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Level IV Data Package

MWH Group 245247

Method: EPA 200.7

2806240538
2806240540

EPA 200.7/6010B QC Check List

Analyst CSK Analysis Date 6-30-08 Reviewer/Date 7-1-08

Instrumnet PerKin Elmer Optima 4300DV

✓ All sample analyzed within 6 month holding time

✓ All sample raw concentraction below the high standard or linear range o marked for dilution
and rerun

Initial and closing QC
✓ ICV within +/- 5%
✓ Linearity check +/- 10%
✓ ICSAB +/- 20%
✓ QCS +/- 5%
✓ MRL +/- 50%

Middle, closing and batch QC
✓ FilterCheck < 1/2 MRL
✓ MBLANK < 1/2 MRL
✓ LCS +/-15%
✓ MS/MSD +/-/30%(200.7) +/- 25% (6010B)
✓ CCV/MCV/ECV +/- 10%
✓ ICB/CCB/ECB < 1/2 MRL
✓ CCB ran after the CCV

General QC
✓ RPD between MS/MSD is within +/-/20%
✓ RPD between LCS/LCSD is within +/- 20%
✓ Internal standards 60 TO 125%
✓ All pH of the samples are < 2

✓ No more than 20 samples per batch

✓ MS is run at frequency of 1 every 10 samples and MSD is run at frequency of 1 every 20 samples

NA QIR needed for failed QC

NA Special Det Code noted on the cover sheet

NA R value for multi point calibration is > 0.995

NA Proper MRL check ran for special low MRL samples

Reagent and Standards used for
Optima 4300 DV
Updated 03/31/08

Int: CSK
Date: ~~8~~ 7-1-08

Method 200.7/6010

ICP SUMMARY SHEET

File ID: 080630A
Date Started: 6/30/08
Analyst ID: CSK

SAMPLE ID

LINEARITY	(22:02)	FILTERCHECK	(22:30)	2806190595	(22:46)
2806250566	(22:55)	2806180344	(23:12)	2806180345	(23:16)
2806190596	(23:19)	2806200356	(23:23)	2806200358	(23:27)
2806240538_2	(23:31)	2806240540_2	(23:35)	2806250254	(23:39)
2806250255	(23:52)	2806250256	(23:56)	2806250257	(0:00)
2806250258	(0:04)	2806250259	(0:08)	2806250260	(0:12)
2806250143	(0:15)	2806250147	(0:19)	2806250159	(0:22)
2806260194_2	(0:26)	2806250685	(0:54)	2806250695	(1:05)
2806250165	(1:25)	2806250176	(1:29)	2806250200	(1:32)
2806250206	(1:36)	2806250223	(1:40)	2806250684	(1:43)
2806250686	(1:46)	2806250687	(1:50)	2806250688	(1:54)
2806250689	(2:04)	2806250693	(2:08)	2806250696	(2:12)
2806250697	(2:16)	2806250698	(2:21)	2806250699	(2:24)
2806250700	(2:28)	2806250701	(2:32)	2806260200	(2:36)

WB MM 7/1/08

COMMENT:

Analyst: CSK 7-1-08

Approved By: WJH

Peer Reviewed: BLK 7/2/08

BATCH NUMBER for 080630A

Test Parameter:

SCA YR AG AL AS B_ BA BE CA CD CO CR CU FE K MG MN MO NA NI

Batch ID: 2806190595

2806190595	2806250566	2806180344
2806180345	2806190596	2806200356
2806200358	2806240538_2X	2806240540_2X
2806250254	2806250255	2806250256
2806250257	2806250258	2806250259
2806250260	2806250143	2806250147
2806250159	2806260194_2X	

Batch ID: 2806250685

2806250685	2806250695	2806250165
2806250176	2806250200	2806250206
2806250223	2806250684	2806250686
2806250687	2806250688	2806250689
2806250693	2806250696	2806250697
2806250698	2806250699	2806250700
2806250701	2806260200	

File ID: 080630A

CR

Sample ID	Date	Time	Dil	Raw	Rept.	Limit	Comment
ICV	6/30/08	21:48	1	9.8001	9.8	95-105	98.0%
QC-25 1ppm	6/30/08	21:53	1	.96278	.960		
CCV	6/30/08	21:56	1	4.9894	4.99	90-110	99.7%
MCV	6/30/08	21:59	1	2.4908	2.49	90-110	99.6%
LINEARITY	6/30/08	22:02	1	0.0022	.0022		
ICSA	6/30/08	22:10	1	0.0001	0.0000	80-120	
ICSAB	6/30/08	22:13	1	.24168	.242	80-120	96.6%
ICB	6/30/08	22:16	1	-0.0002	ND		
MRL	6/30/08	22:19	1	0.0094	.0094	50-150	94.2%
FILTERCHECK	6/30/08	22:30	1	0.0006	0.0005		
MBLANK2007	6/30/08	22:34	1	-0.0004	ND		
MRL2007	6/30/08	22:37	1	0.0093	.0093		
LCS2007	6/30/08	22:41	1	.93157	.932	85-115	93.1%
LCSD2007	6/30/08	22:43	1	.89896	.899	85-115	89.8%
2806190595	6/30/08	22:46	1	-0.0004	ND		
2806190595MS	6/30/08	22:49	1	.93728	.937	[0.937]	93.7%
2806190595MSD	6/30/08	22:52	1	.98157	.982	[0.982]	98.1%
2806190595T	6/30/08	22:52	1		1.00	70 - 130	
2806250566	6/30/08	22:55	1	0.0004	0.0003		
CCV	6/30/08	22:59	1	4.9442	4.94	90-110	98.8%
CCB	6/30/08	23:02	1	-0.0003	ND		
2806250566MS	6/30/08	23:06	1	.96164	.962	[0.962]	96.1%
2806250566MSD	6/30/08	23:09	1	.94186	.942	[0.942]	94.1%
2806250566T	6/30/08	23:09	1		1.00	70 - 130	
2806180344	6/30/08	23:12	1	-0.0002	ND		
2806180345	6/30/08	23:16	1	-0.0006	ND		
2806190596	6/30/08	23:19	1	-0.0002	ND		
2806200356	6/30/08	23:23	1	0.0004	0.0004		
2806200358	6/30/08	23:27	1	-0.0005	ND		
2806240538_2X	6/30/08	23:31	2	0.0076	.0076		
2806240540_2X	6/30/08	23:35	2	0.0216	.022		
2806250254	6/30/08	23:39	1	0.0031	.0031		
CCV	6/30/08	23:43	1	4.9000	4.9	90-110	98.0%
CCB	6/30/08	23:46	1	-0.0003	ND		
MCV	6/30/08	23:49	1	2.4495	2.45	90-110	97.9%
2806250255	6/30/08	23:52	1	0.0059	.0059		
2806250256	6/30/08	23:56	1	-0.0000	ND		
2806250257	7/1/08	0:00	1	0.0062	.0062		
2806250258	7/1/08	0:04	1	0.0177	.018		
2806250259	7/1/08	0:08	1	0.0109	.011		
2806250260	7/1/08	0:12	1	0.0284	.028		
2806250143	7/1/08	0:15	1	-0.0003	ND		
2806250147	7/1/08	0:19	1	0.0002	0.0001		
2806250159	7/1/08	0:22	1	0.0001	0.0001		
2806260194_2X	7/1/08	0:26	2	.26327	.260		
CCV	7/1/08	0:29	1	4.8428	4.84	90-110	96.8%

File ID: 080630A

CR

Sample ID	Date	Time	Dil	Raw	Rept.	Limit	Comment
CCB	7/1/08	0:35	1	-0.0004	ND		
MBLANK2007	7/1/08	0:39	1	-0.0005	ND		
MRL	7/1/08	0:42	1	0.0093	.0093	50-150	93.0%
MRL2007	7/1/08	0:46	1	0.0088	.0088		
LCS2007	7/1/08	0:49	1	.90306	.903	85-115	90.3%
LCSD2007	7/1/08	0:52	1	.89948	.899	85-115	89.9%
2806250685	7/1/08	0:54	1	0.0004	0.0004		
2806250685MS	7/1/08	0:59	1	.89705	.897	[0.897]	89.7%
2806250685MSD	7/1/08	1:02	1	.91068	.911	[0.911]	91.0%
2806250685T	7/1/08	1:02	1		1.00	70 - 130	
2806250695	7/1/08	1:05	1	0.0117	.012		
2806250695MS	7/1/08	1:09	1	.90052	.901	[0.889]	88.8%
CCV	7/1/08	1:12	1	4.7877	4.79	90-110	95.7%
CCB	7/1/08	1:15	1	-0.0003	ND		
MCV	7/1/08	1:19	1	2.4209	2.42	90-110	96.8%
2806250695MSD	7/1/08	1:22	1	.88333	.883	[0.872]	87.1%
2806250695T	7/1/08	1:22	1		1.00	70 - 130	
2806250165	7/1/08	1:25	1	-0.0001	ND		
2806250176	7/1/08	1:29	1	0.0045	.0045		
2806250200	7/1/08	1:32	1	0.0000	0.0000		
2806250206	7/1/08	1:36	1	0.0003	0.0002		
2806250223	7/1/08	1:40	1	0.0004	0.0004		
2806250684	7/1/08	1:43	1	0.0021	.0021		
2806250686	7/1/08	1:46	1	0.0005	0.0004		
2806250687	7/1/08	1:50	1	0.0008	0.0008		
2806250688	7/1/08	1:54	1	0.0002	0.0002		
CCV	7/1/08	1:57	1	4.7677	4.77	90-110	95.3%
CCB	7/1/08	2:01	1	-0.0004	ND		
2806250689	7/1/08	2:04	1	0.0003	0.0002		
2806250693	7/1/08	2:08	1	0.0008	0.0007		
2806250696	7/1/08	2:12	1	0.0003	0.0002		
2806250697	7/1/08	2:16	1	0.0011	.0011		
2806250698	7/1/08	2:21	1	0.0006	0.0006		
2806250699	7/1/08	2:24	1	0.0007	0.0007		
2806250700	7/1/08	2:28	1	0.0004	0.0004		
2806250701	7/1/08	2:32	1	0.0001	0.0000		
2806260200	7/1/08	2:36	1	0.0014	.0014		
ECV	7/1/08	2:39	1	4.8155	4.82	90-110	96.3%
ECB	7/1/08	2:42	1	-0.0004	ND		

Analysis Begun

Start Time: 6/30/2008 21:42:41
Logged In Analyst: Charley Kay
Spectrometer Model: Optima 4300 DV, S/N 077N2121801
Plasma On Time: 6/30/2008 12:36:04
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Method Loaded
Method Name: 200.7&6010_080304
IEC File: IEC080304.iec
Method Description: 200.7/6010_080304
Method Last Saved: 5/2/2008 09:27:36
MSF File:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Al	Lin, Calc Int	Peak Area	Radial	Yr	Yes
As	Lin, Calc Int	Peak Area	Axial	Sca	Yes
B_	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Ba	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Be	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Ca	Lin, Calc Int	Peak Area	Radial	Yr	Yes
Cd	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Co	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Cr	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Cu	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Fe	Lin, Calc Int	Peak Area	Radial	Yr	Yes
K	Lin, Calc Int	Peak Area	Radial	Yr	Yes
Mg	Lin, Calc Int	Peak Area	Radial	Yr	Yes
Mn	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Mo	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Na	Lin, Calc Int	Peak Area	Radial	Yr	Yes
Ni	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Pb	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Sb	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Se	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Tl	Lin, Calc Int	Peak Area	Axial	Sca	Yes
V	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Zn	Lin, Calc Int	Peak Area	Axial	Sca	Yes
Sca	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Yr	Lin, Calc Int	Peak Area	Radial	n/a	n/a

Sequence No.: 1
Sample ID: Calib Blank 1
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 0
Date Collected: 6/30/2008 21:42:57
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	213.0 kPa	0.65 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sca	417193.4	2582.54	0.62%	100	%
Yr	490636.0	6698.35	1.37%	100	%
Ag†	424.6	115.10	27.11%	[0.00]	mg/L
Al†	70.7	5.17	7.31%	[0.00]	mg/L
As†	-2.2	4.00	184.68%	[0.00]	mg/L
B_†	80.2	8.39	10.47%	[0.00]	mg/L
Ba†	-27.5	0.64	2.34%	[0.00]	mg/L
Be†	-3600.2	0.77	0.02%	[0.00]	mg/L
Ca†	3566.0	67.64	1.90%	[0.00]	mg/L

Cdt	35.3	2.81	7.95%	[0.00] mg/L
Cot	-47.7	2.48	5.19%	[0.00] mg/L
Crt	122.8	5.64	4.59%	[0.00] mg/L
Cut	3893.7	80.02	2.06%	[0.00] mg/L
Fet	-106.2	4.17	3.93%	[0.00] mg/L
Kt	131.3	7.30	5.56%	[0.00] mg/L
Mgt	-542.3	11.88	2.19%	[0.00] mg/L
Mnt	330.9	1.27	0.38%	[0.00] mg/L
Mot	10.5	1.69	16.03%	[0.00] mg/L
Nat	-151.5	7.37	4.87%	[0.00] mg/L
Nit	-46.7	2.63	5.62%	[0.00] mg/L
Pbt	-20.8	1.74	8.38%	[0.00] mg/L
Sbt	7.4	1.68	22.73%	[0.00] mg/L
Set	-1.8	2.59	141.91%	[0.00] mg/L
Tlt	-21.3	3.98	18.73%	[0.00] mg/L
Vt	137.9	21.76	15.78%	[0.00] mg/L
Znt	138.9	2.66	1.91%	[0.00] mg/L

User canceled analysis.

Analysis Begun

Start Time: 6/30/2008 21:46:14 Plasma On Time: 6/30/2008 12:36:04
Logged In Analyst: Charley Kay Technique: ICP Continuous
Spectrometer Model: Optima 4300 DV, S/N 077N2121801 Autosampler Model: AS-93plus

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Sequence No.: 2 Autosampler Location: 15
Sample ID: Standard 2 Date Collected: 6/30/2008 21:46:15
Analyst: Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Nebulizer Parameters: Standard 2

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: Standard 2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sca	363715.3	4630.78	1.27%	87.2	%
Yr	457529.5	1339.52	0.29%	93.3	%
Agt	506884.5	906.89	0.18%	[2]	mg/L
Alt	77818.7	352.46	0.45%	[10]	mg/L
Ast	15476.0	34.69	0.22%	[10]	mg/L
B_t	135055.0	76.81	0.06%	[5.02]	mg/L
Bat	374015.2	712.32	0.19%	[10]	mg/L
Bet	10864374.6	124876.94	1.15%	[4.01]	mg/L
Cat	3018388.9	20135.00	0.67%	[100]	mg/L
Cdt	106949.5	177.79	0.17%	[5.01]	mg/L
Cot	157295.7	875.34	0.56%	[10]	mg/L
Crt	460426.0	1929.90	0.42%	[9.97]	mg/L
Cut	2978687.2	5796.65	0.19%	[10]	mg/L
Fet	113683.8	496.76	0.44%	[9.98]	mg/L
Kt	119895.6	979.02	0.82%	[100]	mg/L
Mgt	2133573.4	20024.98	0.94%	[100]	mg/L
Mnt	4954340.6	16988.87	0.34%	[10]	mg/L
Mot	99591.4	529.53	0.53%	[9.98]	mg/L
Nat	515419.2	2378.35	0.46%	[100]	mg/L
Nit	188119.5	521.40	0.28%	[10]	mg/L
Pbt	38661.8	151.55	0.39%	[10]	mg/L
Sbt	15633.9	78.76	0.50%	[10]	mg/L
Set	9856.5	36.88	0.37%	[10]	mg/L
Tlt	21504.9	202.77	0.94%	[10]	mg/L
Vt	1552198.3	5486.26	0.35%	[10]	mg/L
Znt	383402.2	1289.51	0.34%	[10]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag	1	Lin, Calc Int	0.0	253400	0.00000	1.000000	
Al	1	Lin, Calc Int	0.0	7782	0.00000	1.000000	
As	1	Lin, Calc Int	0.0	1548	0.00000	1.000000	
B_	1	Lin, Calc Int	0.0	26900	0.00000	1.000000	
Ba	1	Lin, Calc Int	0.0	37400	0.00000	1.000000	
Be	1	Lin, Calc Int	-0.0	2709000	0.00000	1.000000	
Ca	1	Lin, Calc Int	0.0	30180	0.00000	1.000000	
Cd	1	Lin, Calc Int	0.0	21350	0.00000	1.000000	
Co	1	Lin, Calc Int	0.0	15730	0.00000	1.000000	
Cr	1	Lin, Calc Int	0.0	46180	0.00000	1.000000	
Cu	1	Lin, Calc Int	0.0	297900	0.00000	1.000000	

Fe	1	Lin, Calc Int	0.0	11390	0.00000	1.000000
K	1	Lin, Calc Int	0.0	1199	0.00000	1.000000
Mg	1	Lin, Calc Int	0.0	21340	0.00000	1.000000
Mn	1	Lin, Calc Int	0.0	495400	0.00000	1.000000
Mo	1	Lin, Calc Int	0.0	9979	0.00000	1.000000
Na	1	Lin, Calc Int	0.0	5154	0.00000	1.000000
Ni	1	Lin, Calc Int	0.0	18810	0.00000	1.000000
Pb	1	Lin, Calc Int	0.0	3866	0.00000	1.000000
Sb	1	Lin, Calc Int	0.0	1563	0.00000	1.000000
Se	1	Lin, Calc Int	0.0	985.7	0.00000	1.000000
Tl	1	Lin, Calc Int	0.0	2150	0.00000	1.000000
V	1	Lin, Calc Int	0.0	155200	0.00000	1.000000
Zn	1	Lin, Calc Int	0.0	38340	0.00000	1.000000

Analysis Begun

Start Time: 6/30/2008 21:48:39
Logged In Analyst: Charley Kay
Spectrometer Model: Optima 4300 DV, S/N 077N2121801
Plasma On Time: 6/30/2008 12:36:04
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Sequence No.: 1
Sample ID: ICV
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 15
Date Collected: 6/30/2008 21:48:40
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.65 L/min

Mean Data: ICV

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	371774.2	89.1	%	0.42				0.47%
Yr	460366.6	93.8	%	0.06				0.06%
Agt	500392.4	1.98	mg/L	0.006	1.98	mg/L	0.006	0.28%
QC value within limits for Ag Recovery = 98.90%								
Alt	76550.8	9.48	mg/L	0.026	9.48	mg/L	0.026	0.27%
QC value less than the lower limit for Al Recovery = 94.77%								
Ast	15133.5	9.78	mg/L	0.114	9.78	mg/L	0.114	1.16%
QC value within limits for As Recovery = 97.79%								
B_t	135186.0	4.94	mg/L	0.008	4.94	mg/L	0.008	0.15%
QC value within limits for B_ Recovery = 98.77%								
Bat	367776.2	9.83	mg/L	0.027	9.83	mg/L	0.027	0.27%
QC value within limits for Ba Recovery = 98.33%								
Bet	10724653.7	3.96	mg/L	0.035	3.96	mg/L	0.035	0.88%
QC value within limits for Be Recovery = 99.00%								
Cat	2985248.4	98.9	mg/L	0.98	98.9	mg/L	0.98	0.99%
QC value within limits for Ca Recovery = 98.90%								
Cdt	105326.6	4.83	mg/L	0.008	4.83	mg/L	0.008	0.17%
QC value within limits for Cd Recovery = 96.58%								
Cot	155367.8	9.88	mg/L	0.021	9.88	mg/L	0.021	0.22%
QC value within limits for Co Recovery = 98.77%								
Crt	452582.9	9.80	mg/L	0.011	9.80	mg/L	0.011	0.11%
QC value within limits for Cr Recovery = 98.00%								
Cut	2928943.7	9.84	mg/L	0.029	9.84	mg/L	0.029	0.30%
QC value within limits for Cu Recovery = 98.42%								
Fet	112474.9	9.87	mg/L	0.052	9.87	mg/L	0.052	0.53%
QC value within limits for Fe Recovery = 98.74%								
Kt	118478.0	98.8	mg/L	0.35	98.8	mg/L	0.35	0.35%
QC value within limits for K Recovery = 98.82%								
Mgt	2104829.4	98.7	mg/L	1.04	98.7	mg/L	1.04	1.05%
QC value within limits for Mg Recovery = 98.67%								
Mnt	4884760.0	9.86	mg/L	0.002	9.86	mg/L	0.002	0.02%
QC value within limits for Mn Recovery = 98.57%								
Mot	98386.0	9.86	mg/L	0.025	9.86	mg/L	0.025	0.26%
QC value within limits for Mo Recovery = 98.59%								
Nat	507646.8	98.5	mg/L	0.31	98.5	mg/L	0.31	0.31%
QC value within limits for Na Recovery = 98.49%								
Nit	186382.4	9.91	mg/L	0.009	9.91	mg/L	0.009	0.09%
QC value within limits for Ni Recovery = 99.08%								
Pbt	38075.0	9.85	mg/L	0.092	9.85	mg/L	0.092	0.93%
QC value within limits for Pb Recovery = 98.48%								
Sbt	15299.6	9.83	mg/L	0.060	9.83	mg/L	0.060	0.61%
QC value within limits for Sb Recovery = 98.26%								
Set	9663.3	9.83	mg/L	0.107	9.83	mg/L	0.107	1.09%

QC value within limits for Se Recovery = 98.28%
Tl† 21142.0 9.89 mg/L 0.063 9.89 mg/L 0.063 0.63%
QC value within limits for Tl Recovery = 98.87%
V† 1533659.8 9.93 mg/L 0.006 9.93 mg/L 0.006 0.06%
QC value within limits for V Recovery = 99.32%
Zn† 379359.2 9.81 mg/L 0.012 9.81 mg/L 0.012 0.13%
QC value within limits for Zn Recovery = 98.09%
QC Failed. Retry.
User canceled analysis.

