

PREP BATCH REPORT

Prep Code: **PRP-3010**
 Prep Batch **163745** Prep Temp **92 °C**

Technician: **Amanda E. McDaniels**
 Batch Units: **ML**

Prep Start Date: **2/14/2022 12:54:35 P**
 Prep End Date: **2/15/2022 9:46:00 AM**

Sample ID	Matrix	pH	Initial Samp Amt	Sol Added	Sol Recovered	Final Vol (mL)	Factor	Balance	Prep Start Date	Prep End Date
MB-163745			50	0	0	50	1		2/14/2022	2/15/2022
	Temp cell C2, supervised by JPV									
LCS4-163745			50	0	0	50	1		2/14/2022	2/15/2022
B22020962-001B	Ground Water		50	0	0	50	1		2/14/2022	2/15/2022
B22020962-001BMS4			50	0	0	50	1		2/14/2022	2/15/2022
B22020962-001BMSD4			50	0	0	50	1		2/14/2022	2/15/2022
B22020962-006B	Ground Water		50	0	0	50	1		2/14/2022	2/15/2022
B22020962-011B	Ground Water		50	0	0	50	1		2/14/2022	2/15/2022
B22020962-016B	Ground Water		50	0	0	50	1		2/14/2022	2/15/2022
B22020962-021B	Ground Water		50	0	0	50	1		2/14/2022	2/15/2022
B22020962-026B	Ground Water		50	0	0	50	1		2/14/2022	2/15/2022
B22020962-031B	Ground Water		50	0	0	50	1		2/14/2022	2/15/2022

Number	Reagent Name	Exp Date	
13910	Hydrochloric Acid, 36.5-38.0% 0000281827	3/29/2026	1 mL
14377	50mL DigiTubes J521901-2029	10/12/2022	
14778	Nitric Acid, 69.0-70.0% D0521	1/18/2027	6 mL

Spk ID	Spike Name	SampType	AmtAdd	Exp Date
ME211202 EL200	EL-200.2MS	LCS4/MS4	0.05 mL	12/2/2022
ME220125 EL-MS	EL-MSICV-2	LCS4/MS4	0.05 ml	1/25/2023
ME220208 AUDI	AUDIGSPK	LCS4/MS4	0.05 ml	10/25/2022

Energy Laboratories Inc

ANALYTICAL RUN Summary

24-Feb-22

Run ID ICPMS207-B_220218B

Run Start Date:	2/18/2022 12:08:50
Analyst:	Cindy Rohrer
Ical:	0
Column ID:	
Comments:	

Instrument ID	Description
04F07114	Metals 5-50 uL Adjustable Pipette
340760037	Metals 100-1000 uL Adjustable Pipette
340760040	Metals 100-1000 uL Adjustable Pipette
440780018	Metals 1-5 mL Adjustable Pipette
440780025	Metals 1-5 mL Adjustable Pipette
841980007	1000-5000uL Pipette
841980009	1000-5000uL Pipette

Std ID	Std Name	Std Amount	Std Units	Samp Amount	Samp Units	SampType	Expiration Date
ME210901 ICSA	ICSA					ICSA	9/1/2022
ME210901 ICSAB	ICSAB					ICSAB	9/1/2022
ME211206 ICV STANDARD	ICV for ICPMS Standards					ICV	4/30/2022
ME211207 2008TS	200.8 Tune Solution						12/7/2022
ME220112 0.025 PPB STAND	0.025 ppb Standard						11/18/2022
ME220112 0.05 PPB STAND	0.5 ppb Standard						11/18/2022
ME220112 0.1 PPB STAND	0.1 ppb Standard						11/18/2022
ME220112 0.5 PPB STAND	0.5 ppb Standard						11/18/2022
ME220112 1 PPB STANDARD	1 ppb Standard						11/18/2022
ME220112 10 PPB STAND	10 ppb Standard					CCV	11/18/2022
ME220112 100 PPB STAND	100 ppb Standard					CAL8	11/18/2022
ME220112 50 PPB STAND	50 ppb Standard/CCV					CRI	11/18/2022
ME220112 SS1	SS1 ICPMS Spiking Solution					LFB/MS	12/8/2022
ME220112A 1000 PPB STAND	1000 PPB Standard					URL	11/18/2022

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046121	Rinse	ICPMS-6020-W- SAMP			2/18/2022 12:08:	1	R374975			0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046122	Rinse	ICPMS-6020-W- SAMP			2/18/2022 12:15:	1	R374975			0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046123	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 12:21:	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046124	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 12:27:	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046125	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 12:33:	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046126	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 12:40:	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046127	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 12:46:	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046128	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 12:52:	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046129	Cal Blk	ICPMS-6020-W-	SAMP		2/18/2022 12:58:	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046130	0.025 ppb STD	ICPMS-6020B-C	Cal1		2/18/2022 1:05:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.000025	0.000025		0	0	0		0.001		0%				0%
Arsenic	A	mg/L	0.000025	0.000025		0.000025	0	0		0.001		100%	80	120		0%
Barium	A	mg/L	0.000025	0.000025		0.000025	0	0		0.0003		100%	80	120		0%
Beryllium	A	mg/L	0.000025	0.000025		0.000025	0	0		0.001		100%	80	120		0%
Cadmium	A	mg/L	0.000025	0.000025		0.000025	0	0		0.001		100%	80	120		0%
Calcium	A	mg/L	0.00625	0.00625		0	0	0		1		0%				0%
Cerium	A	mg/L	0.000025	0.000025		0.000025	0	0		0.001		100%	80	120		0%
Chromium	A	mg/L	0.000025	0.000025		0.000025	0	0		0.001		100%	80	120		0%
Cobalt	A	mg/L	0.000025	0.000025		0.000025	0	0		0.001		100%	80	120		0%
Copper	A	mg/L	0.000025	0.000025		0	0	0		0.005		0%				0%
Iron	A	mg/L	0.00065	0.00065		0	0	0		0.01		0%				0%
Lanthanum	A	mg/L	0.000025	0.000025		0.000025	0	0		0.001		100%	80	120		0%
Lead	A	mg/L	0.000025	0.000025		0.000025	0	0		0.001		100%	80	120		0%
Lithium	A	mg/L	0.0003125	0.0003125		0.0003125	0	0		1		100%	80	120		0%
Magnesium	A	mg/L	0.00625	0.00625		0	0	0		1		0%				0%
Manganese	A	mg/L	0.000025	0.000025		0	0	0		0.001		0%				0%
Molybdenum	A	mg/L	0.000025	0.000025		0	0	0		0.001		0%				0%
Nickel	A	mg/L	0.000025	0.000025		0	0	0		0.005		0%				0%
Potassium	A	mg/L	0.00625	0.00625		0.00625	0	0		1		100%	80	120		0%
Selenium	A	mg/L	0.000025	0.000025		0.000025	0	0		0.005		100%	80	120		0%
Silver	A	mg/L	0.00001	0.00001		0	0	0		0.001		0%				0%
Sodium	A	mg/L	0.00625	0.00625		0.00625	0	0		1		100%	80	120		0%
Strontium	A	mg/L	0.000025	0.000025		0	0	0		0.001		0%	80	120		0%
Thallium	A	mg/L	0.000025	0.000025		0	0	0		0.001		0%				0%
Thorium	A	mg/L	0.000025	0.000025		0	0	0		0.05		0%				0%
Tin	A	mg/L	0.000025	0.000025		0	0	0		0.001		0%				0%
Titanium	A	mg/L	0.000025	0.000025		0	0	0		0.001		0%				0%
Uranium	A	mg/L	0.000025	0.000025		0.000025	0	0		0.001		100%	80	120		0%
Vanadium	A	mg/L	0.000025	0.000025		0	0	0		0.005		0%				0%
Iron, Ferrous	C	mg/L	0.00065	0.00065		0.000025	0	0		0.01	5	2600%	80	120		0% S
Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046131	0.05 ppb STD	ICPMS-6020B-C	Cal2		2/18/2022 1:12:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046131	0.05 ppb STD	ICPMS-6020B-C	Cal2		2/18/2022 1:12:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.00005	0.00005		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00005051	0.00005051		0.00005	0	0		0.001		101%	80	120	0%	
Arsenic	A	mg/L	0.00004943	0.00004943		0.00005	0	0		0.001		99%	80	120	0%	
Barium	A	mg/L	0.00005085	0.00005085		0.00005	0	0		0.0003		102%	80	120	0%	
Beryllium	A	mg/L	0.00005137	0.00005137		0.00005	0	0		0.001		103%	80	120	0%	
Boron	A	mg/L	0.00005	0.00005		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.0000387	0.0000387		0.00005	0	0		0.001		77%	80	120	0%	S
Calcium	A	mg/L	0.01245	0.01245		0.0125	0	0		1		100%	80	120	0%	
Cerium	A	mg/L	0.00005064	0.00005064		0.00005	0	0		0.001		101%	80	120	0%	
Chromium	A	mg/L	0.00004789	0.00004789		0.00005	0	0		0.001		96%	80	120	0%	
Cobalt	A	mg/L	0.00005244	0.00005244		0	0	0		0.001		0%			0%	
Copper	A	mg/L	0.00003452	0.00003452		0.00005	0	0		0.005		69%	80	120	0%	S
Iron	A	mg/L	0.001302	0.001302		0.00125	0	0		0.01		104%	80	120	0%	
Lanthanum	A	mg/L	0.00005069	0.00005069		0.00005	0	0		0.001		101%	80	120	0%	
Lead	A	mg/L	0.00005767	0.00005767		0.00005	0	0		0.001		115%	80	120	0%	
Lithium	A	mg/L	0.0006688	0.0006688		0.000625	0	0		1		107%	80	120	0%	
Magnesium	A	mg/L	0.01254	0.01254		0.0125	0	0		1		100%	80	120	0%	
Manganese	A	mg/L	0.00004983	0.00004983		0.00005	0	0		0.001		100%	80	120	0%	
Mercury	A	mg/L	0.000001	0.000001		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00005086	0.00005086		0.00005	0	0		0.001		102%	80	120	0%	
Nickel	A	mg/L	0.00004618	0.00004618		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.0107	0.0107		0.0125	0	0		1		86%	80	120	0%	
Selenium	A	mg/L	0.0000529	0.0000529		0.00005	0	0		0.005		106%	80	120	0%	
Silicon	A	mg/L	0.0002	0.0002		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.0000209	0.0000209		0.00002	0	0		0.001		104%	80	120	0%	
Sodium	A	mg/L	0.00976	0.00976		0.0125	0	0		1		78%	80	120	0%	S
Strontium	A	mg/L	0.00005121	0.00005121		0.00005	0	0		0.001		102%	80	120	0%	
Thallium	A	mg/L	0.00005193	0.00005193		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.00005289	0.00005289		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.00004061	0.00004061		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.00002803	0.00002803		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00005073	0.00005073		0.00005	0	0		0.001		101%	80	120	0%	
Vanadium	A	mg/L	0.00005098	0.00005098		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.00005	0.00005		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.001302	0.001302		0.00005	0	0		0.01	5	2604%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046131	0.05 ppb STD	ICPMS-6020B-C Cal2			2/18/2022 1:12:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon as SiO2	C	mg/L	0.000428	0.000428		0.00428	0	0		0.214	0.9	10%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046132	0.10 ppb STD	ICPMS-6020B-C Cal3			2/18/2022 1:19:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.000102	0.000102		0.0001	0	0		0.01		102%	80	120	0%	
Antimony	A	mg/L	0.0001017	0.0001017		0.0001	0	0		0.001		102%	80	120	0%	
Arsenic	A	mg/L	0.0001008	0.0001008		0.0001	0	0		0.001		101%	80	120	0%	
Barium	A	mg/L	0.0001038	0.0001038		0.0001	0	0		0.0003		104%	80	120	0%	
Beryllium	A	mg/L	0.0001016	0.0001016		0.0001	0	0		0.001		102%	80	120	0%	
Boron	A	mg/L	0.00005056	0.00005056		0	0	0		0.1		0%				0%
Cadmium	A	mg/L	0.000123	0.000123		0.0001	0	0		0.001		123%	80	120	0%	S
Calcium	A	mg/L	0.02544	0.02544		0.025	0	0		1		102%	80	120	0%	
Cerium	A	mg/L	0.0001047	0.0001047		0.0001	0	0		0.001		105%	80	120	0%	
Chromium	A	mg/L	0.00009031	0.00009031		0.0001	0	0		0.001		90%	80	120	0%	
Cobalt	A	mg/L	0.0001023	0.0001023		0.0001	0	0		0.001		102%	80	120	0%	
Copper	A	mg/L	0.0001055	0.0001055		0.0001	0	0		0.005		106%	80	120	0%	
Iron	A	mg/L	0.002652	0.002652		0.0025	0	0		0.01		106%	80	120	0%	
Lanthanum	A	mg/L	0.0001046	0.0001046		0.0001	0	0		0.001		105%	80	120	0%	
Lead	A	mg/L	0.0001112	0.0001112		0.0001	0	0		0.001		111%	80	120	0%	
Lithium	A	mg/L	0.001316	0.001316		0.00125	0	0		1		105%	80	120	0%	
Magnesium	A	mg/L	0.02615	0.02615		0.025	0	0		1		105%	80	120	0%	
Manganese	A	mg/L	0.0001052	0.0001052		0.0001	0	0		0.001		105%	80	120	0%	
Mercury	A	mg/L	1.409E-06	1.409E-06		0.000002	0	0		0.001		70%	80	120	0%	S
Molybdenum	A	mg/L	0.0000999	0.0000999		0.0001	0	0		0.001		100%	80	120	0%	
Nickel	A	mg/L	0.000106	0.000106		0.0001	0	0		0.005		106%	80	120	0%	
Potassium	A	mg/L	0.02596	0.02596		0.025	0	0		1		104%	80	120	0%	
Selenium	A	mg/L	0.0001043	0.0001043		0.0001	0	0		0.005		104%	80	120	0%	
Silicon	A	mg/L	0.0004313	0.0004313		0.0004	0	0		0.1		108%	80	120	0%	
Silver	A	mg/L	0.00004044	0.00004044		0.00004	0	0		0.001		101%	80	120	0%	
Sodium	A	mg/L	0.02749	0.02749		0.025	0	0		1		110%	80	120	0%	
Strontium	A	mg/L	0.0001014	0.0001014		0.0001	0	0		0.001		101%	80	120	0%	
Thallium	A	mg/L	0.0001065	0.0001065		0.0001	0	0		0.001		107%	80	120	0%	
Thorium	A	mg/L	0.0001088	0.0001088		0.0001	0	0		0.05		109%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046132	0.10 ppb STD	ICPMS-6020B-C Cal3			2/18/2022 1:19:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.00007601	0.00007601		0.0001	0	0		0.001		76%	80	120	0%	S
Titanium	A	mg/L	0.00008509	0.00008509		0.0001	0	0		0.001		85%	80	120	0%	
Uranium	A	mg/L	0.0001017	0.0001017		0.0001	0	0		0.001		102%	80	120	0%	
Vanadium	A	mg/L	0.0001022	0.0001022		0.0001	0	0		0.005		102%	80	120	0%	
Zinc	A	mg/L	0.0001417	0.0001417		0.0001	0	0		0.01		142%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.002652	0.002652		0.0001	0	0		0.01	5	2652%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.00092298	0.00092298		0.00856	0	0		0.214	0.9	11%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046133	0.5 ppb STD	ICPMS-6020B-C Cal4			2/18/2022 1:25:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0005042	0.0005042		0.0005	0	0		0.01		101%	80	120	0%	
Antimony	A	mg/L	0.0004971	0.0004971		0.0005	0	0		0.001		99%	80	120	0%	
Arsenic	A	mg/L	0.0004886	0.0004886		0.0005	0	0		0.001		98%	80	120	0%	
Barium	A	mg/L	0.000497	0.000497		0.0005	0	0		0.0003		99%	80	120	0%	
Beryllium	A	mg/L	0.0004977	0.0004977		0.0005	0	0		0.001		100%	80	120	0%	
Boron	A	mg/L	0.0005416	0.0005416		0.0005	0	0		0.1		108%	80	120	0%	
Cadmium	A	mg/L	0.000506	0.000506		0.0005	0	0		0.001		101%	80	120	0%	
Calcium	A	mg/L	0.1237	0.1237		0.125	0	0		1		99%	80	120	0%	
Cerium	A	mg/L	0.0004957	0.0004957		0.0005	0	0		0.001		99%	80	120	0%	
Chromium	A	mg/L	0.0004943	0.0004943		0.0005	0	0		0.001		99%	80	120	0%	
Cobalt	A	mg/L	0.000494	0.000494		0.0005	0	0		0.001		99%	80	120	0%	
Copper	A	mg/L	0.0004945	0.0004945		0.0005	0	0		0.005		99%	80	120	0%	
Iron	A	mg/L	0.01288	0.01288		0.0125	0	0		0.01		103%	80	120	0%	
Lanthanum	A	mg/L	0.0004958	0.0004958		0.0005	0	0		0.001		99%	80	120	0%	
Lead	A	mg/L	0.000505	0.000505		0.0005	0	0		0.001		101%	80	120	0%	
Lithium	A	mg/L	0.006252	0.006252		0.00625	0	0		1		100%	80	120	0%	
Magnesium	A	mg/L	0.124	0.124		0.125	0	0		1		99%	80	120	0%	
Manganese	A	mg/L	0.0004936	0.0004936		0.0005	0	0		0.001		99%	80	120	0%	
Mercury	A	mg/L	5.752E-06	5.752E-06		0.00001	0	0		0.001		58%	80	120	0%	S
Molybdenum	A	mg/L	0.0004973	0.0004973		0.0005	0	0		0.001		99%	80	120	0%	
Nickel	A	mg/L	0.0004944	0.0004944		0.0005	0	0		0.005		99%	80	120	0%	
Potassium	A	mg/L	0.1229	0.1229		0.125	0	0		1		98%	80	120	0%	
Selenium	A	mg/L	0.0004968	0.0004968		0.0005	0	0		0.005		99%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046133	0.5 ppb STD	ICPMS-6020B-C Cal4			2/18/2022 1:25:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon	A	mg/L	0.002046	0.002046		0.002	0	0		0.1		102%	80	120	0%	
Silver	A	mg/L	0.0001998	0.0001998		0.0002	0	0		0.001		100%	80	120	0%	
Sodium	A	mg/L	0.1259	0.1259		0.125	0	0		1		101%	80	120	0%	
Strontium	A	mg/L	0.0004943	0.0004943		0.0005	0	0		0.001		99%	80	120	0%	
Thallium	A	mg/L	0.0004998	0.0004998		0.0005	0	0		0.001		100%	80	120	0%	
Thorium	A	mg/L	0.0005018	0.0005018		0.0005	0	0		0.05		100%	80	120	0%	
Tin	A	mg/L	0.000393	0.000393		0.0005	0	0		0.001		79%	80	120	0%	S
Titanium	A	mg/L	0.0004839	0.0004839		0.0005	0	0		0.001		97%	80	120	0%	
Uranium	A	mg/L	0.0004958	0.0004958		0.0005	0	0		0.001		99%	80	120	0%	
Vanadium	A	mg/L	0.000472	0.000472		0.0005	0	0		0.005		94%	80	120	0%	
Zinc	A	mg/L	0.0004962	0.0004962		0.0005	0	0		0.01		99%	80	120	0%	
Iron, Ferrous	C	mg/L	0.01288	0.01288		0.0005	0	0		0.01	5	2576%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.00437844	0.00437844		0.0428	0	0		0.214	0.9	10%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046134	1 ppb STD	ICPMS-6020B-C Cal5			2/18/2022 1:32:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001013	0.001013		0.001	0	0		0.01		101%	80	120	0%	
Antimony	A	mg/L	0.0009993	0.0009993		0.001	0	0		0.001		100%	80	120	0%	
Arsenic	A	mg/L	0.0009974	0.0009974		0.001	0	0		0.001		100%	80	120	0%	
Barium	A	mg/L	0.0009866	0.0009866		0.001	0	0		0.0003		99%	80	120	0%	
Beryllium	A	mg/L	0.001012	0.001012		0.001	0	0		0.001		101%	80	120	0%	
Boron	A	mg/L	0.001076	0.001076		0.001	0	0		0.1		108%	80	120	0%	
Cadmium	A	mg/L	0.001012	0.001012		0.001	0	0		0.001		101%	80	120	0%	
Calcium	A	mg/L	0.26	0.26		0.25	0	0		1		104%	80	120	0%	
Cerium	A	mg/L	0.001024	0.001024		0.001	0	0		0.001		102%	80	120	0%	
Chromium	A	mg/L	0.001007	0.001007		0.001	0	0		0.001		101%	80	120	0%	
Cobalt	A	mg/L	0.00101	0.00101		0.001	0	0		0.001		101%	80	120	0%	
Copper	A	mg/L	0.001018	0.001018		0.001	0	0		0.005		102%	80	120	0%	
Iron	A	mg/L	0.02702	0.02702		0.025	0	0		0.01		108%	80	120	0%	
Lanthanum	A	mg/L	0.001018	0.001018		0.001	0	0		0.001		102%	80	120	0%	
Lead	A	mg/L	0.001015	0.001015		0.001	0	0		0.001		101%	80	120	0%	
Lithium	A	mg/L	0.01268	0.01268		0.0125	0	0		1		101%	80	120	0%	
Magnesium	A	mg/L	0.2565	0.2565		0.25	0	0		1		103%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046134	1 ppb STD	ICPMS-6020B-C Cal5			2/18/2022 1:32:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.001021	0.001021		0.001	0	0		0.001		102%	80	120	0%	
Mercury	A	mg/L	0.00007184	0.00007184		0.00002	0	0		0.001		359%	80	120	0%	S
Molybdenum	A	mg/L	0.001006	0.001006		0.001	0	0		0.001		101%	80	120	0%	
Nickel	A	mg/L	0.0009968	0.0009968		0.001	0	0		0.005		100%	80	120	0%	
Potassium	A	mg/L	0.251	0.251		0.25	0	0		1		100%	80	120	0%	
Selenium	A	mg/L	0.00104	0.00104		0.001	0	0		0.005		104%	80	120	0%	
Silicon	A	mg/L	0.0044	0.0044		0.004	0	0		0.1		110%	80	120	0%	
Silver	A	mg/L	0.0004021	0.0004021		0.0004	0	0		0.001		101%	80	120	0%	
Sodium	A	mg/L	0.2596	0.2596		0.25	0	0		1		104%	80	120	0%	
Strontium	A	mg/L	0.00102	0.00102		0.001	0	0		0.001		102%	80	120	0%	
Thallium	A	mg/L	0.001019	0.001019		0.001	0	0		0.001		102%	80	120	0%	
Thorium	A	mg/L	0.001044	0.001044		0.001	0	0		0.05		104%	80	120	0%	
Tin	A	mg/L	0.0007654	0.0007654		0.001	0	0		0.001		77%	80	120	0%	S
Titanium	A	mg/L	0.001001	0.001001		0.001	0	0		0.001		100%	80	120	0%	
Uranium	A	mg/L	0.001007	0.001007		0.001	0	0		0.001		101%	80	120	0%	
Vanadium	A	mg/L	0.0009047	0.0009047		0.001	0	0		0.005		90%	80	120	0%	
Zinc	A	mg/L	0.001011	0.001011		0.001	0	0		0.01		101%	80	120	0%	
Iron, Ferrous	C	mg/L	0.02702	0.02702		0.001	0	0		0.01	5	2702%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.009416	0.009416		0.0856	0	0		0.214	0.9	11%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046135	10 ppb STD	ICPMS-6020B-C Cal6			2/18/2022 1:38:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.01002	0.01002		0.01	0	0		0.01		100%	90	110	0%	
Antimony	A	mg/L	0.01001	0.01001		0.01	0	0		0.001		100%	90	110	0%	
Arsenic	A	mg/L	0.009983	0.009983		0.01	0	0		0.001		100%	90	110	0%	
Barium	A	mg/L	0.01001	0.01001		0.01	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	0.01001	0.01001		0.01	0	0		0.001		100%	90	110	0%	
Boron	A	mg/L	0.01003	0.01003		0.01	0	0		0.1		100%	90	110	0%	
Cadmium	A	mg/L	0.01001	0.01001		0.01	0	0		0.001		100%	90	110	0%	
Calcium	A	mg/L	2.494	2.494		2.5	0	0		1		100%	90	110	0%	
Cerium	A	mg/L	0.00999	0.00999		0.01	0	0		0.001		100%	90	110	0%	
Chromium	A	mg/L	0.009989	0.009989		0.01	0	0		0.001		100%	90	110	0%	
Cobalt	A	mg/L	0.01	0.01		0.01	0	0		0.001		100%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046135	10 ppb STD	ICPMS-6020B-C Cal6			2/18/2022 1:38:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.009989	0.009989		0.01	0	0		0.005		100%	90	110	0%	
Iron	A	mg/L	0.2594	0.2594		0.25	0	0		0.01		104%	90	110	0%	
Lanthanum	A	mg/L	0.009992	0.009992		0.01	0	0		0.001		100%	90	110	0%	
Lead	A	mg/L	0.01002	0.01002		0.01	0	0		0.001		100%	90	110	0%	
Lithium	A	mg/L	0.1251	0.1251		0.125	0	0		1		100%	90	110	0%	
Magnesium	A	mg/L	2.495	2.495		2.5	0	0		1		100%	90	110	0%	
Manganese	A	mg/L	0.009987	0.009987		0.01	0	0		0.001		100%	90	110	0%	
Mercury	A	mg/L	0.0002023	0.0002023		0.0002	0	0		0.001		101%	90	110	0%	
Molybdenum	A	mg/L	0.01	0.01		0.01	0	0		0.001		100%	90	110	0%	
Nickel	A	mg/L	0.009995	0.009995		0.01	0	0		0.005		100%	90	110	0%	
Potassium	A	mg/L	2.496	2.496		2.5	0	0		1		100%	90	110	0%	
Selenium	A	mg/L	0.00998	0.00998		0.01	0	0		0.005		100%	90	110	0%	
Silicon	A	mg/L	0.0399	0.0399		0.04	0	0		0.1		100%	90	110	0%	
Silver	A	mg/L	0.004003	0.004003		0.004	0	0		0.001		100%	90	110	0%	
Sodium	A	mg/L	2.497	2.497		2.5	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.009987	0.009987		0.01	0	0		0.001		100%	90	110	0%	
Thallium	A	mg/L	0.009995	0.009995		0.01	0	0		0.001		100%	90	110	0%	
Thorium	A	mg/L	0.01001	0.01001		0.01	0	0		0.05		100%	90	110	0%	
Tin	A	mg/L	0.00916	0.00916		0.01	0	0		0.001		92%	90	110	0%	
Titanium	A	mg/L	0.009998	0.009998		0.01	0	0		0.001		100%	90	110	0%	
Uranium	A	mg/L	0.01001	0.01001		0.01	0	0		0.001		100%	90	110	0%	
Vanadium	A	mg/L	0.009913	0.009913		0.01	0	0		0.005		99%	90	110	0%	
Zinc	A	mg/L	0.009993	0.009993		0.01	0	0		0.01		100%	90	110	0%	
Iron, Ferrous	C	mg/L	0.2594	0.2594		0.01	0	0		0.01	5	2594%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.085386	0.085386		0.856	0	0		0.214	0.9	10%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046136	Rinse	ICPMS-6020-W- SAMP			2/18/2022 1:45:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.000147	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00002193	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.00002176	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-3.404E-06	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	3.776E-06	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046136	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 1:45:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	-1.181E-08	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-6.104E-06	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	8.77E-07	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	-5.847E-07	0		0	0	0	6.805E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-4.574E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	1.139E-06	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	-1.782E-05	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00000521	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	6.317E-06	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	-5.667E-06	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.001345	0		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-5.419E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-4.199E-06	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-1.398E-05	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00002142	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-0.0000369	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	1.262E-06	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Boron	B	mg/L	-0.0002062	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	L
Calcium	B	mg/L	-0.0001749	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.00001744	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.00001744	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.0001477	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.0101	0		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	-0.0181	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Vanadium	B	mg/L	0.0006839	0		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	-5.092E-05	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046137	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 1:51:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.0001706	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	4.702E-06	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.00002303	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-3.698E-06	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046137	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 1:51:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	-5.218E-06	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	-4.326E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00001465	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-7.021E-07	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	-1.831E-07	0		0	0	0	6.805E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-4.695E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	4.471E-06	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	-1.632E-05	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	2.757E-06	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-0.0000139	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	-0.0000041	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.0007637	0		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-5.731E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-1.699E-05	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-1.698E-05	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	6.162E-06	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-3.744E-05	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	4.316E-07	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Boron	B	mg/L	-0.0002891	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	L
Calcium	B	mg/L	0.0008669	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.00003265	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.00003265	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-1.054E-05	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.008847	0		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	-0.01521	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Vanadium	B	mg/L	0.0005443	0		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	-0.0002172	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046138	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 1:58:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.0001586	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00000391	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.00001072	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046138	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 1:58:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	-1.311E-06	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	1.332E-06	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	-3.745E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	7.798E-06	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-8.542E-07	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	-3.867E-07	0		0	0	0	6.805E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-5.581E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	3.502E-06	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	-7.313E-06	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	9.766E-07	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-0.000011	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	-9.623E-06	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.000861	0		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-2.892E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-2.867E-06	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-1.504E-05	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00000432	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-1.921E-05	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	2.423E-07	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Boron	B	mg/L	-0.0002301	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	L
Calcium	B	mg/L	-0.0003953	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	-4.698E-08	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-4.698E-08	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-0.0002052	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.002063	0		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	-0.01672	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Vanadium	B	mg/L	0.0005466	0		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	-0.0002753	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046139	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 2:04:1	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046139	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 2:04:1	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.0002054	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	4.708E-07	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.00003249	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-5.776E-06	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	-2.951E-06	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	-3.633E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00002185	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-1.853E-06	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	-4.479E-07	0		0	0	0	6.805E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-5.856E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	2.362E-06	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	-1.119E-05	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	7.319E-07	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	2.483E-06	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	-3.404E-06	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.0009856	0		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-4.232E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-1.207E-05	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-1.671E-05	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	1.619E-06	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.000341	0.000341		0	0	0	0.0001004	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	1.35E-07	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Boron	B	mg/L	-0.0002688	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	L
Calcium	B	mg/L	0.0003104	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.00001045	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.00001045	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.0002021	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.00826	0		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	-0.01708	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Vanadium	B	mg/L	0.0007117	0		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	-0.0001012	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046140	Cal Blk	ICPMS-6020-W- SAMP				2/18/2022 2:10:3	1	R374975		0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	0	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	0	0		0	0	0	6.805E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	0	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	0	0		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Boron	B	mg/L	0	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	L
Calcium	B	mg/L	0	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0	0		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	0	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Vanadium	B	mg/L	0	0		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	0	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046141	0.025 ppb STD	ICPMS-6020B-C Cal1			2/18/2022 2:17:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.000147	0.000147		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00002446	0.00002446		0	0	0		0.001		0%			0%	
Arsenic	A	mg/L	0.00003266	0.00003266		0.000025	0	0		0.001		131%	80	120	0%	S
Barium	A	mg/L	0.0000371	0.0000371		0.000025	0	0		0.0003		148%	80	120	0%	S
Beryllium	A	mg/L	0.00001927	0.00001927		0.000025	0	0		0.001		77%	80	120	0%	S
Boron	A	mg/L	-1.753E-05	-1.753E-05		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	-7.684E-06	-7.684E-06		0.000025	0	0		0.001		-31%	80	120	0%	S
Calcium	A	mg/L	0.006971	0.006971		0	0	0		1		0%			0%	
Cerium	A	mg/L	0.00002418	0.00002418		0.000025	0	0		0.001		97%	80	120	0%	
Chromium	A	mg/L	0.0000368	0.0000368		0.000025	0	0		0.001		147%	80	120	0%	S
Cobalt	A	mg/L	0.00002777	0.00002777		0.000025	0	0		0.001		111%	80	120	0%	
Copper	A	mg/L	0.0000578	0.0000578		0	0	0		0.005		0%			0%	
Iron	A	mg/L	0.0007063	0.0007063		0	0	0		0.01		0%			0%	
Lanthanum	A	mg/L	0.0000271	0.0000271		0.000025	0	0		0.001		108%	80	120	0%	
Lead	A	mg/L	0.00001771	0.00001771		0.000025	0	0		0.001		71%	80	120	0%	S
Lithium	A	mg/L	0.0002731	0.0002731		0.0003125	0	0		1		87%	80	120	0%	
Magnesium	A	mg/L	0.006607	0.006607		0	0	0		1		0%			0%	
Manganese	A	mg/L	0.00003233	0.00003233		0	0	0		0.001		0%			0%	
Mercury	A	mg/L	4.294E-06	4.294E-06		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00002485	0.00002485		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.0000349	0.0000349		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.0053	0.0053		0.00625	0	0		1		85%	80	120	0%	
Selenium	A	mg/L	0.0000212	0.0000212		0.000025	0	0		0.005		85%	80	120	0%	
Silicon	A	mg/L	0.0003774	0.0003774		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00001075	0.00001075		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	0.006249	0.006249		0.00625	0	0		1		100%	80	120	0%	
Strontium	A	mg/L	0.00001766	0.00001766		0	0	0		0.001		0%	80	120	0%	
Thallium	A	mg/L	0.00002184	0.00002184		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.00001287	0.00001287		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.005502	0.005502		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.00009611	0.00009611		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00002143	0.00002143		0.000025	0	0		0.001		86%	80	120	0%	
Vanadium	A	mg/L	0.0001215	0.0001215		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.0001798	0.0001798		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.0007063	0.0007063		0.000025	0	0		0.01	5	2825%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046141	0.025 ppb STD	ICPMS-6020B-C Cal1			2/18/2022 2:17:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon as SiO2	C	mg/L	0.00080764	0.00080764		0.0000535	0	0		0.214	0.9	1510%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046142	0.05 ppb STD	ICPMS-6020B-C Cal2			2/18/2022 2:23:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Aluminum	A	mg/L	0.0003152	0.0003152		0	0	0		0.01		0%				0%
Antimony	A	mg/L	0.0000482	0.0000482		0.00005	0	0		0.001		96%	80	120		0%
Arsenic	A	mg/L	0.00007514	0.00007514		0.00005	0	0		0.001		150%	80	120		0% S
Barium	A	mg/L	0.00004589	0.00004589		0.00005	0	0		0.0003		92%	80	120		0%
Beryllium	A	mg/L	0.00003872	0.00003872		0.00005	0	0		0.001		77%	80	120		0% S
Boron	A	mg/L	2.714E-07	2.714E-07		0	0	0		0.1		0%				0%
Cadmium	A	mg/L	0.00003615	0.00003615		0.00005	0	0		0.001		72%	80	120		0% S
Calcium	A	mg/L	0.01459	0.01459		0.0125	0	0		1		117%	80	120		0%
Cerium	A	mg/L	0.00005425	0.00005425		0.00005	0	0		0.001		108%	80	120		0%
Chromium	A	mg/L	0.00005294	0.00005294		0.00005	0	0		0.001		106%	80	120		0%
Cobalt	A	mg/L	0.0000545	0.0000545		0	0	0		0.001		0%				0%
Copper	A	mg/L	0.00008371	0.00008371		0.00005	0	0		0.005		167%	80	120		0% S
Iron	A	mg/L	0.001491	0.001491		0.00125	0	0		0.01		119%	80	120		0%
Lanthanum	A	mg/L	0.00005057	0.00005057		0.00005	0	0		0.001		101%	80	120		0%
Lead	A	mg/L	0.00003825	0.00003825		0.00005	0	0		0.001		77%	80	120		0% S
Lithium	A	mg/L	0.0005961	0.0005961		0.000625	0	0		1		95%	80	120		0%
Magnesium	A	mg/L	0.01349	0.01349		0.0125	0	0		1		108%	80	120		0%
Manganese	A	mg/L	0.0000595	0.0000595		0.00005	0	0		0.001		119%	80	120		0%
Mercury	A	mg/L	3.456E-06	3.456E-06		0	0	0		0.001		0%				0%
Molybdenum	A	mg/L	0.00005511	0.00005511		0.00005	0	0		0.001		110%	80	120		0%
Nickel	A	mg/L	0.00005107	0.00005107		0	0	0		0.005		0%				0%
Potassium	A	mg/L	0.01378	0.01378		0.0125	0	0		1		110%	80	120		0%
Selenium	A	mg/L	0.00005432	0.00005432		0.00005	0	0		0.005		109%	80	120		0%
Silicon	A	mg/L	0.0005009	0.0005009		0	0	0		0.1		0%				0%
Silver	A	mg/L	0.00002285	0.00002285		0.00002	0	0		0.001		114%	80	120		0%
Sodium	A	mg/L	0.01366	0.01366		0.0125	0	0		1		109%	80	120		0%
Strontium	A	mg/L	0.00004939	0.00004939		0.00005	0	0		0.001		99%	80	120		0%
Thallium	A	mg/L	0.00004998	0.00004998		0	0	0		0.001		0%				0%
Thorium	A	mg/L	0.0000336	0.0000336		0	0	0		0.05		0%				0%

