:40			HG
37	140-62143	1.00	14-OCT-2016	12:11:01			HG
38	140-62144	1.00	14-OCT-2016	12:13:22			HG
39	140-62145	1.00	14-OCT-2016	12:16:11			HG
40	CK3CCV	1.00	14-OCT-2016	12:19:20			HG
41	CK1CCB	1.00	14-OCT-2016	12:22:09			HG
42	140-62146	1.00	14-OCT-2016	12:24:28			HG
43	140-61858	1.00	14-OCT-2016	12:26:49			HG
44	140-61859	1.00	14-OCT-2016	12:29:09			HG

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:       Instrument Upload                                   Run Log - Page  2 :
:       Started Fri Oct 14 13:49:55 2016 by WILBURND                          :
:       Data File: UPL$KNX_DATA_ROOT:<LHG>M101416A.PRN;1                      :
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```

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
45	140-61836	1.00	14-OCT-2016	12:31:40			HG
46	140-61837	1.00	14-OCT-2016	12:34:18			HG
47	140-61838	1.00	14-OCT-2016	12:37:00			HG
48	140-61839	1.00	14-OCT-2016	12:39:19			HG
49	140-61840	1.00	14-OCT-2016	12:41:38			HG
50	140-61841	1.00	14-OCT-2016	12:44:16			HG
51	140-61842	1.00	14-OCT-2016	12:47:17			HG
52	CK3CCV	1.00	14-OCT-2016	12:49:46			HG
53	CK1CCB	1.00	14-OCT-2016	12:52:07			HG
54	140-61843	1.00	14-OCT-2016	12:54:28			HG
55	140-61844	1.00	14-OCT-2016	12:56:59			HG
56	140-61845	1.00	14-OCT-2016	13:27:32			HG
57	140-61846	1.00	14-OCT-2016	13:29:49			HG
58	140-61847	1.00	14-OCT-2016	13:32:08			HG
59	140-61848	1.00	14-OCT-2016	13:34:58			HG
60	140-61849	1.00	14-OCT-2016	13:37:25			HG
61	140-61850	1.00	14-OCT-2016	13:39:54			HG
62	140-61851	1.00	14-OCT-2016	13:42:12			HG
63	140-61852	1.00	14-OCT-2016	13:44:30			HG
64	CK3CCV	1.00	14-OCT-2016	13:46:51			HG
65	CK1CCB	1.00	14-OCT-2016	13:49:14			HG
66	140-61853	1.00	14-OCT-2016	13:51:51			HG
67	140-61854	1.00	14-OCT-2016	13:54:23			HG
68	140-61855	1.00	14-OCT-2016	13:57:03			HG
69	140-61856	1.00	14-OCT-2016	13:59:41			HG
70	140-61857	1.00	14-OCT-2016	14:02:13			HG
71	M9C01B	1.00	14-OCT-2016	14:04:34	6286074	H6J100000	HG
72	M9C01C	1.00	14-OCT-2016	14:06:52	6286074	H6J100000	HG
73	M9CD2	1.00	14-OCT-2016	14:09:10	6286074	H6J050412	HG
74	M9CD2S	1.00	14-OCT-2016	14:11:27	6286074	H6J050412	HG
75	M9CD2D	1.00	14-OCT-2016	14:14:29	6286074	H6J050412	HG
76	CK3CCV	1.00	14-OCT-2016	14:16:58			HG
77	CK1CCB	1.00	14-OCT-2016	14:19:20			HG
78	M9CD3	1.00	14-OCT-2016	14:21:37	6286074	H6J050412	HG
79	M9CD3S	1.00	14-OCT-2016	14:24:00	6286074	H6J050412	HG
80	M9CD3D	1.00	14-OCT-2016	14:26:42	6286074	H6J050412	HG
81	M9CD4	1.00	14-OCT-2016	14:29:02	6286074	H6J050412	HG
82	M9CD4S	1.00	14-OCT-2016	14:31:30	6286074	H6J050412	HG
83	M9CD4D	1.00	14-OCT-2016	14:34:31	6286074	H6J050412	HG
84	M895H	1.00	14-OCT-2016	14:37:00	6286074	H6I280406	HG
85	M895HS	1.00	14-OCT-2016	14:39:30	6286074	H6I280406	HG
86	M895HD	1.00	14-OCT-2016	14:42:32	6286074	H6I280406	HG
87	M895K	1.00	14-OCT-2016	14:45:12	6286074	H6I280406	HG
88	CK3CCV	1.00	14-OCT-2016	14:47:30			HG