Analysis Begun

Start Time: 6/30/2008 21:53:02 **Plasma On Time: 6/30/2008 12:36:04**
Logged In Analyst: Charley Kay **Technique: ICP Continuous**
Spectrometer Model: Optima 4300 DV, S/N 077N2121801 **Autosampler Model: AS-93plus**

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Sequence No.: 7 **Autosampler Location: 12**
Sample ID: QC-25 1ppm **Date Collected: 6/30/2008 21:53:03**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: QC-25 1ppm

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: QC-25 1ppm

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sca	422583.3	101	%	0.4				0.38%
Yr	494753.5	101	%	0.8				0.81%
Ag†	233673.1	0.922	mg/L	0.0002	0.922	mg/L	0.0002	0.03%
QC value within limits for Ag Recovery = 92.24%								
As†	1400.7	0.905	mg/L	0.0033	0.905	mg/L	0.0033	0.36%
QC value within limits for As Recovery = 90.51%								
B_†	25422.6	0.936	mg/L	0.0018	0.936	mg/L	0.0018	0.19%
QC value within limits for B_ Recovery = 93.64%								
Ba†	37652.4	1.01	mg/L	0.001	1.01	mg/L	0.001	0.14%
QC value within limits for Ba Recovery = 100.67%								
Be†	2587692.2	0.955	mg/L	0.0010	0.955	mg/L	0.0010	0.11%
QC value within limits for Be Recovery = 95.52%								
Ca†	30205.8	1.00	mg/L	0.003	1.00	mg/L	0.003	0.29%
QC value within limits for Ca Recovery = 100.07%								
Cd†	19983.2	0.927	mg/L	0.0011	0.927	mg/L	0.0011	0.12%
QC value within limits for Cd Recovery = 92.67%								
Co†	15888.3	1.01	mg/L	0.008	1.01	mg/L	0.008	0.77%
QC value within limits for Co Recovery = 101.01%								
Cr†	44462.4	0.963	mg/L	0.0055	0.963	mg/L	0.0055	0.57%
QC value within limits for Cr Recovery = 96.28%								
Cu†	286135.6	0.962	mg/L	0.0001	0.962	mg/L	0.0001	0.01%
QC value within limits for Cu Recovery = 96.15%								
Fe†	11168.0	0.980	mg/L	0.0005	0.980	mg/L	0.0005	0.06%
QC value within limits for Fe Recovery = 98.04%								
K†	11143.9	9.29	mg/L	0.020	9.29	mg/L	0.020	0.22%
QC value within limits for K Recovery = 92.95%								
Mg†	21737.1	1.02	mg/L	0.004	1.02	mg/L	0.004	0.41%
QC value within limits for Mg Recovery = 102.05%								
Mn†	497070.9	1.00	mg/L	0.000	1.00	mg/L	0.000	0.03%
QC value within limits for Mn Recovery = 100.33%								
Mo†	9254.5	0.927	mg/L	0.0046	0.927	mg/L	0.0046	0.49%
QC value within limits for Mo Recovery = 92.74%								
Na†	4888.2	0.948	mg/L	0.0035	0.948	mg/L	0.0035	0.37%
QC value within limits for Na Recovery = 94.84%								

Ni†	19590.2	1.04 mg/L	0.003	1.04 mg/L	0.003	0.32%
QC value within limits for Ni	Recovery = 104.14%					
Pb†	3958.5	1.02 mg/L	0.004	1.02 mg/L	0.004	0.40%
QC value within limits for Pb	Recovery = 102.39%					
Sb†	1427.5	0.917 mg/L	0.0053	0.917 mg/L	0.0053	0.58%
QC value within limits for Sb	Recovery = 91.67%					
Se†	904.4	0.920 mg/L	0.0002	0.920 mg/L	0.0002	0.02%
QC value within limits for Se	Recovery = 92.00%					
Tl†	2230.7	1.04 mg/L	0.003	1.04 mg/L	0.003	0.32%
QC value within limits for Tl	Recovery = 104.29%					
V†	144396.6	0.935 mg/L	0.0009	0.935 mg/L	0.0009	0.10%
QC value within limits for V	Recovery = 93.53%					
Zn†	38675.4	1.000 mg/L	0.0015	1.000 mg/L	0.0015	0.15%
QC value within limits for Zn	Recovery = 99.98%					

All analyte(s) passed QC.

Sequence No.: 8
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 6/30/2008 21:56:52
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sca	387573.7	92.9	%	0.11				0.12%
Yr	473380.9	96.5	%	0.47				0.48%
Ag†	241597.0	0.955	mg/L	0.0013	0.955	mg/L	0.0013	0.13%
QC value within limits for Ag Recovery = 95.51%								
As†	7350.4	4.75	mg/L	0.007	4.75	mg/L	0.007	0.15%
QC value within limits for As Recovery = 94.99%								
B_†	67027.8	2.45	mg/L	0.014	2.45	mg/L	0.014	0.55%
QC value within limits for B_ Recovery = 97.94%								
Ba†	185489.2	4.96	mg/L	0.010	4.96	mg/L	0.010	0.19%
QC value within limits for Ba Recovery = 99.19%								
Be†	5457754.4	2.02	mg/L	0.016	2.02	mg/L	0.016	0.79%
QC value within limits for Be Recovery = 100.76%								
Ca†	1509816.6	50.0	mg/L	0.03	50.0	mg/L	0.03	0.07%
QC value within limits for Ca Recovery = 100.04%								
Cd†	42123.0	1.92	mg/L	0.006	1.92	mg/L	0.006	0.32%
QC value within limits for Cd Recovery = 96.16%								
Co†	79627.3	5.06	mg/L	0.025	5.06	mg/L	0.025	0.49%
QC value within limits for Co Recovery = 101.25%								
Cr†	230417.3	4.99	mg/L	0.020	4.99	mg/L	0.020	0.40%
QC value within limits for Cr Recovery = 99.79%								
Cu†	1445995.3	4.86	mg/L	0.002	4.86	mg/L	0.002	0.04%
QC value within limits for Cu Recovery = 97.18%								
Fe†	57271.8	5.03	mg/L	0.027	5.03	mg/L	0.027	0.53%
QC value within limits for Fe Recovery = 100.55%								
K†	57753.0	48.2	mg/L	0.01	48.2	mg/L	0.01	0.02%
QC value within limits for K Recovery = 96.34%								
Mg†	1061084.7	49.7	mg/L	0.01	49.7	mg/L	0.01	0.02%
QC value within limits for Mg Recovery = 99.48%								
Mn†	2474785.0	4.99	mg/L	0.012	4.99	mg/L	0.012	0.25%
QC value within limits for Mn Recovery = 99.88%								
Mo†	48993.6	4.91	mg/L	0.030	4.91	mg/L	0.030	0.61%
QC value within limits for Mo Recovery = 98.19%								
Na†	248140.4	48.1	mg/L	0.03	48.1	mg/L	0.03	0.05%
QC value within limits for Na Recovery = 96.29%								
Ni†	95685.5	5.09	mg/L	0.008	5.09	mg/L	0.008	0.15%
QC value within limits for Ni Recovery = 101.73%								
Pb†	19507.8	5.05	mg/L	0.011	5.05	mg/L	0.011	0.21%
QC value within limits for Pb Recovery = 100.92%								
Sb†	7513.4	4.83	mg/L	0.005	4.83	mg/L	0.005	0.09%
QC value within limits for Sb Recovery = 96.51%								
Se†	4833.5	4.92	mg/L	0.000	4.92	mg/L	0.000	0.01%
QC value within limits for Se Recovery = 98.33%								
Tl†	11066.5	5.17	mg/L	0.006	5.17	mg/L	0.006	0.11%
QC value within limits for Tl Recovery = 103.48%								
V†	762861.4	4.94	mg/L	0.009	4.94	mg/L	0.009	0.18%
QC value within limits for V Recovery = 98.82%								
Zn†	195906.6	5.07	mg/L	0.010	5.07	mg/L	0.010	0.20%
QC value within limits for Zn Recovery = 101.32%								

All analyte(s) passed QC.

User canceled analysis.

Analysis Begun

Start Time: 6/30/2008 21:59:37 **Plasma On Time:** 6/30/2008 12:36:04
Logged In Analyst: Charley Kay **Technique:** ICP Continuous
Spectrometer Model: Optima 4300 DV, S/N 077N2121801 **Autosampler Model:** AS-93plus

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Sequence No.: 35 **Autosampler Location:** 5
Sample ID: MCV **Date Collected:** 6/30/2008 21:59:39
Analyst: **Data Type:** Original
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Nebulizer Parameters: MCV

Analyte	Back Pressure	Flow
All	213.0 kPa	0.65 L/min

Mean Data: MCV

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sca	408212.0	97.8	%	0.77				0.79%
Yr	483998.3	98.6	%	0.59				0.60%
Agt	120651.0	0.477	mg/L	0.0015	0.477	mg/L	0.0015	0.32%
QC value within limits for Ag	Recovery = 95.40%							
Ast	3644.0	2.35	mg/L	0.026	2.35	mg/L	0.026	1.11%
QC value within limits for As	Recovery = 94.19%							
B_t	33964.9	1.24	mg/L	0.003	1.24	mg/L	0.003	0.21%
QC value within limits for B_	Recovery = 99.28%							
Bat	93630.7	2.50	mg/L	0.011	2.50	mg/L	0.011	0.45%
QC value within limits for Ba	Recovery = 100.14%							
Bet	2696329.0	0.996	mg/L	0.0180	0.996	mg/L	0.0180	1.80%
QC value within limits for Be	Recovery = 99.56%							
Cat	754953.2	25.0	mg/L	0.07	25.0	mg/L	0.07	0.27%
QC value within limits for Ca	Recovery = 100.05%							
Cdt	20709.5	0.945	mg/L	0.0084	0.945	mg/L	0.0084	0.89%
QC value within limits for Cd	Recovery = 94.54%							
Cot	40163.9	2.55	mg/L	0.002	2.55	mg/L	0.002	0.06%
QC value within limits for Co	Recovery = 102.14%							
Crt	115032.3	2.49	mg/L	0.021	2.49	mg/L	0.021	0.86%
QC value within limits for Cr	Recovery = 99.64%							
Cut	719074.6	2.42	mg/L	0.047	2.42	mg/L	0.047	1.95%
QC value within limits for Cu	Recovery = 96.66%							
Fet	28691.2	2.52	mg/L	0.015	2.52	mg/L	0.015	0.61%
QC value within limits for Fe	Recovery = 100.75%							
Kt	28751.1	24.0	mg/L	0.07	24.0	mg/L	0.07	0.29%
QC value within limits for K	Recovery = 95.92%							
Mgt	533561.7	25.0	mg/L	0.06	25.0	mg/L	0.06	0.22%
QC value within limits for Mg	Recovery = 100.05%							
Mnt	1236289.1	2.49	mg/L	0.036	2.49	mg/L	0.036	1.46%
QC value within limits for Mn	Recovery = 99.79%							
Mot	24257.9	2.43	mg/L	0.021	2.43	mg/L	0.021	0.86%
QC value within limits for Mo	Recovery = 97.24%							
Nat	123546.2	24.0	mg/L	0.04	24.0	mg/L	0.04	0.18%
QC value within limits for Na	Recovery = 95.88%							
Nit	48569.3	2.58	mg/L	0.004	2.58	mg/L	0.004	0.15%
QC value within limits for Ni	Recovery = 103.27%							
Pbt	9823.3	2.54	mg/L	0.022	2.54	mg/L	0.022	0.88%
QC value within limits for Pb	Recovery = 101.63%							
Sbt	3737.8	2.40	mg/L	0.024	2.40	mg/L	0.024	1.02%
QC value within limits for Sb	Recovery = 96.02%							
Set	2371.9	2.41	mg/L	0.026	2.41	mg/L	0.026	1.06%
QC value within limits for Se	Recovery = 96.51%							

Tl†	5586.7	2.61 mg/L	0.026	2.61 mg/L	0.026	0.98%
QC value within limits for Tl Recovery = 104.48%						
V†	379434.4	2.46 mg/L	0.007	2.46 mg/L	0.007	0.29%
QC value within limits for V Recovery = 98.30%						
Zn†	98538.1	2.55 mg/L	0.013	2.55 mg/L	0.013	0.51%
QC value within limits for Zn Recovery = 101.92%						

All analyte(s) passed QC.

User canceled analysis.

Analysis Begun

Start Time: 6/30/2008 22:02:27 Plasma On Time: 6/30/2008 12:36:04
Logged In Analyst: Charley Kay Technique: ICP Continuous
Spectrometer Model: Optima 4300 DV, S/N 077N2121801 Autosampler Model: AS-93plus

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Sequence No.: 3 Autosampler Location: 9
Sample ID: LINEARITY Date Collected: 6/30/2008 22:02:29
Analyst: Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Nebulizer Parameters: LINEARITY

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: LINEARITY

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sca	362531.6	86.9	%	0.76				0.87%
Yr	450312.7	91.8	%	0.25				0.28%
Ag†	-4907.7	0.0145	mg/L	0.00028	0.0145	mg/L	0.00028	1.92%
QC value within limits for Ag	Recovery = Not calculated							
As†	-135.6	-0.0876	mg/L	0.00325	-0.0876	mg/L	0.00325	3.71%
QC value within limits for As	Recovery = Not calculated							
B_†	352.9	0.0132	mg/L	0.00459	0.0132	mg/L	0.00459	34.75%
QC value within limits for B_	Recovery = Not calculated							
Ba†	46.0	0.00123	mg/L	0.000081	0.00123	mg/L	0.000081	6.56%
QC value within limits for Ba	Recovery = Not calculated							
Be†	-788.4	-0.00029	mg/L	0.000012	-0.00029	mg/L	0.000012	4.21%
QC value within limits for Be	Recovery = Not calculated							
Ca†	8480455.9	281	mg/L	0.9	281	mg/L	0.9	0.30%
QC value within limits for Ca	Recovery = 93.65%							
Cd†	-17.1	0.00042	mg/L	0.000208	0.00042	mg/L	0.000208	49.38%
QC value within limits for Cd	Recovery = Not calculated							
Co†	37.3	0.00237	mg/L	0.000105	0.00237	mg/L	0.000105	4.42%
QC value within limits for Co	Recovery = Not calculated							
Cr†	102.5	0.00222	mg/L	0.000013	0.00222	mg/L	0.000013	0.59%
QC value within limits for Cr	Recovery = Not calculated							
Cu†	-3196.0	-0.0107	mg/L	0.00020	-0.0107	mg/L	0.00020	1.84%
QC value within limits for Cu	Recovery = Not calculated							
Fe†	1048663.5	92.1	mg/L	0.36	92.1	mg/L	0.36	0.40%
QC value within limits for Fe	Recovery = 92.06%							
K†	360155.1	300	mg/L	0.3	300	mg/L	0.3	0.12%
QC value within limits for K	Recovery = 100.13%							
Mg†	3791783.7	178	mg/L	0.5	178	mg/L	0.5	0.28%
QC value within limits for Mg	Recovery = Not calculated							
Mn†	-1121.9	-0.00626	mg/L	0.000030	-0.00626	mg/L	0.000030	0.49%
QC value within limits for Mn	Recovery = Not calculated							
Mo†	44.0	0.00441	mg/L	0.001315	0.00441	mg/L	0.001315	29.83%
QC value within limits for Mo	Recovery = Not calculated							
Na†	1480197.0	287	mg/L	0.6	287	mg/L	0.6	0.21%
QC value within limits for Na	Recovery = 95.73%							
Ni†	0.8	0.00005	mg/L	0.000582	0.00005	mg/L	0.000582	>999.9%
QC value within limits for Ni	Recovery = Not calculated							
Pb†	-11.9	-0.00308	mg/L	0.000343	-0.00308	mg/L	0.000343	11.15%
QC value within limits for Pb	Recovery = Not calculated							
Sb†	14.8	0.00943	mg/L	0.000825	0.00943	mg/L	0.000825	8.75%
QC value within limits for Sb	Recovery = Not calculated							
Se†	-109.4	0.117	mg/L	0.0032	0.117	mg/L	0.0032	2.78%
QC value within limits for Se	Recovery = Not calculated							

Tl†	27.5	0.0127 mg/L	0.00379	0.0127 mg/L	0.00379	29.75%
QC value within limits for Tl	Recovery = Not calculated					
V†	-534.5	0.00018 mg/L	0.000289	0.00018 mg/L	0.000289	161.94%
QC value within limits for V	Recovery = Not calculated					
Zn†	984.0	0.0257 mg/L	0.00030	0.0257 mg/L	0.00030	1.18%
QC value within limits for Zn	Recovery = Not calculated					

All analyte(s) passed QC.

Sequence No.: 4
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 6/30/2008 22:06:09
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	374215.5	89.7	%	0.96				1.07%
Yr	459046.7	93.6	%	0.31				0.33%
Agf	-4759.7	0.0152	mg/L	0.00034	0.0152	mg/L	0.00034	2.26%
QC value within limits for Ag Recovery = Not calculated								
Asf	-320.8	-0.207	mg/L	0.0007	-0.207	mg/L	0.0007	0.35%
QC value within limits for As Recovery = Not calculated								
B_f	-97.5	-0.00354	mg/L	0.000549	-0.00354	mg/L	0.000549	15.50%
QC value within limits for B_ Recovery = Not calculated								
Baf	70.0	0.00187	mg/L	0.000042	0.00187	mg/L	0.000042	2.27%
QC value within limits for Ba Recovery = Not calculated								
Bef	-681.2	-0.00025	mg/L	0.000015	-0.00025	mg/L	0.000015	6.02%
QC value within limits for Be Recovery = Not calculated								
Caf	7208128.8	239	mg/L	0.9	239	mg/L	0.9	0.36%
QC value within limits for Ca Recovery = 95.52%								
Cdf	-26.1	0.00165	mg/L	0.000079	0.00165	mg/L	0.000079	4.79%
QC value within limits for Cd Recovery = Not calculated								
Cof	17.2	0.00110	mg/L	0.000339	0.00110	mg/L	0.000339	30.98%
QC value within limits for Co Recovery = Not calculated								
Crf	9.0	0.00019	mg/L	0.000209	0.00019	mg/L	0.000209	107.69%
QC value within limits for Cr Recovery = Not calculated								
Cuf	-3344.4	-0.0112	mg/L	0.00008	-0.0112	mg/L	0.00008	0.69%
QC value within limits for Cu Recovery = Not calculated								
Fef	1052509.3	92.4	mg/L	0.29	92.4	mg/L	0.29	0.32%
QC value within limits for Fe Recovery = 92.40%								
Kf	325.8	0.272	mg/L	0.0441	0.272	mg/L	0.0441	16.24%
QC value within limits for K Recovery = Not calculated								
Mgf	4737557.0	222	mg/L	0.5	222	mg/L	0.5	0.23%
QC value less than the lower limit for Mg Recovery = 88.88%								
Mnf	-1213.9	-0.00744	mg/L	0.000025	-0.00744	mg/L	0.000025	0.34%
QC value within limits for Mn Recovery = Not calculated								
Mof	12.5	0.00125	mg/L	0.000277	0.00125	mg/L	0.000277	22.08%
QC value within limits for Mo Recovery = Not calculated								
Naf	581.3	0.113	mg/L	0.0035	0.113	mg/L	0.0035	3.14%
QC value within limits for Na Recovery = Not calculated								
Nif	-11.5	-0.00061	mg/L	0.000285	-0.00061	mg/L	0.000285	46.42%
QC value within limits for Ni Recovery = Not calculated								
Pbf	-148.4	-0.0384	mg/L	0.00142	-0.0384	mg/L	0.00142	3.70%
QC value within limits for Pb Recovery = Not calculated								
Sbf	8.5	0.00543	mg/L	0.009254	0.00543	mg/L	0.009254	170.35%
QC value within limits for Sb Recovery = Not calculated								
Sef	-111.3	0.116	mg/L	0.0011	0.116	mg/L	0.0011	0.94%
QC value within limits for Se Recovery = Not calculated								
Tlf	15.7	0.00729	mg/L	0.001059	0.00729	mg/L	0.001059	14.53%
QC value within limits for Tl Recovery = Not calculated								
Vf	-545.1	0.00011	mg/L	0.000520	0.00011	mg/L	0.000520	464.10%
QC value within limits for V Recovery = Not calculated								
Znf	706.2	0.0184	mg/L	0.00031	0.0184	mg/L	0.00031	1.69%
QC value within limits for Zn Recovery = Not calculated								

QC Failed. Continue with analysis.

User canceled analysis.

Analysis Begun

Start Time: 6/30/2008 22:10:40
Logged In Analyst: Charley Kay
Spectrometer Model: Optima 4300 DV, S/N 077N2121801
Plasma On Time: 6/30/2008 12:36:04
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Sequence No.: 4
Sample ID: ICSA
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 10
Date Collected: 6/30/2008 22:10:41
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSA

Analyte	Back Pressure	Flow
All	213.0 kPa	0.65 L/min

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sca	369480.6	88.6	%	0.89				1.00%
Yr	459622.6	93.7	%	0.90				0.97%
Ag†	-4967.9	0.0145	mg/L	0.00063	0.0145	mg/L	0.00063	4.36%
QC value within limits for Ag	Recovery = Not calculated							
As†	-338.4	-0.219	mg/L	0.0020	-0.219	mg/L	0.0020	0.89%
QC value within limits for As	Recovery = Not calculated							
B_†	-217.4	-0.00800	mg/L	0.000016	-0.00800	mg/L	0.000016	0.20%
QC value within limits for B_	Recovery = Not calculated							
Ba†	65.0	0.00174	mg/L	0.000027	0.00174	mg/L	0.000027	1.54%
QC value within limits for Ba	Recovery = Not calculated							
Be†	-832.2	-0.00031	mg/L	0.000052	-0.00031	mg/L	0.000052	17.09%
QC value within limits for Be	Recovery = Not calculated							
Ca†	7236589.0	240	mg/L	0.3	240	mg/L	0.3	0.14%
QC value within limits for Ca	Recovery = 95.90%							
Cd†	-28.6	0.00169	mg/L	0.000203	0.00169	mg/L	0.000203	12.02%
QC value within limits for Cd	Recovery = Not calculated							
Co†	17.4	0.00111	mg/L	0.000036	0.00111	mg/L	0.000036	3.25%
QC value within limits for Co	Recovery = Not calculated							
Cr†	3.2	0.00007	mg/L	0.000094	0.00007	mg/L	0.000094	136.11%
QC value within limits for Cr	Recovery = Not calculated							
Cu†	-3362.9	-0.0113	mg/L	0.00015	-0.0113	mg/L	0.00015	1.30%
QC value within limits for Cu	Recovery = Not calculated							
Fe†	1054864.2	92.6	mg/L	0.32	92.6	mg/L	0.32	0.35%
QC value within limits for Fe	Recovery = 92.60%							
K†	227.8	0.190	mg/L	0.0290	0.190	mg/L	0.0290	15.29%
QC value within limits for K	Recovery = Not calculated							
Mg†	4780832.1	224	mg/L	0.4	224	mg/L	0.4	0.18%
QC value less than the lower limit for Mg	Recovery = 89.70%							
Mn†	-1204.4	-0.00747	mg/L	0.000082	-0.00747	mg/L	0.000082	1.10%
QC value within limits for Mn	Recovery = Not calculated							
Mo†	1.2	0.00012	mg/L	0.000213	0.00012	mg/L	0.000213	184.21%
QC value within limits for Mo	Recovery = Not calculated							
Na†	354.5	0.0688	mg/L	0.00354	0.0688	mg/L	0.00354	5.15%
QC value within limits for Na	Recovery = Not calculated							
Ni†	-17.8	-0.00095	mg/L	0.000419	-0.00095	mg/L	0.000419	44.23%
QC value within limits for Ni	Recovery = Not calculated							
Pb†	-142.0	-0.0367	mg/L	0.00174	-0.0367	mg/L	0.00174	4.74%
QC value within limits for Pb	Recovery = Not calculated							
Sb†	7.2	0.00461	mg/L	0.000780	0.00461	mg/L	0.000780	16.93%
QC value within limits for Sb	Recovery = Not calculated							
Se†	-125.3	0.102	mg/L	0.0031	0.102	mg/L	0.0031	3.05%
QC value within limits for Se	Recovery = Not calculated							

Tl†	10.5	0.00485 mg/L	0.001693	0.00485 mg/L	0.001693	34.93%
QC value within limits for Tl Recovery = Not calculated						
V†	-574.3	-0.00007 mg/L	0.000550	-0.00007 mg/L	0.000550	800.78%
QC value within limits for V Recovery = Not calculated						
Zn†	713.6	0.0186 mg/L	0.00009	0.0186 mg/L	0.00009	0.47%
QC value within limits for Zn Recovery = Not calculated						

QC Failed. Continue with analysis.