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046142	0.05 ppb STD	ICPMS-6020B-C Cal2			2/18/2022 2:23:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.005677	0.005677		0	0	0		0.001		0%				0%
Titanium	A	mg/L	0.00008903	0.00008903		0	0	0		0.001		0%				0%
Uranium	A	mg/L	0.00005148	0.00005148		0.00005	0	0		0.001		103%	80	120		0%
Vanadium	A	mg/L	0.0002942	0.0002942		0	0	0		0.005		0%				0%
Zinc	A	mg/L	0.00007813	0.00007813		0	0	0		0.01		0%				0%
Iron, Ferrous	C	mg/L	0.001491	0.001491		0.00005	0	0		0.01	5	2982%	80	120		0% S
Silicon as SiO2	C	mg/L	0.00107193	0.00107193		0.00428	0	0		0.214	0.9	25%	80	120		0% S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046143	0.10 ppb STD	ICPMS-6020B-C Cal3			2/18/2022 2:30:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0002161	0.0002161		0.0001	0	0		0.01		216%	80	120		0% S
Antimony	A	mg/L	0.0001111	0.0001111		0.0001	0	0		0.001		111%	80	120		0%
Arsenic	A	mg/L	0.0001372	0.0001372		0.0001	0	0		0.001		137%	80	120		0% S
Barium	A	mg/L	0.0001082	0.0001082		0.0001	0	0		0.0003		108%	80	120		0%
Beryllium	A	mg/L	0.0001027	0.0001027		0.0001	0	0		0.001		103%	80	120		0%
Boron	A	mg/L	0.00006407	0.00006407		0	0	0		0.1		0%				0%
Cadmium	A	mg/L	0.0001095	0.0001095		0.0001	0	0		0.001		110%	80	120		0%
Calcium	A	mg/L	0.03058	0.03058		0.025	0	0		1		122%	80	120		0% S
Cerium	A	mg/L	0.0001172	0.0001172		0.0001	0	0		0.001		117%	80	120		0%
Chromium	A	mg/L	0.0001309	0.0001309		0.0001	0	0		0.001		131%	80	120		0% S
Cobalt	A	mg/L	0.0001209	0.0001209		0.0001	0	0		0.001		121%	80	120		0% S
Copper	A	mg/L	0.0001319	0.0001319		0.0001	0	0		0.005		132%	80	120		0% S
Iron	A	mg/L	0.003054	0.003054		0.0025	0	0		0.01		122%	80	120		0% S
Lanthanum	A	mg/L	0.0001152	0.0001152		0.0001	0	0		0.001		115%	80	120		0%
Lead	A	mg/L	0.0001034	0.0001034		0.0001	0	0		0.001		103%	80	120		0%
Lithium	A	mg/L	0.001288	0.001288		0.00125	0	0		1		103%	80	120		0%
Magnesium	A	mg/L	0.0311	0.0311		0.025	0	0		1		124%	80	120		0% S
Manganese	A	mg/L	0.0001251	0.0001251		0.0001	0	0		0.001		125%	80	120		0% S
Mercury	A	mg/L	0.00000399	0.00000399		0.000002	0	0		0.001		200%	80	120		0% S
Molybdenum	A	mg/L	0.0001159	0.0001159		0.0001	0	0		0.001		116%	80	120		0%
Nickel	A	mg/L	0.0001276	0.0001276		0.0001	0	0		0.005		128%	80	120		0% S
Potassium	A	mg/L	0.02904	0.02904		0.025	0	0		1		116%	80	120		0%
Selenium	A	mg/L	0.0001016	0.0001016		0.0001	0	0		0.005		102%	80	120		0%