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:       Instrument Upload                                   Run Log - Page  3 :
:       Started Fri Oct 14 13:49:55 2016 by WILBURND                          :
:       Data File: UPL$KNX_DATA_ROOT:<LHG>M101416A.PRN;1                      :
--------------------------------------------------------------------------------
```

#	WorkOrder	Dilution	Date	Time	Batch	Lot	Instrument
89	CK1CCB	1.00	14-OCT-2016	14:50:18			HG
90	M895L	1.00	14-OCT-2016	14:55:47	6286074	H6I280406	HG
91	M9CD2A	1.00	14-OCT-2016	14:58:25	6286074	H6J050412	HG
92	M9CD2A	1.00	14-OCT-2016	15:00:56	6286074	H6J050412	HG
93	CK3CCV	1.00	14-OCT-2016	15:03:25			HG
94	CK1CCB	1.00	14-OCT-2016	15:05:52			HG
95	M9C3PB	6.00	14-OCT-2016	15:08:54	6285014	H6J110000	HG
96	M9C3PC	6.00	14-OCT-2016	15:11:12	6285014	H6J110000	HG
97	IDOC	1.00	14-OCT-2016	15:13:52			HG
98	IDOC	1.00	14-OCT-2016	15:16:25			HG
99	IDOC	1.00	14-OCT-2016	15:18:54			HG
100	M8937	5.988	14-OCT-2016	15:21:27	6285014	H6I280402	HG
101	M8937S	5.9172	14-OCT-2016	15:23:45	6285014	H6I280402	HG
102	M8937D	5.9524	14-OCT-2016	15:26:53	6285014	H6I280402	HG
103	M8938	5.7361	14-OCT-2016	15:29:26	6285014	H6I280402	HG
104	CK3CCV	1.00	14-OCT-2016	15:31:47			HG
105	CK1CCB	1.00	14-OCT-2016	15:34:26			HG

---------- End of Report ----------

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
1	ICB	ICB	1.0000	1.0000	C2 cp
2	CRA		1.0000	1.0000	C3 C1
3	140-62111	MB	1.0000	1.0000	
4	140-62112	LCS	1.0000	1.0000	
5	140-62113	LCSD	1.0000	1.0000	
6	140-62105		1.0000	1.0000	
7	62105 PDS		1.0000	1.0000	
8	62105 PDSD		1.0000	1.0000	
9	140-62106		1.0000	1.0000	
10	140-62107		1.0000	1.0000	
11	140-62108		1.0000	1.0000	
12	140-62109		1.0000	1.0000	C3 C1
13	140-62110		1.0000	1.0000	
14	140-62147	MB	1.0000	1.0000	
15	140-62148	LCS	1.0000	1.0000	
16	140-62149	LCSD	1.0000	1.0000	
17	140-62132		1.0000	1.0000	
18	140-62133		1.0000	1.0000	
19	140-62134		1.0000	1.0000	
20	140-62135		1.0000	1.0000	
21	140-62136		1.0000	1.0000	
22	62136 PDS		1.0000	1.0000	C3 C1
23	62136 PDSD		1.0000	1.0000	
24	140-62137		1.0000	1.0000	
25	140-62138		1.0000	1.0000	
26	140-62139		1.0000	1.0000	
27	140-62140		1.0000	1.0000	
28	140-62141		1.0000	1.0000	
29	140-62142		1.0000	1.0000	
30	140-62143		1.0000	1.0000	
31	140-62144		1.0000	1.0000	
32	140-62145		1.0000	1.0000	C3 C1
33	140-62146		1.0000	1.0000	
34	140-61858	MB	1.0000	1.0000	
35	140-61859	LCS	1.0000	1.0000	
36	140-61836		1.0000	1.0000	
37	140-61837		1.0000	1.0000	
38	140-61838		1.0000	1.0000	
39	140-61839		1.0000	1.0000	
40	140-61840		1.0000	1.0000	
41	140-61841		1.0000	1.0000	
42	140-61842		1.0000	1.0000	C3 C1
43	140-61843		1.0000	1.0000	
44	140-61844		1.0000	1.0000	

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
1	140-61845		1.0000	1.0000	
2	140-61846		1.0000	1.0000	
3	140-61847	MS	1.0000	1.0000	
4	140-61848	MSD	1.0000	1.0000	
5	140-61849		1.0000	1.0000	
6	140-61850		1.0000	1.0000	
7	140-61851		1.0000	1.0000	
8	140-61852		1.0000	1.0000	C3 C1
9	140-61853		1.0000	1.0000	
10	140-61854		1.0000	1.0000	
11	140-61855		1.0000	1.0000	
12	140-61856		1.0000	1.0000	
13	140-61857		1.0000	1.0000	
14	M9C01B		1.0000	1.0000	
15	M9C01C		1.0000	1.0000	
16	M9CD2	PD9/D	1.0000	1.0000	
17	M9CD2S		1.0000	1.0000	
18	M9CD2D		1.0000	1.0000	C3 C1
19	M9CD3		1.0000	1.0000	
20	M9CD3S		1.0000	1.0000	
21	M9CD3D		1.0000	1.0000	
22	M9CD4		1.0000	1.0000	
23	M9CD4S		1.0000	1.0000	
24	M9CD4D		1.0000	1.0000	
25	M895H		1.0000	1.0000	
26	M895HS		1.0000	1.0000	
27	M895HD		1.0000	1.0000	
28	M895K		1.0000	1.0000	C3 C1
29	M895L		1.0000	1.0000	C3 C1
30	M9C3PB		1.0000	1.0000	
31	M9C3PC		1.0000	1.0000	
32	IDOC		1.0000	1.0000	
33	IDOC		1.0000	1.0000	
34	IDOC		1.0000	1.0000	
35	M8937		1.0000	1.0000	
36	M8937S		1.0000	1.0000	
37	M8937D		1.0000	1.0000	
38	M8938		1.0000	1.0000	C3 C1
39			1.0000	1.0000	
40			1.0000	1.0000	
41			1.0000	1.0000	C3 C1
42			1.0000	1.0000	
43			1.0000	1.0000	
44			1.0000	1.0000	

TestAmerica Knoxville

Method Information

Method Name: SW-846 7470A/7471A/7471B/0.2 RL **Element:** Hg **Chart Number:** **M101416A.PRN**

Instrument Calibrated Every ? Hours:	24	**Number of Calibration Standards:**	6
Correlation Coefficient >/=:	0.995	**Run ICV Immediately After Calibration?:**	Yes
CRA Required?:	Yes	**Number of Samples Between CCVs:**	10
Duplicate RPD:	20	**Calculate Duplicates by CLP or SW-846?:**	SW-846 Protocol

CRA Recovery Range:	30.5	**CRA Conc. (ug/L):**	0.2
ICV Recovery Range:	10.5	**ICV Conc. (ug/L):**	2.5
CCV Recovery Range:	20.5	**CCV Conc. (ug/L):**	5
LCS Recovery Range:	20.5	**LCS Spike Level (ug/L):**	5
MS/MSD Recovery Range:	25.5	**MS Spike Level (ug/L):**	1

Letter to Signify Blanks:	B	**Position to Signify Blanks:**	6
Letter to Signify LCS's:	C	**Position to Signify LCS's:**	6
Letter to Signify LCSD's:	L	**Position to Signify LCSD's:**	6
Letter to Signify Dilutions:	Z	**Position to Signify Dilutions:**	6
Letter to Signify Duplicates:	X	**Position to Signify Duplicates:**	6
Letter to Signify MS's:	S	**Position to Signify MS's:**	6
Letter to Signify MSD's:	D	**Position to Signify MSD's:**	6
Letters to Signify MSA's:	MSA+	**Position to Signify MSA's:**	6
Number of Additions:	3		

Calibration Standard Concentrations (ug/L)

Standard 1 Conc: 0.1	**Standard 2 Conc:** 0.2	**Standard 3 Conc:** 0.5	**Standard 4 Conc:** 1
Standard 5 Conc: 5	**Standard 6 Conc:** 10	**Standard 7 Conc:** 0	**Standard 8 Conc:** 0

ICB/CCB Check Level (ug/L): 0.099 **Prep Blank Check Level (ug/L):** 0.099 **Reporting Limit (ug/L):** 0.2

IDL (ug/L): 0.06 **Date of IDL:** 12/8/2016

TestAmerica Knoxville Mercury Data Review Checklist

Method: SW-846 7470A/7471A/7471B/0.2 RL

Analyst:	PJB			**Instrument:**	Leeman Hydra AA Mercury Analyzer		
Run Date:	Oct-14-16	**Calibration Number:**	1	**Chart Name:**	M101416A.PRN	**Element:**	Hg

A. Calibration/Instrument Run QC		**N/A**	**Yes**	**No**	**Comments**
1.	Instrument calibrated every 24 hours?		X		Calibration was 5 hours and 13 minutes long
2.	Instrument calibrated using a minimum of a blank and 5 standards?		X		