User canceled analysis.

Analysis Begun

Start Time: 6/30/2008 22:13:50
Logged In Analyst: Charley Kay
Spectrometer Model: Optima 4300 DV, S/N 077N2121801
Plasma On Time: 6/30/2008 12:36:04
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Sequence No.: 5
Sample ID: ICSAB
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 11
Date Collected: 6/30/2008 22:13:51
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICSAB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	373126.6	89.4	%	0.81				0.91%
Yr	457819.9	93.3	%	0.01				0.01%
Ag†	92106.4	0.398	mg/L	0.0010	0.398	mg/L	0.0010	0.25%
QC value less than the lower limit for Ag Recovery = 79.59%								
As†	-333.2	-0.215	mg/L	0.0018	-0.215	mg/L	0.0018	0.82%
QC value less than the lower limit for As Recovery = Not calculated								
B_†	-241.7	-0.0111	mg/L	0.00110	-0.0111	mg/L	0.00110	9.93%
QC value within limits for B_ Recovery = Not calculated								
Ba†	9573.5	0.256	mg/L	0.0008	0.256	mg/L	0.0008	0.32%
QC value within limits for Ba Recovery = 102.39%								
Be†	645400.5	0.238	mg/L	0.0005	0.238	mg/L	0.0005	0.19%
QC value within limits for Be Recovery = 95.30%								
Ca†	7344480.4	243	mg/L	0.2	243	mg/L	0.2	0.08%
QC value within limits for Ca Recovery = 97.33%								
Cd†	10305.5	0.486	mg/L	0.0046	0.486	mg/L	0.0046	0.95%
QC value within limits for Cd Recovery = 97.29%								
Co†	3627.9	0.231	mg/L	0.0011	0.231	mg/L	0.0011	0.46%
QC value within limits for Co Recovery = 92.26%								
Cr†	11161.1	0.242	mg/L	0.0009	0.242	mg/L	0.0009	0.38%
QC value within limits for Cr Recovery = 96.67%								
Cu†	71220.6	0.239	mg/L	0.0004	0.239	mg/L	0.0004	0.17%
QC value within limits for Cu Recovery = 95.73%								
Fe†	1068754.3	93.8	mg/L	0.49	93.8	mg/L	0.49	0.52%
QC value within limits for Fe Recovery = 93.82%								
K†	131.1	0.109	mg/L	0.0392	0.109	mg/L	0.0392	35.87%
QC value within limits for K Recovery = Not calculated								
Mg†	4839493.9	227	mg/L	0.6	227	mg/L	0.6	0.26%
QC value within limits for Mg Recovery = 90.80%								
Mn†	121265.9	0.240	mg/L	0.0006	0.240	mg/L	0.0006	0.25%
QC value within limits for Mn Recovery = 95.87%								
Mo†	1.1	0.00011	mg/L	0.000147	0.00011	mg/L	0.000147	129.98%
QC value within limits for Mo Recovery = Not calculated								
Na†	342.0	0.0664	mg/L	0.00592	0.0664	mg/L	0.00592	8.93%
QC value within limits for Na Recovery = Not calculated								
Ni†	8531.2	0.453	mg/L	0.0040	0.453	mg/L	0.0040	0.88%
QC value within limits for Ni Recovery = 90.70%								
Pb†	1722.8	0.446	mg/L	0.0034	0.446	mg/L	0.0034	0.75%
QC value within limits for Pb Recovery = 89.12%								
Sb†	10.2	0.00750	mg/L	0.007026	0.00750	mg/L	0.007026	93.68%
QC value within limits for Sb Recovery = Not calculated								
Se†	-115.9	0.115	mg/L	0.0092	0.115	mg/L	0.0092	7.99%
QC value greater than the upper limit for Se Recovery = Not calculated								

Tl†	17.2	0.0101 mg/L	0.00448	0.0101 mg/L	0.00448	44.24%
QC value within limits for Tl Recovery = Not calculated						
V†	36910.9	0.243 mg/L	0.0007	0.243 mg/L	0.0007	0.28%
QC value within limits for V Recovery = 97.06%						
Zn†	20395.1	0.528 mg/L	0.0012	0.528 mg/L	0.0012	0.23%
QC value within limits for Zn Recovery = 105.69%						

QC Failed. Continue with analysis.

User canceled analysis.

Analysis Begun

Start Time: 6/30/2008 22:16:32 Plasma On Time: 6/30/2008 12:36:04
Logged In Analyst: Charley Kay Technique: ICP Continuous
Spectrometer Model: Optima 4300 DV, S/N 077N2121801 Autosampler Model: AS-93plus

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Sequence No.: 9 Autosampler Location: 0
Sample ID: ICB Date Collected: 6/30/2008 22:16:33
Analyst: Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Nebulizer Parameters: ICB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: ICB

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sca	421541.6	101	%	0.9				0.88%
Yr	499507.5	102	%	0.3				0.27%
Agf	276.7	0.00110	mg/L	0.000236	0.00110	mg/L	0.000236	21.54%
QC value within limits for Ag	Recovery = Not calculated							
Asf	8.7	0.00564	mg/L	0.001491	0.00564	mg/L	0.001491	26.46%
QC value within limits for As	Recovery = Not calculated							
B_f	44.9	0.00166	mg/L	0.000099	0.00166	mg/L	0.000099	5.94%
QC value within limits for B_	Recovery = Not calculated							
Baf	3.2	0.00008	mg/L	0.000109	0.00008	mg/L	0.000109	128.37%
QC value within limits for Ba	Recovery = Not calculated							
Bef	159.1	0.00006	mg/L	0.000023	0.00006	mg/L	0.000023	39.22%
QC value within limits for Be	Recovery = Not calculated							
Caf	502.1	0.0166	mg/L	0.00396	0.0166	mg/L	0.00396	23.82%
QC value within limits for Ca	Recovery = Not calculated							
Cdf	0.5	-0.00006	mg/L	0.000060	-0.00006	mg/L	0.000060	107.09%
QC value within limits for Cd	Recovery = Not calculated							
Cof	6.3	0.00040	mg/L	0.000027	0.00040	mg/L	0.000027	6.62%
QC value within limits for Co	Recovery = Not calculated							
Crf	-11.4	-0.00025	mg/L	0.000044	-0.00025	mg/L	0.000044	17.84%
QC value within limits for Cr	Recovery = Not calculated							
Cuf	277.9	0.00093	mg/L	0.000032	0.00093	mg/L	0.000032	3.43%
QC value within limits for Cu	Recovery = Not calculated							
Fef	111.7	0.00980	mg/L	0.001899	0.00980	mg/L	0.001899	19.38%
QC value within limits for Fe	Recovery = Not calculated							
Kf	60.9	0.0508	mg/L	0.00616	0.0508	mg/L	0.00616	12.12%
QC value within limits for K	Recovery = Not calculated							
Mgf	356.8	0.0167	mg/L	0.00407	0.0167	mg/L	0.00407	24.34%
QC value within limits for Mg	Recovery = Not calculated							
Mnf	-114.5	-0.00023	mg/L	0.000013	-0.00023	mg/L	0.000013	5.54%
QC value within limits for Mn	Recovery = Not calculated							
Mof	1.7	0.00017	mg/L	0.000325	0.00017	mg/L	0.000325	189.63%
QC value within limits for Mo	Recovery = Not calculated							
Naf	33.7	0.00654	mg/L	0.008413	0.00654	mg/L	0.008413	128.59%
QC value within limits for Na	Recovery = Not calculated							
Nif	-0.8	-0.00004	mg/L	0.000134	-0.00004	mg/L	0.000134	302.45%
QC value within limits for Ni	Recovery = Not calculated							
Pbf	8.3	0.00215	mg/L	0.000622	0.00215	mg/L	0.000622	28.97%
QC value within limits for Pb	Recovery = Not calculated							
Sbf	-2.6	-0.00163	mg/L	0.003103	-0.00163	mg/L	0.003103	190.24%
QC value within limits for Sb	Recovery = Not calculated							
Sef	-2.5	-0.00256	mg/L	0.003236	-0.00256	mg/L	0.003236	126.51%
QC value within limits for Se	Recovery = Not calculated							

Tl†	2.4	0.00111 mg/L	0.002490	0.00111 mg/L	0.002490	224.35%
QC value within limits for Tl Recovery = Not calculated						
V†	17.2	0.00011 mg/L	0.000116	0.00011 mg/L	0.000116	105.63%
QC value within limits for V Recovery = Not calculated						
Zn†	-15.9	-0.00041 mg/L	0.000041	-0.00041 mg/L	0.000041	9.94%
QC value within limits for Zn Recovery = Not calculated						

All analyte(s) passed QC.

Sequence No.: 10
Sample ID: MRL
Analyst:
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 20
Date Collected: 6/30/2008 22:19:57
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: MRL

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: MRL

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sca	422650.5	101	%	2.1				2.05%
Yr	496896.1	101	%	0.3				0.34%
Ag†	2490.0	0.00983	mg/L	0.000005	0.00983	mg/L	0.000005	0.05%
QC value within limits for Ag		Recovery = 98.33%						
As†	140.0	0.0904	mg/L	0.00043	0.0904	mg/L	0.00043	0.48%
QC value within limits for As		Recovery = 90.45%						
B_†	1271.2	0.0471	mg/L	0.00076	0.0471	mg/L	0.00076	1.61%
QC value within limits for B_		Recovery = 94.14%						
Ba†	738.2	0.0197	mg/L	0.00023	0.0197	mg/L	0.00023	1.15%
QC value within limits for Ba		Recovery = 98.69%						
Be†	2706.9	0.00100	mg/L	0.000027	0.00100	mg/L	0.000027	2.67%
QC value within limits for Be		Recovery = 100.06%						
Ca†	30020.8	0.995	mg/L	0.0030	0.995	mg/L	0.0030	0.30%
QC value within limits for Ca		Recovery = 99.46%						
Cd†	124.1	0.00471	mg/L	0.000365	0.00471	mg/L	0.000365	7.75%
QC value within limits for Cd		Recovery = 94.28%						
Co†	782.1	0.0497	mg/L	0.00058	0.0497	mg/L	0.00058	1.16%
QC value within limits for Co		Recovery = 99.45%						
Cr†	435.1	0.00942	mg/L	0.000136	0.00942	mg/L	0.000136	1.45%
QC value within limits for Cr		Recovery = 94.21%						
Cu†	2959.6	0.00997	mg/L	0.000452	0.00997	mg/L	0.000452	4.54%
QC value within limits for Cu		Recovery = 99.68%						
Fe†	263.9	0.0232	mg/L	0.00069	0.0232	mg/L	0.00069	2.99%
QC value within limits for Fe		Recovery = 115.82%						
K†	1158.2	0.966	mg/L	0.0154	0.966	mg/L	0.0154	1.59%
QC value within limits for K		Recovery = 96.60%						
Mg†	2304.2	0.108	mg/L	0.0007	0.108	mg/L	0.0007	0.66%
QC value within limits for Mg		Recovery = 108.04%						
Mn†	915.4	0.00185	mg/L	0.000043	0.00185	mg/L	0.000043	2.34%
QC value within limits for Mn		Recovery = 92.26%						
Mo†	190.3	0.0191	mg/L	0.00014	0.0191	mg/L	0.00014	0.71%
QC value within limits for Mo		Recovery = 95.35%						
Na†	4781.9	0.928	mg/L	0.0058	0.928	mg/L	0.0058	0.63%
QC value within limits for Na		Recovery = 92.78%						
Ni†	381.2	0.0203	mg/L	0.00012	0.0203	mg/L	0.00012	0.57%
QC value within limits for Ni		Recovery = 101.32%						
Pb†	85.7	0.0222	mg/L	0.00046	0.0222	mg/L	0.00046	2.08%
QC value within limits for Pb		Recovery = 110.82%						
Sb†	63.4	0.0406	mg/L	0.00112	0.0406	mg/L	0.00112	2.76%
QC value within limits for Sb		Recovery = 81.12%						
Se†	89.9	0.0913	mg/L	0.00234	0.0913	mg/L	0.00234	2.56%
QC value within limits for Se		Recovery = 91.27%						
Tl†	234.3	0.109	mg/L	0.0019	0.109	mg/L	0.0019	1.75%
QC value within limits for Tl		Recovery = 108.78%						
V†	304.3	0.00201	mg/L	0.000034	0.00201	mg/L	0.000034	1.66%
QC value within limits for V		Recovery = 100.70%						
Zn†	767.0	0.0198	mg/L	0.00004	0.0198	mg/L	0.00004	0.19%
QC value within limits for Zn		Recovery = 99.16%						

All analyte(s) passed QC.

User canceled analysis.

Analysis Begun

Start Time: 6/30/2008 22:23:26
Logged In Analyst: Charley Kay
Spectrometer Model: Optima 4300 DV, S/N 077N2121801
Plasma On Time: 6/30/2008 12:36:04
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Sequence No.: 12
Sample ID: FILTERCHECK
Analyst:
Initial Sample Wt:
Dilution: 1X
Autosampler Location: 18
Date Collected: 6/30/2008 22:23:27
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: FILTERCHECK

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Plasma has been extinguished

V†	78.5	0.00051 mg/L	0.000221	0.00051 mg/L	0.000221	43.42%
Zn†	-29.9	-0.00078 mg/L	0.000139	-0.00078 mg/L	0.000139	17.90%

Analysis Begun

Start Time: 6/30/2008 22:29:35
Logged In Analyst: Charley Kay
Spectrometer Model: Optima 4300 DV, S/N 077N2121801
Plasma On Time: 6/30/2008 22:27:31
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Sequence No.: 1
Sample ID: ICV
Analyst:
Initial Sample Wt:
Dilution:
User canceled analysis.
Autosampler Location: 15
Date Collected: 6/30/2008 22:29:54
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Analysis Begun

Start Time: 6/30/2008 22:30:22
Logged In Analyst: Charley Kay
Spectrometer Model: Optima 4300 DV, S/N 077N2121801
Plasma On Time: 6/30/2008 22:27:31
Technique: ICP Continuous
Autosampler Model: AS-93plus

Sample Information File: C:\pe\Charley Kay\Sample Information\080630A.sif
Batch ID: 080630A
Results Data Set: 080630
Results Library: C:\pe\Charley Kay\Results\Results.mdb

Sequence No.: 11
Sample ID: FILTERCHECK
Analyst:
Initial Sample Wt:
Dilution: 1X
Autosampler Location: 18
Date Collected: 6/30/2008 22:30:22
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: FILTERCHECK

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: FILTERCHECK

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	382647.5	91.7	%	0.35				0.38%
Yr	454520.2	92.6	%	0.62				0.67%
Agt	27.8	0.00011	mg/L	0.000158	0.00011	mg/L	0.000158	145.87%
Ast	9.3	0.00598	mg/L	0.000564	0.00598	mg/L	0.000564	9.43%
B_t	816.9	0.0304	mg/L	0.00396	0.0304	mg/L	0.00396	13.03%
Bat	-10.0	-0.00027	mg/L	0.000019	-0.00027	mg/L	0.000019	7.05%
Bet	-750.9	-0.00028	mg/L	0.000043	-0.00028	mg/L	0.000043	15.49%
Cat	-202.3	-0.00670	mg/L	0.001927	-0.00670	mg/L	0.001927	28.75%
Cdt	10.8	0.00042	mg/L	0.000134	0.00042	mg/L	0.000134	31.82%
Cot	-9.2	-0.00058	mg/L	0.000088	-0.00058	mg/L	0.000088	15.09%
Crt	26.3	0.00057	mg/L	0.000074	0.00057	mg/L	0.000074	12.89%
Cut	498.3	0.00167	mg/L	0.000176	0.00167	mg/L	0.000176	10.50%
Fet	-40.5	-0.00356	mg/L	0.000353	-0.00356	mg/L	0.000353	9.91%
Kt	73.1	0.0610	mg/L	0.02722	0.0610	mg/L	0.02722	44.66%
Mgt	-262.6	-0.0123	mg/L	0.00111	-0.0123	mg/L	0.00111	9.04%
Mnt	81.5	0.00016	mg/L	0.000003	0.00016	mg/L	0.000003	1.94%
Mot	6.7	0.00067	mg/L	0.000052	0.00067	mg/L	0.000052	7.76%
Nat	-96.4	-0.0187	mg/L	0.00159	-0.0187	mg/L	0.00159	8.52%
Nit	-11.5	-0.00061	mg/L	0.000170	-0.00061	mg/L	0.000170	27.72%
Pbt	-17.4	-0.00451	mg/L	0.000234	-0.00451	mg/L	0.000234	5.19%
Sbt	0.9	0.00060	mg/L	0.003392	0.00060	mg/L	0.003392	566.82%
Set	2.8	0.00282	mg/L	0.006925	0.00282	mg/L	0.006925	245.55%
Tlt	-0.9	-0.00041	mg/L	0.000761	-0.00041	mg/L	0.000761	184.93%

Sequence No.: 12
Sample ID: MBLANK2007
Analyst:
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 38
Date Collected: 6/30/2008 22:34:01
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: MBLANK2007

Analyte	Back Pressure	Flow
All	213.0 kPa	0.65 L/min

Mean Data: MBLANK2007

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	427748.4	103	%	0.3				0.27%
Yr	500136.3	102	%	0.5				0.52%
Agt	7.3	0.00003	mg/L	0.000018	0.00003	mg/L	0.000018	61.51%
Ast	6.5	0.00423	mg/L	0.000927	0.00423	mg/L	0.000927	21.93%
B_t	535.5	0.0199	mg/L	0.00126	0.0199	mg/L	0.00126	6.33%
Bat	-0.5	-0.00001	mg/L	0.000089	-0.00001	mg/L	0.000089	704.64%
Bet	90.6	0.00003	mg/L	0.000031	0.00003	mg/L	0.000031	91.80%
Cat	2262.4	0.0750	mg/L	0.00001	0.0750	mg/L	0.00001	0.02%
Cdt	3.5	0.00011	mg/L	0.000026	0.00011	mg/L	0.000026	24.22%
Cot	3.6	0.00023	mg/L	0.000105	0.00023	mg/L	0.000105	45.91%
Crt	-20.5	-0.00044	mg/L	0.000012	-0.00044	mg/L	0.000012	2.78%
Cut	-96.9	-0.00033	mg/L	0.000009	-0.00033	mg/L	0.000009	2.73%
Fet	10.2	0.00089	mg/L	0.000569	0.00089	mg/L	0.000569	63.64%
Kt	39.7	0.0331	mg/L	0.00665	0.0331	mg/L	0.00665	20.11%
Mgt	-0.6	-0.00003	mg/L	0.000839	-0.00003	mg/L	0.000839	>999.9%
Mnt	-46.8	-0.00009	mg/L	0.000002	-0.00009	mg/L	0.000002	2.00%
Mot	0.5	0.00005	mg/L	0.000007	0.00005	mg/L	0.000007	14.73%
Nat	243.1	0.0472	mg/L	0.00603	0.0472	mg/L	0.00603	12.78%
Nit	-2.3	-0.00012	mg/L	0.000304	-0.00012	mg/L	0.000304	246.17%
Pbt	-1.2	-0.00030	mg/L	0.000444	-0.00030	mg/L	0.000444	147.44%
Sbt	-0.3	-0.00017	mg/L	0.002704	-0.00017	mg/L	0.002704	>999.9%
Set	0.1	0.00006	mg/L	0.001092	0.00006	mg/L	0.001092	>999.9%
Tlt	-0.2	-0.00008	mg/L	0.002821	-0.00008	mg/L	0.002821	>999.9%
Vt	27.0	0.00017	mg/L	0.000181	0.00017	mg/L	0.000181	105.25%
Znt	14.0	0.00037	mg/L	0.000099	0.00037	mg/L	0.000099	27.11%

Sequence No.: 13
Sample ID: MRL2007
Analyst:
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 24
Date Collected: 6/30/2008 22:37:38
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: MRL2007

Analyte	Back Pressure	Flow
All	213.0 kPa	0.65 L/min

Mean Data: MRL2007

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sca	427067.3	102	%	0.7				0.65%
Yr	506710.7	103	%	1.0				0.95%
Agt	2314.1	0.00914	mg/L	0.000050	0.00914	mg/L	0.000050	0.54%
B_t	1427.6	0.0530	mg/L	0.00024	0.0530	mg/L	0.00024	0.45%
Bat	749.2	0.0200	mg/L	0.00041	0.0200	mg/L	0.00041	2.05%
Bet	2779.7	0.00103	mg/L	0.000004	0.00103	mg/L	0.000004	0.38%
Cat	30547.1	1.01	mg/L	0.006	1.01	mg/L	0.006	0.58%
Cdt	129.3	0.00606	mg/L	0.000106	0.00606	mg/L	0.000106	1.75%
Crt	429.1	0.00929	mg/L	0.000024	0.00929	mg/L	0.000024	0.26%
Cut	2818.4	0.00946	mg/L	0.000042	0.00946	mg/L	0.000042	0.45%
Fet	233.3	0.0205	mg/L	0.00006	0.0205	mg/L	0.00006	0.29%
Kt	1134.9	0.947	mg/L	0.0263	0.947	mg/L	0.0263	2.78%
Mgt	2158.5	0.101	mg/L	0.0003	0.101	mg/L	0.0003	0.27%
Mnt	898.5	0.00181	mg/L	0.000014	0.00181	mg/L	0.000014	0.80%
Mot	188.5	0.0189	mg/L	0.00038	0.0189	mg/L	0.00038	2.03%
Nat	5020.3	0.974	mg/L	0.0073	0.974	mg/L	0.0073	0.75%
Nit	387.6	0.0206	mg/L	0.00032	0.0206	mg/L	0.00032	1.53%
Vt	312.3	0.00207	mg/L	0.000096	0.00207	mg/L	0.000096	4.66%
Znt	816.9	0.0211	mg/L	0.00022	0.0211	mg/L	0.00022	1.03%

Sequence No.: 14
Sample ID: LCS2007
Analyst:
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 39
Date Collected: 6/30/2008 22:41:17
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LCS2007

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: LCS2007

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sca	413601.2	99.1	%	0.89				0.90%
Yr	504595.7	103	%	0.0				0.01%
Agt	113543.4	0.450	mg/L	0.0008	0.450	mg/L	0.0008	0.17%
Bt	12275.1	0.450	mg/L	0.0039	0.450	mg/L	0.0039	0.86%
Bat	34584.0	0.925	mg/L	0.0087	0.925	mg/L	0.0087	0.94%
Bet	128820.4	0.0477	mg/L	0.00020	0.0477	mg/L	0.00020	0.43%
Cat	1424423.6	47.2	mg/L	0.05	47.2	mg/L	0.05	0.12%
Cdt	4088.6	0.192	mg/L	0.0010	0.192	mg/L	0.0010	0.51%
Crt	43021.1	0.932	mg/L	0.0088	0.932	mg/L	0.0088	0.94%
Cut	275903.1	0.927	mg/L	0.0076	0.927	mg/L	0.0076	0.82%
Fet	54501.4	4.78	mg/L	0.017	4.78	mg/L	0.017	0.36%
Kt	22274.3	18.6	mg/L	0.00	18.6	mg/L	0.00	0.01%
Mgt	408330.4	19.1	mg/L	0.02	19.1	mg/L	0.02	0.09%
Mnt	235099.4	0.474	mg/L	0.0011	0.474	mg/L	0.0011	0.23%
Mot	9062.8	0.908	mg/L	0.0106	0.908	mg/L	0.0106	1.17%
Nat	235481.7	45.7	mg/L	0.07	45.7	mg/L	0.07	0.16%
Nit	9117.6	0.485	mg/L	0.0063	0.485	mg/L	0.0063	1.30%
Vt	143825.6	0.932	mg/L	0.0024	0.932	mg/L	0.0024	0.26%
Znt	37269.1	0.967	mg/L	0.0093	0.967	mg/L	0.0093	0.97%