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046143	0.10 ppb STD	ICPMS-6020B-C Cal3			2/18/2022 2:30:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon	A	mg/L	0.0005845	0.0005845		0.0004	0	0		0.1		146%	80	120	0%	S
Silver	A	mg/L	0.00004773	0.00004773		0.00004	0	0		0.001		119%	80	120	0%	
Sodium	A	mg/L	0.02707	0.02707		0.025	0	0		1		108%	80	120	0%	
Strontium	A	mg/L	0.0001311	0.0001311		0.0001	0	0		0.001		131%	80	120	0%	S
Thallium	A	mg/L	0.0001129	0.0001129		0.0001	0	0		0.001		113%	80	120	0%	
Thorium	A	mg/L	0.00007669	0.00007669		0.0001	0	0		0.05		77%	80	120	0%	S
Tin	A	mg/L	0.005629	0.005629		0.0001	0	0		0.001		5629%	80	120	0%	S
Titanium	A	mg/L	0.0001676	0.0001676		0.0001	0	0		0.001		168%	80	120	0%	S
Uranium	A	mg/L	0.0001052	0.0001052		0.0001	0	0		0.001		105%	80	120	0%	
Vanadium	A	mg/L	0.0003649	0.0003649		0.0001	0	0		0.005		365%	80	120	0%	S
Zinc	A	mg/L	0.0002332	0.0002332		0.0001	0	0		0.01		233%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.003054	0.003054		0.0001	0	0		0.01	5	3054%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.00125083	0.00125083		0.00856	0	0		0.214	0.9	15%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046144	0.5 ppb STD	ICPMS-6020B-C Cal4			2/18/2022 2:36:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0005264	0.0005264		0.0005	0	0		0.01		105%	80	120	0%	
Antimony	A	mg/L	0.0004624	0.0004624		0.0005	0	0		0.001		92%	80	120	0%	
Arsenic	A	mg/L	0.0005401	0.0005401		0.0005	0	0		0.001		108%	80	120	0%	
Barium	A	mg/L	0.0004671	0.0004671		0.0005	0	0		0.0003		93%	80	120	0%	
Beryllium	A	mg/L	0.0004399	0.0004399		0.0005	0	0		0.001		88%	80	120	0%	
Boron	A	mg/L	0.0004482	0.0004482		0.0005	0	0		0.1		90%	80	120	0%	
Cadmium	A	mg/L	0.0004432	0.0004432		0.0005	0	0		0.001		89%	80	120	0%	
Calcium	A	mg/L	0.1218	0.1218		0.125	0	0		1		97%	80	120	0%	
Cerium	A	mg/L	0.000493	0.000493		0.0005	0	0		0.001		99%	80	120	0%	
Chromium	A	mg/L	0.0004826	0.0004826		0.0005	0	0		0.001		97%	80	120	0%	
Cobalt	A	mg/L	0.0004722	0.0004722		0.0005	0	0		0.001		94%	80	120	0%	
Copper	A	mg/L	0.0005377	0.0005377		0.0005	0	0		0.005		108%	80	120	0%	
Iron	A	mg/L	0.01285	0.01285		0.0125	0	0		0.01		103%	80	120	0%	
Lanthanum	A	mg/L	0.000487	0.000487		0.0005	0	0		0.001		97%	80	120	0%	
Lead	A	mg/L	0.0004397	0.0004397		0.0005	0	0		0.001		88%	80	120	0%	
Lithium	A	mg/L	0.005611	0.005611		0.00625	0	0		1		90%	80	120	0%	
Magnesium	A	mg/L	0.1282	0.1282		0.125	0	0		1		103%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046144	0.5 ppb STD	ICPMS-6020B-C Cal4			2/18/2022 2:36:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.000494	0.000494		0.0005	0	0		0.001		99%	80	120	0%	
Mercury	A	mg/L	0.00001389	0.00001389		0.00001	0	0		0.001		139%	80	120	0%	S
Molybdenum	A	mg/L	0.0004665	0.0004665		0.0005	0	0		0.001		93%	80	120	0%	
Nickel	A	mg/L	0.0005317	0.0005317		0.0005	0	0		0.005		106%	80	120	0%	
Potassium	A	mg/L	0.126	0.126		0.125	0	0		1		101%	80	120	0%	
Selenium	A	mg/L	0.0004769	0.0004769		0.0005	0	0		0.005		95%	80	120	0%	
Silicon	A	mg/L	0.002271	0.002271		0.002	0	0		0.1		114%	80	120	0%	
Silver	A	mg/L	0.0001848	0.0001848		0.0002	0	0		0.001		92%	80	120	0%	
Sodium	A	mg/L	0.1233	0.1233		0.125	0	0		1		99%	80	120	0%	
Strontium	A	mg/L	0.0004783	0.0004783		0.0005	0	0		0.001		96%	80	120	0%	
Thallium	A	mg/L	0.0004862	0.0004862		0.0005	0	0		0.001		97%	80	120	0%	
Thorium	A	mg/L	0.0003912	0.0003912		0.0005	0	0		0.05		78%	80	120	0%	S
Tin	A	mg/L	0.005778	0.005778		0.0005	0	0		0.001		1156%	80	120	0%	S
Titanium	A	mg/L	0.0005117	0.0005117		0.0005	0	0		0.001		102%	80	120	0%	
Uranium	A	mg/L	0.0004336	0.0004336		0.0005	0	0		0.001		87%	80	120	0%	
Vanadium	A	mg/L	0.0008062	0.0008062		0.0005	0	0		0.005		161%	80	120	0%	S
Zinc	A	mg/L	0.0005743	0.0005743		0.0005	0	0		0.01		115%	80	120	0%	
Iron, Ferrous	C	mg/L	0.01285	0.01285		0.0005	0	0		0.01	5	2570%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.00485994	0.00485994		0.0428	0	0		0.214	0.9	11%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046145	1 ppb STD	ICPMS-6020B-C Cal5			2/18/2022 2:43:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001075	0.001075		0.001	0	0		0.01		107%	80	120	0%	
Antimony	A	mg/L	0.001036	0.001036		0.001	0	0		0.001		104%	80	120	0%	
Arsenic	A	mg/L	0.001152	0.001152		0.001	0	0		0.001		115%	80	120	0%	
Barium	A	mg/L	0.001062	0.001062		0.001	0	0		0.0003		106%	80	120	0%	
Beryllium	A	mg/L	0.000979	0.000979		0.001	0	0		0.001		98%	80	120	0%	
Boron	A	mg/L	0.000956	0.000956		0.001	0	0		0.1		96%	80	120	0%	
Cadmium	A	mg/L	0.001001	0.001001		0.001	0	0		0.001		100%	80	120	0%	
Calcium	A	mg/L	0.2797	0.2797		0.25	0	0		1		112%	80	120	0%	
Cerium	A	mg/L	0.001118	0.001118		0.001	0	0		0.001		112%	80	120	0%	
Chromium	A	mg/L	0.001132	0.001132		0.001	0	0		0.001		113%	80	120	0%	
Cobalt	A	mg/L	0.001085	0.001085		0.001	0	0		0.001		108%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046145	1 ppb STD	ICPMS-6020B-C Cal5			2/18/2022 2:43:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.001153	0.001153		0.001	0	0		0.005		115%	80	120	0%	
Iron	A	mg/L	0.02863	0.02863		0.025	0	0		0.01		115%	80	120	0%	
Lanthanum	A	mg/L	0.001064	0.001064		0.001	0	0		0.001		106%	80	120	0%	
Lead	A	mg/L	0.0009858	0.0009858		0.001	0	0		0.001		99%	80	120	0%	
Lithium	A	mg/L	0.01262	0.01262		0.0125	0	0		1		101%	80	120	0%	
Magnesium	A	mg/L	0.2861	0.2861		0.25	0	0		1		114%	80	120	0%	
Manganese	A	mg/L	0.001139	0.001139		0.001	0	0		0.001		114%	80	120	0%	
Mercury	A	mg/L	0.0000311	0.0000311		0.00002	0	0		0.001		155%	80	120	0%	S
Molybdenum	A	mg/L	0.001061	0.001061		0.001	0	0		0.001		106%	80	120	0%	
Nickel	A	mg/L	0.001143	0.001143		0.001	0	0		0.005		114%	80	120	0%	
Potassium	A	mg/L	0.2788	0.2788		0.25	0	0		1		112%	80	120	0%	
Selenium	A	mg/L	0.001083	0.001083		0.001	0	0		0.005		108%	80	120	0%	
Silicon	A	mg/L	0.004339	0.004339		0.004	0	0		0.1		108%	80	120	0%	
Silver	A	mg/L	0.0004257	0.0004257		0.0004	0	0		0.001		106%	80	120	0%	
Sodium	A	mg/L	0.2794	0.2794		0.25	0	0		1		112%	80	120	0%	
Strontium	A	mg/L	0.001082	0.001082		0.001	0	0		0.001		108%	80	120	0%	
Thallium	A	mg/L	0.001116	0.001116		0.001	0	0		0.001		112%	80	120	0%	
Thorium	A	mg/L	0.001006	0.001006		0.001	0	0		0.05		101%	80	120	0%	
Tin	A	mg/L	0.005811	0.005811		0.001	0	0		0.001		581%	80	120	0%	S
Titanium	A	mg/L	0.001113	0.001113		0.001	0	0		0.001		111%	80	120	0%	
Uranium	A	mg/L	0.0009832	0.0009832		0.001	0	0		0.001		98%	80	120	0%	
Vanadium	A	mg/L	0.001148	0.001148		0.001	0	0		0.005		115%	80	120	0%	
Zinc	A	mg/L	0.001102	0.001102		0.001	0	0		0.01		110%	80	120	0%	
Iron, Ferrous	C	mg/L	0.02863	0.02863		0.001	0	0		0.01	5	2863%	80	120	0%	S
Silicon as SiO2	C	mg/L	0.00928546	0.00928546		0.0856	0	0		0.214	0.9	11%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046146	10 ppb STD	ICPMS-6020B-C Cal6			2/18/2022 2:50:1	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.009972	0.009972		0.01	0	0		0.01		100%	90	110	0%	
Antimony	A	mg/L	0.009988	0.009988		0.01	0	0		0.001		100%	90	110	0%	
Arsenic	A	mg/L	0.009983	0.009983		0.01	0	0		0.001		100%	90	110	0%	
Barium	A	mg/L	0.009984	0.009984		0.01	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	0.009991	0.009991		0.01	0	0		0.001		100%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046146	10 ppb STD	ICPMS-6020B-C Cal6			2/18/2022 2:50:1	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Boron	A	mg/L	0.009991	0.009991		0.01	0	0		0.1		100%	90	110	0%	
Cadmium	A	mg/L	0.009991	0.009991		0.01	0	0		0.001		100%	90	110	0%	
Calcium	A	mg/L	2.496	2.496		2.5	0	0		1		100%	90	110	0%	
Cerium	A	mg/L	0.009986	0.009986		0.01	0	0		0.001		100%	90	110	0%	
Chromium	A	mg/L	0.009986	0.009986		0.01	0	0		0.001		100%	90	110	0%	
Cobalt	A	mg/L	0.009985	0.009985		0.01	0	0		0.001		100%	90	110	0%	
Copper	A	mg/L	0.009982	0.009982		0.01	0	0		0.005		100%	90	110	0%	
Iron	A	mg/L	0.2597	0.2597		0.25	0	0		0.01		104%	90	110	0%	
Lanthanum	A	mg/L	0.009988	0.009988		0.01	0	0		0.001		100%	90	110	0%	
Lead	A	mg/L	0.00999	0.00999		0.01	0	0		0.001		100%	90	110	0%	
Lithium	A	mg/L	0.1248	0.1248		0.125	0	0		1		100%	90	110	0%	
Magnesium	A	mg/L	2.497	2.497		2.5	0	0		1		100%	90	110	0%	
Manganese	A	mg/L	0.009985	0.009985		0.01	0	0		0.001		100%	90	110	0%	
Mercury	A	mg/L	0.0001989	0.0001989		0.0002	0	0		0.001		99%	90	110	0%	
Molybdenum	A	mg/L	0.009985	0.009985		0.01	0	0		0.001		100%	90	110	0%	
Nickel	A	mg/L	0.009982	0.009982		0.01	0	0		0.005		100%	90	110	0%	
Potassium	A	mg/L	2.497	2.497		2.5	0	0		1		100%	90	110	0%	
Selenium	A	mg/L	0.009989	0.009989		0.01	0	0		0.005		100%	90	110	0%	
Silicon	A	mg/L	0.03994	0.03994		0.04	0	0		0.1		100%	90	110	0%	
Silver	A	mg/L	0.003994	0.003994		0.004	0	0		0.001		100%	90	110	0%	
Sodium	A	mg/L	2.497	2.497		2.5	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.009988	0.009988		0.01	0	0		0.001		100%	90	110	0%	
Thallium	A	mg/L	0.009989	0.009989		0.01	0	0		0.001		100%	90	110	0%	
Thorium	A	mg/L	0.01001	0.01001		0.01	0	0		0.05		100%	90	110	0%	
Tin	A	mg/L	0.009144	0.009144		0.01	0	0		0.001		91%	90	110	0%	
Titanium	A	mg/L	0.009984	0.009984		0.01	0	0		0.001		100%	90	110	0%	
Uranium	A	mg/L	0.009989	0.009989		0.01	0	0		0.001		100%	90	110	0%	
Vanadium	A	mg/L	0.009969	0.009969		0.01	0	0		0.005		100%	90	110	0%	
Zinc	A	mg/L	0.00999	0.00999		0.01	0	0		0.01		100%	90	110	0%	
Iron, Ferrous	C	mg/L	0.2597	0.2597		0.01	0	0		0.01	5	2597%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.0854716	0.0854716		0.856	0	0		0.214	0.9	10%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046147	50 ppb STD	ICPMS-6020B-C Cal7			2/18/2022 2:56:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04997	0.04997		0.05	0	0		0.01		100%	90	110	0%	
Antimony	A	mg/L	0.0501	0.0501		0.05	0	0		0.001		100%	90	110	0%	
Arsenic	A	mg/L	0.04993	0.04993		0.05	0	0		0.001		100%	90	110	0%	
Barium	A	mg/L	0.04995	0.04995		0.05	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	0.04995	0.04995		0.05	0	0		0.001		100%	90	110	0%	
Boron	A	mg/L	0.05008	0.05008		0.05	0	0		0.1		100%	90	110	0%	
Cadmium	A	mg/L	0.04997	0.04997		0.05	0	0		0.001		100%	90	110	0%	
Calcium	A	mg/L	12.45	12.45		12.5	0	0		1		100%	90	110	0%	
Cerium	A	mg/L	0.04992	0.04992		0.05	0	0		0.001		100%	90	110	0%	
Chromium	A	mg/L	0.04994	0.04994		0.05	0	0		0.001		100%	90	110	0%	
Cobalt	A	mg/L	0.04982	0.04982		0.05	0	0		0.001		100%	90	110	0%	
Copper	A	mg/L	0.04984	0.04984		0.05	0	0		0.005		100%	90	110	0%	
Iron	A	mg/L	1.293	1.293		1.25	0	0		0.01		103%	90	110	0%	
Lanthanum	A	mg/L	0.04995	0.04995		0.05	0	0		0.001		100%	90	110	0%	
Lead	A	mg/L	0.05	0.05		0.05	0	0		0.001		100%	90	110	0%	
Lithium	A	mg/L	0.6239	0.6239		0.625	0	0		1		100%	90	110	0%	
Magnesium	A	mg/L	12.44	12.44		12.5	0	0		1		100%	90	110	0%	
Manganese	A	mg/L	0.04992	0.04992		0.05	0	0		0.001		100%	90	110	0%	
Mercury	A	mg/L	0.0009956	0.0009956		0.001	0	0		0.001		100%	90	110	0%	
Molybdenum	A	mg/L	0.05003	0.05003		0.05	0	0		0.001		100%	90	110	0%	
Nickel	A	mg/L	0.04991	0.04991		0.05	0	0		0.005		100%	90	110	0%	
Potassium	A	mg/L	12.46	12.46		12.5	0	0		1		100%	90	110	0%	
Selenium	A	mg/L	0.04995	0.04995		0.05	0	0		0.005		100%	90	110	0%	
Silicon	A	mg/L	0.2006	0.2006		0.2	0	0		0.1		100%	90	110	0%	
Silver	A	mg/L	0.01998	0.01998		0.02	0	0		0.001		100%	90	110	0%	
Sodium	A	mg/L	12.45	12.45		12.5	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.04993	0.04993		0.05	0	0		0.001		100%	90	110	0%	
Thallium	A	mg/L	0.04994	0.04994		0.05	0	0		0.001		100%	90	110	0%	
Thorium	A	mg/L	0.04998	0.04998		0.05	0	0		0.05		100%	90	110	0%	
Tin	A	mg/L	0.04672	0.04672		0.05	0	0		0.001		93%	90	110	0%	
Titanium	A	mg/L	0.04988	0.04988		0.05	0	0		0.001		100%	90	110	0%	
Uranium	A	mg/L	0.05003	0.05003		0.05	0	0		0.001		100%	90	110	0%	
Vanadium	A	mg/L	0.05	0.05		0.05	0	0		0.005		100%	90	110	0%	
Zinc	A	mg/L	0.04979	0.04979		0.05	0	0		0.01		100%	90	110	0%	
Iron, Ferrous	C	mg/L	1.293	1.293		0.05	0	0		0.01	5	2586%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046147	50 ppb STD	ICPMS-6020B-C Cal7			2/18/2022 2:56:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon as SiO2	C	mg/L	0.429284	0.429284		4.28	0	0		0.214	0.9	10%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046148	100 ppb STD	ICPMS-6020B-C Cal8			2/18/2022 3:03:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.09878	0.09878		0.1	0	0		0.01		99%	90	110	0%	
Antimony	A	mg/L	0.09869	0.09869		0.1	0	0		0.001		99%	90	110	0%	
Arsenic	A	mg/L	0.09983	0.09983		0.1	0	0		0.001		100%	90	110	0%	
Barium	A	mg/L	0.1004	0.1004		0.1	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	0.0998	0.0998		0.1	0	0		0.001		100%	90	110	0%	
Boron	A	mg/L	0.09848	0.09848		0.1	0	0		0.1		98%	90	110	0%	
Cadmium	A	mg/L	0.09992	0.09992		0.1	0	0		0.001		100%	90	110	0%	
Calcium	A	mg/L	25.05	25.05		25	0	0		1		100%	90	110	0%	
Cerium	A	mg/L	0.09977	0.09977		0.1	0	0		0.001		100%	90	110	0%	
Chromium	A	mg/L	0.09926	0.09926		0.1	0	0		0.001		99%	90	110	0%	
Cobalt	A	mg/L	0.09944	0.09944		0.1	0	0		0.001		99%	90	110	0%	
Copper	A	mg/L	0.0992	0.0992		0.1	0	0		0.005		99%	90	110	0%	
Iron	A	mg/L	2.604	2.604		2.5	0	0		0.01		104%	90	110	0%	
Lanthanum	A	mg/L	0.09986	0.09986		0.1	0	0		0.001		100%	90	110	0%	
Lead	A	mg/L	0.09924	0.09924		0.1	0	0		0.001		99%	90	110	0%	
Lithium	A	mg/L	1.249	1.249		1.25	0	0		1		100%	90	110	0%	
Magnesium	A	mg/L	24.96	24.96		25	0	0		1		100%	90	110	0%	
Manganese	A	mg/L	0.09957	0.09957		0.1	0	0		0.001		100%	90	110	0%	
Mercury	A	mg/L	0.002017	0.002017		0.002	0	0		0.001		101%	90	110	0%	
Molybdenum	A	mg/L	0.09971	0.09971		0.1	0	0		0.001		100%	90	110	0%	
Nickel	A	mg/L	0.09936	0.09936		0.1	0	0		0.005		99%	90	110	0%	
Potassium	A	mg/L	25.2	25.2		25	0	0		1		101%	90	110	0%	
Selenium	A	mg/L	0.09939	0.09939		0.1	0	0		0.005		99%	90	110	0%	
Silicon	A	mg/L	0.3914	0.3914		0.4	0	0		0.1		98%	90	110	0%	
Silver	A	mg/L	0.0399	0.0399		0.04	0	0		0.001		100%	90	110	0%	
Sodium	A	mg/L	24.98	24.98		25	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.09993	0.09993		0.1	0	0		0.001		100%	90	110	0%	
Thallium	A	mg/L	0.09954	0.09954		0.1	0	0		0.001		100%	90	110	0%	
Thorium	A	mg/L	0.09977	0.09977		0.1	0	0		0.05		100%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046148	100 ppb STD	ICPMS-6020B-C Cal8			2/18/2022 3:03:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.1002	0.1002		0.1	0	0		0.001		100%	90	110	0%	
Titanium	A	mg/L	0.09917	0.09917		0.1	0	0		0.001		99%	90	110	0%	
Uranium	A	mg/L	0.09914	0.09914		0.1	0	0		0.001		99%	90	110	0%	
Vanadium	A	mg/L	0.1001	0.1001		0.1	0	0		0.005		100%	90	110	0%	
Zinc	A	mg/L	0.09996	0.09996		0.1	0	0		0.01		100%	90	110	0%	
Iron, Ferrous	C	mg/L	2.604	2.604		0.1	0	0		0.01	5	2604%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.837596	0.837596		8.56	0	0		0.214	0.9	10%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046149	1000 ppb STD	ICPMS-6020B-C Cal10			2/18/2022 3:09:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	1	1		1	0	0		0.01		100%	90	110	0%	
Antimony	A	mg/L	0.0002784	0.0002784		0	0	0		0.001		0%			0%	
Arsenic	A	mg/L	0.9996	0.9996		1	0	0		0.001		100%	90	110	0%	
Barium	A	mg/L	0.9997	0.9997		1	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Boron	A	mg/L	0.9997	0.9997		1	0	0		0.1		100%	90	110	0%	
Cadmium	A	mg/L	0.9996	0.9996		1	0	0		0.001		100%	90	110	0%	
Calcium	A	mg/L	50.22	50.22		50	0	0		1		100%	90	110	0%	
Cerium	A	mg/L	0.00002586	0.00002586		0	0	0		0.001		0%			0%	
Chromium	A	mg/L	0.9996	0.9996		1	0	0		0.001		100%	90	110	0%	
Cobalt	A	mg/L	0.9998	0.9998		1	0	0		0.001		100%	90	110	0%	
Copper	A	mg/L	0.9991	0.9991		1	0	0		0.005		100%	90	110	0%	
Iron	A	mg/L	6.028	6.028		6	0	0		0.01		100%	90	110	0%	
Lanthanum	A	mg/L	0.00001013	0.00001013		0	0	0		0.001		0%			0%	
Lead	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Lithium	A	mg/L	2.503	2.503		2.5	0	0		1		100%	90	110	0%	
Magnesium	A	mg/L	49.66	49.66		50	0	0		1		99%	90	110	0%	
Manganese	A	mg/L	0.9994	0.9994		1	0	0		0.001		100%	90		0%	
Mercury	A	mg/L	0.00001033	0.00001033		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.0001151	0.0001151		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.9993	0.9993		1	0	0		0.005		100%	90	110	0%	
Potassium	A	mg/L	49.56	49.56		50	0	0		1		99%	90	110	0%	
Selenium	A	mg/L	0.9999	0.9999		1	0	0		0.005		100%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046149	1000 ppb STD	ICPMS-6020B-C	Cal10		2/18/2022 3:09:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon	A	mg/L	0.001964	0.001964		0	0	0		0.1		0%				0%
Silver	A	mg/L	0.3642	0.3642		0	0	0		0.001		0%				0%
Sodium	A	mg/L	49.85	49.85		50	0	0		1		100%	90	110		0%
Strontium	A	mg/L	0.9999	0.9999		1	0	0		0.001		100%	90	110		0%
Thallium	A	mg/L	1	1		1	0	0		0.001		100%	90	110		0%
Thorium	A	mg/L	1	1		1	0	0		0.05		100%	90	110		0%
Tin	A	mg/L	0.01537	0.01537		0	0	0		0.001		0%				0%
Titanium	A	mg/L	0.006568	0.006568		1	0	0		0.001		1%	90	110		0% S
Uranium	A	mg/L	1	1		1	0	0		0.001		100%	90	110		0%
Vanadium	A	mg/L	0.9998	0.9998		1	0	0		0.005		100%	90	110		0%
Zinc	A	mg/L	0.9993	0.9993		1	0	0		0.01		100%	90	110		0%
Iron, Ferrous	C	mg/L	6.028	6.028		0	0	0		0.01	5	0%				0%
Silicon as SiO2	C	mg/L	0.00420296	0.00420296		0	0	0		0.214	0.9	0%				0%