3.	Do standard absorbances increase as standard concentrations increase?		X		
4.	Instrument calibrated with standards at the SOP levels?		X		
5.	Correlation coefficient greater than or equal to 0.995?		X		Correlation coefficient was 0.9999
6.	ICV analyzed directly after calibration?		X		
7.	ICV within specified control limits?		X		
8.	ICB analyzed immediately after ICV?		X		
9.	ICB within acceptable range?		X		
10.	CRA analyzed at the beginning of the run?		X		
11.	CRA results within acceptable range?		X		
12.	All CCV's within specified control limits?		X		
13.	All CCB's within acceptable range?		X		
14.	All CCB's analyzed immediately after CCV's?		X		
B. Client Sample and QC Sample Results					
1.	Were all sample results within the linear range of the instrument ?		X		
2.	Were there any samples with results more negative than Report Limit?			X	
3.	Were samples analyzed within the holding time?		X		
C. Preparation/Matrix QC					
1.	Was one method blank prepared for each batch?		X		
2.	Were all method blanks less than the specified level?		X		
3.	Was an LCS prepared for each batch?		X		
4.	Were all LCS recoveries within QC limits?		X		
5.	Were matrix spikes, sample duplicates and/or post-digestion spikes run at required frequency?		X		
6.	Were all matrix spike recoveries within QC limits?			X	See Comments on Next Page
7.	Were post-digestion spike recoveries within QC limits?		X		
8.	Were duplicate RPDs within QC limits?		X		
D. Other					
1.	Current IDL data on file?		X		
2.	Current MDL data on file?		X		
3.	Are all nonconformances documented appropriately?	X			
4.	Were all project specific instructions followed?		X		NCM#:

Question Number:	Problem(s) Found:
C6	Matrix spike sample M9CD2D at 10/14/2016 2:14:29 PM had 71% recovery. LCS acceptable; Ran PDS/PDSD

Analyst: PJB **Date:** 10/17/16

Analyst Comments:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

90L1HGDayCAL_00050

Reagent ID: 90L1HGDayCAL_00050

Description:	Daily I-CAL	Expiration Date:	10/15/2016
No. of Bottles:	1	Laboratory:	TestAmerica Knoxville
Storage Location:	Metals Lab	Prepared By:	Belcher, Philip J
Reagent Volume:	100.000 mL	Solvent:	2% Nitric Acid
Creation Date:	10/13/2016	Solvent Lot:	059443
Open Date:			
Container(s):	62412		
Comment:			

Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
Hg	90L1HgCA1000P_00007	10/30/2016	10.00000	mg/L	0.10000	mg/L

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
90L1HgCA1000P_00007	I-CAL		10/30/16				1.00000	mL

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

90L1HGDayVER_00050

Reagent ID: 90L1HGDayVER_00050

Description:	Daily I-VER	Expiration Date:	10/15/2016
No. of Bottles:	1	Laboratory:	TestAmerica Knoxville
Storage Location:	Metals Lab	Prepared By:	Belcher, Philip J
Reagent Volume:	100.000 mL	Solvent:	2% Nitric Acid
Creation Date:	10/13/2016	Solvent Lot:	059443
Open Date:			
Container(s):	62413		
Comment:			

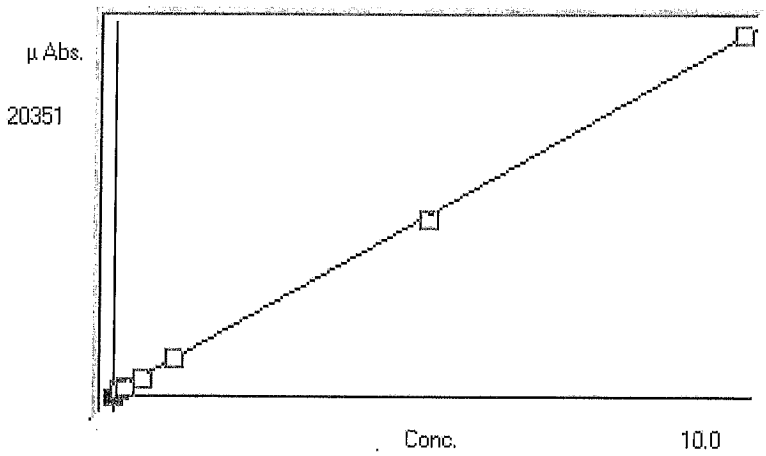
Reagent Analyte Information

Analyte	Source ID	Source Exp. Date	Source Conc.	Source Conc. Units	Final Conc.	Final Conc. Units
Hg	90CVHgVE1000S_00008	10/30/2016	10.00000	mg/L	0.10000	mg/L

Source Reagents

Reagent	Description	Type	Expiration	Vendor	Vendor Lot #	Vendor Cat Lot #	Volume Used	Volume Units
90CVHgVE1000S_00008	I-VER		10/30/16				1.00000	mL

Protocol: 7ptcurve



Linear

☑ Calibrated

☑ Accepted

A

B 4.95151e-4

C -5.26254e-2

Rhc .999957

Accepted Date: 14-Oct-16 10:36

S	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
01	.00000	-.020	-.020	67	1	66				
02	.10000	.111	.011	332	0%	331				
03	.20000	.237	.037	585	0%	585				
04	.50000	.470	-.030	1057	0%	1056				
05	1.0000	1.03	.032	2191	0%	2191				
06	5.0000	4.94	-.055	10093	0%	10093				
07	10.000	10.0	.024	20352	0%	20351				
08										
09										
10										

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-----------------------------------------------------------------------------

*** Standard: 1 Rep: 1              Seq:  0       10:21:57 14 Oct 16   HG

Hg    .000    ppb      66

*** Standard: 2 Rep: 1              Seq:  1       10:24:28 14 Oct 16   HG

Hg    .100    ppb      331

*** Standard: 3 Rep: 1              Seq:  2       10:26:49 14 Oct 16   HG

Hg    .200    ppb      585

*** Standard: 4 Rep: 1              Seq:  3       10:29:07 14 Oct 16   HG

Hg    .500    ppb      1056

*** Standard: 5 Rep: 1              Seq:  4       10:31:40 14 Oct 16   HG

Hg    1.00    ppb      2191

*** Standard: 6 Rep: 1              Seq:  5       10:34:04 14 Oct 16   HG

Hg    5.00    ppb      10093

*** Standard: 7 Rep: 1              Seq:  6       10:36:23 14 Oct 16   HG

Hg    10.0    ppb      20351

*** Check Standard: 2  Ck2icv       Seq:  7       10:39:23 14 Oct 16   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          91.0     2.27    2.50  ppb         .000  %

*** Sample ID: ICB                  Seq:  8       10:41:41 14 Oct 16   HG
                          ICB
Hg   -.101    ppb       .000  %  -.101

*** Sample ID: CRA                  Seq:  9       10:43:57 14 Oct 16   HG

Hg    .226    ppb       .000  %   .226

*** Check Standard: 3  Ck3ccv       Seq:  10      10:47:17 14 Oct 16   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          101.     5.07    5.00  ppb         .000  %

*** Check Standard: 1  Ck1ccb       Seq:  11      10:49:57 14 Oct 16   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.005     .200     ppb        .000  %

*** Sample ID: 140-62111            Seq:  12      10:52:24 14 Oct 16   HG
                          MB
Hg    .012    ppb       .000  %   .012

*** Sample ID: 140-62112            Seq:  13      10:54:54 14 Oct 16   HG
                          LCS
Hg    4.93    ppb       .000  %   4.93

*** Sample ID: 140-62113            Seq:  14      10:57:12 14 Oct 16   HG
                          LCSD
Hg    4.96    ppb       .000  %   4.96

*** Sample ID: 140-62105            Seq:  15      10:59:49 14 Oct 16   HG

Hg    .020    ppb       .000  %   .020
```