Sequence No.: 15
Sample ID: LCSD2007
Analyst:
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 40
Date Collected: 6/30/2008 22:43:42
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: LCSD2007

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: LCSD2007

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	415294.3	99.5	%	0.56				0.56%
Yr	497797.2	101	%	0.0				0.01%
Agt	110356.6	0.437	mg/L	0.0006	0.437	mg/L	0.0006	0.14%
B_t	11830.0	0.434	mg/L	0.0054	0.434	mg/L	0.0054	1.25%
Bat	33659.7	0.900	mg/L	0.0042	0.900	mg/L	0.0042	0.47%
Bet	125263.9	0.0464	mg/L	0.00021	0.0464	mg/L	0.00021	0.45%
Cat	1394773.7	46.2	mg/L	0.05	46.2	mg/L	0.05	0.10%
Cdt	3958.1	0.185	mg/L	0.0021	0.185	mg/L	0.0021	1.12%
Crt	41515.2	0.899	mg/L	0.0051	0.899	mg/L	0.0051	0.57%
Cut	268101.3	0.900	mg/L	0.0024	0.900	mg/L	0.0024	0.26%
Fet	52435.5	4.60	mg/L	0.006	4.60	mg/L	0.006	0.13%
Kt	21909.4	18.3	mg/L	0.12	18.3	mg/L	0.12	0.64%
Mgt	395447.2	18.5	mg/L	0.00	18.5	mg/L	0.00	0.01%
Mnt	229187.5	0.462	mg/L	0.0004	0.462	mg/L	0.0004	0.09%
Mot	8767.4	0.879	mg/L	0.0055	0.879	mg/L	0.0055	0.62%
Nat	232208.2	45.1	mg/L	0.29	45.1	mg/L	0.29	0.64%
Nit	8761.1	0.466	mg/L	0.0069	0.466	mg/L	0.0069	1.49%
Vt	139672.5	0.905	mg/L	0.0029	0.905	mg/L	0.0029	0.32%
Znt	35948.0	0.933	mg/L	0.0097	0.933	mg/L	0.0097	1.04%

Sequence No.: 17
Sample ID: 2806190595MS
Analyst:
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 42
Date Collected: 6/30/2008 22:49:08
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 2806190595MS

Analyte	Back Pressure	Flow
All	213.0 kPa	0.65 L/min

Mean Data: 2806190595MS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sca	407510.0	97.7	%	0.54				0.55%
Yr	494980.4	101	%	1.6				1.57%
Ag†	113405.2	0.450	mg/L	0.0007	0.450	mg/L	0.0007	0.15%
B_†	14810.7	0.544	mg/L	0.0071	0.544	mg/L	0.0071	1.31%
Ba†	36645.6	0.980	mg/L	0.0064	0.980	mg/L	0.0064	0.65%
Be†	129236.1	0.0478	mg/L	0.00021	0.0478	mg/L	0.00021	0.45%
Ca†	2159417.1	71.5	mg/L	0.81	71.5	mg/L	0.81	1.13%
Cd†	4159.8	0.195	mg/L	0.0006	0.195	mg/L	0.0006	0.30%
Cr†	43284.9	0.937	mg/L	0.0031	0.937	mg/L	0.0031	0.33%
Cu†	308914.2	1.04	mg/L	0.002	1.04	mg/L	0.002	0.15%
Fe†	64430.0	5.66	mg/L	0.021	5.66	mg/L	0.021	0.37%
K†	24140.0	20.1	mg/L	0.26	20.1	mg/L	0.26	1.27%
Mg†	492884.8	23.1	mg/L	0.16	23.1	mg/L	0.16	0.67%
Mn†	269236.0	0.543	mg/L	0.0007	0.543	mg/L	0.0007	0.12%
Mo†	9197.1	0.922	mg/L	0.0063	0.922	mg/L	0.0063	0.69%
Na†	365305.1	70.9	mg/L	0.93	70.9	mg/L	0.93	1.31%
Ni†	9031.5	0.480	mg/L	0.0037	0.480	mg/L	0.0037	0.77%
V†	143126.5	0.927	mg/L	0.0039	0.927	mg/L	0.0039	0.43%
Zn†	39348.9	1.02	mg/L	0.009	1.02	mg/L	0.009	0.87%

Sequence No.: 18
Sample ID: 2806190595MSD
Analyst:
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 43
Date Collected: 6/30/2008 22:52:14
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 2806190595MSD

Analyte	Back Pressure	Flow
All	213.0 kPa	0.65 L/min

Mean Data: 2806190595MSD

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sca	405385.9	97.2	%	0.21				0.22%
Yr	493479.5	101	%	1.5				1.54%
Agt	116814.0	0.463	mg/L	0.0003	0.463	mg/L	0.0003	0.06%
Bt	15394.1	0.565	mg/L	0.0037	0.565	mg/L	0.0037	0.66%
Bat	38053.8	1.02	mg/L	0.006	1.02	mg/L	0.006	0.62%
Bet	133025.7	0.0492	mg/L	0.00011	0.0492	mg/L	0.00011	0.23%
Cat	2212570.8	73.3	mg/L	1.47	73.3	mg/L	1.47	2.00%
Cdt	4281.6	0.201	mg/L	0.0004	0.201	mg/L	0.0004	0.19%
Crt	45330.5	0.982	mg/L	0.0038	0.982	mg/L	0.0038	0.39%
Cut	317632.9	1.07	mg/L	0.002	1.07	mg/L	0.002	0.15%
Fet	66094.3	5.80	mg/L	0.027	5.80	mg/L	0.027	0.47%
Kt	24632.7	20.5	mg/L	0.10	20.5	mg/L	0.10	0.47%
Mgt	501265.5	23.5	mg/L	0.10	23.5	mg/L	0.10	0.42%
Mnt	276508.7	0.558	mg/L	0.0002	0.558	mg/L	0.0002	0.03%
Mot	9593.4	0.961	mg/L	0.0012	0.961	mg/L	0.0012	0.13%
Nat	371725.1	72.1	mg/L	0.28	72.1	mg/L	0.28	0.39%
Nit	9378.9	0.499	mg/L	0.0001	0.499	mg/L	0.0001	0.01%
Vt	147521.0	0.956	mg/L	0.0020	0.956	mg/L	0.0020	0.21%
Znt	40804.4	1.06	mg/L	0.001	1.06	mg/L	0.001	0.10%

Sequence No.: 20
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 6/30/2008 22:59:37
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sca	397605.0	95.3	%	0.45				0.47%
Yr	486921.1	99.2	%	0.85				0.85%
Ag†	243142.3	0.961	mg/L	0.0031	0.961	mg/L	0.0031	0.32%
QC value within limits for Ag	Recovery = 96.12%							
B_†	67165.6	2.46	mg/L	0.014	2.46	mg/L	0.014	0.56%
QC value within limits for B_	Recovery = 98.57%							
Ba†	188573.5	5.04	mg/L	0.006	5.04	mg/L	0.006	0.13%
QC value within limits for Ba	Recovery = 100.84%							
Be†	5489626.9	2.03	mg/L	0.009	2.03	mg/L	0.009	0.42%
QC value within limits for Be	Recovery = 101.34%							
Ca†	1529489.6	50.7	mg/L	0.07	50.7	mg/L	0.07	0.14%
QC value within limits for Ca	Recovery = 101.34%							
Cd†	42671.8	2.00	mg/L	0.001	2.00	mg/L	0.001	0.03%
QC value within limits for Cd	Recovery = 99.95%							
Cr†	228330.3	4.94	mg/L	0.018	4.94	mg/L	0.018	0.36%
QC value within limits for Cr	Recovery = 98.88%							
Cu†	1470102.8	4.94	mg/L	0.045	4.94	mg/L	0.045	0.92%
QC value within limits for Cu	Recovery = 98.74%							
Fe†	58076.7	5.10	mg/L	0.013	5.10	mg/L	0.013	0.26%
QC value within limits for Fe	Recovery = 101.97%							
K†	59107.0	49.3	mg/L	0.21	49.3	mg/L	0.21	0.43%
QC value within limits for K	Recovery = 98.60%							
Mg†	1065794.1	50.0	mg/L	0.02	50.0	mg/L	0.02	0.05%
QC value within limits for Mg	Recovery = 99.93%							
Mn†	2500523.3	5.05	mg/L	0.047	5.05	mg/L	0.047	0.92%
QC value within limits for Mn	Recovery = 100.92%							
Mo†	49074.8	4.92	mg/L	0.013	4.92	mg/L	0.013	0.27%
QC value within limits for Mo	Recovery = 98.36%							
Na†	248030.7	48.1	mg/L	0.02	48.1	mg/L	0.02	0.03%
QC value within limits for Na	Recovery = 96.24%							
Ni†	97283.8	5.17	mg/L	0.009	5.17	mg/L	0.009	0.18%
QC value within limits for Ni	Recovery = 103.43%							
V†	767856.4	4.97	mg/L	0.018	4.97	mg/L	0.018	0.37%
QC value within limits for V	Recovery = 99.46%							
Zn†	198055.8	5.12	mg/L	0.011	5.12	mg/L	0.011	0.21%
QC value within limits for Zn	Recovery = 102.43%							

All analyte(s) passed QC.

Sequence No.: 21
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 0
Date Collected: 6/30/2008 23:02:47
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	427950.8	103	%	0.4				0.42%
Yr	499430.7	102	%	0.8				0.76%
Ag†	-62.2	-0.00025	mg/L	0.000085	-0.00025	mg/L	0.000085	34.73%
QC value within limits for Ag	Recovery = Not calculated							
B_†	304.9	0.0113	mg/L	0.00065	0.0113	mg/L	0.00065	5.76%
QC value within limits for B_	Recovery = Not calculated							
Ba†	3.0	0.00008	mg/L	0.000033	0.00008	mg/L	0.000033	41.08%
QC value within limits for Ba	Recovery = Not calculated							
Be†	133.3	0.00005	mg/L	0.000018	0.00005	mg/L	0.000018	37.28%
QC value within limits for Be	Recovery = Not calculated							
Ca†	59.7	0.00198	mg/L	0.001197	0.00198	mg/L	0.001197	60.46%
QC value within limits for Ca	Recovery = Not calculated							
Cd†	7.4	0.00035	mg/L	0.000188	0.00035	mg/L	0.000188	54.08%
QC value within limits for Cd	Recovery = Not calculated							
Cr†	-14.8	-0.00032	mg/L	0.000012	-0.00032	mg/L	0.000012	3.63%
QC value within limits for Cr	Recovery = Not calculated							
Cu†	-201.7	-0.00068	mg/L	0.000018	-0.00068	mg/L	0.000018	2.63%
QC value within limits for Cu	Recovery = Not calculated							
Fe†	5.3	0.00047	mg/L	0.000443	0.00047	mg/L	0.000443	95.00%
QC value within limits for Fe	Recovery = Not calculated							
K†	11.7	0.00976	mg/L	0.003167	0.00976	mg/L	0.003167	32.45%
QC value within limits for K	Recovery = Not calculated							
Mg†	-4.5	-0.00021	mg/L	0.000152	-0.00021	mg/L	0.000152	71.62%
QC value within limits for Mg	Recovery = Not calculated							
Mn†	-99.0	-0.00020	mg/L	0.000004	-0.00020	mg/L	0.000004	1.90%
QC value within limits for Mn	Recovery = Not calculated							
Mo†	24.1	0.00241	mg/L	0.000078	0.00241	mg/L	0.000078	3.22%
QC value within limits for Mo	Recovery = Not calculated							
Na†	76.9	0.0149	mg/L	0.00634	0.0149	mg/L	0.00634	42.50%
QC value within limits for Na	Recovery = Not calculated							
Ni†	-3.8	-0.00020	mg/L	0.000196	-0.00020	mg/L	0.000196	97.94%
QC value within limits for Ni	Recovery = Not calculated							
V†	27.3	0.00018	mg/L	0.000020	0.00018	mg/L	0.000020	11.60%
QC value within limits for V	Recovery = Not calculated							
Zn†	-36.3	-0.00095	mg/L	0.000106	-0.00095	mg/L	0.000106	11.22%
QC value within limits for Zn	Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 22
Sample ID: 2806250566MS
Analyst:
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 45
Date Collected: 6/30/2008 23:06:10
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 2806250566MS

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: 2806250566MS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	394789.5	94.6	%	0.24				0.26%
Yr	481414.4	98.1	%	1.21				1.23%
Ag†	116787.5	0.463	mg/L	0.0010	0.463	mg/L	0.0010	0.21%
B_†	19430.2	0.716	mg/L	0.0024	0.716	mg/L	0.0024	0.33%
Ba†	40066.7	1.07	mg/L	0.007	1.07	mg/L	0.007	0.67%
Be†	133657.9	0.0495	mg/L	0.00010	0.0495	mg/L	0.00010	0.21%
Ca†	2064981.6	68.4	mg/L	1.48	68.4	mg/L	1.48	2.17%
Cd†	4217.2	0.198	mg/L	0.0009	0.198	mg/L	0.0009	0.47%
Cr†	44409.7	0.962	mg/L	0.0048	0.962	mg/L	0.0048	0.50%
Cu†	294014.4	0.987	mg/L	0.0025	0.987	mg/L	0.0025	0.26%
Fe†	56959.3	5.00	mg/L	0.042	5.00	mg/L	0.042	0.83%
K†	39302.9	32.8	mg/L	0.11	32.8	mg/L	0.11	0.34%
Mg†	629845.3	29.5	mg/L	0.05	29.5	mg/L	0.05	0.19%
Mn†	246282.6	0.496	mg/L	0.0004	0.496	mg/L	0.0004	0.08%
Mo†	9410.0	0.943	mg/L	0.0019	0.943	mg/L	0.0019	0.21%
Na†	557990.1	108	mg/L	0.4	108	mg/L	0.4	0.39%
Ni†	9332.9	0.496	mg/L	0.0014	0.496	mg/L	0.0014	0.29%
V†	148543.2	0.962	mg/L	0.0018	0.962	mg/L	0.0018	0.18%
Zn†	41731.4	1.08	mg/L	0.005	1.08	mg/L	0.005	0.44%

Sequence No.: 23
Sample ID: 2806250566MSD
Analyst:
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 46
Date Collected: 6/30/2008 23:09:16
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 2806250566MSD

Analyte	Back Pressure	Flow
All	213.0 kPa	0.65 L/min

Mean Data: 2806250566MSD

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	404163.5	96.9	%	0.65				0.67%
Yr	488544.3	99.6	%	1.77				1.78%
Ag†	115887.9	0.459	mg/L	0.0024	0.459	mg/L	0.0024	0.52%
B_†	18983.6	0.699	mg/L	0.0017	0.699	mg/L	0.0017	0.25%
Ba†	39148.1	1.05	mg/L	0.000	1.05	mg/L	0.000	0.00%
Be†	131543.2	0.0487	mg/L	0.00053	0.0487	mg/L	0.00053	1.09%
Ca†	2036959.3	67.5	mg/L	0.86	67.5	mg/L	0.86	1.27%
Cd†	4169.6	0.195	mg/L	0.0012	0.195	mg/L	0.0012	0.60%
Cr†	43496.5	0.942	mg/L	0.0023	0.942	mg/L	0.0023	0.24%
Cu†	292889.2	0.984	mg/L	0.0032	0.984	mg/L	0.0032	0.33%
Fe†	56260.9	4.94	mg/L	0.040	4.94	mg/L	0.040	0.81%
K†	38428.8	32.1	mg/L	0.42	32.1	mg/L	0.42	1.31%
Mg†	616969.5	28.9	mg/L	0.14	28.9	mg/L	0.14	0.47%
Mn†	243071.8	0.490	mg/L	0.0038	0.490	mg/L	0.0038	0.78%
Mo†	9282.5	0.930	mg/L	0.0005	0.930	mg/L	0.0005	0.06%
Na†	546063.9	106	mg/L	1.1	106	mg/L	1.1	1.04%
Ni†	9127.3	0.485	mg/L	0.0014	0.485	mg/L	0.0014	0.29%
V†	146368.4	0.948	mg/L	0.0089	0.948	mg/L	0.0089	0.94%
Zn†	40831.0	1.06	mg/L	0.001	1.06	mg/L	0.001	0.14%

Sequence No.: 32
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 6/30/2008 23:43:19
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sca	401400.6	96.2	%	1.22				1.26%
Yr	487223.5	99.3	%	0.83				0.83%
Ag†	242465.5	0.959	mg/L	0.0021	0.959	mg/L	0.0021	0.22%
QC value within limits for Ag	Recovery = 95.85%							
B_†	67200.3	2.47	mg/L	0.001	2.47	mg/L	0.001	0.03%
QC value within limits for B_	Recovery = 98.64%							
Ba†	188680.4	5.04	mg/L	0.006	5.04	mg/L	0.006	0.13%
QC value within limits for Ba	Recovery = 100.89%							
Be†	5345151.0	1.97	mg/L	0.026	1.97	mg/L	0.026	1.33%
QC value within limits for Be	Recovery = 98.68%							
Ca†	1514609.9	50.2	mg/L	0.07	50.2	mg/L	0.07	0.13%
QC value within limits for Ca	Recovery = 100.36%							
Cd†	42506.4	1.99	mg/L	0.005	1.99	mg/L	0.005	0.26%
QC value within limits for Cd	Recovery = 99.56%							
Cr†	226289.8	4.90	mg/L	0.013	4.90	mg/L	0.013	0.26%
QC value within limits for Cr	Recovery = 98.00%							
Cu†	1454268.2	4.88	mg/L	0.001	4.88	mg/L	0.001	0.02%
QC value within limits for Cu	Recovery = 97.68%							
Fe†	57256.5	5.03	mg/L	0.011	5.03	mg/L	0.011	0.22%
QC value within limits for Fe	Recovery = 100.53%							
K†	59724.6	49.8	mg/L	0.05	49.8	mg/L	0.05	0.10%
QC value within limits for K	Recovery = 99.63%							
Mg†	1056969.2	49.5	mg/L	0.01	49.5	mg/L	0.01	0.02%
QC value within limits for Mg	Recovery = 99.10%							
Mn†	2444277.1	4.93	mg/L	0.004	4.93	mg/L	0.004	0.09%
QC value within limits for Mn	Recovery = 98.65%							
Mo†	48736.3	4.88	mg/L	0.005	4.88	mg/L	0.005	0.11%
QC value within limits for Mo	Recovery = 97.68%							
Na†	248436.0	48.2	mg/L	0.03	48.2	mg/L	0.03	0.06%
QC value within limits for Na	Recovery = 96.40%							
Ni†	96188.9	5.11	mg/L	0.024	5.11	mg/L	0.024	0.48%
QC value within limits for Ni	Recovery = 102.26%							
V†	761928.4	4.93	mg/L	0.016	4.93	mg/L	0.016	0.33%
QC value within limits for V	Recovery = 98.69%							
Zn†	196451.8	5.08	mg/L	0.019	5.08	mg/L	0.019	0.37%
QC value within limits for Zn	Recovery = 101.60%							

All analyte(s) passed QC.

Sequence No.: 33
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 0
Date Collected: 6/30/2008 23:46:29
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.65 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	428441.1	103	%	0.4				0.35%
Yr	503502.0	103	%	1.4				1.34%
Ag†	-83.6	-0.00033	mg/L	0.000248	-0.00033	mg/L	0.000248	75.14%
QC value within limits for Ag	Recovery = Not calculated							
B_†	497.3	0.0185	mg/L	0.00126	0.0185	mg/L	0.00126	6.84%
QC value within limits for B_	Recovery = Not calculated							
Ba†	2.1	0.00006	mg/L	0.000013	0.00006	mg/L	0.000013	23.84%
QC value within limits for Ba	Recovery = Not calculated							
Be†	189.2	0.00007	mg/L	0.000027	0.00007	mg/L	0.000027	38.14%
QC value within limits for Be	Recovery = Not calculated							
Ca†	18.8	0.00062	mg/L	0.001327	0.00062	mg/L	0.001327	213.22%
QC value within limits for Ca	Recovery = Not calculated							
Cd†	2.9	0.00014	mg/L	0.000103	0.00014	mg/L	0.000103	75.54%
QC value within limits for Cd	Recovery = Not calculated							
Cr†	-12.9	-0.00028	mg/L	0.000081	-0.00028	mg/L	0.000081	29.11%
QC value within limits for Cr	Recovery = Not calculated							
Cu†	-283.6	-0.00095	mg/L	0.000192	-0.00095	mg/L	0.000192	20.17%
QC value within limits for Cu	Recovery = Not calculated							
Fe†	8.1	0.00071	mg/L	0.000334	0.00071	mg/L	0.000334	47.10%
QC value within limits for Fe	Recovery = Not calculated							
K†	50.4	0.0421	mg/L	0.00071	0.0421	mg/L	0.00071	1.69%
QC value within limits for K	Recovery = Not calculated							
Mg†	20.3	0.00095	mg/L	0.000554	0.00095	mg/L	0.000554	58.19%
QC value within limits for Mg	Recovery = Not calculated							
Mn†	112.8	0.00023	mg/L	0.000016	0.00023	mg/L	0.000016	7.07%
QC value within limits for Mn	Recovery = Not calculated							
Mo†	20.9	0.00209	mg/L	0.000049	0.00209	mg/L	0.000049	2.35%
QC value within limits for Mo	Recovery = Not calculated							
Na†	490.6	0.0952	mg/L	0.00146	0.0952	mg/L	0.00146	1.53%
QC value within limits for Na	Recovery = Not calculated							
Ni†	-0.1	0.00000	mg/L	0.000157	0.00000	mg/L	0.000157	>999.9%
QC value within limits for Ni	Recovery = Not calculated							
V†	9.3	0.00006	mg/L	0.000113	0.00006	mg/L	0.000113	190.58%
QC value within limits for V	Recovery = Not calculated							
Zn†	-46.0	-0.00120	mg/L	0.000123	-0.00120	mg/L	0.000123	10.25%
QC value within limits for Zn	Recovery = Not calculated							

All analyte(s) passed QC.