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046150	100 ppb Br STD	ICPMS-6020-W-	SAMP		2/18/2022 3:16:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.00004359	0		0	0	0	0.0017836	0.001	1	0%	0	0		0%
Antimony	A	mg/L	0.00006754	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0		0%
Arsenic	A	mg/L	-1.869E-05	0		0	0	0	8.203E-05	0.001	1	0%	0	0		0%
Barium	A	mg/L	0.00001563	0		0	0	0	6.762E-05	0.001	1	0%	0	0		0%
Cadmium	A	mg/L	0.00008824	0.00008824		0	0	0	2.308E-05	0.001	1	0%	0	0		0% J
Cerium	A	mg/L	3.628E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0		0%
Chromium	A	mg/L	7.563E-06	0		0	0	0	0.0002538	0.001	1	0%	0	0		0%
Cobalt	A	mg/L	0.00001483	0		0	0	0	2.141E-05	0.001	1	0%	0	0		0%
Lanthanum	A	mg/L	2.515E-07	0		0	0	0	6.805E-05	0.001	0.1	0%	0	0		0%
Lead	A	mg/L	0.00002631	0		0	0	0	3.031E-05	0.001	1	0%	0	0		0%
Manganese	A	mg/L	0.00002727	0		0	0	0	7.309E-05	0.001	1	0%	0	0		0%
Mercury	A	mg/L	6.366E-06	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0		0%
Molybdenum	A	mg/L	0.00002168	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0		0%
Nickel	A	mg/L	0.00001386	0		0	0	0	0.0001769	0.001	1	0%	0	0		0%
Selenium	A	mg/L	0.0001326	0.0001326		0	0	0	7.174E-05	0.001	1	0%	0	0		0% J
Silicon	A	mg/L	0.000048	0		0	0	0	0.0033337	0.1	0.4	0%	0	0		0%
Silver	A	mg/L	0.00003005	0.00003005		0	0	0	2.644E-05	0.001	0.04	0%	0	0		0% J