Line	Conc.	Units	SD/RSD		1	2	3	4	5

*** Sample ID: 62105 PDS Seq: 16 11:02:31 14 Oct 16 HG

Hg .914 ppb .000 % .914

*** Sample ID: 62105 PDSD Seq: 17 11:05:20 14 Oct 16 HG

Hg .909 ppb .000 % .909

*** Sample ID: 140-62106 Seq: 18 11:07:39 14 Oct 16 HG

Hg -.108 ppb .000 % -.108

*** Sample ID: 140-62107 Seq: 19 11:10:00 14 Oct 16 HG

Hg -.069 ppb .000 % -.069

*** Sample ID: 140-62108 Seq: 20 11:12:40 14 Oct 16 HG

Hg .002 ppb .000 % .002

*** Sample ID: 140-62109 Seq: 21 11:14:57 14 Oct 16 HG

Hg -.011 ppb .000 % -.011

*** Check Standard: 3 Ck3ccv Seq: 22 11:17:20 14 Oct 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD	
Hg		100.	5.01	5.00	ppb	.000	%

*** Check Standard: 1 Ck1ccb Seq: 23 11:19:38 14 Oct 16 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD	
Hg		-.085	.200	ppb	.000	%

*** Sample ID: 140-62110 Seq: 24 11:22:28 14 Oct 16 HG

Hg -.121 ppb .000 % -.121

*** Sample ID: 140-62147 Seq: 25 11:25:56 14 Oct 16 HG

MB

Hg -.053 ppb .000 % -.053

*** Sample ID: 140-62148 Seq: 26 11:28:27 14 Oct 16 HG

LCS

Hg 4.93 ppb .000 % 4.93

*** Sample ID: 140-62149 Seq: 27 11:31:00 14 Oct 16 HG

LCSD

Hg 4.97 ppb .000 % 4.97

*** Sample ID: 140-62132 Seq: 28 11:33:17 14 Oct 16 HG

Hg .015 ppb .000 % .015

*** Sample ID: 140-62133 Seq: 29 11:35:48 14 Oct 16 HG

Hg -.121 ppb .000 % -.121

*** Sample ID: 140-62134 Seq: 30 11:38:08 14 Oct 16 HG

Hg -.001 ppb .000 % -.001

*** Sample ID: 140-62135 Seq: 31 11:41:07 14 Oct 16 HG

Hg -.062 ppb .000 % -.062

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-------------------------------------------------------------------------------

*** Sample ID: 140-62136            Seq:  32     11:43:25 14 Oct 16   HG

Hg   -.107    ppb       .000  %  -.107

*** Sample ID: 62136 PDS            Seq:  33     11:46:04 14 Oct 16   HG

Hg    .978    ppb       .000  %   .978

*** Check Standard: 3  Ck3ccv       Seq:  34     11:48:44 14 Oct 16   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          98.0     4.90    5.00  ppb        .000  %

*** Check Standard: 1  Ck1ccb       Seq:  35     11:51:06 14 Oct 16   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg          .009     .200     ppb        .000  %

*** Sample ID: 62136 PDSD           Seq:  36     11:53:37 14 Oct 16   HG

Hg    .923    ppb       .000  %   .923

*** Sample ID: 140-62137            Seq:  37     11:55:54 14 Oct 16   HG

Hg   -.006    ppb       .000  %  -.006

*** Sample ID: 140-62138            Seq:  38     11:58:12 14 Oct 16   HG

Hg    .002    ppb       .000  %   .002

*** Sample ID: 140-62139            Seq:  39     12:00:39 14 Oct 16   HG

Hg   -.091    ppb       .000  %  -.091

*** Sample ID: 140-62140            Seq:  40     12:03:19 14 Oct 16   HG

Hg    .012    ppb       .000  %   .012

*** Sample ID: 140-62141            Seq:  41     12:05:47 14 Oct 16   HG

Hg   -.091    ppb       .000  %  -.091

*** Sample ID: 140-62142            Seq:  42     12:08:40 14 Oct 16   HG

Hg   -.095    ppb       .000  %  -.095

*** Sample ID: 140-62143            Seq:  43     12:11:01 14 Oct 16   HG

Hg   -.019    ppb       .000  %  -.019

*** Sample ID: 140-62144            Seq:  44     12:13:22 14 Oct 16   HG

Hg   -.001    ppb       .000  %  -.001

*** Sample ID: 140-62145            Seq:  45     12:16:11 14 Oct 16   HG

Hg   -.073    ppb       .000  %  -.073

*** Check Standard: 3  Ck3ccv       Seq:  46     12:19:20 14 Oct 16   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          97.5     4.88    5.00  ppb        .000  %

*** Check Standard: 1  Ck1ccb       Seq:  47     12:22:09 14 Oct 16   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.000     .200     ppb        .000  %
```

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 140-62146 Seq: 48 12:24:28 14 Oct 16 HG

Hg -.084 ppb .000 % -.084

*** Sample ID: 140-61858 Seq: 49 12:26:49 14 Oct 16 HG

MB

Hg -.102 ppb .000 % -.102

*** Sample ID: 140-61859 Seq: 50 12:29:09 14 Oct 16 HG

LCS

Hg 5.01 ppb .000 % 5.01

*** Sample ID: 140-61836 Seq: 51 12:31:40 14 Oct 16 HG

Hg -.005 ppb .000 % -.005

*** Sample ID: 140-61837 Seq: 52 12:34:18 14 Oct 16 HG

Hg -.085 ppb .000 % -.085

*** Sample ID: 140-61838 Seq: 53 12:37:00 14 Oct 16 HG

Hg -.021 ppb .000 % -.021

*** Sample ID: 140-61839 Seq: 54 12:39:19 14 Oct 16 HG

Hg -.080 ppb .000 % -.080

*** Sample ID: 140-61840 Seq: 55 12:41:38 14 Oct 16 HG

Hg -.010 ppb .000 % -.010

*** Sample ID: 140-61841 Seq: 56 12:44:16 14 Oct 16 HG

Hg -.047 ppb .000 % -.047

*** Sample ID: 140-61842 Seq: 57 12:47:17 14 Oct 16 HG

Hg -.023 ppb .000 % -.023

*** Check Standard: 3 Ck3ccv Seq: 58 12:49:46 14 Oct 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		97.7	4.89	5.00	ppb	.000 %

*** Check Standard: 1 Ck1ccb Seq: 59 12:52:07 14 Oct 16 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		-.111	.200	ppb	.000 %

*** Sample ID: 140-61843 Seq: 60 12:54:28 14 Oct 16 HG

Hg -.057 ppb .000 % -.057

*** Sample ID: 140-61844 Seq: 61 12:56:59 14 Oct 16 HG

Hg -.038 ppb .000 % -.038

*** Sample ID: 140-61845 Seq: 62 13:27:32 14 Oct 16 HG

Hg -.048 ppb .000 % -.048

*** Sample ID: 140-61846 Seq: 63 13:29:49 14 Oct 16 HG

Hg -.045 ppb .000 % -.045

```
Line   Conc.  Units    SD/RSD      1       2       3       4       5
-----------------------------------------------------------------------------

*** Sample ID: 140-61847            Seq:  64     13:32:08 14 Oct 16   HG
                            MS
Hg    .929    ppb       .000  %   .929

*** Sample ID: 140-61848            Seq:  65     13:34:58 14 Oct 16   HG
                            MSD
Hg    .933    ppb       .000  %   .933

*** Sample ID: 140-61849            Seq:  66     13:37:25 14 Oct 16   HG

Hg   -.045    ppb       .000  %  -.045

*** Sample ID: 140-61850            Seq:  67     13:39:54 14 Oct 16   HG

Hg   -.043    ppb       .000  %  -.043

*** Sample ID: 140-61851            Seq:  68     13:42:12 14 Oct 16   HG

Hg   -.039    ppb       .000  %  -.039

*** Sample ID: 140-61852            Seq:  69     13:44:30 14 Oct 16   HG

Hg   -.038    ppb       .000  %  -.038

*** Check Standard: 3  Ck3ccv       Seq:  70     13:46:51 14 Oct 16   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          97.6     4.88    5.00  ppb        .000  %

*** Check Standard: 1  Ck1ccb       Seq:  71     13:49:14 14 Oct 16   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.080     .200     ppb        .000  %