Sequence No.: 34
Sample ID: MCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 6/30/2008 23:49:52
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: MCV

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: MCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sca	416072.8	99.7	%	0.31				0.31%
Yr	494889.7	101	%	1.0				0.96%
Ag†	120529.5	0.477	mg/L	0.0006	0.477	mg/L	0.0006	0.12%
QC value within limits for Ag	Recovery = 95.30%							
B_†	33090.4	1.21	mg/L	0.006	1.21	mg/L	0.006	0.45%
QC value within limits for B_	Recovery = 97.12%							
Ba†	94846.7	2.54	mg/L	0.001	2.54	mg/L	0.001	0.03%
QC value within limits for Ba	Recovery = 101.44%							
Be†	2687420.3	0.992	mg/L	0.0003	0.992	mg/L	0.0003	0.03%
QC value within limits for Be	Recovery = 99.23%							
Ca†	764809.5	25.3	mg/L	0.01	25.3	mg/L	0.01	0.03%
QC value within limits for Ca	Recovery = 101.35%							
Cd†	21081.2	0.988	mg/L	0.0031	0.988	mg/L	0.0031	0.31%
QC value within limits for Cd	Recovery = 98.75%							
Cr†	113123.3	2.45	mg/L	0.021	2.45	mg/L	0.021	0.85%
QC value within limits for Cr	Recovery = 97.98%							
Cu†	729865.3	2.45	mg/L	0.001	2.45	mg/L	0.001	0.04%
QC value within limits for Cu	Recovery = 98.04%							
Fe†	28943.8	2.54	mg/L	0.003	2.54	mg/L	0.003	0.13%
QC value within limits for Fe	Recovery = 101.64%							
K†	29316.1	24.5	mg/L	0.15	24.5	mg/L	0.15	0.63%
QC value within limits for K	Recovery = 97.81%							
Mg†	534861.1	25.1	mg/L	0.01	25.1	mg/L	0.01	0.02%
QC value within limits for Mg	Recovery = 100.29%							
Mn†	1241427.9	2.51	mg/L	0.004	2.51	mg/L	0.004	0.15%
QC value within limits for Mn	Recovery = 100.21%							
Mo†	24237.0	2.43	mg/L	0.014	2.43	mg/L	0.014	0.58%
QC value within limits for Mo	Recovery = 97.15%							
Na†	122570.1	23.8	mg/L	0.11	23.8	mg/L	0.11	0.45%
QC value within limits for Na	Recovery = 95.12%							
Ni†	48625.5	2.58	mg/L	0.015	2.58	mg/L	0.015	0.57%
QC value within limits for Ni	Recovery = 103.39%							
V†	378939.6	2.45	mg/L	0.009	2.45	mg/L	0.009	0.36%
QC value within limits for V	Recovery = 98.17%							
Zn†	98507.8	2.55	mg/L	0.008	2.55	mg/L	0.008	0.30%
QC value within limits for Zn	Recovery = 101.89%							

All analyte(s) passed QC.

Sequence No.: 45
Sample ID: CCV
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 7/1/2008 00:29:58
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCV

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sca	403188.6	96.6	%	0.43				0.44%
Yr	477599.9	97.3	%	0.16				0.16%
Ag†	239996.9	0.949	mg/L	0.0006	0.949	mg/L	0.0006	0.06%
QC value within limits for Ag	Recovery = 94.88%							
B_†	66570.2	2.44	mg/L	0.004	2.44	mg/L	0.004	0.14%
QC value within limits for B_	Recovery = 97.70%							
Ba†	189649.0	5.07	mg/L	0.021	5.07	mg/L	0.021	0.41%
QC value within limits for Ba	Recovery = 101.41%							
Be†	5291472.2	1.95	mg/L	0.001	1.95	mg/L	0.001	0.06%
QC value within limits for Be	Recovery = 97.69%							
Ca†	1503160.0	49.8	mg/L	0.01	49.8	mg/L	0.01	0.02%
QC value within limits for Ca	Recovery = 99.60%							
Cd†	42190.2	1.98	mg/L	0.002	1.98	mg/L	0.002	0.09%
QC value within limits for Cd	Recovery = 98.82%							
Cr†	223646.2	4.84	mg/L	0.013	4.84	mg/L	0.013	0.27%
QC value within limits for Cr	Recovery = 96.86%							
Cu†	1452150.6	4.88	mg/L	0.028	4.88	mg/L	0.028	0.57%
QC value within limits for Cu	Recovery = 97.53%							
Fe†	56239.3	4.94	mg/L	0.007	4.94	mg/L	0.007	0.14%
QC value within limits for Fe	Recovery = 98.74%							
K†	60679.9	50.6	mg/L	0.15	50.6	mg/L	0.15	0.30%
QC value within limits for K	Recovery = 101.22%							
Mg†	1037455.4	48.6	mg/L	0.21	48.6	mg/L	0.21	0.44%
QC value within limits for Mg	Recovery = 97.27%							
Mn†	2432644.9	4.91	mg/L	0.022	4.91	mg/L	0.022	0.45%
QC value within limits for Mn	Recovery = 98.18%							
Mo†	48357.7	4.85	mg/L	0.010	4.85	mg/L	0.010	0.20%
QC value within limits for Mo	Recovery = 96.92%							
Na†	248625.5	48.2	mg/L	0.09	48.2	mg/L	0.09	0.19%
QC value within limits for Na	Recovery = 96.48%							
Ni†	95703.9	5.09	mg/L	0.000	5.09	mg/L	0.000	0.00%
QC value within limits for Ni	Recovery = 101.75%							
V†	755143.6	4.89	mg/L	0.006	4.89	mg/L	0.006	0.13%
QC value within limits for V	Recovery = 97.81%							
Zn†	195010.4	5.04	mg/L	0.005	5.04	mg/L	0.005	0.10%
QC value within limits for Zn	Recovery = 100.85%							

All analyte(s) passed QC.

Sequence No.: 46
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 0
Date Collected: 7/1/2008 00:33:11
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	213.0 kPa	0.65 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	429303.0	103	%	1.1				1.08%
Yr	493294.6	101	%	0.8				0.83%
Ag†	-116.2	-0.00046	mg/L	0.000097	-0.00046	mg/L	0.000097	21.22%
QC value within limits for Ag Recovery = Not calculated								
B_†	654.4	0.0243	mg/L	0.00101	0.0243	mg/L	0.00101	4.13%
QC value greater than the upper limit for B_ Recovery = Not calculated								
Ba†	2.9	0.00008	mg/L	0.000000	0.00008	mg/L	0.000000	0.24%
QC value within limits for Ba Recovery = Not calculated								
Be†	122.0	0.00004	mg/L	0.000011	0.00004	mg/L	0.000011	24.46%
QC value within limits for Be Recovery = Not calculated								
Ca†	13.4	0.00044	mg/L	0.000786	0.00044	mg/L	0.000786	176.99%
QC value within limits for Ca Recovery = Not calculated								
Cd†	4.3	0.00020	mg/L	0.000190	0.00020	mg/L	0.000190	95.38%
QC value within limits for Cd Recovery = Not calculated								
Cr†	-17.7	-0.00038	mg/L	0.000011	-0.00038	mg/L	0.000011	2.98%
QC value within limits for Cr Recovery = Not calculated								
Cu†	-321.5	-0.00108	mg/L	0.000213	-0.00108	mg/L	0.000213	19.77%
QC value within limits for Cu Recovery = Not calculated								
Fe†	11.1	0.00097	mg/L	0.000907	0.00097	mg/L	0.000907	93.45%
QC value within limits for Fe Recovery = Not calculated								
K†	14.2	0.0119	mg/L	0.01861	0.0119	mg/L	0.01861	156.87%
QC value within limits for K Recovery = Not calculated								
Mg†	22.2	0.00104	mg/L	0.000161	0.00104	mg/L	0.000161	15.42%
QC value within limits for Mg Recovery = Not calculated								
Mn†	5.1	0.00001	mg/L	0.000011	0.00001	mg/L	0.000011	110.27%
QC value within limits for Mn Recovery = Not calculated								
Mo†	19.8	0.00199	mg/L	0.000559	0.00199	mg/L	0.000559	28.13%
QC value within limits for Mo Recovery = Not calculated								
Na†	426.9	0.0828	mg/L	0.00480	0.0828	mg/L	0.00480	5.79%
QC value within limits for Na Recovery = Not calculated								
Ni†	-3.6	-0.00019	mg/L	0.000060	-0.00019	mg/L	0.000060	31.52%
QC value within limits for Ni Recovery = Not calculated								
V†	26.0	0.00017	mg/L	0.000004	0.00017	mg/L	0.000004	2.46%
QC value within limits for V Recovery = Not calculated								
Zn†	-53.4	-0.00139	mg/L	0.000147	-0.00139	mg/L	0.000147	10.54%
QC value within limits for Zn Recovery = Not calculated								

QC Failed. Retry.

Sequence No.: 47
Sample ID: CCB
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 0
Date Collected: 7/1/2008 00:35:44
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	428040.6	103	%	0.8				0.83%

Yr	486786.7	99.2 %	1.36			1.37%
Ag†	-142.6	-0.00056 mg/L	0.000044	-0.00056 mg/L	0.000044	7.85%
QC value within limits for Ag	Recovery = Not calculated					
B_†	429.3	0.0160 mg/L	0.00052	0.0160 mg/L	0.00052	3.26%
QC value within limits for B_	Recovery = Not calculated					
Ba†	2.7	0.00007 mg/L	0.000155	0.00007 mg/L	0.000155	215.85%
QC value within limits for Ba	Recovery = Not calculated					
Be†	77.2	0.00003 mg/L	0.000013	0.00003 mg/L	0.000013	44.93%
QC value within limits for Be	Recovery = Not calculated					
Ca†	38.5	0.00127 mg/L	0.001156	0.00127 mg/L	0.001156	90.68%
QC value within limits for Ca	Recovery = Not calculated					
Cd†	3.5	0.00016 mg/L	0.000053	0.00016 mg/L	0.000053	32.92%
QC value within limits for Cd	Recovery = Not calculated					
Cr†	-17.2	-0.00037 mg/L	0.000168	-0.00037 mg/L	0.000168	44.87%
QC value within limits for Cr	Recovery = Not calculated					
Cu†	-396.5	-0.00133 mg/L	0.000014	-0.00133 mg/L	0.000014	1.08%
QC value within limits for Cu	Recovery = Not calculated					
Fe†	1.8	0.00015 mg/L	0.000507	0.00015 mg/L	0.000507	327.49%
QC value within limits for Fe	Recovery = Not calculated					
K†	29.2	0.0244 mg/L	0.00269	0.0244 mg/L	0.00269	11.05%
QC value within limits for K	Recovery = Not calculated					
Mg†	2.8	0.00013 mg/L	0.000020	0.00013 mg/L	0.000020	14.75%
QC value within limits for Mg	Recovery = Not calculated					
Mn†	-26.1	-0.00005 mg/L	0.000016	-0.00005 mg/L	0.000016	30.44%
QC value within limits for Mn	Recovery = Not calculated					
Mo†	8.9	0.00089 mg/L	0.000099	0.00089 mg/L	0.000099	11.01%
QC value within limits for Mo	Recovery = Not calculated					
Na†	404.3	0.0784 mg/L	0.00661	0.0784 mg/L	0.00661	8.42%
QC value within limits for Na	Recovery = Not calculated					
Ni†	-1.2	-0.00006 mg/L	0.000202	-0.00006 mg/L	0.000202	316.05%
QC value within limits for Ni	Recovery = Not calculated					
V†	23.1	0.00015 mg/L	0.000035	0.00015 mg/L	0.000035	23.62%
QC value within limits for V	Recovery = Not calculated					
Zn†	-52.9	-0.00138 mg/L	0.000115	-0.00138 mg/L	0.000115	8.33%
QC value within limits for Zn	Recovery = Not calculated					

All analyte(s) passed QC.

Sequence No.: 16
Sample ID: 2806190595
Analyst:
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 41
Date Collected: 6/30/2008 22:46:07
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 2806190595

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: 2806190595

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	425348.1	102	%	0.3				0.25%
Yr	513023.6	105	%	0.4				0.35%
Agt	-16.7	0.00025	mg/L	0.000591	0.00025	mg/L	0.000591	235.37%
B_t	2091.8	0.0768	mg/L	0.00034	0.0768	mg/L	0.00034	0.44%
Bat	821.7	0.0220	mg/L	0.00012	0.0220	mg/L	0.00012	0.53%
Bet	23.9	0.00001	mg/L	0.000001	0.00001	mg/L	0.000001	9.89%
Cat	744173.0	24.7	mg/L	0.04	24.7	mg/L	0.04	0.16%
Cdt	-2.1	-0.00010	mg/L	0.000083	-0.00010	mg/L	0.000083	82.07%
Crt	-19.4	-0.00042	mg/L	0.000079	-0.00042	mg/L	0.000079	18.81%
Cut	35980.6	0.121	mg/L	0.0001	0.121	mg/L	0.0001	0.12%
Fet	9814.3	0.862	mg/L	0.0065	0.862	mg/L	0.0065	0.75%
Kt	1778.3	1.48	mg/L	0.006	1.48	mg/L	0.006	0.42%
Mgt	86115.7	4.04	mg/L	0.023	4.04	mg/L	0.023	0.56%
Mnt	33286.3	0.0671	mg/L	0.00019	0.0671	mg/L	0.00019	0.29%
Mot	49.0	0.00491	mg/L	0.000051	0.00491	mg/L	0.000051	1.04%
Nat	134295.4	26.1	mg/L	0.16	26.1	mg/L	0.16	0.62%
Nit	-9.8	-0.00052	mg/L	0.000494	-0.00052	mg/L	0.000494	94.68%
Vt	32.3	0.00024	mg/L	0.000014	0.00024	mg/L	0.000014	5.73%
Znt	1725.8	0.0450	mg/L	0.00000	0.0450	mg/L	0.00000	0.01%

Sequence No.: 29
Sample ID: 2806240538_2X
Analyst:
Initial Sample Wt:
Dilution: 2X

Autosampler Location: 52
Date Collected: 6/30/2008 23:31:30
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 2806240538_2X

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: 2806240538_2X

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sca	370158.2	88.7	%	0.61				0.69%
Yr	469905.3	95.8	%	0.51				0.53%
Agt	-368.0	-0.00075	mg/L	0.000143	-0.00150	mg/L	0.000286	19.07%
B_t	43996.0	1.64	mg/L	0.014	3.27	mg/L	0.028	0.84%
Bat	510.8	0.0137	mg/L	0.00005	0.0273	mg/L	0.00009	0.34%
Bet	-935.3	-0.00034	mg/L	0.000017	-0.00069	mg/L	0.000033	4.84%
Cat	5961023.9	197	mg/L	0.4	395	mg/L	0.9	0.22%
Cdt	-14.6	-0.00068	mg/L	0.000144	-0.00136	mg/L	0.000287	21.06%
Crt	174.8	0.00379	mg/L	0.000022	0.00757	mg/L	0.000043	0.57%
Cut	617.7	0.00208	mg/L	0.000103	0.00416	mg/L	0.000206	4.96%
Fet	21704.1	1.91	mg/L	0.013	3.81	mg/L	0.026	0.68%
Kt	18457.4	15.4	mg/L	0.07	30.8	mg/L	0.14	0.46%
Mgt	1984882.7	93.0	mg/L	0.25	186	mg/L	0.5	0.27%
Mnt	248925.8	0.500	mg/L	0.0005	1.00	mg/L	0.001	0.10%
Mot	1070.5	0.107	mg/L	0.0007	0.215	mg/L	0.0015	0.68%
Nat	3417796.0	663	mg/L	3.1	1330	mg/L	6.2	0.47%
Nit	523.5	0.0278	mg/L	0.00027	0.0557	mg/L	0.00054	0.98%
Vt	2340.9	0.0152	mg/L	0.00003	0.0304	mg/L	0.00006	0.21%
Znt	310.6	0.00789	mg/L	0.000183	0.0158	mg/L	0.00037	2.31%

Sequence No.: 30
Sample ID: 2806240540_2X
Analyst:
Initial Sample Wt:
Dilution: 2X

Autosampler Location: 53
Date Collected: 6/30/2008 23:35:13
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 2806240540_2X

Analyte	Back Pressure	Flow
All	212.0 kPa	0.65 L/min

Mean Data: 2806240540_2X

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sca	366394.9	87.8	%	0.96				1.09%
Yr	461429.5	94.0	%	0.12				0.12%
Agt	-208.7	-0.00082	mg/L	0.000185	-0.00163	mg/L	0.000370	22.63%
B_t	46071.1	1.71	mg/L	0.012	3.42	mg/L	0.023	0.68%
Bat	478.2	0.0128	mg/L	0.00005	0.0256	mg/L	0.00010	0.41%
Bet	-973.5	-0.00036	mg/L	0.000004	-0.00072	mg/L	0.000009	1.22%
Cat	6073167.4	201	mg/L	1.5	402	mg/L	2.9	0.73%
Cdt	-3.2	-0.00015	mg/L	0.000128	-0.00030	mg/L	0.000255	84.94%
Crt	498.0	0.0108	mg/L	0.00002	0.0216	mg/L	0.00003	0.15%
Cut	758.3	0.00255	mg/L	0.000084	0.00511	mg/L	0.000168	3.29%
Fet	204.6	0.0180	mg/L	0.00036	0.0359	mg/L	0.00071	1.98%
Kt	19546.0	16.3	mg/L	0.00	32.6	mg/L	0.01	0.02%
Mgt	2027882.9	95.0	mg/L	0.88	190	mg/L	1.8	0.93%
Mnt	227501.1	0.457	mg/L	0.0038	0.914	mg/L	0.0076	0.83%
Mot	385.3	0.0386	mg/L	0.00109	0.0772	mg/L	0.00218	2.82%
Nat	3401359.6	660	mg/L	5.4	1320	mg/L	10.8	0.81%
Nit	122.8	0.00653	mg/L	0.000244	0.0131	mg/L	0.00049	3.74%
Vt	3652.4	0.0236	mg/L	0.00032	0.0472	mg/L	0.00064	1.36%
Znt	269.9	0.00697	mg/L	0.000060	0.0139	mg/L	0.00012	0.86%

Standard Preparation Worksheet & Certificate of Analysis

Reagent	Lot #			
HNO3 R# 100450		HCL R# 100446		
IS = Yttrium(ME0709008)0.75mL + Scandium (ME0710007)0.5mL to 1000mL w/ 2% HNO3				
Standards	**Lot #**	**Exp. Date**	**Dilution**	
Calibration	ME0712001	(12/01/08)	1:10 ME0801001	
(Prepare daily)	ME0712001	(12/01/08)	1:10	
			CCV/ECV	MCV
CCV/MCV/ECV	ME0710008	(04/17/09)	1:20 ME0801002	1:40 ME0801003
(Prepare daily)				
Spike/LCS	ME0709009	(03/11/09)	1:100 ME0801005	
(Prepare daily)	ME0801004	(07/11/08)	1:100	
	ME0803001	(08/13/08)	1:50	
MRL	ME0801007	(07/11/08)	1:100 ME0801008	
(Prepare daily)				
ICSA	ME0806001	(12/01/08)		
ICSAB	ME0806002	(12/01/08)		
QCS	ME0610005	(04/10/08)	Not in use.	
1ppm Check	ME0801010	(07/11/08)		
Linearity	ME0805001	(08/16/08)		
Method Sr/Ti/Sn/SiO2				
Calibration	ME0801012	(07/11/08)		
CCV/ECV	ME0803011	(09/30/08)		
QCS	ME0801012	(07/11/08)		
Spike/LCS	ME0803012	(09/30/08)	1:100	
(Prepare daily)				
MRL	ME0801014	(07/11/08)	1:100	
(Prepare daily)				
Method Li				
Std/ICV/MRL	ME0801009	(07/11/08)	1:1000, 200, 40, 10	
(Prepare daily)				
QCS	ME0801011	(07/11/08)	1:10	
(Prepare daily)				
LCS/Spike	ME0801011	(07/11/08)	1:50	
(Prepare daily)				
ccv	ME0801011	(07/11/08)	1:40	
(Prepare daily)				

From May 2005: the calibration std for 50 should be ME0505010,011 not ME0408010

dilution should be 1:20 and 1:40 not 1:200 and 1:400. 1/10/2006.

Intial: wbh
Date: 7/11/08

METALS STANDARD DOCUMENTATION

Standard:	ICP Calibration STD	**ME #:**	0801001
Date Received/Prepped:	Prep Daily	**By:**	wbh
Date Expired:	12/1/2008	**Lot #:**	
Manufacturer:	MWH-wbh	**Certificate:**	NO
Matrix:	2% HNO3 + 5% HCl	**NIST SRM:**	
Amount:		**Storage:**	Room Temp

Component	Comment	Conc.	Unit:
Mo	1:10 ME0712002	10	ug/ml
Sb		10	ug/ml
Sn		10	ug/ml
Ti		10	ug/ml
B		5	ug/ml
Ca	1:10 ME0712001	100	ug/ml
K		100	ug/ml
Mg		100	ug/ml
Na		100	ug/ml
Al		10	ug/ml
As		10	ug/ml
Ba		10	ug/ml
Co		10	ug/ml
Cr		10	ug/ml
Cu		10	ug/ml
Fe		10	ug/ml
Mn		10	ug/ml
Ni		10	ug/ml
Pb		10	ug/ml
Se		10	ug/ml
Tl		10	ug/ml
V		10	ug/ml
Zn		10	ug/ml
Cd		5	ug/ml
Be		4	ug/ml
SR		3	ug/ml
Ag		2	ug/ml

Intial: STE
Date: 10/01/07

METALS STANDARD DOCUMENTATION

Standard: ICPCalibration Stock Std #1
Date Received/Prepped: 12/1/2007
Date Expired: 12/1/2008
Manufacturer: Inorganic Ventures
Matrix: 5% Nitric Acid
Amount: 500 mL

ME #: 0712001
By: STE
Lot #: A2-MEB243151
Certificate: Y
NIST SRM: Varies
Storage: Room Temp

Component	Comment	Conc. Unit:
Ca	(P/N MWH-ICAP-CAL-1)	1000 ug/ml
K		1000 ug/ml
Mg		1000 ug/ml
Na		1000 ug/ml
Al		100 ug/ml
As		100 ug/ml
Ba		100 ug/ml
Co		100 ug/ml
Cr		100 ug/ml
Cu		100 ug/ml
Fe		100 ug/ml
Mn		100 ug/ml
Ni		100 ug/ml
Pb		100 ug/ml
Se		100 ug/ml
Tl		100 ug/ml
V		100 ug/ml
Zn		100 ug/ml
Cd		50 ug/ml
Be		40 ug/ml
SR		30 ug/ml
Ag		20 ug/ml

INORGANIC VENTURES

CERTIFICATE OF ANALYSIS

1.0 **INORGANIC VENTURES** is an ISO Guide 34:2000 registered Certified Reference Material (CRM) Manufacturer (Certificate #883-02). The certificate is designed and the data is determined in accordance with ISO Guide 31:2000 (Reference Materials-Contents of Certificates and Labels), ISO Guide 34:2000 "Quality System Guidelines for the Production of Reference Materials," and ISO Guide 35-1989 "Certification of Reference Materials - General and Statistical Principals."