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046150	100 ppb Br STD	ICPMS-6020-W-	SAMP		2/18/2022 3:16:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Strontium	A	mg/L	2.914E-06	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001391	0.0001391		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0002178	0.0002178		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	J
Titanium	A	mg/L	0.00002888	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00004826	0.00004826		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	J
Boron	B	mg/L	0.004659	0.004659		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	JL
Calcium	B	mg/L	0.002711	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0002384	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0002384	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.00004415	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.5378	0.5378		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	D
Sodium	B	mg/L	-0.01048	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Vanadium	B	mg/L	-0.001295	0		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	0.0000664	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046151	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 3:22:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.0000285	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00003237	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-8.165E-05	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	3.306E-06	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.0000365	0.0000365		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	1.343E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	6.937E-06	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-7.223E-07	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	1.415E-07	0		0	0	0	6.805E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	1.427E-06	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0.00001455	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	8.755E-06	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	8.688E-06	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-1.793E-06	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.0000305	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-5.802E-05	0		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046151	Rinse	ICPMS-6020-W- SAMP			2/18/2022 3:22:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silver	A	mg/L	4.536E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-1.89E-06	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00005764	0.00005764		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00005395	0.00005395		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	J
Titanium	A	mg/L	0.00001915	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001215	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Boron	B	mg/L	0.00248	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	L
Calcium	B	mg/L	0.0008423	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.00005331	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.00005331	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-0.0002722	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.0115	0		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	-0.01302	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Vanadium	B	mg/L	-0.001332	0		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	-0.0001315	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046152	QCS	ICPMS-6020-W- ICV			2/18/2022 3:29:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.2485	0.2485		0.25	0	0	0.0017836	0.001	1	99%	90	110	0%	
Antimony	A	mg/L	0.05014	0.05014		0.05	0	0	6.768E-05	0.001	0.1	100%	90	110	0%	
Arsenic	A	mg/L	0.05042	0.05042		0.05	0	0	8.203E-05	0.001	1	101%	90	110	0%	
Barium	A	mg/L	0.04931	0.04931		0.05	0	0	6.762E-05	0.001	1	99%	90	110	0%	
Beryllium	A	mg/L	0.02121	0.02121		0.025	0	0	8.516E-05	0.001	1	85%	90	110	0%	S
Boron	A	mg/L	0.04979	0.04979		0.05	0	0	0.0039526	0.00561	1	100%	90	110	0%	
Cadmium	A	mg/L	0.02497	0.02497		0.025	0	0	2.308E-05	0.001	1	100%	90	110	0%	
Calcium	A	mg/L	2.565	2.565		2.5	0	0	0.2027235	0.02092	50	103%	90	110	0%	
Cerium	A	mg/L	0.05095	0.05095		0.05	0	0	0.0000222	0.001	0.1	102%	90	110	0%	
Chromium	A	mg/L	0.05075	0.05075		0.05	0	0	0.0002538	0.001	1	101%	90	110	0%	
Cobalt	A	mg/L	0.05314	0.05314		0.05	0	0	2.141E-05	0.001	1	106%	90	110	0%	
Copper	A	mg/L	0.05589	0.05589		0.05	0	0	0.0001748	0.001	1	112%	90	110	0%	S
Iron	A	mg/L	0.2576	0.2576		0.25	0	0	0.0021157	0.00119	5	103%	90	110	0%	
Lanthanum	A	mg/L	0.05026	0.05026		0.05	0	0	6.805E-05	0.001	0.1	101%	90	110	0%	
Lead	A	mg/L	0.05051	0.05051		0.05	0	0	3.031E-05	0.001	1	101%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046152	QCS	ICPMS-6020-W- ICV			2/18/2022 3:29:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	A	mg/L	2.617	2.617		2.5	0	0	0.0203306	0.00564	50	105%	90	110	0%	
Manganese	A	mg/L	0.2613	0.2613		0.25	0	0	7.309E-05	0.001	1	105%	90	110	0%	
Mercury	A	mg/L	0.0009511	0.0009511		0.001	0	0	3.043E-05	0.001	0.002	95%	90	110	0%	
Molybdenum	A	mg/L	0.04657	0.04657		0.05	0	0	8.113E-05	0.001	0.1	93%	90	110	0%	
Nickel	A	mg/L	0.05423	0.05423		0.05	0	0	0.0001769	0.001	1	108%	90	110	0%	
Potassium	A	mg/L	2.49	2.49		2.5	0	0	0.0215433	0.08139	50	100%	90	110	0%	
Selenium	A	mg/L	0.05142	0.05142		0.05	0	0	7.174E-05	0.001	1	103%	90	110	0%	
Silicon	A	mg/L	0.4949	0.4949		0.5	0	0	0.0033337	0.1	0.4	99%	90	110	0%	
Silver	A	mg/L	0.02457	0.02457		0.025	0	0	2.644E-05	0.001	0.04	98%	90	110	0%	
Sodium	A	mg/L	2.58	2.58		2.5	0	0	0.0451914	0.02171	50	103%	90	110	0%	
Strontium	A	mg/L	0.04983	0.04983		0.05	0	0	9.743E-05	0.001	1	100%	90	110	0%	
Thallium	A	mg/L	0.0503	0.0503		0.05	0	0	4.842E-05	0.001	1	101%	90	110	0%	
Thorium	A	mg/L	0.04569	0.04569		0.05	0	0	3.018E-05	0.001	1	91%	90	110	0%	
Tin	A	mg/L	0.04276	0.04276		0.05	0	0	0.0009928	0.00132	0.1	86%	90	110	0%	S
Titanium	A	mg/L	0.05098	0.05098		0.05	0	0	0.0001004	0.001	1	102%	90	110	0%	
Uranium	A	mg/L	0.0516	0.0516		0.05	0	0	2.468E-05	0.0003	1	103%	90	110	0%	
Vanadium	A	mg/L	0.04886	0.04886		0.05	0	0	0.0018612	0.0013	1	98%	90	110	0%	
Zinc	A	mg/L	0.05458	0.05458		0.05	0	0	0.0010089	0.00273	1	109%	90	110	0%	
Iron, Ferrous	C	mg/L	0.2576	0.2576		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046153	CCV	ICPMS-6020-W- CCV			2/18/2022 3:35:1	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05195	0.05195		0.05	0	0	0.0017836	0.001	1	104%	90	110	0%	
Antimony	A	mg/L	0.05419	0.05419		0.05	0	0	6.768E-05	0.001	0.1	108%	90	110	0%	
Arsenic	A	mg/L	0.05091	0.05091		0.05	0	0	8.203E-05	0.001	1	102%	90	110	0%	
Barium	A	mg/L	0.05171	0.05171		0.05	0	0	6.762E-05	0.001	1	103%	90	110	0%	
Beryllium	A	mg/L	0.04405	0.04405		0.05	0	0	8.516E-05	0.001	1	88%	90	110	0%	S
Boron	A	mg/L	0.05057	0.05057		0.05	0	0	0.0039526	0.00561	1	101%	90	110	0%	
Cadmium	A	mg/L	0.05362	0.05362		0.05	0	0	2.308E-05	0.001	1	107%	90	110	0%	
Calcium	A	mg/L	12.4	12.4		12.5	0	0	0.2027235	0.02092	50	99%	90	110	0%	
Cerium	A	mg/L	0.04998	0.04998		0.05	0	0	0.0000222	0.001	0.1	100%	90	110	0%	
Chromium	A	mg/L	0.05126	0.05126		0.05	0	0	0.0002538	0.001	1	103%	90	110	0%	
Cobalt	A	mg/L	0.05219	0.05219		0.05	0	0	2.141E-05	0.001	1	104%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046153	CCV	ICPMS-6020-W- CCV			2/18/2022 3:35:1	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.05433	0.05433		0.05	0	0	0.0001748	0.001	1	109%	90	110	0%	
Iron	A	mg/L	1.304	1.304		1.3	0	0	0.0021157	0.00119	5	100%	90	110	0%	
Lanthanum	A	mg/L	0.04983	0.04983		0.05	0	0	6.805E-05	0.001	0.1	100%	90	110	0%	
Lead	A	mg/L	0.05149	0.05149		0.05	0	0	3.031E-05	0.001	1	103%	90	110	0%	
Magnesium	A	mg/L	12.61	12.61		12.5	0	0	0.0203306	0.00564	50	101%	90	110	0%	
Manganese	A	mg/L	0.05177	0.05177		0.05	0	0	7.309E-05	0.001	1	104%	90	110	0%	
Mercury	A	mg/L	0.0009952	0.0009952		0.001	0	0	3.043E-05	0.001	0.002	100%	90	110	0%	
Molybdenum	A	mg/L	0.05211	0.05211		0.05	0	0	8.113E-05	0.001	0.1	104%	90	110	0%	
Nickel	A	mg/L	0.05353	0.05353		0.05	0	0	0.0001769	0.001	1	107%	90	110	0%	
Potassium	A	mg/L	12.03	12.03		12.5	0	0	0.0215433	0.08139	50	96%	90	110	0%	
Selenium	A	mg/L	0.05188	0.05188		0.05	0	0	7.174E-05	0.001	1	104%	90	110	0%	
Silicon	A	mg/L	0.2169	0.2169		0.2	0	0	0.0033337	0.1	0.4	108%	90	110	0%	
Silver	A	mg/L	0.02071	0.02071		0.02	0	0	2.644E-05	0.001	0.04	104%	90	110	0%	
Sodium	A	mg/L	12.22	12.22		12.5	0	0	0.0451914	0.02171	50	98%	90	110	0%	
Strontium	A	mg/L	0.04977	0.04977		0.05	0	0	9.743E-05	0.001	1	100%	90	110	0%	
Thallium	A	mg/L	0.05152	0.05152		0.05	0	0	4.842E-05	0.001	1	103%	90	110	0%	
Thorium	A	mg/L	0.04988	0.04988		0.05	0	0	3.018E-05	0.001	1	100%	90	110	0%	
Tin	A	mg/L	0.04512	0.04512		0.05	0	0	0.0009928	0.00132	0.1	90%	90	110	0%	
Titanium	A	mg/L	0.05111	0.05111		0.05	0	0	0.0001004	0.001	1	102%	90	110	0%	
Uranium	A	mg/L	0.04937	0.04937		0.05	0	0	2.468E-05	0.0003	1	99%	90	110	0%	
Vanadium	A	mg/L	0.04817	0.04817		0.05	0	0	0.0018612	0.0013	1	96%	90	110	0%	
Zinc	A	mg/L	0.0524	0.0524		0.05	0	0	0.0010089	0.00273	1	105%	90	110	0%	
Iron, Ferrous	C	mg/L	1.304	1.304		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046154	CCB	ICPMS-6020-W- CCB			2/18/2022 3:41:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	1.667E-06	1.667E-06		0	0	0	0.0017836	0.001	1	0%			0%	
Antimony	A	mg/L	0.0001395	0.0001395		0	0	0	6.768E-05	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-8.859E-05	-8.859E-05		0	0	0	8.203E-05	0.001	1	0%			0%	
Barium	A	mg/L	2.575E-06	2.575E-06		0	0	0	6.762E-05	0.001	1	0%			0%	
Beryllium	A	mg/L	-9.944E-06	-9.944E-06		0	0	0	8.516E-05	0.001	1	0%			0%	
Boron	A	mg/L	0.001433	0.001433		0	0	0	0.0039526	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.0000162	0.0000162		0	0	0	2.308E-05	0.001	1	0%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046154	CCB	ICPMS-6020-W-	CCB		2/18/2022 3:41:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Calcium	A	mg/L	0.0002375	0.0002375		0	0	0	0.2027235	0.02092	50	0%			0%	
Cerium	A	mg/L	7.118E-07	7.118E-07		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	9.418E-06	9.418E-06		0	0	0	0.0002538	0.001	1	0%			0%	
Cobalt	A	mg/L	6.432E-07	6.432E-07		0	0	0	2.141E-05	0.001	1	0%			0%	
Copper	A	mg/L	-6.103E-05	-6.103E-05		0	0	0	0.0001748	0.001	1	0%			0%	
Iron	A	mg/L	0.00008392	0.00008392		0	0	0	0.0021157	0.00119	5	0%			0%	
Lanthanum	A	mg/L	5.248E-07	5.248E-07		0	0	0	6.805E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-4.192E-06	-4.192E-06		0	0	0	3.031E-05	0.001	1	0%			0%	
Magnesium	A	mg/L	0.00001594	0.00001594		0	0	0	0.0203306	0.00564	50	0%			0%	
Manganese	A	mg/L	0.00001212	0.00001212		0	0	0	7.309E-05	0.001	1	0%			0%	
Mercury	A	mg/L	0.0000109	0.0000109		0	0	0	3.043E-05	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00004346	0.00004346		0	0	0	8.113E-05	0.001	0.1	0%			0%	
Nickel	A	mg/L	-2.001E-05	-2.001E-05		0	0	0	0.0001769	0.001	1	0%			0%	
Potassium	A	mg/L	-0.0005164	-0.0005164		0	0	0	0.0215433	0.08139	50	0%			0%	
Selenium	A	mg/L	0.00001762	0.00001762		0	0	0	7.174E-05	0.001	1	0%			0%	
Silicon	A	mg/L	-9.062E-05	-9.062E-05		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	4.879E-06	4.879E-06		0	0	0	2.644E-05	0.001	0.04	0%			0%	
Sodium	A	mg/L	-0.008059	-0.008059		0	0	0	0.0451914	0.02171	50	0%			0%	
Strontium	A	mg/L	1.341E-06	1.341E-06		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001052	0.0001052		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00004584	0.00004584		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00003918	0.00003918		0	0	0	0.0009928	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-1.548E-06	-1.548E-06		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	7.259E-06	7.259E-06		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	-0.001225	-0.001225		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	-8.783E-05	-8.783E-05		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.00008392	0.00008392		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046155	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 3:47:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-1.112E-05	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00004408	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-8.241E-05	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046155	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 3:47:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	7.677E-06	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00001407	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	1.026E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00001222	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-1.562E-06	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	-4.505E-08	0		0	0	0	6.805E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-1.922E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0.00001256	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	5.466E-06	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001276	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-7.219E-06	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.0000101	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.0002577	0		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	6.208E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	4.071E-06	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0000373	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001799	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	-0.0000406	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	2.994E-06	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Boron	B	mg/L	0.0009059	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	L
Calcium	B	mg/L	0.0003354	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.00005154	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.00005154	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-6.426E-05	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.002262	0		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	-0.009735	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Zinc	B	mg/L	-2.967E-05	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046156	LRB	ICPMS-6020-W-	MBLK		2/18/2022 3:54:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001625	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00002783	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-9.441E-05	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046156	LRB	ICPMS-6020-W- MBLK			2/18/2022 3:54:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	2.408E-06	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-1.857E-05	0		0	0	0	8.516E-05	0.001	1	0%	0	0	0%	
Boron	A	mg/L	0.000759	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00001633	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Calcium	A	mg/L	-0.00252	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	
Cerium	A	mg/L	-1.53E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00001706	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-2.31E-06	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Copper	A	mg/L	-7.912E-06	0		0	0	0	0.0001748	0.001	1	0%	0	0	0%	
Iron	A	mg/L	-3.449E-06	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Lanthanum	A	mg/L	1.84E-07	0		0	0	0	6.805E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-2.472E-05	0		0	0	0	3.031E-05	0.0005	1	0%	0	0	0%	
Magnesium	A	mg/L	0.0003244	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	
Manganese	A	mg/L	9.454E-06	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	8.965E-06	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	3.396E-06	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-9.108E-06	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Potassium	A	mg/L	0.003663	0		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	
Selenium	A	mg/L	-6.977E-06	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.0001793	0		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Sodium	A	mg/L	-0.003847	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	
Strontium	A	mg/L	3.967E-07	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00002268	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00001154	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00001943	0		0	0	0	0.0009928	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	-2.289E-05	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	2.143E-06	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Zinc	A	mg/L	0.0000929	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	-3.449E-06	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046157	LFB	ICPMS-6020-W- LFB			2/18/2022 4:00:1	1.03	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046157	LFB	ICPMS-6020-W- LFB			2/18/2022 4:00:1	1.03	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04677	0.0481731		0.05	0	0	0.0018371	0.001	1	96%	85	115	0%	
Antimony	A	mg/L	0.05103	0.0525609		0.05	0	0	6.971E-05	0.001	0.1	105%	85	115	0%	
Arsenic	A	mg/L	0.04926	0.0507378		0.05	0	0	8.449E-05	0.001	1	101%	85	115	0%	
Barium	A	mg/L	0.04949	0.0509747		0.05	0	0	6.965E-05	0.001	1	102%	85	115	0%	
Beryllium	A	mg/L	0.04082	0.0420446		0.05	0	0	8.771E-05	0.001	1	84%	85	115	0%	S
Boron	A	mg/L	0.04503	0.0463809		0.05	0	0	0.0040712	0.0057783	1	93%	85	115	0%	
Cadmium	A	mg/L	0.05015	0.0516545		0.05	0	0	2.377E-05	0.001	1	103%	85	115	0%	
Calcium	A	mg/L	47.08	48.4924		50	0	0	0.2088052	0.0215476	50	97%	85	115	0%	
Cerium	A	mg/L	0.05061	0.0521283		0.05	0	0	2.287E-05	0.001	0.1	104%	85	115	0%	
Chromium	A	mg/L	0.04872	0.0501816		0.05	0	0	0.0002614	0.001	1	100%	85	115	0%	
Cobalt	A	mg/L	0.04985	0.0513455		0.05	0	0	2.205E-05	0.001	1	103%	85	115	0%	
Copper	A	mg/L	0.05099	0.0525197		0.05	0	0	0.0001801	0.001	1	105%	85	115	0%	
Iron	A	mg/L	4.764	4.90692		5.05	0	0	0.0021792	0.0012257	5	97%	85	115	0%	
Lanthanum	A	mg/L	3.512E-06	0		0.05	0	0	7.009E-05	0.001	0.1	0%	85	115	0%	S
Lead	A	mg/L	0.04873	0.0501919		0.05	0	0	3.122E-05	0.001	1	100%	88	115	0%	
Magnesium	A	mg/L	50.48	51.9944		50	0	0	0.0209406	0.0058092	50	104%	85	115	0%	
Manganese	A	mg/L	0.04893	0.0503979		0.05	0	0	7.528E-05	0.001	1	101%	85	115	0%	
Mercury	A	mg/L	0.001008	0.00103824		0.001	0	0	3.134E-05	0.001	0.002	104%	85	115	0%	
Molybdenum	A	mg/L	0.04981	0.0513043		0.05	0	0	8.356E-05	0.001	0.1	103%	85	115	0%	
Nickel	A	mg/L	0.0493	0.050779		0.05	0	0	0.0001822	0.001	1	102%	85	115	0%	
Potassium	A	mg/L	46.22	47.6066		50	0	0	0.0221896	0.0838317	50	95%	85	115	0%	
Selenium	A	mg/L	0.0489	0.050367		0.05	0	0	7.389E-05	0.001	1	101%	85	115	0%	
Silicon	A	mg/L	0.1931	0.198893		0.2	0	0	0.0034337	0.1	0.4	99%	85	115	0%	
Silver	A	mg/L	0.01996	0.0205588		0.02	0	0	2.723E-05	0.001	0.04	103%	85	115	0%	
Sodium	A	mg/L	49.05	50.5215		50	0	0	0.0465471	0.0223613	50	101%	85	115	0%	
Strontium	A	mg/L	0.04793	0.0493679		0.05	0	0	0.0001004	0.001	1	99%	85	115	0%	
Thallium	A	mg/L	0.04937	0.0508511		0.05	0	0	4.987E-05	0.001	1	102%	85	115	0%	
Thorium	A	mg/L	0.04851	0.0499653		0.05	0	0	3.109E-05	0.001	1	100%	85	115	0%	
Tin	A	mg/L	0.04331	0.0446093		0.05	0	0	0.0010226	0.0013596	0.1	89%	85	115	0%	
Titanium	A	mg/L	0.05446	0.0560938		0.05	0	0	0.0001034	0.001	1	112%	85	115	0%	
Uranium	A	mg/L	0.04955	0.0510365		0.05	0	0	2.542E-05	0.0003	1	102%	85	115	0%	
Vanadium	A	mg/L	0.04848	0.0499344		0.05	0	0	0.001917	0.001339	1	100%	85	115	0%	
Zinc	A	mg/L	0.0497	0.051191		0.05	0	0	0.0010392	0.0028119	1	102%	85	115	0%	
Iron, Ferrous	C	mg/L	4.764	4.90692		0	0	0	0.0021792	0.0012257	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046158	ICSA	ICPMS-6020-W-	ICSA		2/18/2022 4:06:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	38.37	38.37		40	0	0	0.0017836	0.001	1	96%	80	120	0%	
Antimony	A	mg/L	0.0001539	0.0001539		0	0	0	6.768E-05	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0001064	-0.0001064		0	0	0	8.203E-05	0.001	1	0%			0%	
Barium	A	mg/L	0.0001803	0.0001803		0	0	0	6.762E-05	0.001	1	0%			0%	
Beryllium	A	mg/L	-3.099E-05	-3.099E-05		0	0	0	8.516E-05	0.001	1	0%			0%	
Boron	A	mg/L	0.0009325	0.0009325		0	0	0	0.0039526	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.00009366	0.00009366		0	0	0	2.308E-05	0.001	1	0%			0%	
Calcium	A	mg/L	118.1	118.1		120	0	0	0.2027235	0.02092	50	98%	80	120	0%	
Cerium	A	mg/L	9.314E-06	9.314E-06		0	0	0	0.0000222	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.001812	0.001812		0	0	0	0.0002538	0.001	1	0%			0%	
Cobalt	A	mg/L	0.000178	0.000178		0	0	0	2.141E-05	0.001	1	0%			0%	
Copper	A	mg/L	0.00004052	0.00004052		0	0	0	0.0001748	0.001	1	0%			0%	
Iron	A	mg/L	101.4	101.4		100	0	0	0.0021157	0.00119	5	101%	80	120	0%	
Lanthanum	A	mg/L	5.602E-06	5.602E-06		0	0	0	6.805E-05	0.001	0.1	0%			0%	
Lead	A	mg/L	0.00001557	0.00001557		0	0	0	3.031E-05	0.001	1	0%			0%	
Magnesium	A	mg/L	40.56	40.56		50	0	0	0.0203306	0.00564	50	81%			0%	
Manganese	A	mg/L	0.0002747	0.0002747		0	0	0	7.309E-05	0.001	1	0%			0%	
Mercury	A	mg/L	0.00001016	0.00001016		0	0	0	3.043E-05	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.8279	0.8279		0.8	0	0	8.113E-05	0.001	0.1	103%	80	120	0%	
Nickel	A	mg/L	0.0001026	0.0001026		0	0	0	0.0001769	0.001	1	0%			0%	
Potassium	A	mg/L	38.69	38.69		50	0	0	0.0215433	0.08139	50	77%			0%	
Selenium	A	mg/L	0.0001072	0.0001072		0	0	0	7.174E-05	0.001	1	0%			0%	
Silicon	A	mg/L	0.002957	0.002957		0	0	0	0.0033337	0.1	0.4	0%			0%	
Silver	A	mg/L	9.329E-06	9.329E-06		0	0	0	2.644E-05	0.001	0.04	0%			0%	
Sodium	A	mg/L	100.8	100.8		100	0	0	0.0451914	0.02171	50	101%			0%	
Strontium	A	mg/L	0.0009915	0.0009915		0	0	0	9.743E-05	0.001	1	0%			0%	
Thallium	A	mg/L	0.00003869	0.00003869		0	0	0	4.842E-05	0.001	1	0%			0%	
Thorium	A	mg/L	0.00007753	0.00007753		0	0	0	3.018E-05	0.001	1	0%			0%	
Tin	A	mg/L	0.01399	0.01399		0	0	0	0.0009928	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.8178	0.8178		0.8	0	0	0.0001004	0.001	1	102%			0%	
Uranium	A	mg/L	0.00002433	0.00002433		0	0	0	2.468E-05	0.0003	1	0%			0%	
Vanadium	A	mg/L	-0.003084	-0.003084		0	0	0	0.0018612	0.0013	1	0%			0%	
Zinc	A	mg/L	0.0001665	0.0001665		0	0	0	0.0010089	0.00273	1	0%			0%	
Iron, Ferrous	C	mg/L	101.4	101.4		0	0	0	0.0021157	0.00119	5	0%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046159	ICSAB	ICPMS-6020-W-	ICSAB		2/18/2022 4:12:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	37.1	37.1		40	0	0	0.0017836	0.001	1	93%	80	120	0%	
Antimony	A	mg/L	0.00008469	0.00008469		0	0	0	6.768E-05	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.009795	0.009795		0.01	0	0	8.203E-05	0.001	1	98%	80	120	0%	
Barium	A	mg/L	0.0001831	0.0001831		0	0	0	6.762E-05	0.001	1	0%			0%	
Beryllium	A	mg/L	-3.755E-05	-3.755E-05		0	0	0	8.516E-05	0.001	1	0%			0%	
Boron	A	mg/L	0.0005815	0.0005815		0	0	0	0.0039526	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.01014	0.01014		0.01	0	0	2.308E-05	0.001	1	101%	80	120	0%	
Calcium	A	mg/L	120.2	120.2		120	0	0	0.2027235	0.02092	50	100%	80	120	0%	
Cerium	A	mg/L	8.865E-06	8.865E-06		0	0	0	0.0000222	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.02133	0.02133		0.02	0	0	0.0002538	0.001	1	107%	80	120	0%	
Cobalt	A	mg/L	0.02035	0.02035		0.02	0	0	2.141E-05	0.001	1	102%	80	120	0%	
Copper	A	mg/L	0.02061	0.02061		0.02	0	0	0.0001748	0.001	1	103%	80	120	0%	
Iron	A	mg/L	102.7	102.7		100	0	0	0.0021157	0.00119	5	103%	80	120	0%	
Lanthanum	A	mg/L	5.095E-06	5.095E-06		0	0	0	6.805E-05	0.001	0.1	0%			0%	
Lead	A	mg/L	0.00001733	0.00001733		0	0	0	3.031E-05	0.001	1	0%			0%	
Magnesium	A	mg/L	41.32	41.32		40	0	0	0.0203306	0.00564	50	103%	80	120	0%	
Manganese	A	mg/L	0.01997	0.01997		0.02	0	0	7.309E-05	0.001	1	100%	80	120	0%	
Mercury	A	mg/L	0.00000878	0.00000878		0	0	0	3.043E-05	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.8292	0.8292		0.8	0	0	8.113E-05	0.001	0.1	104%	80	120	0%	
Nickel	A	mg/L	0.02075	0.02075		0.02	0	0	0.0001769	0.001	1	104%	80	120	0%	
Potassium	A	mg/L	38.69	38.69		40	0	0	0.0215433	0.08139	50	97%	80	120	0%	
Selenium	A	mg/L	0.01025	0.01025		0.01	0	0	7.174E-05	0.001	1	102%	80	120	0%	
Silicon	A	mg/L	0.002618	0.002618		0	0	0	0.0033337	0.1	0.4	0%			0%	
Silver	A	mg/L	0.004466	0.004466		0.005	0	0	2.644E-05	0.001	0.04	89%	80	120	0%	
Sodium	A	mg/L	99.4	99.4		100	0	0	0.0451914	0.02171	50	99%	80	120	0%	
Strontium	A	mg/L	0.0009774	0.0009774		0	0	0	9.743E-05	0.001	1	0%			0%	
Thallium	A	mg/L	0.0000117	0.0000117		0	0	0	4.842E-05	0.001	1	0%			0%	
Thorium	A	mg/L	0.00003291	0.00003291		0	0	0	3.018E-05	0.001	1	0%			0%	
Tin	A	mg/L	0.01478	0.01478		0	0	0	0.0009928	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.8066	0.8066		0.8	0	0	0.0001004	0.001	1	101%	80	120	0%	
Uranium	A	mg/L	0.00002277	0.00002277		0	0	0	2.468E-05	0.0003	1	0%			0%	
Vanadium	A	mg/L	0.01613	0.01613		0.02	0	0	0.0018612	0.0013	1	81%	80	120	0%	
Zinc	A	mg/L	0.01018	0.01018		0.01	0	0	0.0010089	0.00273	1	102%	80	120	0%	
Iron, Ferrous	C	mg/L	102.7	102.7		0	0	0	0.0021157	0.00119	5	0%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046160	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 4:19:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0006083	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00002191	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0002015	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	2.346E-06	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00001218	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	4.278E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-5.458E-05	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-5.251E-06	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-2.568E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-1.675E-06	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	-1.288E-06	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.000355	0.000355		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	J
Nickel	A	mg/L	-2.547E-05	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	-1.215E-05	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.000691	0		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-5.089E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-3.375E-06	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	6.795E-06	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	6.056E-06	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.00009697	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	7.342E-07	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Boron	B	mg/L	0.0002972	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	L
Calcium	B	mg/L	0.001617	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.001618	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.001618	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-0.000364	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.001553	0		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	-0.001678	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Zinc	B	mg/L	-8.581E-05	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046161	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 4:25:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046161	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 4:25:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0002272	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.00001513	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0001907	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-6.124E-07	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	8.492E-06	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	3.342E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-3.028E-05	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-9.391E-06	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-2.895E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	8.943E-06	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	-6.361E-06	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00008747	0.00008747		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	J
Nickel	A	mg/L	-1.896E-05	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	-7.327E-06	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.0007038	0		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-1.262E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-7.909E-06	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	3.329E-06	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	4.834E-06	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.00003136	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	8.069E-07	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Boron	B	mg/L	0.0002272	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	L
Calcium	B	mg/L	0.0008441	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0007198	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0007198	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-0.00056	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.008228	0		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	L
Sodium	B	mg/L	-0.005614	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Zinc	B	mg/L	-6.534E-05	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046162	CCV	ICPMS-6020-W-	CCV		2/18/2022 4:31:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046162	CCV	ICPMS-6020-W-	CCV		2/18/2022 4:31:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04934	0.04934		0.05	0	0	0.0017836	0.001	1	99%	90	110	0%	
Antimony	A	mg/L	0.0525	0.0525		0.05	0	0	6.768E-05	0.001	0.1	105%	90	110	0%	
Arsenic	A	mg/L	0.05037	0.05037		0.05	0	0	8.203E-05	0.001	1	101%	90	110	0%	
Barium	A	mg/L	0.05205	0.05205		0.05	0	0	6.762E-05	0.001	1	104%	90	110	0%	
Beryllium	A	mg/L	0.04207	0.04207		0.05	0	0	8.516E-05	0.001	1	84%	90	110	0%	S
Boron	A	mg/L	0.04747	0.04747		0.05	0	0	0.0039526	0.00561	1	95%	90	110	0%	
Cadmium	A	mg/L	0.05174	0.05174		0.05	0	0	2.308E-05	0.001	1	103%	90	110	0%	
Calcium	A	mg/L	11.89	11.89		12.5	0	0	0.2027235	0.02092	50	95%	90	110	0%	
Cerium	A	mg/L	0.05113	0.05113		0.05	0	0	0.0000222	0.001	0.1	102%	90	110	0%	
Chromium	A	mg/L	0.05079	0.05079		0.05	0	0	0.0002538	0.001	1	102%	90	110	0%	
Cobalt	A	mg/L	0.05149	0.05149		0.05	0	0	2.141E-05	0.001	1	103%	90	110	0%	
Copper	A	mg/L	0.05515	0.05515		0.05	0	0	0.0001748	0.001	1	110%	90	110	0%	
Iron	A	mg/L	1.276	1.276		1.3	0	0	0.0021157	0.00119	5	98%	90	110	0%	
Lanthanum	A	mg/L	0.05025	0.05025		0.05	0	0	6.805E-05	0.001	0.1	100%	90	110	0%	
Lead	A	mg/L	0.05078	0.05078		0.05	0	0	3.031E-05	0.001	1	102%	90	110	0%	
Magnesium	A	mg/L	13.02	13.02		12.5	0	0	0.0203306	0.00564	50	104%	90	110	0%	
Manganese	A	mg/L	0.05158	0.05158		0.05	0	0	7.309E-05	0.001	1	103%	90	110	0%	
Mercury	A	mg/L	0.0009531	0.0009531		0.001	0	0	3.043E-05	0.001	0.002	95%	90	110	0%	
Molybdenum	A	mg/L	0.04844	0.04844		0.05	0	0	8.113E-05	0.001	0.1	97%	90	110	0%	
Nickel	A	mg/L	0.05409	0.05409		0.05	0	0	0.0001769	0.001	1	108%	90	110	0%	
Potassium	A	mg/L	12.23	12.23		12.5	0	0	0.0215433	0.08139	50	98%	90	110	0%	
Selenium	A	mg/L	0.05101	0.05101		0.05	0	0	7.174E-05	0.001	1	102%	90	110	0%	
Silicon	A	mg/L	0.2111	0.2111		0.2	0	0	0.0033337	0.1	0.4	106%	90	110	0%	
Silver	A	mg/L	0.02001	0.02001		0.02	0	0	2.644E-05	0.001	0.04	100%	90	110	0%	
Sodium	A	mg/L	12.75	12.75		12.5	0	0	0.0451914	0.02171	50	102%	90	110	0%	
Strontium	A	mg/L	0.04982	0.04982		0.05	0	0	9.743E-05	0.001	1	100%	90	110	0%	
Thallium	A	mg/L	0.05125	0.05125		0.05	0	0	4.842E-05	0.001	1	102%	90	110	0%	
Thorium	A	mg/L	0.04875	0.04875		0.05	0	0	3.018E-05	0.001	1	97%	90	110	0%	
Tin	A	mg/L	0.04474	0.04474		0.05	0	0	0.0009928	0.00132	0.1	89%	90	110	0%	S
Titanium	A	mg/L	0.05034	0.05034		0.05	0	0	0.0001004	0.001	1	101%	90	110	0%	
Uranium	A	mg/L	0.04974	0.04974		0.05	0	0	2.468E-05	0.0003	1	99%	90	110	0%	
Vanadium	A	mg/L	0.04896	0.04896		0.05	0	0	0.0018612	0.0013	1	98%	90	110	0%	
Zinc	A	mg/L	0.05354	0.05354		0.05	0	0	0.0010089	0.00273	1	107%	90	110	0%	
Iron, Ferrous	C	mg/L	1.276	1.276		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046163	CCB	ICPMS-6020-W-	CCB		2/18/2022 4:37:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001344	0.0001344		0	0	0	0.0017836	0.001	1	0%				0%
Antimony	A	mg/L	0.0001125	0.0001125		0	0	0	6.768E-05	0.001	0.1	0%				0%
Arsenic	A	mg/L	-0.0001885	-0.0001885		0	0	0	8.203E-05	0.001	1	0%				0%
Barium	A	mg/L	4.057E-06	4.057E-06		0	0	0	6.762E-05	0.001	1	0%				0%
Beryllium	A	mg/L	-0.0000285	-0.0000285		0	0	0	8.516E-05	0.001	1	0%				0%
Boron	A	mg/L	0.0004246	0.0004246		0	0	0	0.0039526	0.00561	1	0%				0%
Cadmium	A	mg/L	7.673E-06	7.673E-06		0	0	0	2.308E-05	0.001	1	0%				0%
Calcium	A	mg/L	-5.718E-06	-5.718E-06		0	0	0	0.2027235	0.02092	50	0%				0%
Cerium	A	mg/L	6.934E-07	6.934E-07		0	0	0	0.0000222	0.001	0.1	0%	0	0		0%
Chromium	A	mg/L	-1.095E-05	-1.095E-05		0	0	0	0.0002538	0.001	1	0%				0%
Cobalt	A	mg/L	-9.134E-06	-9.134E-06		0	0	0	2.141E-05	0.001	1	0%				0%
Copper	A	mg/L	-8.385E-05	-8.385E-05		0	0	0	0.0001748	0.001	1	0%				0%
Iron	A	mg/L	0.0003902	0.0003902		0	0	0	0.0021157	0.00119	5	0%				0%
Lanthanum	A	mg/L	7.232E-07	7.232E-07		0	0	0	6.805E-05	0.001	0.1	0%	0	0		0%
Lead	A	mg/L	-3.109E-05	-3.109E-05		0	0	0	3.031E-05	0.001	1	0%				0%
Magnesium	A	mg/L	-0.0002539	-0.0002539		0	0	0	0.0203306	0.00564	50	0%				0%
Manganese	A	mg/L	9.42E-07	9.42E-07		0	0	0	7.309E-05	0.001	1	0%				0%
Mercury	A	mg/L	0.00000643	0.00000643		0	0	0	3.043E-05	0.001	0.002	0%				0%
Molybdenum	A	mg/L	0.00005453	0.00005453		0	0	0	8.113E-05	0.001	0.1	0%				0%
Nickel	A	mg/L	-5.309E-06	-5.309E-06		0	0	0	0.0001769	0.001	1	0%				0%
Potassium	A	mg/L	-0.00468	-0.00468		0	0	0	0.0215433	0.08139	50	0%				0%
Selenium	A	mg/L	-4.994E-06	-4.994E-06		0	0	0	7.174E-05	0.001	1	0%				0%
Silicon	A	mg/L	-0.000492	-0.000492		0	0	0	0.0033337	0.1	0.4	0%	0	0		0%
Silver	A	mg/L	0.00000338	0.00000338		0	0	0	2.644E-05	0.001	0.04	0%				0%
Sodium	A	mg/L	-0.003644	-0.003644		0	0	0	0.0451914	0.02171	50	0%				0%
Strontium	A	mg/L	-8.837E-06	-8.837E-06		0	0	0	9.743E-05	0.001	1	0%	0	0		0%
Thallium	A	mg/L	0.0000678	0.0000678		0	0	0	4.842E-05	0.001	1	0%	0	0		0%
Thorium	A	mg/L	0.00003154	0.00003154		0	0	0	3.018E-05	0.001	1	0%	0	0		0%
Tin	A	mg/L	0.00004205	0.00004205		0	0	0	0.0009928	0.00132	0.1	0%	0	0		0%
Titanium	A	mg/L	8.409E-06	8.409E-06		0	0	0	0.0001004	0.001	1	0%	0	0		0%
Uranium	A	mg/L	0.00000396	0.00000396		0	0	0	2.468E-05	0.0003	1	0%	0	0		0%
Vanadium	A	mg/L	-0.002501	-0.002501		0	0	0	0.0018612	0.0013	1	0%	0	0		0%
Zinc	A	mg/L	-8.879E-05	-8.879E-05		0	0	0	0.0010089	0.00273	1	0%	0	0		0%
Iron, Ferrous	C	mg/L	0.0003902	0.0003902		0	0	0	0.0021157	0.00119	5	0%	0	0		0%