*** Sample ID: 140-61853            Seq:  72     13:51:51 14 Oct 16   HG

Hg   -.048    ppb       .000  %  -.048

*** Sample ID: 140-61854            Seq:  73     13:54:23 14 Oct 16   HG

Hg   -.027    ppb       .000  %  -.027

*** Sample ID: 140-61855            Seq:  74     13:57:03 14 Oct 16   HG

Hg   -.040    ppb       .000  %  -.040

*** Sample ID: 140-61856            Seq:  75     13:59:41 14 Oct 16   HG

Hg   -.036    ppb       .000  %  -.036

*** Sample ID: 140-61857            Seq:  76     14:02:13 14 Oct 16   HG

Hg   -.033    ppb       .000  %  -.033

*** Sample ID: M9C01B               Seq:  77     14:04:34 14 Oct 16   HG

Hg   -.040    ppb       .000  %  -.040

*** Sample ID: M9C01C               Seq:  78     14:06:52 14 Oct 16   HG

Hg    4.17    ppb       .000  %   4.17

*** Sample ID: M9CD2                Seq:  79     14:09:10 14 Oct 16   HG

Hg    1.11    ppb       .000  %   1.11
```

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-------------------------------------------------------------------------------

*** Sample ID: M9CD2S                Seq:  80     14:11:27 14 Oct 16   HG

Hg    2.05    ppb       .000  %   2.05

*** Sample ID: M9CD2D                Seq:  81     14:14:29 14 Oct 16   HG

Hg    1.82    ppb       .000  %   1.82

*** Check Standard: 3  Ck3ccv        Seq:  82     14:16:58 14 Oct 16   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          96.9     4.84    5.00  ppb        .000  %

*** Check Standard: 1  Ck1ccb        Seq:  83     14:19:20 14 Oct 16   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.066     .200     ppb        .000  %

*** Sample ID: M9CD3                 Seq:  84     14:21:37 14 Oct 16   HG

Hg   -.031    ppb       .000  %  -.031

*** Sample ID: M9CD3S                Seq:  85     14:24:00 14 Oct 16   HG

Hg    .929    ppb       .000  %   .929

*** Sample ID: M9CD3D                Seq:  86     14:26:42 14 Oct 16   HG

Hg    .875    ppb       .000  %   .875

*** Sample ID: M9CD4                 Seq:  87     14:29:02 14 Oct 16   HG

Hg   -.044    ppb       .000  %  -.044

*** Sample ID: M9CD4S                Seq:  88     14:31:30 14 Oct 16   HG

Hg    .841    ppb       .000  %   .841

*** Sample ID: M9CD4D                Seq:  89     14:34:31 14 Oct 16   HG

Hg    .905    ppb       .000  %   .905

*** Sample ID: M895H                 Seq:  90     14:37:00 14 Oct 16   HG

Hg   -.045    ppb       .000  %  -.045

*** Sample ID: M895HS                Seq:  91     14:39:30 14 Oct 16   HG

Hg    .885    ppb       .000  %   .885

*** Sample ID: M895HD                Seq:  92     14:42:32 14 Oct 16   HG

Hg    .850    ppb       .000  %   .850

*** Sample ID: M895K                 Seq:  93     14:45:12 14 Oct 16   HG

Hg   -.051    ppb       .000  %  -.051

*** Check Standard: 3  Ck3ccv        Seq:  94     14:47:30 14 Oct 16   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          94.9     4.75    5.00  ppb        .000  %

*** Check Standard: 1  Ck1ccb        Seq:  95     14:50:18 14 Oct 16   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.065     .200     ppb        .000  %
```

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-------------------------------------------------------------------------------

*** Sample ID: M895L                    Seq:  96     14:55:47 14 Oct 16   HG

Hg   -.033    ppb       .000  %  -.033

*** Sample ID: M9CD2A                   Seq:  97     14:58:25 14 Oct 16   HG
                          1mL10std + 9mLsamp
Hg    1.96    ppb       .000  %   1.96

*** Sample ID: M9CD2A                   Seq:  98     15:00:56 14 Oct 16   HG
                          1mL10std + 9mLsamp
Hg    1.97    ppb       .000  %   1.97

*** Check Standard: 3  Ck3ccv           Seq:  99     15:03:25 14 Oct 16   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          95.4     4.77    5.00  ppb        .000  %

*** Check Standard: 1  Ck1ccb           Seq: 100     15:05:52 14 Oct 16   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.054     .200     ppb        .000  %

*** Sample ID: M9C3PB                   Seq: 101     15:08:54 14 Oct 16   HG

Hg   -.045    ppb       .000  %  -.045

*** Sample ID: M9C3PC                   Seq: 102     15:11:12 14 Oct 16   HG

Hg    4.37    ppb       .000  %   4.37

*** Sample ID: IDOC                     Seq: 103     15:13:52 14 Oct 16   HG

Hg    4.58    ppb       .000  %   4.58

*** Sample ID: IDOC                     Seq: 104     15:16:25 14 Oct 16   HG

Hg    4.83    ppb       .000  %   4.83

*** Sample ID: IDOC                     Seq: 105     15:18:54 14 Oct 16   HG

Hg    4.72    ppb       .000  %   4.72

*** Sample ID: M8937                    Seq: 106     15:21:27 14 Oct 16   HG

Hg   -.052    ppb       .000  %  -.052

*** Sample ID: M8937S                   Seq: 107     15:23:45 14 Oct 16   HG

Hg    .902    ppb       .000  %   .902

*** Sample ID: M8937D                   Seq: 108     15:26:53 14 Oct 16   HG

Hg    .915    ppb       .000  %   .915

*** Sample ID: M8938                    Seq: 109     15:29:26 14 Oct 16   HG

Hg    .005    ppb       .000  %   .005

*** Check Standard: 3  Ck3ccv           Seq: 110     15:31:47 14 Oct 16   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          96.7     4.84    5.00  ppb        .000  %