2.0 **DESCRIPTION OF CRM** Custom Solution

Catalog No.: MWH-ICAP-CAL-1

Lot Number: **A2-MEB243151** ME 071203

Matrix: 5% HNO3(abs)

1,000.00 µg/mL ea:
Ca, K, Mg, Na,

100.00 µg/mL ea:
Al, As, Ba, Co, Cr3, Cu, Fe, Mn, Ni, Pb, Se, Tl, V, Zn,

50.00 µg/mL ea:
Cd,

40.00 µg/mL ea:
Be,

30.00 µg/mL ea:
Sr,

20.00 µg/mL ea:
Ag

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Aluminum, Al	100.4 ± 0.3 µg/mL	Arsenic, As	100.1 ± 0.3 µg/mL	Barium, Ba	99.6 ± 0.4 µg/mL
Beryllium, Be	40.04 ± 0.08 µg/mL	Cadmium, Cd	50.15 ± 0.12 µg/mL	Calcium, Ca	1,000 ± 2 µg/mL
Chromium+3, Cr3	100.0 ± 0.2 µg/mL	Cobalt, Co	99.9 ± 0.2 µg/mL	Copper, Cu	100.0 ± 0.2 µg/mL
Iron, Fe	99.6 ± 0.1 µg/mL	Lead, Pb	100.0 ± 0.3 µg/mL	Magnesium, Mg	1,000 ± 4 µg/mL
Manganese, Mn	100.0 ± 0.3 µg/mL	Nickel, Ni	100.0 ± 0.3 µg/mL	Potassium, K	1,001 ± 5 µg/mL
Selenium, Se	100.0 ± 0.2 µg/mL	Silver, Ag	20.04 ± 0.02 µg/mL	Sodium, Na	1,002 ± 5 µg/mL
Strontium, Sr	30.04 ± 0.18 µg/mL	Thallium, Tl	99.7 ± 0.1 µg/mL	Vanadium, V	100.0 ± 0.3 µg/mL
Zinc, Zn	100.0 ± 0.3 µg/mL				

Certified Density: 1.055 g/mL (measured at 22° C)

Intial: STE
Date: 12/1/07

METALS STANDARD DOCUMENTATION

Standard: ICPCalibration Stock Std #2
Date Received/Prepped: 12/1/2007
Date Expired: 12/1/2008
Manufacturer: Inorganic Ventures
Matrix: 5% Nitric Acid + Trace HF
Amount: 500 mL

ME #: 0712002
By: STE
Lot #: A2-MEB243152
Certificate: Y
NIST SRM: Varies
Storage: Room Temp

Component	Comment	Conc. Unit:
Mo	(P/N MWH-ICAP-CAL-2)	100 ug/ml
Sb		100 ug/ml
Sn		100 ug/ml
Ti		100 ug/ml
B		50 ug/ml
Mo		100 ug/ml

1.0 **INORGANIC VENTURES** is an ISO Guide 34:2000 registered Certified Reference Material (CRM) Manufacturer (Certificate #883-02). The certificate is designed and the data is determined in accordance with ISO Guide 31:2000 (Reference Materials-Contents of Certificates and Labels), ISO Guide 34:2000 "Quality System Guidelines for the Production of Reference Materials," and ISO Guide 35-1989 "Certification of Reference Materials - General and Statistical Principals."

2.0 **DESCRIPTION OF CRM** Custom Solution

Catalog No.: MWH-ICAP-CAL-2

HE 0712 C62

Lot Number: **A2-MEB243152**

Matrix: tr. HF, 5% HNO3(abs)

100.00 µg/mL ea:
Mo, Sb, Sn, Ti,

50.00 µg/mL ea:
B

3.0 **CERTIFIED VALUES AND UNCERTAINTIES**

ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE	ELEMENT	CERTIFIED VALUE
Antimony, Sb	100.4 ± 0.3 µg/mL	Boron, B	49.85 ± 0.20 µg/mL	Molybdenum, Mo	100.2 ± 0.3 µg/mL
Tin, Sn	100.2 ± 0.3 µg/mL	Titanium, Ti	100.4 ± 0.2 µg/mL		

Certified Density: 1.037 g/mL (measured at 22° C)

The Certified Value is based upon the most precise method used to analyze this CRM. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

$(\bar{x})$ = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 **TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS**

"Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

Intial: STE
Date: 10/19/07

METALS STANDARD DOCUMENTATION

Standard: ICP CCV/MCV/QCS Stock Standard
Date Received/Prepped: 10/19/2007
Date Expired: 4/17/2009
Manufacturer: CPI
Matrix: 5% HNO3 = tr HF
Amount: 100 mL x 10

ME #: 0710008
By: STE
Lot #: 07J154
Certificate: Y
NIST SRM: Various
Storage: Room Temp

Component	Comment	Conc. Unit:
Ag	P/N 4400-061003RH01	20 ppm
Al		100 ppm
As		100 ppm
B		50 ppm
Ba		100 ppm
bE		40 ppm
Ca		1000 ppm
Cd		50 ppm
Co		100 ppm
Cr		100 ppm
Cu		100 ppm
Fe		100 ppm
K		1000 ppm
Mg		1000 ppm
Mn		100 ppm
Mo		100 ppm
Na		1000 ppm
Ni		100 ppm
Pb		100 ppm
Sb		100 ppm
Se		100 ppm
Tl		100 ppm
V		100 ppm
Zn		100 ppm
Sr		20 ppm
Sn		20 ppm
Ti		20 ppm

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Expiry: 4/17/2009

Certificate of Analysis

Part Number: **4400-061003RH01**
Lot Number: **07J154**
Shelf Life: **18 months**

MWH
Custom Multi
5% HNO3 + tr HF

Concentrations in ug/mL ± 0.5%

Ag	20	K	1000	Sr	20
Al	100	Mg	1000	Sn	20
As	100	Mn	100	Ti	20
B	50	Mo	100		
Ba	100	Na	1000		
Be	40	Ni	100		
Ca	1000	Pb	100		
Cd	50	Sb	100		
Co	100	Se	100		
Cr	100	TL	100		
Cu	100	V	100		
Fe	100	Zn	100		

This standard solution was prepared using high-purity starting materials, high-purity acid (if required) and 18-megaohm de-ionized water. The starting materials were weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

Starting materials were analyzed at 1000µg/mL by ICP-MS for trace impurities. The standard solution concentrations were certified instrumentally against the National Institute of Standards and Technology's SRM 3100 series, NIST approved second source and/or gravimetrically.

Accuracy and stability are guaranteed to within plus or minus 0.5% of the certified value for the stated shelf life from the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the USA, +31 20 638 05 97 in Europe or visit our web-site at www.cpiinternational.com.

Intial: WBy
Date: 4/17/08

METALS STANDARD DOCUMENTATION

Standard:	ICP MCV Working Standard	**ME #:**	0801003
Date Received/Prepped:	Daily	**By:**	Wbh
Date Expired:	4/17/2009	**Lot #:**	
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	2%HNO3 + 5% HCL	**NIST SRM:**	Various
Amount:	100 mL	**Storage:**	Room Temp

Component	Comment	Conc. Unit:
Ag	5ml ME0710008 / 100mL	0.5 ppm
Al		2.5 ppm
As		2.5 ppm
B		1.25 ppm
Ba		2.5 ppm
bE		1 ppm
Ca		25 ppm
Cd		1 ppm
Co		2.5 ppm
Cr		2.5 ppm
Cu		2.5 ppm
Fe		2.5 ppm
K		25 ppm
Mg		25 ppm
Mn		2.5 ppm
Mo		2.5 ppm
Na		25 ppm
Ni		2.5 ppm
Pb		2.5 ppm
Sb		2.5 ppm
Se		2.5 ppm
Tl		2.5 ppm
V		2.5 ppm
Zn		2.5 ppm
Sr		0.5 ppm
Sn		0.5 ppm
Ti		0.5 ppm

Intial: WBH
Date: 4/14/08

METALS STANDARD DOCUMENTATION

Standard: ICP CCV/ECV Working Standard
Date Received/Prepped: Daily
Date Expired: 4/17/2009
Manufacturer: CPI
Matrix: 2%HNO3 + 5% HCL
Amount: 100 mL

ME #: 0801002
By: Wbh
Lot #:
Certificate: Y
NIST SRM: Various
Storage: Room Temp

Component	Comment	Conc. Unit:
Ag	5ml ME0710008 / 100mL	1 ppm
Al		5 ppm
As		5 ppm
B		2.5 ppm
Ba		5 ppm
bE		2 ppm
Ca		50 ppm
Cd		2 ppm
Co		5 ppm
Cr		5 ppm
Cu		5 ppm
Fe		5 ppm
K		50 ppm
Mg		50 ppm
Mn		5 ppm
Mo		5 ppm
Na		50 ppm
Ni		5 ppm
Pb		5 ppm
Sb		5 ppm
Se		5 ppm
Tl		5 ppm
V		5 ppm
Zn		5 ppm
Sr		1 ppm
Sn		1 ppm
Ti		1 ppm

Intial: WBH
Date: 7/14/08

METALS STANDARD DOCUMENTATION

Standard: Spike and LCS std for ICP
Date Received/Prepped: prep daily
Date Expired: 7/11/2008
Manufacturer: MWH-wbh
Matrix: 2% HNO3 + 5% HCl
Amount:

ME #: 0801005
By: WBH
Lot #:
Certificate: N
NIST SRM:
Storage: Room Temp

Component	Comment	Conc. Unit:
CA	1:200 ME0709007	50 ppm
K		20 ppm
MG		20 ppm
NA		50 ppm
Iron	1:100 ME0709009	5 mg/L
Aluminum		2 mg/L
Barium		1 mg/L
Cobalt		1 mg/L
Chromium		1 mg/L
Copper		1 mg/L
Molybdenum		1 mg/L
Strontium		1 mg/L
Titanium		1 mg/L
Vanadium		1 mg/L
Zinc		1 mg/L
Tin		1 mg/L
Silver		0.5 mg/L
Boron		0.5 mg/L
Manganese		0.5 mg/L
Nickel		0.5 mg/L
Antimony		0.5 mg/L
Arsenic		0.2 mg/L
Cadmium		0.2 mg/L
Lead		0.2 mg/L
Selenium		0.2 mg/L
Thallium		0.2 mg/L
Uraium		0.2 mg/L
Beryllium		0.05 mg/L
AS	1:100 ME0801004	0.8 mg/L
PB		0.8 mg/L
SE		0.8 mg/L
TL		0.8 mg/L

Intial: WBH
Date: 1/11/08

METALS STANDARD DOCUMENTATION

Standard:	ICP Spike Solution	**ME #:**	0801004
Date Received/Prepped:	1/11/2008	**By:**	Wbh
Date Expired:	7/11/2008	**Lot #:**	VARIOUS
Manufacturer:	MWH-wbh	**Certificate:**	
Matrix:	2%HNO3	**NIST SRM:**	
Amount:	100mL	**Storage:**	Room Temp

Component	Comment	Conc.	Unit:
AS	8.0mL ME07090023/100mL	80	ppm
PB	8.0mL ME0704013/100mL	80	ppm
SE	8.0mL ME0703001/100mL	80	ppm
TL	8.0mL ME0702006/100mL	80	ppm

Intial: wbh
Date: 2/25/08

METALS STANDARD DOCUMENTATION

Standard: ICP LCS/SPIKE Solution
Date Received/Prepped: 2/25/2008
Date Expired: 7/25/2008
Manufacturer: MWH-wbh
Matrix: 2% HNO3 + 5% HCl
Amount: 100mL

ME #: 0802001
By: wbh
Lot #:
Certificate: NO
NIST SRM:
Storage: Room Temp

Component	Comment	Conc. Unit:
Ca	1:4 ME0702002	5000 ug/ml
K	1:10 ME0702005	1000 ug/ml
Mg	1:10 ME0702004	1000 ug/ml
Na	1:4 ME0702003	5000 ug/ml

Intial: STE
Date: 9/13/07

METALS STANDARD DOCUMENTATION

Standard: ICP CCV/MCV Stock Standard
Date Received/Prepped: 9/13/2007
Date Expired: 3/11/2009
Manufacturer: CPI International
Matrix: 5% HNO3 AND 0.1% HF
Amount: 100 mL

ME #: 0709009
By: STE
Lot #: 071040
Certificate:
NIST SRM:
Storage: Room Temp.

Component	Comment	Conc. Unit:
Fe	P/N 4400-050314RH01	500
Al	(10 bottles)	200
Ba		100
Co		100
Cr		100
Cu		100
Mo		100
Sr		100
Ti		100
V		100
Zn		50
Ag		50
Ba		50
Mn		50
Ni		50
Sb		50
As		20
Cd		20
Pb		20
Se		20
Tl		20
Sn		100
Be		5
U		20

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Expiry: 3/11/2009

Certificate of Analysis

Part Number: **4400-050314RH01**
Lot Number: **071040**
Shelf Life: **18 months**

ME C7 C9 C09

MWH Labs
5% HNO3 + 0.1% HF
#REF!

Concentrations in ug/mL ± 0.5%

Fe	500	B	50
Al	200	Mn	50
Ba	100	Ni	50
Co	100	Sb	50
Cr	100	As	20
Cu	100	Cd	20
Mo	100	Pb	20
Sr	100	Se	20
Ti	100	TL	20
V	100	Sn	100
Zn	100	Be	5
Ag	50	U	20

This standard solution was prepared using high-purity starting materials, high-purity acid (if required) and 18-megaohm de-ionized water. The starting materials were weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

Starting materials were analyzed at 1000µg/mL by ICP-MS for trace impurities. The standard solution concentrations were certified instrumentally against the National Institute of Standards and Technology's SRM 3100 series, NIST approved second source and/or gravimetrically.

Accuracy and stability are guaranteed to within plus or minus 0.5% of the certified value for the stated shelf life from the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

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Intial: WBH
Date: 2/26/07

METALS STANDARD DOCUMENTATION

Standard:	Potassium 10000ppm Stock Std	**ME #:**	0702005
Date Received/Prepped:	2/20/2007	**By:**	WBH
Date Expired:	8/16/2008	**Lot #:**	07B056
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	1% HNO3	**NIST SRM:**	3141
Amount:	250 mL	Room temp. storage	

Component	Comment	Conc. Unit:
K	P/N 4400-10M411	10000 ppm

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CERTIFICATE OF ANALYSIS

M20702005

P/N 4400-10M411
P/N S4400-10M411

Single-Element Potassium Standard
K in 1% HNO_3
10,000 ± 30 µg/mL

Lot # 07B056

Material Source: Potassium Nitrate (KNO_3)
Source Purity: 99.999%
Specific Gravity: 1.019 @ 21 °C

This standard solution was prepared using high-purity salt, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3141. Trace impurities of the standard solution at 1000µg/mL were analyzed by ICP-MS.

	ppb	DL		ppb	DL		ppb	DL		ppb	DL		ppb	DL
Al	0.39	0.1	Cu	0.16	0.1	Pb	ND	0.1	K	X	70	Tl	ND	0.1
Sb	0.34	0.1	Dy	ND	0.1	Li	ND	0.4	Pr	ND	0.1	Th	ND	0.1
As	ND	6	Er	ND	0.1	Lu	ND	1	Re	ND	0.1	Tm	ND	0.1
Ba	0.14	0.1	Eu	ND	0.1	Mg	2.6	0.2	Rh	ND	0.1	Sn	0.17	0.1
Be	ND	0.1	Gd	ND	0.1	Mn	0.93	1	Rb	9.5	0.1	Ti	ND	0.1
Bi	ND	0.1	Ga	ND	0.1	Hg	ND	0.2	Ru	ND	0.1	W	ND	0.1
B	ND	4	Ge	ND	0.1	Mo	ND	0.1	Sm	ND	0.1	U	ND	0.1
Br	ND	10	Au	ND	0.1	Nd	ND	0.1	Se	ND	6	V	ND	1
Cd	ND	0.1	Hf	ND	0.1	Ni	0.4	0.1	Si	50	20	Yb	ND	0.1
Ca	82	7	Ho	ND	0.1	Nb	ND	0.1	Ag	ND	0.1	Y	ND	0.1
Ce	ND	0.1	I	ND	0.2	Os	ND	0.1	Na	19	1	Zn	2.9	1
Cs	ND	0.1	Ir	ND	0.1	Pd	ND	0.1	Sr	1	0.1	Zr	ND	0.1
Cr	ND	1	Fe	ND	30	P	18	10	Ta	ND	0.1			
Co	ND	0.1	La	ND	0.1	Pt	ND	0.1	Te	ND	0.1			

X=Major Element INT=Interference from Major Element ND=Not Detected DL=Detection Limit

Accuracy and stability are guaranteed to within plus or minus 0.3% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the USA or +31 20 638 05 97 in Europe.

Intial: WB
Date: 2/21/07

METALS STANDARD DOCUMENTATION

Standard:	Magnessium 10000ppm Stock Std	**ME #:**	0702004
Date Received/Prepped:	2/20/2007	**By:**	WBH
Date Expired:	8/16/2008	**Lot #:**	07B058
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	4% HNO3	**NIST SRM:**	3131
Amount:	250 mL	Room temp. storage	

Component	Comment	Conc. Unit:
Mg	P/N 4400-10M311	10000 ppm

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CERTIFICATE OF ANALYSIS

4/20/2004

P/N 4400-10M311
P/N S4400-10M311

Single-Element Magnesium Standard
Mg in 4% HNO_3
10,000 ± 30 µg/mL

Lot # 07B058

Material Source: Magnesium Metal
Source Purity: 99.99%
Specific Gravity: 1.056 @ 21 °C

This standard solution was prepared using high-purity metal, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3131. Trace impurities of the standard solution at 1000 µg/mL were analyzed by ICP-MS.

	ppb	DL		ppb	DL		ppb	DL		ppb	DL		ppb	DL
Al	28	0.1	Cu	1.6	0.1	Pb	7.7	0.7	K	ND	70	Tl	0.91	0.1
Sb	ND	0.1	Dy	ND	0.1	Li	ND	0.4	Pr	0.28	0.1	Th	ND	0.1
As	ND	6	Er	ND	0.1	Lu	ND	1	Re	ND	0.1	Tm	ND	0.1
Ba	0.28	0.1	Eu	ND	0.1	Mg	X	0.2	Rh	ND	0.1	Sn	0.14	0.1
Be	ND	0.1	Gd	0.23	0.1	Mn	19.8	1	Rb	ND	0.1	Ti	ND	0.1
Bi	ND	0.1	Ga	0.18	0.1	Hg	ND	0.2	Ru	ND	0.1	W	ND	0.1
B	ND	4	Ge	ND	0.1	Mo	ND	0.1	Sm	ND	0.1	U	ND	0.1
Br	ND	10	Au	ND	0.1	Nd	1.1	0.1	Se	ND	6	V	ND	1
Cd	ND	0.1	Hf	ND	0.1	Ni	1	0.1	Si	64	20	Yb	ND	0.1
Ca	ND	7	Ho	ND	0.1	Nb	ND	0.1	Ag	0.19	0.1	Y	0.2	0.1
Ce	2.1	0.1	I	1	0.2	Os	ND	0.1	Na	7.2	1	Zn	ND	1
Cs	ND	0.1	Ir	ND	0.1	Pd	ND	0.1	Sr	0.19	0.1	Zr	0.29	0.1
Cr	ND	1	Fe	80	30	P	ND	10	Ta	ND	0.1			
Co	ND	0.1	La	0.76	0.1	Pt	ND	0.1	Te	ND	0.1			

X=Major Element INT=Interference from Major Element ND=Not Detected DL=Detection Limit

Accuracy and stability are guaranteed to within plus or minus 0.3% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the USA or +31 20 638 05 97 in Europe.

Intial: WBH
Date: 2/29/07

METALS STANDARD DOCUMENTATION

Standard:	Sodium 10000ppm Stock Std	**ME #:**	0702003
Date Received/Prepped:	2/20/2007	**By:**	WBH
Date Expired:	8/16/2008	**Lot #:**	07B057
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	1% HNO3	**NIST SRM:**	3152a
Amount:	250 mL	Room temp. storage	

Component	Comment	Conc. Unit:
Na	P/N 4400-10M521	10000 ppm

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CERTIFICATE OF ANALYSIS

M20702003

P/N 4400-10M521
P/N S4400-10M521

Single-Element Sodium Standard
Na in 1% HNO_3
10,000 ± 30 µg/mL

Lot # 07B057

Material Source: Sodium Nitrate ($NaNO_3$)
Source Purity: 99.99%
Specific Gravity: 1.053 @ 21 °C

This standard solution was prepared using high-purity salt, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3152a. Trace impurities of the standard solution at 1000µg/mL were analyzed by ICP-MS.

	ppb	DL		ppb	DL		ppb	DL		ppb	DL		ppb	DL
Al	1.5	0.1	Cu	0.45	0.1	Pb	ND	0.1	K	ND	70	Tl	ND	0.1
Sb	ND	0.1	Dy	ND	0.1	Li	ND	0.4	Pr	ND	0.1	Th	ND	0.1
As	ND	6	Er	ND	0.1	Lu	ND	1	Re	ND	0.1	Tm	ND	0.1
Ba	0.13	0.1	Eu	ND	0.1	Mg	2.3	0.2	Rh	ND	0.1	Sn	ND	0.1
Be	ND	0.1	Gd	ND	0.1	Mn	ND	1	Rb	ND	0.1	Ti	ND	0.1
Bi	ND	0.1	Ga	ND	0.1	Hg	ND	0.2	Ru	ND	0.1	W	ND	0.1
B	ND	4	Ge	ND	0.1	Mo	ND	0.1	Sm	ND	0.1	U	ND	0.1
Br	ND	10	Au	ND	0.1	Nd	ND	0.1	Se	ND	6	V	ND	1
Cd	ND	0.1	Hf	ND	0.1	Ni	0.4	0.1	Si	50	8	Yb	ND	0.1
Ca	120	7	Ho	ND	0.1	Nb	ND	0.1	Ag	ND	0.1	Y	ND	0.1
Ce	ND	0.1	I	ND	0.2	Os	ND	0.1	Na	X	1	Zn	2.9	2
Cs	ND	0.1	Ir	ND	0.1	Pd	ND	0.1	Sr	1	0.1	Zr	ND	0.1
Cr	ND	1	Fe	ND	30	P	18	10	Ta	ND	0.1			
Co	ND	0.1	La	ND	0.1	Pt	ND	0.1	Te	ND	0.1			

X=Major Element INT=Interference from Major Element ND=Not Detected DL=Detection Limit

Accuracy and stability are guaranteed to within plus or minus 0.3% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the United States or +31 20 638 05 97 in Europe.