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046164	MB-163745	ICPMS-6020-W-	MBLK		2/18/2022 4:44:0	1	163745	2/14/2022 1	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.002797	0		0	0	0	0.0038747	0.0031975	1	0%	0	0	0%	
Antimony	A	mg/L	0.0000476	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0002324	0		0	0	0	0.0003412	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.00007035	0		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Beryllium	A	mg/L	-2.857E-05	0		0	0	0	0.0001071	0.01	1	0%	0	0	0%	
Boron	A	mg/L	0.0008667	0		0	0	0	0.0203802	0.01467	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00001717	0		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	
Calcium	A	mg/L	0.01472	0		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	
Cerium	A	mg/L	3.212E-06	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	5.918E-06	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	
Iron	A	mg/L	0.001397	0		0	0	0	0.007424	0.00513	5	0%	0	0	0%	
Lanthanum	A	mg/L	1.961E-06	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.00002423	0		0	0	0	7.716E-05	0.0005	1	0%	0	0	0%	
Magnesium	A	mg/L	0.002162	0		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	
Manganese	A	mg/L	0.00009656	0		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0001003	0		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	0.00003468	0		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	
Potassium	A	mg/L	-3.723E-05	0		0	0	0	0.0765619	0.0261205	50	0%	0	0	0%	
Selenium	A	mg/L	5.592E-06	0		0	0	0	0.0001357	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	0.01631	0		0	0	0	0.0422089	0.0053212	0.4	0%	0	0	0%	
Sodium	A	mg/L	0.003822	0		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	
Strontium	A	mg/L	0.00003484	0		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00005123	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00007602	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	
Tin	A	mg/L	0.0002	0		0	0	0	0.0018932	0.0011175	0.1	0%	0	0	0%	
Uranium	A	mg/L	0.00000353	0		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	
Zinc	A	mg/L	0.003792	0.003792		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	
Silica	C	mg/L	0.03489035	0		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	0.03489035	0		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046165	LCS4-163745	ICPMS-6020-W-	LCS4		2/18/2022 4:50:1	1	163745	2/14/2022 1	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046165	LCS4-163745	ICPMS-6020-W-	LCS4		2/18/2022 4:50:1	1	163745	2/14/2022 1	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.4676	0.4676		0.5	0	0	0.0038747	0.0031975	1	94%	80	120	0%	
Antimony	A	mg/L	0.1034	0.1034		0.1	0	0	0.0002799	0.001	0.1	103%	80	120	0%	
Arsenic	A	mg/L	0.09779	0.09779		0.1	0	0	0.0003412	0.001	1	98%	80	120	0%	
Barium	A	mg/L	0.09133	0.09133		0.1	0	0	0.0002682	0.001	1	91%	80	120	0%	
Beryllium	A	mg/L	0.03856	0.03856		0.05	0	0	0.0001071	0.01	1	77%	80	120	0%	S
Boron	A	mg/L	0.08702	0.08702		0.1	0	0	0.0203802	0.01467	1	87%	80	120	0%	
Cadmium	A	mg/L	0.05122	0.05122		0.05	0	0	1.821E-05	0.005	1	102%	80	120	0%	
Calcium	A	mg/L	4.79	4.79		5	0	0	0.0372936	0.1103481	50	96%	80	120	0%	
Cerium	A	mg/L	0.1071	0.1071		0.1	0	0	2.738E-05	0.001	0.1	107%	80	120	0%	
Chromium	A	mg/L	0.1008	0.1008		0.1	0	0	0.0015375	0.0015375	1	101%	80	120	0%	
Cobalt	A	mg/L	0.1022	0.1022		0.1	0	0	9.541E-05	0.001	1	102%	80	120	0%	
Copper	A	mg/L	0.1147	0.1147		0.1	0	0	0.0008747	0.00198	1	115%	80	120	0%	
Iron	A	mg/L	0.5062	0.5062		0.5	0	0	0.007424	0.00513	5	101%	80	120	0%	
Lanthanum	A	mg/L	0.106	0.106		0.1	0	0	0.000055	0.001	0.1	106%	80	120	0%	
Lead	A	mg/L	0.09924	0.09924		0.1	0	0	7.716E-05	0.001	1	99%	88	115	0%	
Magnesium	A	mg/L	5.333	5.333		5	0	0	0.0104254	0.0081522	50	107%	80	120	0%	
Manganese	A	mg/L	0.504	0.504		0.5	0	0	0.0005399	0.001	1	101%	80	120	0%	
Molybdenum	A	mg/L	0.09278	0.09278		0.1	0	0	0.0001763	0.001	0.1	93%	80	120	0%	
Nickel	A	mg/L	0.1061	0.1061		0.1	0	0	0.0002288	0.0024200	1	106%	80	120	0%	
Potassium	A	mg/L	4.539	4.539		5	0	0	0.0765619	0.0261205	50	91%	80	120	0%	
Selenium	A	mg/L	0.1009	0.1009		0.1	0	0	0.0001357	0.001	1	101%	80	120	0%	
Silicon	A	mg/L	0.9688	0.9688		1	0	0	0.0422089	0.0053212	0.4	97%	80	120	0%	
Silver	A	mg/L	0.009241	0.009241		0.01	0	0	4.281E-05	0.001	0.04	92%	80	120	0%	
Sodium	A	mg/L	5.366	5.366		5	0	0	0.1019461	0.7330269	50	107%	80	120	0%	
Strontium	A	mg/L	0.09644	0.09644		0.1	0	0	0.0002433	0.001	1	96%	80	120	0%	
Thallium	A	mg/L	0.09745	0.09745		0.1	0	0	0.0001114	0.001	1	97%	80	120	0%	
Thorium	A	mg/L	0.0981	0.0981		0.1	0	0	0.0003796	0.00415	1	98%	80	120	0%	
Tin	A	mg/L	0.08665	0.08665		0.1	0	0	0.0018932	0.0011175	0.1	87%	80	120	0%	
Titanium	A	mg/L	0.09474	0.09474		0.1	0	0	0.0005733	0.001	1	95%	80	120	0%	
Uranium	A	mg/L	0.09997	0.09997		0.1	0	0	1.699E-05	0.0003	1	100%	80	120	0%	
Vanadium	A	mg/L	0.09615	0.09615		0.1	0	0	0.0039127	0.0021085	1	96%	80	120	0%	
Zinc	A	mg/L	0.1033	0.1033		0.1	0	0	0.0011617	0.0065544	1	103%	80	120	0%	
Silica	C	mg/L	2.07245696	2.07245696		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	2.07245696	2.07245696		2.14	0	0	0.0902933	0.0113831	5	97%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046166	B22020962-001	ICPMS-6020-W-	SAMP		2/18/2022 4:56:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.004063	0.004063		0	0	0	0.0017836	0.001	1	0%	0	0	0%	U
Antimony	A	mg/L	0.0002767	0.0002767		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	J
Arsenic	A	mg/L	-0.0002398	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	U
Barium	A	mg/L	0.004282	0.004282		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00003841	0.00003841		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	5.464E-06	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	U
Chromium	A	mg/L	0.0008069	0.0008069		0	0	0	0.0002538	0.001	1	0%	0	0	0%	J
Cobalt	A	mg/L	0.00003778	0.00003778		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	2.511E-07	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.007226	0.007226		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.00004297	0.00004297		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	J
Molybdenum	A	mg/L	0.0003587	0.0003587		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	J
Nickel	A	mg/L	0.0007555	0.0007555		0	0	0	0.0001769	0.001	1	0%	0	0	0%	J
Selenium	A	mg/L	0.0002357	0.0002357		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-6.098E-05	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.164	0.164		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001212	0.0001212		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0000332	0.0000332		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	J
Titanium	A	mg/L	0.001903	0.001903		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.000014	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	U
Boron	B	mg/L	0.04008	0.04008		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	D
Calcium	B	mg/L	16.08	16.08		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.001381	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	U
Iron, Ferrous	B	mg/L	0.001381	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	U
Magnesium	B	mg/L	17.6	17.6		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	36.86	36.86		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	D
Zinc	B	mg/L	-6.819E-05	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	LU

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046167	B22020962-001	ICPMS-6020-W-	SD		2/18/2022 5:02:4	5	R374975		0	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001453	0		0	0	0.004063	0.0089181	0.0043	1	0%				
Antimony	A	mg/L	0.0001041	0.0005205		0	0	0.0002767	0.0003384	0.0021	0.1	0%				N
Arsenic	A	mg/L	-0.0001158	0		0	0	0	0.0004102	0.001	1	0%				

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046167	B22020962-001	ICPMS-6020-W-	SD		2/18/2022 5:02:4	5	R374975		0	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	0.0008912	0.004456		0	0	0.004282	0.0003381	0.001	1	0%			4%	
Beryllium	A	mg/L	-2.889E-05	0		0	0	0	0.0004258	0.001	1	0%				
Boron	A	mg/L	0.007954	0.03977		0	0	0.04008	0.0197631	0.02805	1	0%				N
Cadmium	A	mg/L	0.00002839	0.00014195		0	0	3.841E-05	0.0001154	0.001	1	0%				N
Calcium	A	mg/L	3.168	15.84		0	0	16.08	1.0136175	0.1046	50	0%			2%	
Cerium	A	mg/L	1.594E-06	0		0	0	0	0.000111	0.001	0.1	0%				
Chromium	A	mg/L	0.0001777	0		0	0	0.0008069	0.001269	0.001	1	0%				
Cobalt	A	mg/L	3.478E-06	0		0	0	3.778E-05	0.0001071	0.001	1	0%				
Copper	A	mg/L	0.0002523	0.0012615		0	0	0.0003421	0.0008742	0.00135	1	0%				N
Iron	A	mg/L	0.0007403	0		0	0	0	0.0105787	0.00595	5	0%				
Lanthanum	A	mg/L	8.911E-07	0		0	0	0	0.0003403	0.001	0.1	0%				
Lead	A	mg/L	-2.697E-05	0		0	0	0	0.0001516	0.001	1	0%				
Magnesium	A	mg/L	3.514	17.57		0	0	17.6	0.1016532	0.0282	50	0%			0%	
Manganese	A	mg/L	0.001438	0.00719		0	0	0.007226	0.0003655	0.001	1	0%			0%	
Mercury	A	mg/L	0.00001972	0		0	0	4.297E-05	0.0001522	0.001	0.002	0%				
Molybdenum	A	mg/L	0.00008001	0		0	0	0.0003587	0.0004057	0.001	0.1	0%				
Nickel	A	mg/L	0.0001562	0		0	0	0.0007555	0.0008844	0.00315	1	0%				
Potassium	A	mg/L	0.5785	2.8925		0	0	3.19	0.1077164	0.40695	50	0%			10%	
Selenium	A	mg/L	0.00004203	0		0	0	0.0002357	0.0003587	0.00165	1	0%				
Silicon	A	mg/L	5.12	25.6		0	0	26.3	0.0166685	0.1	0.4	0%			3%	
Silver	A	mg/L	-6.557E-05	0		0	0	0	0.0001322	0.001	0.04	0%				
Sodium	A	mg/L	7.54	37.7		0	0	36.86	0.225957	0.10855	50	0%			2%	
Strontium	A	mg/L	0.03208	0.1604		0	0	0.164	0.0004872	0.001	1	0%			2%	
Thallium	A	mg/L	0.00002516	0		0	0	0.0001212	0.0002421	0.001	1	0%				
Thorium	A	mg/L	0.00002216	0		0	0	0.0000332	0.0001509	0.00305	1	0%				
Tin	A	mg/L	0.00002297	0		0	0	0	0.0049642	0.0066	0.1	0%				
Titanium	A	mg/L	0.0004141	0.0020705		0	0	0.001903	0.000502	0.001	1	0%				N
Uranium	A	mg/L	4.419E-06	0		0	0	0	0.0001234	0.0003	1	0%				
Vanadium	A	mg/L	0.0009112	0		0	0	0.004779	0.0093058	0.0065	1	0%				
Zinc	A	mg/L	0.0001425	0		0	0	0	0.0050446	0.01365	1	0%				
Iron, Ferrous	C	mg/L	0.0007403	0		0	0	0	0.0105787	0.00595	5	0%				

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046168	B22020962-001	ICPMS-6020-W- MS			2/18/2022 5:09:0	1.03	R374975		2E+07	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0484	0.049852		0.05	0.004063	0	0.0018371	0.001	1	92%	75	125	0%	
Antimony	A	mg/L	0.04997	0.0514691		0.05	0.0002767	0	6.971E-05	0.001	0.1	102%	75	125	0%	
Arsenic	A	mg/L	0.04788	0.0493164		0.05	0	0	8.449E-05	0.001	1	99%	75	125	0%	
Barium	A	mg/L	0.05315	0.0547445		0.05	0.004282	0	6.965E-05	0.001	1	101%	75	125	0%	
Beryllium	A	mg/L	0.03906	0.0402318		0.05	0	0	8.771E-05	0.001	1	80%	75	125	0%	
Boron	A	mg/L	0.08092	0.0833476		0.05	0.04008	0	0.0040712	0.0057783	1	87%	75	125	0%	
Cadmium	A	mg/L	0.04835	0.0498005		0.05	3.841E-05	0	2.377E-05	0.001	1	100%	75	125	0%	
Calcium	A	mg/L	60.41	62.2223		50	16.08	0	0.2088052	0.0215476	50	92%	75	125	0%	E
Cerium	A	mg/L	0.05168	0.0532304		0.05	0	0	2.287E-05	0.001	0.1	106%	75	125	0%	
Chromium	A	mg/L	0.04792	0.0493576		0.05	0.0008069	0	0.0002614	0.001	1	97%	75	125	0%	
Cobalt	A	mg/L	0.0476	0.049028		0.05	3.778E-05	0	2.205E-05	0.001	1	98%	75	125	0%	
Copper	A	mg/L	0.05062	0.0521386		0.05	0.0003421	0	0.0001801	0.001	1	104%	75	125	0%	
Iron	A	mg/L	4.75	4.8925		5.05	0	0	0.0021792	0.0012257	5	97%	75	125	0%	
Lanthanum	A	mg/L	5.119E-06	0		0.05	0	0	7.009E-05	0.001	0.1	0%	75	125	0%	S
Lead	A	mg/L	0.04827	0.0497181		0.05	0	0	3.122E-05	0.001	1	99%	88	115	0%	
Magnesium	A	mg/L	64.92	66.8676		50	17.6	0	0.0209406	0.0058092	50	99%	75	125	0%	E
Manganese	A	mg/L	0.05376	0.0553728		0.05	0.007226	0	7.528E-05	0.001	1	96%	75	125	0%	
Mercury	A	mg/L	0.0009707	0.00099982		0.001	4.297E-05	0	3.134E-05	0.001	0.002	96%	75	125	0%	
Molybdenum	A	mg/L	0.04596	0.0473388		0.05	0.0003587	0	8.356E-05	0.001	0.1	94%	75	125	0%	
Nickel	A	mg/L	0.04958	0.0510674		0.05	0.0007555	0	0.0001822	0.001	1	101%	75	125	0%	
Potassium	A	mg/L	46.48	47.8744		50	3.19	0	0.0221896	0.0838317	50	89%	75	125	0%	
Selenium	A	mg/L	0.04952	0.0510056		0.05	0.0002357	0	7.389E-05	0.001	1	102%	75	125	0%	
Silicon	A	mg/L	25.66	26.4298		0.2	26.3	0	0.0034337	0.1	0.4		75	125	0%	AE
Silver	A	mg/L	0.01867	0.0192301		0.02	0	0	2.723E-05	0.001	0.04	96%	75	125	0%	
Sodium	A	mg/L	82.93	85.4179		50	36.86	0	0.0465471	0.0223613	50	97%	75	125	0%	E
Strontium	A	mg/L	0.2009	0.206927		0.05	0.164	0	0.0001004	0.001	1	86%	75	125	0%	
Thallium	A	mg/L	0.04853	0.0499859		0.05	0.0001212	0	4.987E-05	0.001	1	100%	75	125	0%	
Thorium	A	mg/L	0.04812	0.0495636		0.05	0.0000332	0	3.109E-05	0.001	1	99%	75	125	0%	
Tin	A	mg/L	0.04217	0.0434351		0.05	0	0	0.0010226	0.0013596	0.1	87%	75	125	0%	
Titanium	A	mg/L	0.05176	0.0533128		0.05	0.001903	0	0.0001034	0.001	1	103%	75	125	0%	
Uranium	A	mg/L	0.04951	0.0509953		0.05	0	0	2.542E-05	0.0003	1	102%	75	125	0%	
Vanadium	A	mg/L	0.05532	0.0569796		0.05	0.004779	0	0.001917	0.001339	1	104%	75	125	0%	
Zinc	A	mg/L	0.0512	0.052736		0.05	0	0	0.0010392	0.0028119	1	105%	75	125	0%	
Iron, Ferrous	C	mg/L	4.75	4.8925		0	0	0	0.0021792	0.0012257	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046169	B22020962-001	ICPMS-6020-W- MSD			2/18/2022 5:15:1	1.03	R374975		2E+07	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04724	0.0486572		0.05	0.004063	0.049852	0.0018371	0.001	1	89%	75	125	2%	
Antimony	A	mg/L	0.05144	0.0529832		0.05	0.0002767	0.0514691	6.971E-05	0.001	0.1	105%	75	125	3%	
Arsenic	A	mg/L	0.04867	0.0501301		0.05	0	0.0493164	8.449E-05	0.001	1	100%	75	125	2%	
Barium	A	mg/L	0.05437	0.0560011		0.05	0.004282	0.0547445	6.965E-05	0.001	1	103%	75	125	2%	
Beryllium	A	mg/L	0.03994	0.0411382		0.05	0	0.0402318	8.771E-05	0.001	1	82%	75	125	2%	
Boron	A	mg/L	0.08352	0.0860256		0.05	0.04008	0.0833476	0.0040712	0.0057783	1	92%	75	125	3%	
Cadmium	A	mg/L	0.04993	0.0514279		0.05	3.841E-05	0.0498005	2.377E-05	0.001	1	103%	75	125	3%	
Calcium	A	mg/L	60.49	62.3047		50	16.08	62.2223	0.2088052	0.0215476	50	92%	75	125	0%	E
Cerium	A	mg/L	0.05256	0.0541368		0.05	0	0.0532304	2.287E-05	0.001	0.1	108%	75	125	2%	
Chromium	A	mg/L	0.04807	0.0495121		0.05	0.0008069	0.0493576	0.0002614	0.001	1	97%	75	125	0%	
Cobalt	A	mg/L	0.04826	0.0497078		0.05	3.778E-05	0.049028	2.205E-05	0.001	1	99%	75	125	1%	
Copper	A	mg/L	0.05081	0.0523343		0.05	0.0003421	0.0521386	0.0001801	0.001	1	104%	75	125	0%	
Iron	A	mg/L	4.85	4.9955		5.05	0	4.8925	0.0021792	0.0012257	5	99%	75	125	2%	
Lanthanum	A	mg/L	4.462E-06	0		0.05	0	0	7.009E-05	0.001	0.1	0%	75	125		S
Lead	A	mg/L	0.04861	0.0500683		0.05	0	0.0497181	3.122E-05	0.001	1	100%	88	115	1%	
Magnesium	A	mg/L	64.33	66.2599		50	17.6	66.8676	0.0209406	0.0058092	50	97%	75	125	1%	E
Manganese	A	mg/L	0.0546	0.056238		0.05	0.007226	0.0553728	7.528E-05	0.001	1	98%	75	125	2%	
Mercury	A	mg/L	0.001012	0.00104236		0.001	4.297E-05	0.0009998	3.134E-05	0.001	0.002	100%	75	125		
Molybdenum	A	mg/L	0.04714	0.0485542		0.05	0.0003587	0.0473388	8.356E-05	0.001	0.1	96%	75	125	3%	
Nickel	A	mg/L	0.04984	0.0513352		0.05	0.0007555	0.0510674	0.0001822	0.001	1	101%	75	125	1%	
Potassium	A	mg/L	46.89	48.2967		50	3.19	47.8744	0.0221896	0.0838317	50	90%	75	125	1%	
Selenium	A	mg/L	0.05011	0.0516133		0.05	0.0002357	0.0510056	7.389E-05	0.001	1	103%	75	125	1%	
Silicon	A	mg/L	25.14	25.8942		0.2	26.3	26.4298	0.0034337	0.1	0.4		75	125	2%	AE
Silver	A	mg/L	0.0195	0.020085		0.02	0	0.0192301	2.723E-05	0.001	0.04	100%	75	125	4%	
Sodium	A	mg/L	84.62	87.1586		50	36.86	85.4179	0.0465471	0.0223613	50	101%	75	125	2%	E
Strontium	A	mg/L	0.2006	0.206618		0.05	0.164	0.206927	0.0001004	0.001	1	85%	75	125	0%	
Thallium	A	mg/L	0.04912	0.0505936		0.05	0.0001212	0.0499859	4.987E-05	0.001	1	101%	75	125	1%	
Thorium	A	mg/L	0.04949	0.0509747		0.05	0.0000332	0.0495636	3.109E-05	0.001	1	102%	75	125	3%	
Tin	A	mg/L	0.04211	0.0433733		0.05	0	0.0434351	0.0010226	0.0013596	0.1	87%	75	125	0%	
Titanium	A	mg/L	0.05412	0.0557436		0.05	0.001903	0.0533128	0.0001034	0.001	1	108%	75	125	4%	
Uranium	A	mg/L	0.05003	0.0515309		0.05	0	0.0509953	2.542E-05	0.0003	1	103%	75	125	1%	
Vanadium	A	mg/L	0.05527	0.0569281		0.05	0.004779	0.0569796	0.001917	0.001339	1	104%	75	125	0%	
Zinc	A	mg/L	0.05053	0.0520459		0.05	0	0.052736	0.0010392	0.0028119	1	104%	75	125	1%	
Iron, Ferrous	C	mg/L	4.85	4.9955		0	0	4.8925	0.0021792	0.0012257	5	0%	0	0	2%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046170	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 5:21:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-2.745E-05	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	0.0001894	0.0001894		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	J
Arsenic	A	mg/L	-9.463E-06	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	6.466E-06	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	3.421E-06	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	1.856E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-1.409E-06	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-5.072E-06	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-3.458E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	9.465E-06	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	5.072E-06	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00007447	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-1.737E-05	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.00001861	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silver	A	mg/L	-3.796E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-3.04E-08	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00004326	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.0000422	0.0000422		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	J
Titanium	A	mg/L	0.00007636	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	5.033E-06	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Boron	B	mg/L	0.0009204	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	L
Calcium	B	mg/L	-0.0007535	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0003068	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0003068	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.001301	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Sodium	B	mg/L	0.01111	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Zinc	B	mg/L	-0.0002332	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046171	B22020962-001	ICPMS-6020-W-	SAMP		2/18/2022 5:27:4	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.000303	0.000303		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	J
Arsenic	A	mg/L	0.0002165	0		0	0	0	0.0003412	0.001	1	0%	0	0	0%	U
Barium	A	mg/L	0.004431	0.004431		0	0	0	0.0002682	0.001	1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046171	B22020962-001	ICPMS-6020-W-	SAMP		2/18/2022 5:27:4	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.00003653	0.00003653		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	J
Cerium	A	mg/L	0.00005451	0.00005451		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	J
Cobalt	A	mg/L	0.0002295	0.0002295		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lanthanum	A	mg/L	0.00002196	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Lead	A	mg/L	0.00003539	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.01222	0.01222		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0003768	0.0003768		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.0003149	0.0003149		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-5.784E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.1643	0.1643		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00003378	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.006842	0.006842		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001669	0		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	U
Aluminum	B	mg/L	0.07257	0.07257		0	0	0	0.0038747	0.0031975	1	0%	0	0	0%	D
Boron	B	mg/L	0.03618	0.03618		0	0	0	0.0203802	0.01467	1	0%	0	0	0%	DU
Calcium	B	mg/L	15.62	15.62		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Chromium	B	mg/L	0.001169	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	LU
Iron	B	mg/L	0.06972	0.06972		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	17.43	17.43		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Nickel	B	mg/L	0.0008522	0.0008522		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	JL
Sodium	B	mg/L	37.64	37.64		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.0001172	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Zinc	B	mg/L	0.004403	0.004403		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	JL