*** Check Standard: 1  Ck1ccb           Seq: 111     15:34:26 14 Oct 16   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.059     .200     ppb        .000  %
```

Miscellaneous Data

TestAmerica Knoxville ICP Data Review / Narrative Checklist
Methods 6010B, 6010C and 200.7 - KNOX-MT-0007, Rev 14

Lot / SDG #:	H6I280402

A. Review of QuantIMS / QDS Results	NA	Yes	No	Why is data reportable?
1. Prep sheets correct (transcriptions and dates/times)?		✓		
2. Were results, RLs, flags, units, DFs, prep/analysis dates verified to be correct? **NOTE: If DF<1, results for all NDs must be verified.**		✓		
3. Were elements with F, k or ^ flags reported from a dilution if necessary?	✓			
4. Were all hits reported from a run in which interfering elements <LR?		✓		
5. Were any results reported as ND with elevated RLs? *If yes, list sample ID:*			✓	☐ [elev1] RLs elevated due to high conc. of _____ ☐ [elev3] RLs elevated due to difficult matrix.
6. Were elements with negative results >RL reported as ND G?	✓			
7. Were spike amounts verified for 1 analyte per non-routine LCS or MS?	✓			
8. Were method blank results within limits? (Waters/Soils/Waste for 01 < ½ RL; Zn <RL) (4U/Air/ /PM10/JN Waste <RL)		✓		☐ **[mb3] No analyte >RL in associated samples.** ☐ **[mb7] Sample results >10x blank.** ☐ **[mb5] Insufficient sample for reanalysis.**
9. LCS or LCS/LCSD within QC limits?		✓		☐ **[lcs2] Insufficient sample for reanalysis.** ☐ **[lcs3] LCS%R >QC limits & sample results <RL.**
10. MS/MSD or MS/DUP run at required frequency?		✓		☐ [lcsd] Insufficient sample – lcs/lcsd analyzed.
11. MS %R or MS/MSD %R and RPD within QC limits?		✓		☐ LCS acceptable - matrix effects. ☐ Native analyte > 4x spike level.
12. DUP RPD within limits? (0-20 RPD for results ≥5xRL; ±RL if result <5xRL) **Notes:** 1) Add J flags to DUP as needed; 2) Assure that DUP RPD=0 for 2 NDs & RPD=200 for ND & positive result.	✓			☐ [rpd] LCS acceptable. Results indicate sample heterogeneity.

B. Review of QC Summary Forms *Note:* Y=Yes, N=No, NA=Not Applicable	Chart # F101216	Chart #	Chart #	Why is data reportable?
1. IS response of each run within ±30% of ICB IS?	Y			☐ [is] High IS response. Sample(s) rerun at dilution.
2. ICV within limits?	Y			
3. CCV within limits?	Y			☐ CCV reanalyzed one time; reanalysis within limits.
4. ICB/CCB within limits? (Water/Soil/Waste <MDL) (Air/PM10/JN Waste <RL)	Y			☐ CCB reanalyzed one time; reanalysis within limits.
5. Are RLs on ICSA forms ≤ client RLs?	Y			
6. ICSA criteria for non-interfering elements met? *If no, list analytes:* _____	Y			☐ [ics1] Results outside limits due to contamination. ☐ [ics2] Interfering elements not present in sample at level which would result in false result >±1x RL. ☐ [ics3] Sample conc. >10x analyte signal in ICSA.
7. ICSAB interferents and analytes within 80-120%R?	Y			
8. Reporting Limit Check Standard (CRDL) within limits? (Water/Soil/Waste for 01 = 70-130%R) (4U/Air/PM10/JN Waste = 50-150%)	Y			
9. 6010C samples bracketed by RL Check Standard?	Y			
10. PDS/PDSD within limits? (75-125%R) **Reminder:** Place copy of PDS results in Sample Data Summary and QC Summary sections of report.	N/A			☐ [pds1] ☐ [pdsd1] LCS acceptable - matrix effects. ☐ [pds2] ☐ [pdsd2] Native analyte > 4x spike level. ☐ [pds3] ☐ [pdsd3] Matrix effects & native >4x spike.
11. Serial dilution done per prep batch?	Y			
12. Serial dilution results within 10% D for analytes >50xIDL? *If no, list ID:* _____	Y			☐ [ser1] Physical or chemical interference-sample matrix. ☐ [ser2] Batch serial dilution out of control
13. Serial dilution form generated for each undiluted/diluted run of OS?	Y			

Reviewed by: DKW	Date: 10/12/16
Comments:	

NOTE: Nonconformance memos are required for **bold** and *italicized* [autotext] statements: **Bold** = deficiency, *italicized* = anomaly.

TestAmerica Knoxville Mercury Data Review / Narrative Checklist
Methods 7470A/7471A/7471B - KNOX-MT-0009, Rev 12 and KNOX-MT-0010, Rev 11

Lot / SDG #:	H6L280402

A. Review of Final Results	NA	Yes	No	Why is data reportable?
1. Prep sheets correct (transcriptions and dates/times)?		√		
2. Were results, RLs, flags, units, DFs, prep/analysis dates verified for each sample/QC sample?		√		
3. Were samples with negative results >RL reanalyzed at a dilution?	√			
4. Were spike amounts verified and documented for each non-routine LCS/MS?	√			
5. Were method blank results within limits? (Waters/Soils/Waste < ½ RL) (Air/ /PM10/JN Waste <RL)		√		☐ **[mb3] No analyte >QC limit in associated samples.** ☐ **[mb5] Insufficient sample for reanalysis.*** ☐ **[mb7] Samples >10x blank**
6. LCS or LCS/LCSD within QC limits?		√		☐ **[lcs2] Insufficient sample for reanalysis.** ☐ **[lcs3] LCS%R >QC limits & sample results < RL.***
7. MS/MSD or MS/DUP run at required frequency?		√		☐ [lcsd] Insufficient sample – lcs/lcsd analyzed.
8. MS %R or MS/MSD %R & RPD within QC limits?		√		☐ LCS acceptable - matrix effects. ☐ Native analyte > 4x spike level.
9. DUP RPD within limits? (0-20 RPD for results ≥5xRL; +RL if result <5xRL) **Notes:** 1) Add J flags to DUP as needed; 2) Assure that DUP RPD=0 for 2 NDs & RPD=200 for ND & positive result.	√			☐ [rpd] LCS acceptable. Results indicate sample heterogeneity.
10. Were the samples analyzed within the holding time?		√		☐ [ht1] HT expired upon receipt ☐ *[ht2] Analysis requested after HT expired.* ☐ See comments section below.

B. Review of QC Summary Forms **Note:** √=Yes, N=No, NA=Not Applicable	Chart # M1014416A	Chart #	Chart #	Why is data reportable?
1. ICV within limits? (90-110%R)	√			
2. CCV within limits? (80-120%R)	√			☐ CCV reanalyzed one time; reanalysis within limits.
3. ICB/CCB within limits? (Water/Soil/Waste <MDL) (Air/PM10/JN Waste <RL)	√			☐ CCB reanalyzed one time; reanalysis within limits.
4. CRA within limits? (±30%)	√			☐ CRA reanalyzed one time; reanalysis within limits.
5. PDS/PDSD within limits? (75-125%R) **Reminder:** Place copy of PDS results in Sample Data Summary and QC Summary.	N/A			☐ [pds1] ☐ [pdsd1] LCS acceptable - matrix effects. ☐ [pds2] ☐ [pdsd2] Native analyte > 4x spike level. ☐ [pds3] ☐ [pdsd3] Matrix effects & native >4x spike.

Data Reviewer: DKW **Date:** 10/18/16

Comments:

MERCURY REQUESTED by MICROWAVE DIGESTION

*Such action must be taken in consultation with client.

MT079R22, 10/14/15

NOTE: Nonconformance memos are required for **bold** and *italicized* [autotext] statements: **Bold** = deficiency, *italicized* = anomaly.

TestAmerica Knoxville Metals Final Deliverable Data Review / Narrative Checklist

Lot / SDG #:	HGI380402				