Intial: WBH
Date: 2/20/07

METALS STANDARD DOCUMENTATION

Standard:	Calcium 10000ppm Stock Std	**ME #:**	0702002
Date Received/Prepped:	2/20/2007	**By:**	WBH
Date Expired:	8/16/2008	**Lot #:**	07B065
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	4% HNO3	**NIST SRM:**	3109a
Amount:	250 mL	Room temp. storage	

Component	Comment	Conc.	Unit:
Ca	P/N 4400-10M91	10000	ppm

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CERTIFICATE OF ANALYSIS

P/N 4400-10M91
P/N S4400-10M91

1F0702602

Single-Element Calcium Standard
Ca in 4% HNO_3
10,000 ± 30 µg/mL

Lot # 07B065

Material Source: Calcium Carbonate ($CaCO_3$)
Source Purity: 99.997%
Specific Gravity: 1.035 @ 21 °C

This standard solution was prepared using high-purity salt, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3109a. Trace impurities of the standard solution at 1000 µg/mL were analyzed by ICP-MS.

	ppb	DL
Al	7	0.1
Sb	ND	0.1
As	ND	6
Ba	1.5	0.1
Be	ND	0.1
Bi	ND	0.1
B	1.5	4
Br	ND	10
Cd	ND	0.1
Ca	X	7
Ce	ND	0.1
Cs	ND	0.1
Cr	ND	1
Co	INT	0.1

	ppb	DL
Cu	1.7	0.1
Dy	ND	0.1
Er	ND	0.1
Eu	ND	0.1
Gd	ND	0.1
Ga	ND	0.1
Ge	ND	0.1
Au	ND	0.1
Hf	ND	0.1
Ho	ND	0.1
I	0.27	0.2
Ir	ND	0.1
Fe	INT	30
La	0.41	0.1

	ppb	DL
Pb	0.23	0.1
Li	ND	0.4
Lu	ND	1
Mg	38	0.2
Mn	ND	1
Hg	ND	0.2
Mo	ND	0.1
Nd	ND	0.1
Ni	3	0.1
Nb	ND	0.1
Os	ND	0.1
Pd	ND	0.1
P	ND	10
Pt	ND	0.1

	ppb	DL
K	ND	70
Pr	ND	0.1
Re	ND	0.1
Rh	ND	0.1
Rb	ND	0.1
Ru	ND	0.1
Sm	ND	0.1
Se	ND	6
Si	47	8
Ag	ND	0.1
Na	11.6	1
Sr	55	0.1
Ta	ND	0.1
Te	ND	0.1

	ppb	DL
Tl	0.27	0.1
Th	ND	0.1
Tm	ND	0.1
Sn	ND	0.1
Ti	ND	0.1
W	ND	0.1
U	ND	0.1
V	ND	1
Yb	ND	0.1
Y	ND	0.1
Zn	3.5	2
Zr	ND	0.1

INT=Interference from Major Element ND=None Detected X=Major Element DL=Detection Limit

Accuracy and stability are guaranteed to within plus or minus 0.3% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

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Intial: WBH
Date: 2/20/07

METALS STANDARD DOCUMENTATION

Standard:	Thallium 1000ppm Stock Std	**ME #:**	0702006
Date Received/Prepped:	2/20/2007	**By:**	WBH
Date Expired:	8/16/2008	**Lot #:**	06H213
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	2% HNO3	**NIST SRM:**	3158
Amount:	100 mL	Room temp. storage	

Component	Comment	Conc. Unit:
Tl	P/N S4400-1000581	1000 ppm

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MF0702006

CERTIFICATE OF ANALYSIS

P/N 4400-1000581
P/N S4400-1000581

Single Element Thallium Standard
Tl in 2% HNO_3
1000 ± 3 µg/mL

Lot # 06H213

Material Source: Thallium metal
Source Purity: 99.999%
Specific Gravity: 1.015 @ 21 °C

This standard solution was prepared using high-purity metal, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3158. Trace impurities of the 1000 µg/mL standard were analyzed by ICP-MS.

	ppb	DL
Al	13.3	0.1
Sb	ND	0.1
As	ND	6
Ba	0.37	0.1
Be	0.67	0.1
Bi	0.12	0.1
B	ND	4
Br	ND	10
Cd	1.6	0.1
Ca	51	7
Ce	ND	0.1
Cs	0.24	0.1
Cr	ND	1
Co	ND	0.1

	ppb	DL
Cu	9.3	0.1
Dy	ND	0.1
Er	ND	0.1
Eu	ND	0.1
Gd	ND	0.1
Ga	ND	0.1
Ge	ND	0.1
Au	ND	0.1
Hf	ND	0.1
Ho	ND	0.1
I	0.4	0.2
Ir	ND	0.1
Fe	ND	30
La	ND	0.1

	Ppb	DL
Pb	41	0.1
Li	ND	0.4
Lu	ND	1
Mg	1.7	0.2
Mn	ND	1
Hg	0.16	0.2
Mo	0.21	0.1
Nd	ND	0.1
Ni	1.1	0.1
Nb	ND	0.1
Os	ND	0.1
Pd	ND	0.1
P	20	10
Pt	ND	0.1

	ppb	DL
K	ND	70
Pr	ND	0.1
Re	ND	0.1
Rh	ND	0.1
Rb	ND	0.1
Ru	ND	0.1
Sm	ND	0.1
Se	ND	6
Si	46	8
Ag	0.3	0.1
Na	3.3	1
Sr	ND	0.1
Ta	ND	0.1
Te	ND	0.1

	ppb	DL
Tl	X	0.1
Th	ND	0.1
Tm	ND	0.1
Sn	ND	0.1
Ti	0.45	0.1
W	ND	0.1
U	ND	0.1
V	ND	1
Yb	ND	0.1
Y	ND	0.1
Zn	14.7	2
Zr	ND	0.1

X=Major Element INT=Interference from Major Element DL=Detection Limit ND=None Detected

Accuracy and stability are guaranteed to within plus or minus 0.3% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654.

Intial: WBH
Date: 3/5/07

METALS STANDARD DOCUMENTATION

Standard:	Selenium Stock Standard	**ME #:**	0703001
Date Received/Prepped:	3/5/2007	**By:**	wbh
Date Expired:	8/22/2008	**Lot #:**	6.00E+228
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	2% HNO3	**NIST SRM:**	3148
Amount:	100 mL	**Storage:**	Room Temp

Component	Comment	Conc. Unit:
Se	P/N # S4400-1000491	1000 ppm

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AUG 22 08

CERTIFICATE OF ANALYSIS

P/N 4400-1000491
P/N S4400-1000491

MF0703001

Single-Element Selenium Standard
Se in 2% HNO_3
1000 ± 3 μg/mL

Lot # 06E228

Material Source: Selenium Metal
Source Purity: 99.99%
Specific Gravity: 1.011 @ 21 °C

This standard solution was prepared using high-purity metal, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3148. Trace impurities of the 1000 μg/mL standard were analyzed by ICP-MS.

	ppb	DL		ppb	DL		ppb	DL		ppb	DL		ppb	DL
Al	1.8	0.1	Cu	0.4	0.1	Pb	0.3	0.1	K	ND	70	Tl	3.6	0.1
Sb	ND	0.1	Dy	ND	0.1	Li	ND	0.4	Pr	ND	0.1	Th	ND	0.1
As	ND	6	Er	ND	0.1	Lu	ND	1	Re	ND	0.1	Tm	ND	0.1
Ba	ND	0.1	Eu	ND	0.1	Mg	1.1	0.2	Rh	ND	0.1	Sn	ND	0.1
Be	ND	0.1	Gd	ND	0.1	Mn	ND	1	Rb	ND	0.1	Ti	ND	0.1
Bi	ND	0.1	Ga	ND	0.1	Hg	ND	0.2	Ru	ND	0.1	W	ND	0.1
B	ND	4	Ge	ND	0.1	Mo	0.6	0.1	Sm	ND	0.1	U	ND	0.1
Br	INT	10	Au	ND	0.1	Nd	ND	0.1	Se	**X**	6	V	ND	1
Cd	0.4	0.1	Hf	ND	0.1	Ni	0.6	0.1	Si	40	8	Yb	ND	0.1
Ca	5	7	Ho	ND	0.1	Nb	INT	0.1	Ag	0.8	0.1	Y	ND	0.1
Ce	ND	0.1	I	0.5	0.2	Os	ND	0.1	Na	3.8	1	Zn	ND	2
Cs	ND	0.1	Ir	ND	0.1	Pd	ND	0.1	Sr	ND	0.1	Zr	INT	0.1
Cr	ND	1	Fe	ND	30	P	ND	10	Ta	ND	0.1			
Co	ND	0.1	La	ND	0.1	Pt	ND	0.1	Te	ND	0.1			

X=Major Element   INT=Interference from Major Element   DL=Detection Limit   ND=None Detected

Accuracy and stability are guaranteed to within plus or minus 0.3% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the USA or +31 20 638 05 97 in Europe.

Intial: WBH
Date: 4/16/07

METALS STANDARD DOCUMENTATION

Standard:	Lead Stock Standard	**ME #:**	0704013
Date Received/Prepped:	4/16/2007	**By:**	WBH
Date Expired:	10/11/2008	**Lot #:**	07A097
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	2% HNO3	**NIST SRM:**	3128
Amount:	100 mL	Room temp. storage	

Component	Comment	Conc. Unit:
Pb	P/N S4400-1000281	1000 ppm

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CERTIFICATE OF ANALYSIS

P/N S4400-1000281
P/N 4400-1000281

12707042013

Single-Element Lead Standard
Pb in 2% HNO_3
1000 ± 3 µg/mL

Lot # 07A097

Material Source: Lead Metal
Source Purity: 99.995 %
Specific Gravity: 1.009 @ 21 °C

This standard solution was prepared using high-purity metal, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3128. Trace impurities of the 1000 µg/mL standard were analyzed by ICP-MS.

	ppb	DL		ppb	DL		ppb	DL		ppb	DL		ppb	DL
Al	10.3	0.1	Cu	58	0.1	Pb	X	0.1	K	ND	70	Tl	0.25	0.1
Sb	ND	0.1	Dy	ND	0.1	Li	2	0.4	Pr	ND	0.1	Th	ND	0.1
As	ND	6	Er	ND	0.1	Lu	ND	1	Re	ND	0.1	Tm	ND	0.1
Ba	0.22	0.1	Eu	ND	0.1	Mg	1.4	0.2	Rh	IN	0.1	Sn	ND	0.1
Be	0.58	0.1	Gd	ND	0.1	Mn	3.8	1	Rb	ND	0.1	Ti	0.58	0.1
Bi	0.7	0.1	Ga	ND	0.1	Hg	ND	0.2	Ru	ND	0.1	W	ND	0.1
B	ND	4	Ge	ND	0.1	Mo	0.17	0.1	Sm	ND	0.1	U	ND	0.1
Br	ND	10	Au	ND	0.1	Nd	ND	0.1	Se	ND	6	V	ND	1
Cd	ND	0.1	Hf	ND	0.1	Ni	0.9	0.1	Si	31	8	Yb	ND	0.1
Ca	25	7	Ho	ND	0.1	Nb	ND	0.1	Ag	6.1	0.1	Y	ND	0.1
Ce	ND	0.1	I	0.1	0.2	Os	ND	0.1	Na	3.5	1	Zn	23	2
Cs	0.26	0.1	Ir	ND	0.1	Pd	ND	0.1	Sr	ND	0.1	Zr	INT	0.1
Cr	ND	1	Fe	ND	30	P	ND	10	Ta	ND	0.1			
Co	ND	0.1	La	ND	0.1	Pt	ND	0.1	Te	ND	0.1			

X=Major Element INT=Interference from Major Element DL=Detection Limit ND=None Detected

Accuracy and stability are guaranteed to within plus or minus 0.3% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the United States or +31 20 638 05 97 in Europe.

Intial: STE
Date: 9/24/07

METALS STANDARD DOCUMENTATION

Standard:	As Stock Standard	**ME #:** 0709023	
Date Received/Prepped:	9/24/2007	**By:** STE	
Date Expired:	10/1/2008	**Lot #:** A2-AS02035	
Manufacturer:	Inorganic Ventures	**Certificate:** Y	
Matrix:	1.4% HNO3	**NIST SRM:**	
Amount:	100 mL X2	**Storage:** Room Temp	

Component	Comment	Conc. Unit:
As	PN: CGAS1-1	1000 ug/ml

INORGANIC VENTURES
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Lakewood, New Jersey 08701 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 **INORGANIC VENTURES** is an ISO Guide 34:2000 registered Certified Reference Material (CRM) Manufacturer (Certificate #883-02). The certificate is designed and the data is determined in accordance with ISO Guide 31:2000 (Reference Materials-Contents of Certificates and Labels), ISO Guide 34:2000 "Quality System Guidelines for the Production of Reference Materials," and ISO Guide 35:1989 "Certification of Reference Materials - General and Statistical Principals."

2.0 DESCRIPTION OF CRM 1000 µg/mL Arsenic in 1.4% (abs) HNO3

Catalog Number:	CGAS1-1, CGAS1-2, and CGAS1-5
Lot Number:	**A2-AS02035**
Starting Material:	As Polycrystaline lump
Starting Material Purity (%):	99.998288
Starting Material Lot No:	23444
Matrix:	1.4% (abs) HNO3

ME0709023

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Concentration: 1000 ± 6 µg/mL

Certified Density: 1.010 g/mL (measured at 22° C)

The Certified Value is the instrument analysis value. The following equations are used in the calculation of the certified value and the uncertainty:

$$\text{Certified Value } (\bar{x}) = \frac{\Sigma x_i}{n}$$

$$\text{Uncertainty } (\pm) = \frac{2[(\Sigma s_i)^2]^{1/2}}{(n)^{1/2}}$$

($\bar{x}$) = mean
x_i = individual results
n = number of measurements
Σs_i = The summation of all significant estimated errors (Most common are the errors from instrumental measurement, weighing, dilution to volume, and the fixed error reported on the NIST SRM certificate of analysis.)

4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

- "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)
- This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

4.1 **Assay Method #1** **1000 ± 6 µg/mL**
ICP Assay NIST SRM 3103a Lot Number: 010713

Assay Method #2 **1001 ± 5 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

Date: WBH 4/1/08

METALS STANDARD DOCUMENTATION

Standard:	ICP MRL Working Stock Solution	**ME #:**	0801008
Date Received/Prepped:	Daily	**By:**	Wbh
Date Expired:	7/11/2008	**Lot #:**	
Manufacturer:	MWH-wbh	**Certificate:**	Y
5% HNO3	2% HNO3 + 5% Hcl	**NIST SRM:**	
Amount:	100 mL	Room temp. storage	

Component	Comment	Conc.	Unit:
Al	0.1mL ME0801007 / 10mL	0.05	ppm
Sb		0.05	ppm
As		0.1	ppm
Ba		0.02	ppm
Be		0.001	ppm
Ba		0.05	ppm
Cd		0.005	ppm
Ca		1	ppm
Cr		0.01	ppm
Co		0.05	ppm
Cu		0.01	ppm
Fe		0.02	ppm
Pb		0.02	ppm
Li		0.1	ppm
Mg		0.002	ppm
Mn		0.02	ppm
Mo		0.02	ppm
Ni		1	ppm
K		0.1	ppm
Se		0.01	ppm
Ag		1	ppm
Na		0.02	ppm
Tl		0.002	ppm
V		0.1	ppm
Zn		0.001	ppm
Ti		0.02	ppm
Sr		0.01	ppm
Sn		0.2	ppm

Date: 1/11/08

METALS STANDARD DOCUMENTATION

Standard:	ICP MRL Working Stock Solu	**ME #:**	0801007
Date Received/Prepped:	1/11/2008	**By:**	Wbh
Date Expired:	7/11/2008	**Lot #:**	
Manufacturer:	MWH-wbh	**Certificate:**	Y
Matrix:	5% HNO3	**NIST SRM:**	
Amount:	100 mL	Room temp. storage	

Component	Comment	Conc. Unit:
Al	10mL ME0709020 / 100mL	5 ppm
Sb		5 ppm
As		10 ppm
Ba		2 ppm
Be		0.1 ppm
Ba		5 ppm
Cd		0.5 ppm
Ca		100 ppm
Cr		1 ppm
Co		5 ppm
Cu		1 ppm
Fe		2 ppm
Pb		2 ppm
Li		10 ppm
Mg		0.2 ppm
Mn		2 ppm
Mo		2 ppm
Ni		100 ppm
K		10 ppm
Se		1 ppm
Ag		100 ppm
Na		2 ppm
Tl		0.2 ppm
V		10 ppm
Zn		0.1 ppm
Ti		2 ppm
Sr		1 ppm
Sn		20 ppm

Intial: SME
Date: 9/26/07

METALS STANDARD DOCUMENTATION

Standard: ICP MRL Stock Standard
Date Received/Prepped: 9/20/2007
Date Expired: 9/18/2008
Manufacturer: CPI
Matrix: 2% HNO3 + tr HF
Amount: 100 mL

ME #: 0709020
By:
Lot #: 06I162
Certificate: Y
NIST SRM:
Room temp. storage

Component	Comment	Conc. Unit:
Al	P/N 4400-060915RHO1	50 ppm
Sb		50 ppm
As		100 ppm
Ba		20 ppm
Be		1 ppm
Ba		50 ppm
Cd		5 ppm
Ca		1000 ppm
Cr		10 ppm
Co		50 ppm
Cu		10 ppm
Fe		20 ppm
Pb		20 ppm
Li		1 ppm
Mg		100 ppm
Mn		2 ppm
Mo		20 ppm
Ni		20 ppm
K		1000 ppm
Se		100 ppm
Ag		10 ppm
Na		1000 ppm
Tl		100 ppm
V		2 ppm
Zn		20 ppm
Ti		20 ppm
Sr		10 ppm
Sn		200 ppm

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ME0709020

Expiry 9/18/2008

Certificate of Analysis

Part Number: **4400-060915RH01**
Lot Number: **06I162**
Shelf Life: **12 months**

MWH
Custom Standard
2% HNO3 + tr HF

Concentrations in ug/mL ± 0.5%

Al	50	Pb	20	Zn	20
Sb	50	Li	1	Ti	20
As	100	Mg	100	Sr	10
Ba	20	Mn	2	Sn	200
Be	1	Mo	20		
B	50	Ni	20		
Cd	5	K	1000		
Ca	1000	Se	100		
Cr	10	Ag	10		
Co	50	Na	1000		
Cu	10	TL	100		
Fe	20	V	2		

This standard solution was prepared using high-purity starting materials, high-purity acid (if required) and 18-megaohm de-ionized water. The starting materials were weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

Starting materials were analyzed at 1000µg/mL by ICP-MS for trace impurities. The standard solution concentrations were certified instrumentally against the National Institute of Standards and Technology's SRM 3100 series, NIST approved second source and/or gravimetrically.

Accuracy and stability are guaranteed to within plus or minus 0.5% of the certified value for the stated shelf life from the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the USA, +31 20 638 05 97 in Europe or visit our web-site at www.cpiinternational.com.

Intial: CSK
Date: 6-1-08

METALS STANDARD DOCUMENTATION

Standard: INTERFERENCE CHECK STANDAF
Date Received/Prepped: 6/1/2008
Date Expired: 12/1/2008
Manufacturer: MWH-CSK
Matrix: 5% HNO3
Amount: 500 mL

ME #: 0806002
By: CSK
Lot #: various
Certificate:
NIST SRM:
Storage: Room Temp.

Component	Comment	Conc. Unit:
Al	P/N 4400-INTA1-500(25ML)	250 ppm
Ca	P/N 4400-INTB1-100(2.5ML)	250 ppm
Fe		100 ppm
Mg		250 ppm
AG		0.5 ppm
BA		0.25 ppm
BE		0.25 ppm
CD		0.5 ppm
Co		0.25 ppm
Cr3		0.25 ppm
Cu		0.5 ppm
Mn		0.25 ppm
Ni		0.25 ppm
Pb		0.25 ppm
V		0.25 ppm
Zn		0.5 ppm

Tl	100 ppm
V	100 ppm
Zn	100 ppm
Si	50 ppm

6/4/08

METALS STANDARD DOCUMENTATION

Standard:	INTERFERENCE CHECK STANDAI	**ME #:** 0806001
Date Received/Prepped:	6/1/2008	**By:** CSK
Date Expired:	12/1/2008	**Lot #:** various
Manufacturer:	MWH-CSK	**Certificate:**
Matrix:	5% HNO3	**NIST SRM:**
Amount:	500ML	**Storage:** Room Temp

Component	Comment	Conc. Unit:
AL	P/N 4400-INTA1-500	250 ppm
CA	25ML IN 500ML	250 ppm
FE		100 ppm
MG		250 ppm
AG		
BA		
BE		
CD		
CO		
CR		
CU		
MN		
NI		
PB		
V		
ZN		

Initial: STE
Date: 8/29/07

METALS STANDARD DOCUMENTATION

Standard:	CLP Analytes B Solution	**ME #:** 0708010	
Date Received/Prepped:	8/27/2007	**By:** STE	
Date Expired:	2/15/2009	**Lot #:** 07c256	
Manufacturer:	CPI International	**Certificate:**	
Matrix:	5% HNO3	**NIST SRM:**	
Amount:	100 mL	**Storage:** Room Temp.	

Component	Comment	Conc. Unit:
Ag	P/N 4400-INTB1-100	100 ug/L
Ba		50 ug/L
Be		50 ug/L
Cd		100 ug/L
Co		50 ug/L
Cr		50 ug/L
Cu		50 ug/L
Mn		50 ug/L
Ni		100 ug/L
Pb		100 ug/L
V		50 ug/L
Zn		100 ug/L

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FEB 1 5 09

ME 070 500

CERTIFICATE OF ANALYSIS

P/N 4400-INTB1-100

CLP Analytes B Solution
in 5% HNO_3

Lot # 07c256

Material Source: Metals and Salts
Source Purity: 99.99+%

Elements and Concentrations: µg/mL

Ag	100	Ba	50	Be	50	Cd	100
Co	50	Cr	50	Cu	50	Mn	50
Ni	100	Pb	100	V	50	Zn	100

This standard solution was prepared using high-purity reference materials, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting materials were weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

Starting materials were analyzed by ICP-MS for trace impurities. The standard solution concentrations were certified instrumentally against an independent source traceable to the National Institute of Standards and Technology's SRM 3100 series.

Accuracy and stability are guaranteed to within plus or minus 0.5% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the USA or +31 20 638 05 97 in Europe.

Intial: STE
Date: 8/27/07

METALS STANDARD DOCUMENTATION

Standard:	CLP Interferents A Solution	**ME #:**	0708009
Date Received/Prepped:	8/27/2007	**By:**	STE
Date Expired:	2/15/2009	**Lot #:**	07E175
Manufacturer:	CPI International	**Certificate:**	
Matrix:	5% HNO3	**NIST SRM:**	
Amount:	500 mL	**Storage:**	Room Temp.

Component	Comment	Conc. Unit:
Al	P/N 4400-INTA1-500	5000 ug/mL
Ca		5000 ug/mL
Fe		2000 ug/mL
Mg		5000 ug/mL

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CERTIFICATE OF ANALYSIS

P/N 4400-INTA1-500

CLP Interferents A Solution ME 07080C9
in 5% HNO_3

Lot # 07E175

Material Source: Metals and Salts
Source Purity: 99.99+%

Elements and Concentrations: µg/mL

Al 5000 Ca 5000 Fe 2000 Mg 5000

This standard solution was prepared using high-purity reference materials, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting materials were weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

Starting materials were analyzed by ICP-MS for trace impurities. The standard solution concentrations were certified instrumentally against an independent source traceable to the National Institute of Standards and Technology's SRM 3100 series.

Accuracy and stability are guaranteed to within plus or minus 0.5% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the USA or +31 20 638 05 97 in Europe.