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046172	B22020962-001	ICPMS-6020-W-	SD		2/18/2022 5:33:5	5	163745	2/14/2022 1:	0	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.01564	0.0782		0	0	0.07257	0.0193736	0.0159875	1	0%	0	0		N
Antimony	A	mg/L	0.00008289	0		0	0	0.000303	0.0013997	0.0049	0.1	0%	0	0		
Arsenic	A	mg/L	-2.064E-05	0		0	0	0	0.0017061	0.0013383	1	0%	0	0		
Barium	A	mg/L	0.001024	0.00512		0	0	0.004431	0.0013411	0.0012039	1	0%	0	0		N
Beryllium	A	mg/L	-4.116E-05	0		0	0	0	0.0005353	0.01	1	0%	0	0		
Boron	A	mg/L	0.007077	0		0	0	0.03618	0.1019008	0.07335	1	0%	0	0		
Cadmium	A	mg/L	0.00002711	0.00013555		0	0	3.653E-05	9.105E-05	0.005	1	0%	0	0		N

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046172	B22020962-001	ICPMS-6020-W-	SD		2/18/2022 5:33:5	5	163745	2/14/2022 1:	0	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Calcium	A	mg/L	3.21	16.05		0	0	15.62	0.1864681	0.5517403	50	0%	0	0	3%	
Cerium	A	mg/L	0.00001271	0		0	0	5.451E-05	0.0001369	0.001	0.1	0%	0	0		
Chromium	A	mg/L	0.0002925	0		0	0	0	0.0076875	0.0076875	1	0%	0	0		
Cobalt	A	mg/L	0.00003832	0		0	0	0.0002295	0.0004771	0.001	1	0%	0	0		
Copper	A	mg/L	0.001131	0.005655		0	0	0.004635	0.0043735	0.0099	1	0%	0	0		N
Iron	A	mg/L	0.01421	0.07105		0	0	0.06972	0.0371198	0.02565	5	0%	0	0		N
Lanthanum	A	mg/L	5.273E-06	0		0	0	0	0.000275	0.001	0.1	0%	0	0		
Lead	A	mg/L	4.479E-06	0		0	0	0	0.0003858	0.001	1	0%	0	0		
Magnesium	A	mg/L	3.468	17.34		0	0	17.43	0.0521269	0.0407608	50	0%	0	0	1%	
Manganese	A	mg/L	0.002511	0.012555		0	0	0.01222	0.0026994	0.0010695	1	0%	0	0		N
Molybdenum	A	mg/L	0.00008609	0		0	0	0.0003768	0.0008814	0.001	0.1	0%	0	0		
Nickel	A	mg/L	0.0002106	0		0	0	0.0008522	0.0011441	0.0121000	1	0%	0	0		
Potassium	A	mg/L	0.5517	2.7585		0	0	2.898	0.3828097	0.1306027	50	0%	0	0		N
Selenium	A	mg/L	0.00005792	0		0	0	0.0003149	0.0006787	0.0029274	1	0%	0	0		
Silicon	A	mg/L	4.403	22.015		0	0	21.98	0.2110446	0.026606	0.4	0%	0	0	0%	
Silver	A	mg/L	-6.546E-05	0		0	0	0	0.0002141	0.001	0.04	0%	0	0		
Sodium	A	mg/L	7.643	38.215		0	0	37.64	0.5097304	3.6651346	50	0%	0	0	2%	
Strontium	A	mg/L	0.0335	0.1675		0	0	0.1643	0.0012164	0.001	1	0%	0	0	2%	
Thallium	A	mg/L	0.00001359	0		0	0	0	0.0005569	0.001	1	0%	0	0		
Thorium	A	mg/L	0.00001528	0		0	0	0	0.0018981	0.02075	1	0%	0	0		
Tin	A	mg/L	0.00008761	0		0	0	0	0.0094659	0.0055874	0.1	0%	0	0		
Titanium	A	mg/L	0.001354	0.00677		0	0	0.006842	0.0028666	0.001	1	0%	0	0		N
Uranium	A	mg/L	3.405E-06	0		0	0	0	8.495E-05	0.0004224	1	0%	0	0		
Vanadium	A	mg/L	0.003334	0		0	0	0.01075	0.0195637	0.0105423	1	0%	0	0		
Zinc	A	mg/L	0.002758	0.01379		0	0	0.004403	0.0058087	0.0327721	1	0%	0	0		N
Silica	C	mg/L	9.4188976	47.094488		0	0	0	0.4514666	0.0569155	5	0%	0	0		N
Silicon as SiO2	C	mg/L	9.4188976	47.094488		0	0	0	0.4514666	0.0569155	5	0%	0	0		N

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046173	B22020962-001	ICPMS-6020-W-	PDS1		2/18/2022 5:40:0	1.03	163745	2/14/2022 1:	2E+07	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.1104	0.113712		0.0515	0.07257	0	0.003991	0.0032934	1	80%	75	125	0%	
Antimony	A	mg/L	0.049	0.05047		0.0515	0.000303	0	0.0002883	0.0010094	0.1	97%	75	125	0%	
Arsenic	A	mg/L	0.04888	0.0503464		0.0515	0	0	0.0003514	0.001	1	98%	75	125	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046173	B22020962-001	ICPMS-6020-W-	PDS1		2/18/2022 5:40:0	1.03	163745	2/14/2022 1:	2E+07	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	0.05213	0.0536939		0.0515	0.004431	0	0.0002763	0.001	1	96%	75	125	0%	
Beryllium	A	mg/L	0.03038	0.0312914		0.0515	0	0	0.0001103	0.01	1	61%	75	125	0%	S
Boron	A	mg/L	0.06661	0.0686083		0.0515	0.03618	0	0.0209916	0.0151101	1	63%	75	125	0%	S
Cadmium	A	mg/L	0.05003	0.0515309		0.0515	3.653E-05	0	1.876E-05	0.005	1	100%	75	125	0%	
Calcium	A	mg/L	58.78	60.5434		51.5	15.62	0	0.0384124	0.1136585	50	87%	75	125	0%	
Cerium	A	mg/L	0.05228	0.0538484		0.0515	5.451E-05	0	2.820E-05	0.001	0.1	104%	75	125	0%	
Chromium	A	mg/L	0.04872	0.0501816		0.0515	0	0	0.0015836	0.0015836	1	97%	75	125	0%	
Cobalt	A	mg/L	0.04519	0.0465457		0.0515	0.0002295	0	9.827E-05	0.001	1	90%	75	125	0%	
Copper	A	mg/L	0.05492	0.0565676		0.0515	0.004635	0	0.0009009	0.0020394	1	101%	75	125	0%	
Iron	A	mg/L	4.835	4.98005		5.15	0.06972	0	0.0076467	0.0052839	5	95%	75	125	0%	
Lanthanum	A	mg/L	0.00003056	0		0.0515	0	0	5.665E-05	0.001	0.1	0%	75	125	0%	S
Lead	A	mg/L	0.0477	0.049131		0.0515	0	0	7.947E-05	0.001	1	95%	80	120	0%	
Magnesium	A	mg/L	61.44	63.2832		51.5	17.43	0	0.0107381	0.0083967	50	89%	75	125	0%	
Manganese	A	mg/L	0.05856	0.0603168		0.0515	0.01222	0	0.0005561	0.001	1	93%	75	125	0%	
Molybdenum	A	mg/L	0.04757	0.0489971		0.0515	0.0003768	0	0.0001816	0.001	0.1	94%	75	125	0%	
Nickel	A	mg/L	0.05028	0.0517884		0.0515	0.0008522	0	0.0002357	0.0024926	1	99%	75	125	0%	
Potassium	A	mg/L	44.84	46.1852		51.5	2.898	0	0.0788588	0.0269042	50	84%	75	125	0%	
Selenium	A	mg/L	0.04933	0.0508099		0.0515	0.0003149	0	0.0001398	0.001	1	98%	75	125	0%	
Silicon	A	mg/L	22.74	23.4222		0.206	21.98	0	0.0434752	0.0054808	0.4		0	0	0%	A
Silver	A	mg/L	0.01857	0.0191271		0.0206	0	0	4.409E-05	0.001	0.04	93%	75	125	0%	
Sodium	A	mg/L	81.07	83.5021		51.5	37.64	0	0.1050045	0.7550177	50	89%	75	125	0%	
Strontium	A	mg/L	0.2063	0.212489		0.0515	0.1643	0	0.0002506	0.001	1	94%	75	125	0%	
Thallium	A	mg/L	0.047	0.04841		0.0515	0	0	0.0001147	0.001	1	94%	75	125	0%	
Thorium	A	mg/L	0.04777	0.0492031		0.0515	0	0	0.000391	0.0042745	1	96%	75	125	0%	
Tin	A	mg/L	0.04169	0.0429407		0.0515	0	0	0.00195	0.001151	0.1	83%	75	125	0%	
Titanium	A	mg/L	0.05286	0.0544458		0.0515	0.006842	0	0.0005905	0.001	1	92%	75	125	0%	
Uranium	A	mg/L	0.04933	0.0508099		0.0515	0	0	1.75E-05	0.0003	1	99%	75	125	0%	
Vanadium	A	mg/L	0.05693	0.0586379		0.0515	0.01075	0	0.0040301	0.0021717	1	93%	75	125	0%	
Zinc	A	mg/L	0.05311	0.0547033		0.0515	0.004403	0	0.0011966	0.0067511	1	98%	75	125	0%	
Silica	C	mg/L	48.645408	50.1047702		0	0	0	0.0930021	0.0117246	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	48.645408	50.1047702		0.0515	0	0	0.0930021	0.0117246	5	97291%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046174	B22020962-001	ICPMS-6020-W-	MS4		2/18/2022 5:46:2	1	163745	2/14/2022 1:	2E+07	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.5368	0.5368		0.5	0.07257	0	0.0038747	0.0031975	1	93%	75	125	0%	
Antimony	A	mg/L	0.1052	0.1052		0.1	0.000303	0	0.0002799	0.001	0.1	105%	75	125	0%	
Arsenic	A	mg/L	0.09854	0.09854		0.1	0	0	0.0003412	0.001	1	99%	75	125	0%	
Barium	A	mg/L	0.1004	0.1004		0.1	0.004431	0	0.0002682	0.001	1	96%	75	125	0%	
Beryllium	A	mg/L	0.03473	0.03473		0.05	0	0	0.0001071	0.01	1	69%	75	125	0%	S
Boron	A	mg/L	0.1123	0.1123		0.1	0.03618	0	0.0203802	0.01467	1	76%	75	125	0%	
Cadmium	A	mg/L	0.05257	0.05257		0.05	3.653E-05	0	1.821E-05	0.005	1	105%	75	125	0%	
Calcium	A	mg/L	19.64	19.64		5	15.62	0	0.0372936	0.1103481	50	80%	75	125	0%	
Cerium	A	mg/L	0.1121	0.1121		0.1	5.451E-05	0	2.738E-05	0.001	0.1	112%	75	125	0%	
Chromium	A	mg/L	0.1015	0.1015		0.1	0	0	0.0015375	0.0015375	1	101%	75	125	0%	
Cobalt	A	mg/L	0.09458	0.09458		0.1	0.0002295	0	9.541E-05	0.001	1	94%	75	125	0%	
Copper	A	mg/L	0.1132	0.1132		0.1	0.004635	0	0.0008747	0.00198	1	109%	75	125	0%	
Iron	A	mg/L	0.5699	0.5699		0.5	0.06972	0	0.007424	0.00513	5	100%	75	125	0%	
Lanthanum	A	mg/L	0.1097	0.1097		0.1	0	0	0.000055	0.001	0.1	110%	75	125	0%	
Lead	A	mg/L	0.1021	0.1021		0.1	0	0	7.716E-05	0.001	1	102%	88	115	0%	
Magnesium	A	mg/L	22.68	22.68		5	17.43	0	0.0104254	0.0081522	50	105%	75	125	0%	
Manganese	A	mg/L	0.5024	0.5024		0.5	0.01222	0	0.0005399	0.001	1	98%	75	125	0%	
Molybdenum	A	mg/L	0.09311	0.09311		0.1	0.0003768	0	0.0001763	0.001	0.1	93%	75	125	0%	
Nickel	A	mg/L	0.1051	0.1051		0.1	0.0008522	0	0.0002288	0.0024200	1	104%	75	125	0%	
Potassium	A	mg/L	7.134	7.134		5	2.898	0	0.0765619	0.0261205	50	85%	75	125	0%	
Selenium	A	mg/L	0.1019	0.1019		0.1	0.0003149	0	0.0001357	0.001	1	102%	75	125	0%	
Silicon	A	mg/L	24.38	24.38		1	21.98	0	0.0422089	0.0053212	0.4		75	125	0%	A
Silver	A	mg/L	0.00924	0.00924		0.01	0	0	4.281E-05	0.001	0.04	92%	75	125	0%	
Sodium	A	mg/L	41.74	41.74		5	37.64	0	0.1019461	0.7330269	50		75	125	0%	A
Strontium	A	mg/L	0.2658	0.2658		0.1	0.1643	0	0.0002433	0.001	1	102%	75	125	0%	
Thallium	A	mg/L	0.09729	0.09729		0.1	0	0	0.0001114	0.001	1	97%	75	125	0%	
Thorium	A	mg/L	0.0993	0.0993		0.1	0	0	0.0003796	0.00415	1	99%	75	125	0%	
Tin	A	mg/L	0.08677	0.08677		0.1	0	0	0.0018932	0.0011175	0.1	87%	75	125	0%	
Titanium	A	mg/L	0.09835	0.09835		0.1	0.006842	0	0.0005733	0.001	1	92%	75	125	0%	
Uranium	A	mg/L	0.1035	0.1035		0.1	0	0	1.699E-05	0.0003	1	103%	75	125	0%	
Vanadium	A	mg/L	0.1068	0.1068		0.1	0.01075	0	0.0039127	0.0021085	1	96%	75	125	0%	
Zinc	A	mg/L	0.1058	0.1058		0.1	0.004403	0	0.0011617	0.0065544	1	101%	75	125	0%	
Silica	C	mg/L	52.153696	52.153696		0	0	0	0.0902933	0.0113831	5	0%	0	0	0%	
Silicon as SiO2	C	mg/L	52.153696	52.153696		2.14	0	0	0.0902933	0.0113831	5	2437%	75	125	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046175	CCV	ICPMS-6020-W-	CCV		2/18/2022 5:52:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04769	0.04769		0.05	0	0	0.0017836	0.001	1	95%	90	110	0%	
Antimony	A	mg/L	0.05369	0.05369		0.05	0	0	6.768E-05	0.001	0.1	107%	90	110	0%	
Arsenic	A	mg/L	0.04925	0.04925		0.05	0	0	8.203E-05	0.001	1	98%	90	110	0%	
Barium	A	mg/L	0.05289	0.05289		0.05	0	0	6.762E-05	0.001	1	106%	90	110	0%	
Beryllium	A	mg/L	0.0391	0.0391		0.05	0	0	8.516E-05	0.001	1	78%	90	110	0%	S
Boron	A	mg/L	0.04477	0.04477		0.05	0	0	0.0039526	0.00561	1	90%	90	110	0%	
Cadmium	A	mg/L	0.05229	0.05229		0.05	0	0	2.308E-05	0.001	1	105%	90	110	0%	
Calcium	A	mg/L	11.2	11.2		12.5	0	0	0.2027235	0.02092	50	90%	90	110	0%	
Cerium	A	mg/L	0.05082	0.05082		0.05	0	0	0.0000222	0.001	0.1	102%	90	110	0%	
Chromium	A	mg/L	0.0491	0.0491		0.05	0	0	0.0002538	0.001	1	98%	90	110	0%	
Cobalt	A	mg/L	0.05135	0.05135		0.05	0	0	2.141E-05	0.001	1	103%	90	110	0%	
Copper	A	mg/L	0.05393	0.05393		0.05	0	0	0.0001748	0.001	1	108%	90	110	0%	
Iron	A	mg/L	1.254	1.254		1.3	0	0	0.0021157	0.00119	5	96%	90	110	0%	
Lanthanum	A	mg/L	0.05073	0.05073		0.05	0	0	6.805E-05	0.001	0.1	101%	90	110	0%	
Lead	A	mg/L	0.0499	0.0499		0.05	0	0	3.031E-05	0.001	1	100%	90	110	0%	
Magnesium	A	mg/L	12.44	12.44		12.5	0	0	0.0203306	0.00564	50	100%	90	110	0%	
Manganese	A	mg/L	0.04874	0.04874		0.05	0	0	7.309E-05	0.001	1	97%	90	110	0%	
Mercury	A	mg/L	0.001001	0.001001		0.001	0	0	3.043E-05	0.001	0.002	100%	90	110	0%	
Molybdenum	A	mg/L	0.04889	0.04889		0.05	0	0	8.113E-05	0.001	0.1	98%	90	110	0%	
Nickel	A	mg/L	0.05279	0.05279		0.05	0	0	0.0001769	0.001	1	106%	90	110	0%	
Potassium	A	mg/L	10.97	10.97		12.5	0	0	0.0215433	0.08139	50	88%	90	110	0%	S
Selenium	A	mg/L	0.05066	0.05066		0.05	0	0	7.174E-05	0.001	1	101%	90	110	0%	
Silicon	A	mg/L	0.3016	0.3016		0.2	0	0	0.0033337	0.1	0.4	151%	90	110	0%	S
Silver	A	mg/L	0.02002	0.02002		0.02	0	0	2.644E-05	0.001	0.04	100%	90	110	0%	
Sodium	A	mg/L	12.69	12.69		12.5	0	0	0.0451914	0.02171	50	102%	90	110	0%	
Strontium	A	mg/L	0.04801	0.04801		0.05	0	0	9.743E-05	0.001	1	96%	90	110	0%	
Thallium	A	mg/L	0.04918	0.04918		0.05	0	0	4.842E-05	0.001	1	98%	90	110	0%	
Thorium	A	mg/L	0.04955	0.04955		0.05	0	0	3.018E-05	0.001	1	99%	90	110	0%	
Tin	A	mg/L	0.04457	0.04457		0.05	0	0	0.0009928	0.00132	0.1	89%	90	110	0%	S
Titanium	A	mg/L	0.04774	0.04774		0.05	0	0	0.0001004	0.001	1	95%	90	110	0%	
Uranium	A	mg/L	0.05017	0.05017		0.05	0	0	2.468E-05	0.0003	1	100%	90	110	0%	
Vanadium	A	mg/L	0.0496	0.0496		0.05	0	0	0.0018612	0.0013	1	99%	90	110	0%	
Zinc	A	mg/L	0.05125	0.05125		0.05	0	0	0.0010089	0.00273	1	102%	90	110	0%	
Iron, Ferrous	C	mg/L	1.254	1.254		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046176	CCB	ICPMS-6020-W-	CCB		2/18/2022 5:58:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-0.0000407	-0.0000407		0	0	0	0.0017836	0.001	1	0%				0%
Antimony	A	mg/L	0.0002074	0.0002074		0	0	0	6.768E-05	0.001	0.1	0%				0%
Arsenic	A	mg/L	-4.599E-05	-4.599E-05		0	0	0	8.203E-05	0.001	1	0%				0%
Barium	A	mg/L	6.422E-06	6.422E-06		0	0	0	6.762E-05	0.001	1	0%				0%
Beryllium	A	mg/L	-3.158E-05	-3.158E-05		0	0	0	8.516E-05	0.001	1	0%				0%
Boron	A	mg/L	0.0006299	0.0006299		0	0	0	0.0039526	0.00561	1	0%				0%
Cadmium	A	mg/L	0.00001481	0.00001481		0	0	0	2.308E-05	0.001	1	0%				0%
Calcium	A	mg/L	-0.002306	-0.002306		0	0	0	0.2027235	0.02092	50	0%				0%
Cerium	A	mg/L	2.282E-07	2.282E-07		0	0	0	0.0000222	0.001	0.1	0%	0	0		0%
Chromium	A	mg/L	0.00001586	0.00001586		0	0	0	0.0002538	0.001	1	0%				0%
Cobalt	A	mg/L	-2.926E-06	-2.926E-06		0	0	0	2.141E-05	0.001	1	0%				0%
Copper	A	mg/L	-7.017E-05	-7.017E-05		0	0	0	0.0001748	0.001	1	0%				0%
Iron	A	mg/L	0.0002083	0.0002083		0	0	0	0.0021157	0.00119	5	0%				0%
Lanthanum	A	mg/L	1.432E-07	1.432E-07		0	0	0	6.805E-05	0.001	0.1	0%	0	0		0%
Lead	A	mg/L	-3.603E-05	-3.603E-05		0	0	0	3.031E-05	0.001	1	0%				0%
Magnesium	A	mg/L	0.001112	0.001112		0	0	0	0.0203306	0.00564	50	0%				0%
Manganese	A	mg/L	0.00001964	0.00001964		0	0	0	7.309E-05	0.001	1	0%				0%
Mercury	A	mg/L	0.00001415	0.00001415		0	0	0	3.043E-05	0.001	0.002	0%				0%
Molybdenum	A	mg/L	0.00004217	0.00004217		0	0	0	8.113E-05	0.001	0.1	0%				0%
Nickel	A	mg/L	-1.753E-05	-1.753E-05		0	0	0	0.0001769	0.001	1	0%				0%
Potassium	A	mg/L	-0.03372	-0.03372		0	0	0	0.0215433	0.08139	50	0%				0%
Selenium	A	mg/L	0.00001098	0.00001098		0	0	0	7.174E-05	0.001	1	0%				0%
Silicon	A	mg/L	0.05308	0.05308		0	0	0	0.0033337	0.1	0.4	0%	0	0		0%
Silver	A	mg/L	1.972E-08	1.972E-08		0	0	0	2.644E-05	0.001	0.04	0%				0%
Sodium	A	mg/L	0.01087	0.01087		0	0	0	0.0451914	0.02171	50	0%				0%
Strontium	A	mg/L	-6.862E-06	-6.862E-06		0	0	0	9.743E-05	0.001	1	0%	0	0		0%
Thallium	A	mg/L	0.0001002	0.0001002		0	0	0	4.842E-05	0.001	1	0%	0	0		0%
Thorium	A	mg/L	0.00005375	0.00005375		0	0	0	3.018E-05	0.001	1	0%	0	0		0%
Tin	A	mg/L	0.00004439	0.00004439		0	0	0	0.0009928	0.00132	0.1	0%	0	0		0%
Titanium	A	mg/L	0.00001581	0.00001581		0	0	0	0.0001004	0.001	1	0%	0	0		0%
Uranium	A	mg/L	5.335E-06	5.335E-06		0	0	0	2.468E-05	0.0003	1	0%	0	0		0%
Vanadium	A	mg/L	0.001348	0.001348		0	0	0	0.0018612	0.0013	1	0%	0	0		0%
Zinc	A	mg/L	0.0001432	0.0001432		0	0	0	0.0010089	0.00273	1	0%	0	0		0%
Iron, Ferrous	C	mg/L	0.0002083	0.0002083		0	0	0	0.0021157	0.00119	5	0%	0	0		0%