Report Type:	☐ Report (COA)	☑ Level 4 Package	☐ QDS Package	☐ Forms Only	☐ Other _____

Review of Final Deliverable	NA	Yes	No	
1. Are all nonconformances documented and discussed in narrative? (**Reminder:** Place copy of all NCMs in front of deliverable.)	✓			List NCM #:
2. For air train samples, was the appropriate autotext selected for the narrative? (**Reminder:** Review the autotext and make all appropriate changes.)	✓			☐ [MMT1] Multi-metals trains analyzed for ICP & Hg. ☐ [MMT2] Multi-metals trains analyzed for ICP only. ☐ [MMT3] Multi-metals trains analyzed for Hg only. ☐ [MMT4] Combined FH/BH analyzed for ICP only. ☐ [OH] Ontario-Hydro train. ☐ [OH thimble] Ontario-Hydro train with thimble-FH. ☐ [Method 12] Method 12 air train – Pb only.
3. For PM10 projects, was the appropriate autotext selected for the narrative?	✓			☐ [pm10] PM10 filters analyzed for ICP & Hg. ☐ [pm10icp] PM10 filters analyzed for ICP only.
4. For BJ air samples, was the Air BJ autotext selected for the narrative?	✓			☐ [Air BJ] BJ Air samples.
5. For mercury in 0.4 g Carulite samples, was the CAR 10L autotext selected for the narrative?	✓			☐ [CAR 10L] 0.4 g Carulite samples.
6. For low-level waste samples, was the JN autotext selected for the narrative?	✓			☐ [JN] Low-level waste prep.
7. Is the narrative complete and does it contain the appropriate deviations noted on the analyst DRCs, ICP DRC, and Hg DRC?		✓		
8. Were all client/project specific requirements met? (As described in the QuantIMS LIM L40 reports, Lot Summary or Client Analysis Summary, and any applicable QAS.)		✓		
9. Are the original DRCs behind narrative with copy in report?		✓		
10. Is the final deliverable in the proper format?		✓		
11. Were the ICP and Hg charts and cover pages scanned?		✓		

Data Reviewer: DKW	Date: 10/18/16
Comments:	

TestAmerica Knoxville
ICP Aqueous Sample Preparation Worksheet
SOP KNOX-IP-0005

Batch Number: 6284066

Prep Date: 10/11/2016 0800 | Metals Prep Analyst: KNC | Date: 10/11/2016 | HotBlock ID: F

Comp Date: 10/11/2016 1700 | 2nd Level Review by: DKW | Date: 10/17/16 | Diges. Vial ID: 160723

Lot Number	Lot Sample Number	Suffix	Method Code	Client ID	WO #	Initial Sample Volume (mL)	Final Digestate Volume (mL)	ICP Bench Dilution Factor	QuantIMS Upload Dilution Factor	QuantIMS Upload Multiplier
H6I280402	3		04I$	R-1604 LOC#3 WATER QT-R1A	M8939	50.00	50.000	1.00	1.00	1.0000
H6I280402	3	D	04I$	R-1604 LOC#3 WATER QT-R1A	M8939	50.00	50.000	1.00	1.00	1.0000
H6I280402	3	S	04I$	R-1604 LOC#3 WATER QT-R1A	M8939	50.00	50.000	1.00	1.00	1.0000
H6I280402	4		04I$	R-1612 LOC#4 WATER QT-R1B	M894A	50.00	50.000	1.00	1.00	1.0000
H6I280402	5		04I$	R-1620 LOC#5 WATER QT-R1C	M894C	50.00	50.000	1.00	1.00	1.0000
H6I280402	6		04I$	R-1628 LOC#6 WATER QT-R2A	M894D	50.00	50.000	1.00	1.00	1.0000
H6I280402	7		04I$	R-1636 LOC#7 WATER QT-R2B	M894E	50.00	50.000	1.00	1.00	1.0000
H6I280402	8		04I$	R-1644 LOC#8 WATER QT-R2C	M894F	50.00	50.000	1.00	1.00	1.0000
H6I280402	9		04I$	R-1652 LOC#9 WATER QT-R3A	M894G	50.00	50.000	1.00	1.00	1.0000
H6I280402	10		04I$	R-1660 LOC#10 WATER QT-R3B	M894H	50.00	50.000	1.00	1.00	1.0000
H6I280402	11		04I$	R-1668 LOC#11 WATER QT-R3C	M894J	50.00	50.000	1.00	1.00	1.0000
H6J100000	66	B	04I$	INTRA-LAB BLANK	M9C0X	50.00	50.000	1.00	1.00	1.0000
H6J100000	66	C	04I$	INTRA-LAB CHECK	M9C0X	50.00	50.000	1.00	1.00	1.0000

ICP LCS/MS/MSD Spike:				Exp. Date	Pipet ID
	0.50	mL of	51712	10/4/2017	MET-016
	0.50	mL of	51719	10/4/2017	MET-016
	0.50	mL of	60824	10/4/2017	MET-016

Metals Lab Reagents	
HNO_3 Lot #:	60886
HCl Lot #:	60877
1:1 HCl ID:	NA

Method: 3005A

Comments: Samples filtered thru 1um syringe filter before analysis

QuantIMS Upload Dilution Factor and Multiplier = Final Digestate Volume (mL) / Initial Sample Volume (mL) x 50 mL / 50 mL x ICP Bench Dilution Factor

TestAmerica Knoxville
ICP 3051/3052 Sample Preparation Worksheet
SOP KNOX-MT-0004

Batch Number: 6285014

Prep Date: 10/12/2016 1400

Comp Date: 10/12/2016 1600

Metals Prep Analyst: KNC/PJB

2nd Level Review by: DKW

Date: 10/18/16

Lot Number	Lot Sample Number	Suffix	Method Code	Work Order #	Initial Sample Weight (g)	Initial Vessel Weight (g)	Final Vessel Weight (g)	%D	Final Digestate Volume (L)	ICP Bench Dilution Factor	QuantIMS Upload Dilution Factor	QuantIMS Upload Multiplier
H6I280402	1		1WO9	M8937	0.501	176.56	174.74	1.03	0.050	N/A	#VALUE!	#VALUE!
H6I280402	1	D	1WO9	M8937	0.504	176.86	174.29	1.45	0.050	N/A	#VALUE!	#VALUE!
H6I280402	1	S	1WO9	M8937	0.507	178.71	178.29	0.24	0.050	N/A	#VALUE!	#VALUE!
H6I280402	2		1WO9	M8938	0.523	177.48	174.10	1.90	0.050	N/A	#VALUE!	#VALUE!
H6J110000	14	B	1WO9	M9C3P	0.500	176.27	173.02	1.84	0.050	N/A	#VALUE!	#VALUE!
H6J110000	14	C	1WO9	M9C3P	0.500	177.92	175.45	1.39	0.050	N/A	#VALUE!	#VALUE!
				IDOC	0.500	179.68	177.44	1.25	0.050	N/A	#VALUE!	#VALUE!
				IDOC	0.500	178.34	176.91	0.80	0.050	N/A	#VALUE!	#VALUE!
				IDOC	0.500	177.80	174.02	2.13	0.050	N/A	#VALUE!	#VALUE!

				Exp. Date	Pipet ID
ICP LCS/MS/MSD Spike:	0.50	mL of	51712	10/4/2017	MET-016
	0.50	mL of	51719	10/4/2017	MET-016
	0.50	mL of	60824	10/4/2017	MET-016
Hg LCS Spike:	0.25	mL of	60132	10/30/2016	MET-016
Hg MS/MSD Spike:	0.05	mL of	60132	10/30/2016	MET-015

Metals Lab Reagents	
HNO_3 Lot #:	60886
HCl Lot #:	60877
HF Lot #:	NA
H_3BO_4 ID #:	NA

Comments: 3051

QuantIMS Upload Dilution Factor and Multiplier = Final Digestate Volume (L)/Initial Sample Weight x 0.5g/0.050L x ICP Bench Dilution Factor

TestAmerica Knoxville
Hg 3051/3052 Sample Preparation Worksheet
SOP KNOX-MT-0004

Batch Number: 6285014

Prep Date: 10/13/2016 1000

Comp Date: 10/13/2016 1700

Metals Prep Analyst: PJB

2nd Level Review by: DKW

Date: 10/18/16

Lot Number	Lot Sample Number	Suffix	Method Code	Work Order #	Initial Sample Weight (g)	Final ICP Digestate Volume (L)	Volume ICP Digestate Used (mL)	Final Hg Digestate Volume (mL)	Hg Bench Dilution Factor	QuantIMS Upload Dilution Factor	QuantIMS Upload Multiplier
H6I280402	1		1WO9	M8937	0.501	0.050	5.0	50.0	1.00	5.9880	5.9880
H6I280402	1	D	1WO9	M8937	0.504	0.050	5.0	50.0	1.00	5.9524	5.9524
H6I280402	1	S	1WO9	M8937	0.507	0.050	5.0	50.0	1.00	5.9172	5.9172
H6I280402	2		1WO9	M8938	0.523	0.050	5.0	50.0	1.00	5.7361	5.7361
H6J110000	14	B	1WO9	M9C3P	0.500	0.050	5.0	50.0	1.00	6.0000	6.0000
H6J110000	14	C	1WO9	M9C3P	0.500	0.050	5.0	50.0	1.00	6.0000	6.0000
		C		IDOC	0.500	0.050	5.0	50.0	1.00	6.0000	6.0000
		C		IDOC	0.500	0.050	5.0	50.0	1.00	6.0000	6.0000
		C		IDOC	0.500	0.050	5.0	50.0	1.00	6.0000	6.0000

Comments:

QuantIMS Upload Dilution Factor and Multiplier = ICP Final Digestate Volume (L)/Initial Sample Weight x 0.3g/0.050L x Final Hg Digestate Volume (mL) / Volume ICP Digestate