Intial: WBH
Date: 1/11/08

METALS STANDARD DOCUMENTATION

Standard: ICP 1 PPM CHECK
Date Received/Prepped 1/11/2008
Date Expired: 7/11/2008
Manufacturer: MWH-wbh
Matrix: 5% HNO3
Amount: 500 mL

ME #: 0801010
By: Wbh
Lot #: VARIOUS
Certificate:
NIST SRM:
Storage: Room Tem

Component	Comment	Conc. Unit:
Ag	5mL ME0708011 /500mL	1 mg/L
Al		1 mg/L
B		1 mg/L
Ba		1 mg/L
K		10 mg/L
Na		1 mg/L
Si		1 mg/L
As	5mL ME0708012 /500mL	1 mg/L
Be		1 mg/L
Ca		1 mg/L
Cd		1 mg/L
Co		1 mg/L
Cr		1 mg/L
Cu		1 mg/L
Fe		1 mg/L
Li		1 mg/L
Mg		1 mg/L
Mn		1 mg/L
Mo		1 mg/L
Ni		1 mg/L
Pb		1 mg/L
Sb		1 mg/L
Se		1 mg/L
Sr		1 mg/L
Ti		1 mg/L
Tl		1 mg/L
V		1 mg/L
Zn		1 mg/L

Intial: STE
Date: 8/27/07

METALS STANDARD DOCUMENTATION

Standard:	QC Check Standard 21	**ME #:** 0708012	
Date Received/Prepped:	8/27/2007	**By:** STE	
Date Expired:	8/31/2008	**Lot #:** 074438H	
Manufacturer:	Crescent Chemical Co. Inc.	**Certificate:**	
Matrix:	5% HNO3/tr. F/tr Tartaric Acid	**NIST SRM:**	
Amount:	100 mL	Room temp. storage	

Component	Comment	Conc. Unit:
As	Catalog No: QC-021.1	100 ug/mL
Be		100 ug/mL
Ca		100 ug/mL
Cd		100 ug/mL
Co		100 ug/mL
Cu		100 ug/mL
Fe		100 ug/mL
Li		100 ug/mL
Mg		100 ug/mL
Mn		100 ug/mL
Mo		100 ug/mL
Ni		100 ug/mL
Pb		100 ug/mL
Sb		100 ug/mL
Se		100 ug/mL
Sr		100 ug/mL
Ti		100 ug/mL
Tl		100 ug/mL
V		100 ug/mL
Zn		100 ug/mL

ME 0708012

Laboratory Report - Certificate of Analysis

Environmental Multielement Standard

QC Check Standard 21

CATALOG NO: QC-021.1

CONTENTS: See Below

MATRIX: 5% HNO_3/tr. F^-/tr. Tartaric Acid **LOT NO.:** 074438H

This solution is intended for use as a calibration standard for plasma emission spectroscopy (ICP or DCP). It is a multielement solution, that was prepared gravimetrically to contain the elements/concentrations shown below.

In order to verify the concentration, the final solution was checked against NIST SRMS: 3102a, 3103a, 3105a, 3108, 3109a, 3112a, 3113, 3114, 3126a, 3128, 3129a, 3131a, 3132, 3134, 3136, 3149, 3153a, 3158, 3162a, 3165, and 3168a.

Concentrations are given in µg/mL unless noted otherwise.

As 100	**Be 100**	**Ca 100**	**Cd 100**	**Co 100**
Cr 100	**Cu 100**	**Fe 100**	**Li 100**	**Mg 100**
Mn 100	**Mo 100**	**Ni 100**	**Pb 100**	**Sb 100**
Se 100	**Sr 100**	**Ti 100**	**Tl 100**	**V 100**
Zn 100				

Crescent Chemical Co. Inc.

Julie M. MacIntosh

QA Manager

EXPIRES: August 2008

CRESCENT CHEMICAL CO, INC., waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Crescent Chemical Co, Inc., 2 Oval Dive, Islandia, NY 11749
(516) 348-0333 - Fax (516) 348-0913

ME070[illegible]011

Intial: STE
Date: 8/27/07

METALS STANDARD DOCUMENTATION

Standard:	QC Check Standard 7		**ME #:** 0705011
Date Received/Prepped:	8/27/2007		**By:** STE
Date Expired:	8/31/2007		**Lot #:** 074438I
Manufacturer:	Crescent Chemical Co. Inc.		**Certificate:**
Matrix:	5% HNO3		**NIST SRM:**
Amount:		100	**Storage:** Room Temp.

Component	Comment	Conc. Unit:
Ag	Catalog No: QC-007.1	100 ug/mL
Al		100 ug/mL
B		100 ug/mL
Ba		100 ug/mL
K		1000 +/- 5 ug/mL
Na		100 ug/mL
Si		50 ug/mL

ME 07 08 011

Laboratory Report - Certificate of Analysis

Environmental Multielement Standard

QC Check Standard 7

CATALOG NO: QC-007.1

CONTENTS: See Below

MATRIX: 5% HNO_3/tr. F^- **LOT NO.:** 074438I

This solution is intended for use as a calibration standard for plasma emission spectroscopy (ICP or DCP). It is a multielement solution, that was prepared gravimetrically to contain the elements/concentrations shown below.

In order to verify the concentration, the final solution was checked against NIST SRMS: 3101a, 3104a, 3107, 3141a, 3150, 3151, and 3152a.

Concentrations are given in µg/mL unless noted otherwise.

Ag 100	**Al 100**	**B 100**	**Ba 100**	**K 1,000±5**
Na 100	**Si 50.0**			

Crescent Chemical Co. Inc.

Julie M. MacIntosh
QA Manager

EXPIRES: August 2008

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Intial: CSK
Date: 05/05/08

METALS STANDARD DOCUMENTATION

Standard: ICP LINEARITY CHECK
Date Received/Prepped: 5/5/2008
Date Expired: 11/5/2008
Manufacturer: MWH-STE
Matrix: 5% HNO3
Amount: 500ML

ME #: 0805001
By: CSK
Lot #: VARIOUS
Certificate:
NIST SRM:
Storage: Room Temp

Component	Comment	Conc. Unit:
CA	15.0ML ME0702002/500ML	300 ppm
K	15.0ML ME0702005/500ML	300 ppm
MG	10.0ML ME0702004/500ML	200 ppm
NA	15.0ML ME0702003/500ML	300 ppm
FE	5.0ML ME0701008/500ML	100 ppm

Intial: WBH
Date: 2/20/07

METALS STANDARD DOCUMENTATION

Standard:	Potassium 10000ppm Stock Std	**ME #:**	0702005
Date Received/Prepped:	2/20/2007	**By:**	WBH
Date Expired:	8/16/2008	**Lot #:**	07B056
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	1% HNO3	**NIST SRM:**	3141
Amount:	250 mL	Room temp. storage	

Component	Comment	Conc.	Unit:
K	P/N 4400-10M411	10000	ppm

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CERTIFICATE OF ANALYSIS

M20702005

P/N 4400-10M411
P/N S4400-10M411

Single-Element Potassium Standard
K in 1% HNO_3
10,000 ± 30 µg/mL

Lot # 07B056

Material Source: Potassium Nitrate (KNO_3)
Source Purity: 99.999%
Specific Gravity: 1.019 @ 21 °C

This standard solution was prepared using high-purity salt, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3141. Trace impurities of the standard solution at 1000µg/mL were analyzed by ICP-MS.

	ppb	DL		ppb	DL		ppb	DL		ppb	DL		ppb	DL
Al	0.39	0.1	Cu	0.16	0.1	Pb	ND	0.1	K	X	70	Tl	ND	0.1
Sb	0.34	0.1	Dy	ND	0.1	Li	ND	0.4	Pr	ND	0.1	Th	ND	0.1
As	ND	6	Er	ND	0.1	Lu	ND	1	Re	ND	0.1	Tm	ND	0.1
Ba	0.14	0.1	Eu	ND	0.1	Mg	2.6	0.2	Rh	ND	0.1	Sn	0.17	0.1
Be	ND	0.1	Gd	ND	0.1	Mn	0.93	1	Rb	9.5	0.1	Ti	ND	0.1
Bi	ND	0.1	Ga	ND	0.1	Hg	ND	0.2	Ru	ND	0.1	W	ND	0.1
B	ND	4	Ge	ND	0.1	Mo	ND	0.1	Sm	ND	0.1	U	ND	0.1
Br	ND	10	Au	ND	0.1	Nd	ND	0.1	Se	ND	6	V	ND	1
Cd	ND	0.1	Hf	ND	0.1	Ni	0.4	0.1	Si	50	20	Yb	ND	0.1
Ca	82	7	Ho	ND	0.1	Nb	ND	0.1	Ag	ND	0.1	Y	ND	0.1
Ce	ND	0.1	I	ND	0.2	Os	ND	0.1	Na	19	1	Zn	2.9	1
Cs	ND	0.1	Ir	ND	0.1	Pd	ND	0.1	Sr	1	0.1	Zr	ND	0.1
Cr	ND	1	Fe	ND	30	P	18	10	Ta	ND	0.1			
Co	ND	0.1	La	ND	0.1	Pt	ND	0.1	Te	ND	0.1			

X=Major Element INT=Interference from Major Element ND=Not Detected DL=Detection Limit

Accuracy and stability are guaranteed to within plus or minus 0.3% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the USA or +31 20 638 05 97 in Europe.

Intial: WBH
Date: 2/20/07

METALS STANDARD DOCUMENTATION

Standard:	Magnessium 10000ppm Stock Std	**ME #:**	0702004
Date Received/Prepped:	2/20/2007	**By:**	WBH
Date Expired:	8/16/2008	**Lot #:**	07B058
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	4% HNO3	**NIST SRM:**	3131
Amount:	250 mL	Room temp. storage	

Component	Comment	Conc. Unit:
Mg	P/N 4400-10M311	10000 ppm

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CERTIFICATE OF ANALYSIS

4/20/2004

P/N 4400-10M311
P/N S4400-10M311

Single-Element Magnesium Standard
Mg in 4% HNO_3
10,000 ± 30 µg/mL

Lot # 07B058

Material Source: Magnesium Metal
Source Purity: 99.99%
Specific Gravity: 1.056 @ 21 °C

This standard solution was prepared using high-purity metal, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3131. Trace impurities of the standard solution at 1000 µg/mL were analyzed by ICP-MS.

	ppb	DL		ppb	DL		ppb	DL		ppb	DL		ppb	DL
Al	28	0.1	Cu	1.6	0.1	Pb	7.7	0.7	K	ND	70	Tl	0.91	0.1
Sb	ND	0.1	Dy	ND	0.1	Li	ND	0.4	Pr	0.28	0.1	Th	ND	0.1
As	ND	6	Er	ND	0.1	Lu	ND	1	Re	ND	0.1	Tm	ND	0.1
Ba	0.28	0.1	Eu	ND	0.1	Mg	X	0.2	Rh	ND	0.1	Sn	0.14	0.1
Be	ND	0.1	Gd	0.23	0.1	Mn	19.8	1	Rb	ND	0.1	Ti	ND	0.1
Bi	ND	0.1	Ga	0.18	0.1	Hg	ND	0.2	Ru	ND	0.1	W	ND	0.1
B	ND	4	Ge	ND	0.1	Mo	ND	0.1	Sm	ND	0.1	U	ND	0.1
Br	ND	10	Au	ND	0.1	Nd	1.1	0.1	Se	ND	6	V	ND	1
Cd	ND	0.1	Hf	ND	0.1	Ni	1	0.1	Si	64	20	Yb	ND	0.1
Ca	ND	7	Ho	ND	0.1	Nb	ND	0.1	Ag	0.19	0.1	Y	0.2	0.1
Ce	2.1	0.1	I	1	0.2	Os	ND	0.1	Na	7.2	1	Zn	ND	1
Cs	ND	0.1	Ir	ND	0.1	Pd	ND	0.1	Sr	0.19	0.1	Zr	0.29	0.1
Cr	ND	1	Fe	80	30	P	ND	10	Ta	ND	0.1			
Co	ND	0.1	La	0.76	0.1	Pt	ND	0.1	Te	ND	0.1			

X=Major Element INT=Interference from Major Element ND=Not Detected DL=Detection Limit

Accuracy and stability are guaranteed to within plus or minus 0.3% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the USA or +31 20 638 05 97 in Europe.

Intial: WBH
Date: 2/20/07

METALS STANDARD DOCUMENTATION

Standard:	Sodium 10000ppm Stock Std	**ME #:**	0702003
Date Received/Prepped:	2/20/2007	**By:**	WBH
Date Expired:	8/16/2008	**Lot #:**	07B057
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	1% HNO3	**NIST SRM:**	3152a
Amount:	250 mL	Room temp. storage	

Component	Comment	Conc. Unit:
Na	P/N 4400-10M521	10000 ppm

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CERTIFICATE OF ANALYSIS

M70702003

P/N 4400-10M521
P/N S4400-10M521

Single-Element Sodium Standard
Na in 1% HNO_3
10,000 ± 30 µg/mL

Lot # 07B057

Material Source: Sodium Nitrate ($NaNO_3$)
Source Purity: 99.99%
Specific Gravity: 1.053 @ 21 °C

This standard solution was prepared using high-purity salt, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3152a. Trace impurities of the standard solution at 1000µg/mL were analyzed by ICP-MS.

	ppb	DL		ppb	DL		ppb	DL		ppb	DL		ppb	DL
Al	1.5	0.1	Cu	0.45	0.1	Pb	ND	0.1	K	ND	70	Tl	ND	0.1
Sb	ND	0.1	Dy	ND	0.1	Li	ND	0.4	Pr	ND	0.1	Th	ND	0.1
As	ND	6	Er	ND	0.1	Lu	ND	1	Re	ND	0.1	Tm	ND	0.1
Ba	0.13	0.1	Eu	ND	0.1	Mg	2.3	0.2	Rh	ND	0.1	Sn	ND	0.1
Be	ND	0.1	Gd	ND	0.1	Mn	ND	1	Rb	ND	0.1	Ti	ND	0.1
Bi	ND	0.1	Ga	ND	0.1	Hg	ND	0.2	Ru	ND	0.1	W	ND	0.1
B	ND	4	Ge	ND	0.1	Mo	ND	0.1	Sm	ND	0.1	U	ND	0.1
Br	ND	10	Au	ND	0.1	Nd	ND	0.1	Se	ND	6	V	ND	1
Cd	ND	0.1	Hf	ND	0.1	Ni	0.4	0.1	Si	50	8	Yb	ND	0.1
Ca	120	7	Ho	ND	0.1	Nb	ND	0.1	Ag	ND	0.1	Y	ND	0.1
Ce	ND	0.1	I	ND	0.2	Os	ND	0.1	Na	X	1	Zn	2.9	2
Cs	ND	0.1	Ir	ND	0.1	Pd	ND	0.1	Sr	1	0.1	Zr	ND	0.1
Cr	ND	1	Fe	ND	30	P	18	10	Ta	ND	0.1			
Co	ND	0.1	La	ND	0.1	Pt	ND	0.1	Te	ND	0.1			

X=Major Element INT=Interference from Major Element ND=Not Detected DL=Detection Limit

Accuracy and stability are guaranteed to within plus or minus 0.3% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

For questions or comments please call 1-800-878-7654 in the United States or +31 20 638 05 97 in Europe.

Intial: WBH
Date: 2/20/07

METALS STANDARD DOCUMENTATION

Standard:	Calcium 10000ppm Stock Std	**ME #:**	0702002
Date Received/Prepped:	2/20/2007	**By:**	WBH
Date Expired:	8/16/2008	**Lot #:**	07B065
Manufacturer:	CPI	**Certificate:**	Y
Matrix:	4% HNO3	**NIST SRM:**	3109a
Amount:	250 mL	Room temp. storage	

Component	Comment	Conc. Unit:
Ca	P/N 4400-10M91	10000 ppm

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CERTIFICATE OF ANALYSIS

P/N 4400-10M91
P/N S4400-10M91

1F0702602

Single-Element Calcium Standard
Ca in 4% HNO_3
10,000 ± 30 µg/mL

Lot # 07B065

Material Source: Calcium Carbonate ($CaCO_3$)
Source Purity: 99.997%
Specific Gravity: 1.035 @ 21 °C

This standard solution was prepared using high-purity salt, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3109a. Trace impurities of the standard solution at 1000 µg/mL were analyzed by ICP-MS.

	ppb	DL
Al	7	0.1
Sb	ND	0.1
As	ND	6
Ba	1.5	0.1
Be	ND	0.1
Bi	ND	0.1
B	1.5	4
Br	ND	10
Cd	ND	0.1
Ca	X	7
Ce	ND	0.1
Cs	ND	0.1
Cr	ND	1
Co	INT	0.1

	ppb	DL
Cu	1.7	0.1
Dy	ND	0.1
Er	ND	0.1
Eu	ND	0.1
Gd	ND	0.1
Ga	ND	0.1
Ge	ND	0.1
Au	ND	0.1
Hf	ND	0.1
Ho	ND	0.1
I	0.27	0.2
Ir	ND	0.1
Fe	INT	30
La	0.41	0.1

	ppb	DL
Pb	0.23	0.1
Li	ND	0.4
Lu	ND	1
Mg	38	0.2
Mn	ND	1
Hg	ND	0.2
Mo	ND	0.1
Nd	ND	0.1
Ni	3	0.1
Nb	ND	0.1
Os	ND	0.1
Pd	ND	0.1
P	ND	10
Pt	ND	0.1

	ppb	DL
K	ND	70
Pr	ND	0.1
Re	ND	0.1
Rh	ND	0.1
Rb	ND	0.1
Ru	ND	0.1
Sm	ND	0.1
Se	ND	6
Si	47	8
Ag	ND	0.1
Na	11.6	1
Sr	55	0.1
Ta	ND	0.1
Te	ND	0.1

	ppb	DL
Tl	0.27	0.1
Th	ND	0.1
Tm	ND	0.1
Sn	ND	0.1
Ti	ND	0.1
W	ND	0.1
U	ND	0.1
V	ND	1
Yb	ND	0.1
Y	ND	0.1
Zn	3.5	2
Zr	ND	0.1

INT=Interference from Major Element ND=None Detected X=Major Element DL=Detection Limit

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Intial: WBH
Date: 1/26/07

METALS STANDARD DOCUMENTATION

Standard:	FE 10000ppm Stock Std	**ME #:**	701008
Date Received/Prepped:	1/26/2007	**By:**	WBH
Date Expired:	7/19/2008	**Lot #:**	06I143
Manufacturer:	CPI	**Certificate:**	
Matrix:	4% HNO3	**NIST SRM:**	3126a
Amount:	100 mL	**Storage:**	Room Temp

Component	Comment	Conc.	Unit:
Fe	PN4400-10M261	10000	PPM

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CERTIFICATE OF ANALYSIS

PTE-701005

P/N 4400-10M261
P/N S4400-10M261

Single-Element Iron Standard
Fe in 4% HNO_3
10,000 ± 30 µg/mL

Lot # 06I143

Material Source: Iron Metal
Source Purity: 99.999%
Specific Gravity: 1.062 @ 21 °C

This standard solution was prepared using high-purity metal, sub-boiled distilled nitric acid and 18-megaohm deionized water. The starting material was weighed to five significant figures and diluted in volumetric glassware calibrated to five significant figures.

The standard solution concentration was certified by ICP against the National Institute of Standards and Technology's SRM 3126a. Trace impurities of the standard solution at 1000 µg/mL were analyzed by ICP-MS.

	ppb	DL		ppb	DL		ppb	DL		ppb	DL		ppb	DL
Al	INT	0.1	Cu	6.4	0.1	Pb	ND	0.1	K	ND	70	Tl	0.18	0.1
Sb	0.35	0.1	Dy	ND	0.1	Li	ND	0.4	Pr	ND	0.1	Th	ND	0.1
As	ND	6	Er	ND	0.1	Lu	ND	1	Re	ND	0.1	Tm	ND	0.1
Ba	ND	0.1	Eu	ND	0.1	Mg	1.3	0.2	Rh	ND	0.1	Sn	0.67	0.1
Be	ND	0.1	Gd	ND	0.1	Mn	INT	1	Rb	ND	0.1	Ti	0.21	0.1
Bi	ND	0.1	Ga	0.41	0.1	Hg	ND	0.2	Ru	ND	0.1	W	0.13	0.1
B	ND	4	Ge	INT	0.1	Mo	4.9	0.1	Sm	ND	0.1	U	ND	0.1
Br	ND	10	Au	ND	0.1	Nd	ND	0.1	Se	ND	6	V	ND	1
Cd	ND	0.1	Hf	ND	0.1	Ni	9.3	0.1	Si	INT	8	Yb	ND	0.1
Ca	15	7	Ho	ND	0.1	Nb	ND	0.1	Ag	ND	0.1	Y	ND	0.1
Ce	ND	0.1	I	0.34	0.2	Os	ND	0.1	Na	8	1	Zn	8.6	2
Cs	0.34	0.1	Ir	ND	0.1	Pd	ND	0.1	Sr	ND	0.1	Zr	ND	0.1
Cr	3.3	1	Fe	X	30	P	28	10	Ta	ND	0.1			
Co	12	0.1	La	ND	0.1	Pt	ND	0.1	Te	ND	0.1			

INT=Interference from Major Element ND=Not Detected X=Major Element DL=Detection Limit

Accuracy and stability are guaranteed to within plus or minus 0.3% of the certified value for 18 months after the date of shipment. The solution should be kept tightly capped and stored under normal laboratory conditions. See attached MSDS for proper handling information.

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Project No. _____

Book No. _____ TITLE _____

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LOG #	CLIENT	SX ID	MIX	VOLUME	COMMENTS
	200.7	06-30-08	JRR		HNO_3 100452
BLANK	DIGEST				HCl 100456
LCS					LCS / SPK
LCSD					ME 0709009
2806190595	[redacted]	18E48	AQ	50ML→50ML	ME 0803001 3
↓ MS	↓	↓	↓	↓	ME 0802001 → 0
↓ MSD	↓	↓	↓	↓	
2806250566	[redacted]	FINAL EFFLUENT			
↓ MS	↓	↓			
↓ MSD	↓	↓			
2806180344	[redacted]				
↓ 0345	[redacted]				
2806190596	↓	GF 56			
2806200356	[redacted]	100228			
↓ 0358	↓	100243			
2806240538	FERRICCLEE	EFFLUENT			
↓ 0540	↓	INFLUENT			
2806250254	X[redacted]	MW-2			
0255	XS	MW-3			
0256	XS	MW-4			
0257	XS	MW-5			
0258	XS	MW-6			
0259	XS	MW-7			
0260	XS	MW-8			
2806250143	[redacted]	NCL-3			
0147		DW-CUL-1			
0159		DW-TMP-1			
2806260194	FERRICCLEE	M-100	60 10 ←		6010 ←
	200.7	06-30 08	JRR		
	DIGEST				
	08 06 30				

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Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by	

TITLE _____ Project No. _____ Book No. _____

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LOG #	CLIENT	SX - SD	MIX	VOLUME	COMMENTS
	2007	06-30-08	JR2		HNO3 100452
BLANK	DIGEST				HCl 100456
LCS					CCS/SPK
LCSD					ME 070909
2806250685	[redacted]	120718	AQ	50ML → 50ML	ME 080301 →
MS					ME 080201 →
MSD					
2806250695	[redacted]	120715			MRL
MS					ME 070920 →
MSD					
2806250165	[redacted]	DW CAL #1			HOTBLOCK #1
0176		CB # 6			IM: 1/10/96
0200		MW20RA			CN:
0206		CB # 17			
0223		BST-2 CB # 3			
2806250684	[redacted]	120717			
0686		120719			
0687		120720			
0688		120721			
0689		120698			
0693		120714			
0696		120716			
0697		120724			
0698		120722			
0699		120723			
0700		120838			
0701		120830			
2806260200	[redacted]	SAMPLE POINT			
	2007 DIGEST	06-30-08	JRP		
	680	630			

To Page

Witnessed & Understood by me, | Date | Invented by | Date | Recorded by