TestAmerica Knoxville
Hg 3051/3052 Sample Preparation Worksheet
SOP KNOX-MT-0004

Batch Number:	6285014	Time In:	1:40 PM			
Analyst:	PJB	Time Out:	3:40 PM	Block ID:	E	D
Prep Date:	10/13/16	LCS Pipet ID:	N/A	Temp In °C:	91	92
		MS Pipet ID:	N/A	Temp Out °C:	91	92
		Thermometer ID:	MT-4		(Acceptance range 90° – 95°C)	

Standard Type	Standard ID	Working Standard		Volume Used (mL)	Final Volume (mL)	Final Concentration (ug/L)
		Source	Conc.(ug/L)			
Calibration Std 1	N/A	N/A	N/A	N/A	50	Blank
Calibration Std 2	62412	SPEX	100	0.05	50	0.1
Calibration Std 3	62412	SPEX	100	0.1	50	0.2
Calibration Std 4	62412	SPEX	100	0.25	50	0.5
Calibration Std 5	62412	SPEX	100	0.5	50	1
Calibration Std 6	62412	SPEX	100	2.5	50	5
Calibration Std 7	62412	SPEX	100	5	50	10

Standard Type	Standard ID	Working Standard		Volume Used (mL)	Final Volume/ Weight	Final Concentration
		Source	Conc.(ug/L)			
ICV	62413	ULTRA	100	1.25	50 mL	2.5 ug/L
CCV	62412	SPEX	100	2.5	50 mL	5.0 ug/L
CRA	62412	SPEX	100	0.1	50 mL	0.2 ug/L
Aqueous LCS		SPEX	100	2.5	50 mL	5.0 ug/L
Aqueous MS		SPEX	100	0.5	50 mL	1.0 ug/L
Soil LCS		SPEX	100	2.5	0.3 g	0.83 mg/kg
Soil MS		SPEX	100	0.5	0.3 g	0.17 mg/kg
TCLP MS		SPEX	100	2.5	50 mL	5.0 ug/L

REAGENTS			
Conc. H_2SO_4 Lot #:	54950	5% $KMnO_4$ ID #:	62030
Conc. HNO_3 Lot #:	62247	5% $K_2S_2O_8$ ID #:	60198
Conc. HCL Lot #:	60878	$SnCl_2$ Solution ID #:	62469
12% $NaCl \cdot NH_2OH \cdot HCL$ ID #:	59899	Aqua Regia ID #:	N/A

Sample Receipt Documentation

Request for Analysis/Chain-of-Custody – RFA/COC #002
Montrose Air Quality Services LLC
Coke ICR Testing on Dust and Water Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

HVI 280402

Project Identification:	Montrose Air Quality Services Coke ICR
Client Contact:	Mr. Matthew Dallesasse (Montrose) (412) 826-3636
TestAmerica Contact:	Ms. Courtney Adkins (865) 291-3019
TestAmerica Project Manager:	Mr. Kevin Woodcock (865) 291-3082

Analytical Testing QC Requirements:
The Legend for Project-Specific Quality Control Testing is designated in the "QC" column as follows: "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PDS" = Post Digestion Spike and "PDSD" = Post Digestion Spike Duplicate

Laboratory Deliverable Turnaround Requirements:	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	28 Days from Lab Receipt
Media Request Form No.:	083016-8
Laboratory Destination:	TestAmerica Knoxville 5815 Middlebrook Pike Knoxville, Tennessee 37921 (865) 291-3000
Courier:	TestAmerica Courier Service

Project Deliverables:
Report analytical results on Quantims R-02 and TALS Reports and in data packages. Include "Field Sample Number", "Sample Type", and "Run Number" on all Reports.

Analytical Parameter:	Holding Time Requirements:	Preservation Requirements:
Metals (excluding Hg)	180 Days to Analysis	Cool, 4°C
Mercury (Hg)	28 Days to Analysis	Cool, 4°C

Field Sample No./Sample Coding ID	Loc. No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type	Analytical Specifications
R-1601 Loc #1 Dust DC - R1	1	9/22-9/26, 2016	MS/MSD	250 mL Powder Jar	**Dust Sample** **Location #1** Mercury Analysis	Analyze this sample for Mercury (Hg) by SW-846 Compendium Method 3051/7470.
R-1603 Loc #2 Dust Coal - R1	2	9/22-9/26, 2016		250 mL Powder Jar	**Dust Sample** **Location #2** Mercury Analysis	Analyze this sample for Mercury (Hg) by SW-846 Compendium Method 3051/7470.
R-1604 Loc #3 Water QT- R1A	3	9/22/16	MS/MSD	1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #3** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2 9/27-16 PH<2
R-1612 Loc #4 Water QT- R1B	4	9/22/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #4** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1620 Loc #5 Water QT - R1C	5	9/22/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #5** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2

Request for Analysis/Chain-of-Custody – RFA/COC #002
Montrose Air Quality Services LLC
Coke ICR Testing on Dust and Water Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Field Sample No./Sample Coding ID	Loc. No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type	Analytical Specifications
R-1628 Loc #6 Water BC ~~QT-R2B~~ QT-R2A	6	9/23/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #6** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1636 Loc #7 Water QT-R2B	7	9/23/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #7** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1644 Loc #8 Water QT-R2C	8	9/23/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #8** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1652 Loc #9 Water QT-R3A	9	9/26/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #9** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1660 Loc #10 Water QT-R3B	10	9/26/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #10** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2
R-1668 Loc #11 Water QT-R3C	11	9/26/16		1 Liter Narrow Mouth Nalgene/HDPE	**Water Sample** **Location #11** Metals Analysis	Analyze this sample for Metals by SW-846 Compendium Method 6010C. PH<2

Request for Analysis/Chain-of-Custody – RFA/COC #002
Montrose Air Quality Services LLC
Coke ICR Testing on Dust and Water Samples

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	NONE
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	RT 3.7, 4.8, 3.3, 4.4, 5.3 / CT 3.7, 4.8, 3.3, 4.4, 5.3°C
(3) Record any apparent sample loss/breakage.	NONE
(4) Record any unidentified samples transported with this shipment of samples:	NONE
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	HAND DELIVERED, CUSTODY SEALS INTACT

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	[signature]	Montrose	9/26/16 11:00
Accepted By:	[signature]	Test America	9/26/16 11:00
Relinquished By:	[signature]	Test America	9/26/16 21:57
Accepted By:	[signature]	TAKNX	9/26/16 21:57
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Log In Number: 46I280402

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**
2. Were ambient air containers received intact?			✓	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?	✓			☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6°C, VOST: 10°C) Thermometer ID : 6661 Correction factor: 0.0	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?			✓	☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?	✓			☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, lab will adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number: H657475L

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: _____ PM Instructions: _____

Sample Receiving Associate: [signature] Date: 9-28-16

QA026R30.doc, 080916