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046177	B22020962-001	ICPMS-6020-W-	MSD4		2/18/2022 6:05:0	1	163745	2/14/2022 1:	2E+07	2E+07						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.5418	0.5418		0.5	0.07257	0.5368	0.0038747	0.0031975	1	94%	75	125	1%	
Antimony	A	mg/L	0.1048	0.1048		0.1	0.000303	0.1052	0.0002799	0.001	0.1	104%	75	125	0%	
Arsenic	A	mg/L	0.09771	0.09771		0.1	0	0.09854	0.0003412	0.001	1	98%	75	125	1%	
Barium	A	mg/L	0.09869	0.09869		0.1	0.004431	0.1004	0.0002682	0.001	1	94%	75	125	2%	
Beryllium	A	mg/L	0.03596	0.03596		0.05	0	0.03473	0.0001071	0.01	1	72%	75	125	3%	S
Boron	A	mg/L	0.1134	0.1134		0.1	0.03618	0.1123	0.0203802	0.01467	1	77%	75	125	1%	
Cadmium	A	mg/L	0.05274	0.05274		0.05	3.653E-05	0.05257	1.821E-05	0.005	1	105%	75	125	0%	
Calcium	A	mg/L	20.26	20.26		5	15.62	19.64	0.0372936	0.1103481	50	93%	75	125	3%	
Cerium	A	mg/L	0.113	0.113		0.1	5.451E-05	0.1121	2.738E-05	0.001	0.1	113%	75	125	1%	
Chromium	A	mg/L	0.09755	0.09755		0.1	0	0.1015	0.0015375	0.0015375	1	98%	75	125	4%	
Cobalt	A	mg/L	0.09259	0.09259		0.1	0.0002295	0.09458	9.541E-05	0.001	1	92%	75	125	2%	
Copper	A	mg/L	0.1076	0.1076		0.1	0.004635	0.1132	0.0008747	0.00198	1	103%	75	125	5%	
Iron	A	mg/L	0.5941	0.5941		0.5	0.06972	0.5699	0.007424	0.00513	5	105%	75	125	4%	
Lanthanum	A	mg/L	0.11	0.11		0.1	0	0.1097	0.000055	0.001	0.1	110%	75	125	0%	
Lead	A	mg/L	0.09978	0.09978		0.1	0	0.1021	7.716E-05	0.001	1	100%	88	115	2%	
Magnesium	A	mg/L	21.59	21.59		5	17.43	22.68	0.0104254	0.0081522	50	83%	75	125	5%	
Manganese	A	mg/L	0.4879	0.4879		0.5	0.01222	0.5024	0.0005399	0.001	1	95%	75	125	3%	
Molybdenum	A	mg/L	0.09413	0.09413		0.1	0.0003768	0.09311	0.0001763	0.001	0.1	94%	75	125	1%	
Nickel	A	mg/L	0.09967	0.09967		0.1	0.0008522	0.1051	0.0002288	0.0024200	1	99%	75	125	5%	
Potassium	A	mg/L	7.032	7.032		5	2.898	7.134	0.0765619	0.0261205	50	83%	75	125	1%	
Selenium	A	mg/L	0.1023	0.1023		0.1	0.0003149	0.1019	0.0001357	0.001	1	102%	75	125	0%	
Silicon	A	mg/L	25.46	25.46		1	21.98	24.38	0.0422089	0.0053212	0.4		75	125	4%	A
Silver	A	mg/L	0.009246	0.009246		0.01	0	0.00924	4.281E-05	0.001	0.04	92%	75	125	0%	
Sodium	A	mg/L	41.27	41.27		5	37.64	41.74	0.1019461	0.7330269	50		75	125	1%	A
Strontium	A	mg/L	0.2612	0.2612		0.1	0.1643	0.2658	0.0002433	0.001	1	97%	75	125	2%	
Thallium	A	mg/L	0.1018	0.1018		0.1	0	0.09729	0.0001114	0.001	1	102%	75	125	5%	
Thorium	A	mg/L	0.1024	0.1024		0.1	0	0.0993	0.0003796	0.00415	1	102%	75	125	3%	
Tin	A	mg/L	0.08845	0.08845		0.1	0	0.08677	0.0018932	0.0011175	0.1	88%	75	125	2%	
Titanium	A	mg/L	0.09364	0.09364		0.1	0.006842	0.09835	0.0005733	0.001	1	87%	75	125	5%	
Uranium	A	mg/L	0.1056	0.1056		0.1	0	0.1035	1.699E-05	0.0003	1	106%	75	125	2%	
Vanadium	A	mg/L	0.1074	0.1074		0.1	0.01075	0.1068	0.0039127	0.0021085	1	97%	75	125	1%	
Zinc	A	mg/L	0.1037	0.1037		0.1	0.004403	0.1058	0.0011617	0.0065544	1	99%	75	125	2%	
Silica	C	mg/L	54.464032	54.464032		0	0	52.153696	0.0902933	0.0113831	5	0%	0	0	4%	
Silicon as SiO2	C	mg/L	54.464032	54.464032		2.14	0	52.153696	0.0902933	0.0113831	5	2545%	75	125	4%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046178	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 6:11:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.0002258	0.0002258		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	J
Arsenic	A	mg/L	-9.162E-05	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	2.603E-06	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00001977	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	1.225E-06	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00001707	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-1.85E-06	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-3.746E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0.00002376	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.00001567	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00002288	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-2.148E-06	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.0000148	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silver	A	mg/L	-5.181E-07	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-9.036E-06	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001075	0.0001075		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.00006315	0.00006315		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	J
Titanium	A	mg/L	9.103E-06	0		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	4.526E-06	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Calcium	B	mg/L	-0.002146	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.0001689	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0001689	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.001183	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Vanadium	B	mg/L	0.0005027	0		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	0.0004232	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046179	B22020962-006	ICPMS-6020-W-	SAMP		2/18/2022 6:17:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.0005327	0.0005327		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	J
Arsenic	A	mg/L	0.00011	0.00011		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.00415	0.00415		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00002447	0.00002447		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	0.00002507	0.00002507		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	J

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046179	B22020962-006	ICPMS-6020-W-	SAMP		2/18/2022 6:17:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Chromium	A	mg/L	-1.292E-05	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0003586	0.0003586		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	-1.693E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.4799	0.4799		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.00008703	0.00008703		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	J
Molybdenum	A	mg/L	0.0001782	0.0001782		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	J
Nickel	A	mg/L	0.0007982	0.0007982		0	0	0	0.0001769	0.001	1	0%	0	0	0%	J
Selenium	A	mg/L	-1.984E-06	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	U
Silver	A	mg/L	-6.451E-05	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.06419	0.06419		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00004529	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	U
Thorium	A	mg/L	0.00002155	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.00217	0.00217		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001006	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	U
Calcium	B	mg/L	8.703	8.703		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.4513	0.4513		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.4513	0.4513		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	9.747	9.747		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	38.4	38.4		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	D
Zinc	B	mg/L	-0.0002887	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	LU

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046180	B22020962-006	ICPMS-6020-W-	SAMP		2/18/2022 6:23:4	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.001083	0.001083		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.0006069	0.0006069		0	0	0	0.0003412	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.004523	0.004523		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00003633	0.00003633		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	J
Cerium	A	mg/L	0.00009368	0.00009368		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	J
Cobalt	A	mg/L	0.0004824	0.0004824		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lanthanum	A	mg/L	0.00002257	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Lead	A	mg/L	0.00003731	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.4694	0.4694		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0002818	0.0002818		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046180	B22020962-006	ICPMS-6020-W-	SAMP		2/18/2022 6:23:4	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Selenium	A	mg/L	0.00005375	0		0	0	0	0.0001357	0.001	1	0%	0	0	0%	U
Silver	A	mg/L	-3.117E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.06574	0.06574		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00003954	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.00436	0.00436		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00001503	0		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	U
Calcium	B	mg/L	8.617	8.617		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Chromium	B	mg/L	0.0003075	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	LU
Iron	B	mg/L	0.47	0.47		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	10.1	10.1		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Nickel	B	mg/L	0.0009695	0.0009695		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	JL
Sodium	B	mg/L	39.08	39.08		0	0	0	0.1019461	0.7330269	50	0%	0	0	0%	D
Thorium	B	mg/L	0.0001112	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Zinc	B	mg/L	0.005991	0.005991		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	JL

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046181	B22020962-011	ICPMS-6020-W-	SAMP		2/18/2022 6:30:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.002096	0.002096		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.001358	0.001358		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.01115	0.01115		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.0000276	0.0000276		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	0.00001291	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	U
Chromium	A	mg/L	0.002935	0.002935		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00005682	0.00005682		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	-2.036E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.001808	0.001808		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.00004523	0.00004523		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	J
Molybdenum	A	mg/L	0.0002663	0.0002663		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	J
Nickel	A	mg/L	0.0003865	0.0003865		0	0	0	0.0001769	0.001	1	0%	0	0	0%	J
Selenium	A	mg/L	0.0001439	0.0001439		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-6.023E-05	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.0735	0.0735		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00001335	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	U

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046181	B22020962-011	ICPMS-6020-W-	SAMP		2/18/2022 6:30:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Thorium	A	mg/L	4.898E-06	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.001748	0.001748		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00009517	0.00009517		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	J
Calcium	B	mg/L	10.91	10.91		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.009616	0.009616		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.009616	0.009616		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	9.731	9.731		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	46.41	46.41		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	D
Vanadium	B	mg/L	0.01373	0.01373		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	0.01506	0.01506		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	D

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046182	B22020962-011	ICPMS-6020-W-	SAMP		2/18/2022 6:36:1	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.007549	0.007549		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.001668	0.001668		0	0	0	0.0003412	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.03234	0.03234		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00001473	0		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	U
Cerium	A	mg/L	0.0003665	0.0003665		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	J
Cobalt	A	mg/L	0.0004154	0.0004154		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lanthanum	A	mg/L	0.0001644	0.0001644		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	J
Lead	A	mg/L	0.0005923	0.0005923		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	J
Manganese	A	mg/L	0.008047	0.008047		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0005232	0.0005232		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.0002009	0.0002009		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	0.0003546	0.0003546		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	J
Strontium	A	mg/L	0.1074	0.1074		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00002129	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.02039	0.02039		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.0001056	0.0001056		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	J
Calcium	B	mg/L	11.67	11.67		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Chromium	B	mg/L	0.005534	0.005534		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	D
Iron	B	mg/L	0.5524	0.5524		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	9.84	9.84		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046182	B22020962-011	ICPMS-6020-W-	SAMP		2/18/2022 6:36:1	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Nickel	B	mg/L	0.002163	0.002163		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	JL
Thorium	B	mg/L	0.00009951	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Zinc	B	mg/L	0.454	0.454		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	D

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046183	B22020962-016	ICPMS-6020-W-	SAMP		2/18/2022 6:43:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00002433	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	U
Arsenic	A	mg/L	-0.0003034	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	U
Barium	A	mg/L	0.007167	0.007167		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00002646	0.00002646		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	6.419E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	U
Chromium	A	mg/L	0.001863	0.001863		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00002378	0.00002378		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	-2.873E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.0006713	0.0006713		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	J
Mercury	A	mg/L	0.00003952	0.00003952		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	J
Molybdenum	A	mg/L	0.0002666	0.0002666		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	J
Nickel	A	mg/L	0.0001859	0.0001859		0	0	0	0.0001769	0.001	1	0%	0	0	0%	J
Selenium	A	mg/L	0.0002569	0.0002569		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-6.642E-05	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.1448	0.1448		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	3.019E-06	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	U
Thorium	A	mg/L	2.042E-06	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.00128	0.00128		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00002823	0.00002823		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	J
Calcium	B	mg/L	19.67	19.67		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.0004824	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	U
Iron, Ferrous	B	mg/L	0.0004824	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	U
Magnesium	B	mg/L	19.79	19.79		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	D
Sodium	B	mg/L	47.6	47.6		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	D
Zinc	B	mg/L	-0.0006368	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	LU

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046184	B22020962-016	ICPMS-6020-W-	SAMP		2/18/2022 6:50:1	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00005267	0		0	0	0.0002799	0.001	0.1	0%	0	0	0%	U	
Arsenic	A	mg/L	0.0001748	0		0	0	0.0003412	0.001	1	0%	0	0	0%	U	
Barium	A	mg/L	0.007334	0.007334		0	0	0.0002682	0.001	1	0%	0	0	0%		
Cadmium	A	mg/L	0.00003592	0.00003592		0	0	1.821E-05	0.005	1	0%	0	0	0%	J	
Cerium	A	mg/L	1.621E-06	0		0	0	2.738E-05	0.001	0.1	0%	0	0	0%	U	
Cobalt	A	mg/L	0.0001338	0.0001338		0	0	9.541E-05	0.001	1	0%	0	0	0%	J	
Lanthanum	A	mg/L	1.012E-06	0		0	0	0.000055	0.001	0.1	0%	0	0	0%	U	
Lead	A	mg/L	-2.497E-05	0		0	0	7.716E-05	0.001	1	0%	0	0	0%	U	
Manganese	A	mg/L	0.0007722	0.0007722		0	0	0.0005399	0.001	1	0%	0	0	0%	J	
Molybdenum	A	mg/L	0.0003898	0.0003898		0	0	0.0001763	0.001	0.1	0%	0	0	0%	J	
Selenium	A	mg/L	0.0003101	0.0003101		0	0	0.0001357	0.001	1	0%	0	0	0%	J	
Silver	A	mg/L	-6.511E-05	0		0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U	
Strontium	A	mg/L	0.1493	0.1493		0	0	0.0002433	0.001	1	0%	0	0	0%		
Thallium	A	mg/L	0.00001458	0		0	0	0.0001114	0.001	1	0%	0	0	0%	U	
Titanium	A	mg/L	0.001266	0.001266		0	0	0.0005733	0.001	1	0%	0	0	0%		
Uranium	A	mg/L	0.00002893	0.00002893		0	0	1.699E-05	0.0003	1	0%	0	0	0%	J	
Calcium	B	mg/L	19.45	19.45		0	0	0.0372936	0.1103481	50	0%	0	0	0%	D	
Chromium	B	mg/L	0.002026	0.002026		0	0	0.0015375	0.0015375	1	0%	0	0	0%	DU	
Iron	B	mg/L	0.002123	0		0	0	0.007424	0.00513	5	0%	0	0	0%	LU	
Magnesium	B	mg/L	19.65	19.65		0	0	0.0104254	0.0081522	50	0%	0	0	0%	D	
Nickel	B	mg/L	0.0002188	0		0	0	0.0002288	0.0024200	1	0%	0	0	0%	LU	
Sodium	B	mg/L	47.51	47.51		0	0	0.1019461	0.7330269	50	0%	0	0	0%	D	
Thorium	B	mg/L	0.00003675	0		0	0	0.0003796	0.00415	1	0%	0	0	0%	LU	
Zinc	B	mg/L	0.004111	0.004111		0	0	0.0011617	0.0065544	1	0%	0	0	0%	JL	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046185	B22020962-021	ICPMS-6020-W-	SAMP		2/18/2022 6:56:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00001716	0		0	0	6.768E-05	0.001	0.1	0%	0	0	0%	U	
Arsenic	A	mg/L	-0.000302	0		0	0	8.203E-05	0.001	1	0%	0	0	0%	U	
Barium	A	mg/L	0.008034	0.008034		0	0	6.762E-05	0.001	1	0%	0	0	0%		
Cadmium	A	mg/L	0.00002703	0.00002703		0	0	2.308E-05	0.001	1	0%	0	0	0%	J	
Cerium	A	mg/L	1.492E-06	0		0	0	0.0000222	0.001	0.1	0%	0	0	0%	U	
Chromium	A	mg/L	0.001795	0.001795		0	0	0.0002538	0.001	1	0%	0	0	0%		

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046185	B22020962-021	ICPMS-6020-W-	SAMP		2/18/2022 6:56:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cobalt	A	mg/L	0.00001718	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	U
Lead	A	mg/L	-2.881E-06	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.001402	0.001402		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.00003459	0.00003459		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	J
Molybdenum	A	mg/L	0.0002845	0.0002845		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	J
Nickel	A	mg/L	0.0001904	0.0001904		0	0	0	0.0001769	0.001	1	0%	0	0	0%	J
Selenium	A	mg/L	0.0002813	0.0002813		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-6.684E-05	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.1499	0.1499		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	1.946E-07	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	U
Thorium	A	mg/L	3.978E-07	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.001295	0.001295		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00002731	0.00002731		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	J
Calcium	B	mg/L	20.29	20.29		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.002683	0.002683		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	U
Iron, Ferrous	B	mg/L	0.002683	0.002683		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	U
Magnesium	B	mg/L	20.31	20.31		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	D
Zinc	B	mg/L	-0.0001442	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	LU

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046186	B22020962-021	ICPMS-6020-W-	SAMP		2/18/2022 7:02:3	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00004403	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	U
Arsenic	A	mg/L	0.0001954	0		0	0	0	0.0003412	0.001	1	0%	0	0	0%	U
Barium	A	mg/L	0.008227	0.008227		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00003397	0.00003397		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	J
Cerium	A	mg/L	0.00000232	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0001349	0.0001349		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lanthanum	A	mg/L	1.558E-06	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Lead	A	mg/L	-0.0000294	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.00145	0.00145		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.0003154	0.0003154		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	J
Selenium	A	mg/L	0.0003579	0.0003579		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-6.698E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046186	B22020962-021	ICPMS-6020-W-	SAMP		2/18/2022 7:02:3	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Strontium	A	mg/L	0.158	0.158		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00001216	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.001356	0.001356		0	0	0	0.0005733	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.0000284	0.0000284		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	J
Calcium	B	mg/L	20.03	20.03		0	0	0	0.0372936	0.1103481	50	0%	0	0	0%	D
Chromium	B	mg/L	0.001969	0.001969		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	DU
Iron	B	mg/L	0.003515	0		0	0	0	0.007424	0.00513	5	0%	0	0	0%	LU
Magnesium	B	mg/L	20.81	20.81		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Nickel	B	mg/L	0.0002286	0		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	LU
Thorium	B	mg/L	0.00003141	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Zinc	B	mg/L	0.00444	0.00444		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	JL

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046187	B22020962-026	ICPMS-6020-W-	SAMP		2/18/2022 7:08:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.002444	0.002444		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.003397	0.003397		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.05771	0.05771		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.000103	0.000103		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	0.0003814	0.0003814		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	J
Chromium	A	mg/L	0.001543	0.001543		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.0004246	0.0004246		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.0111	0.0111		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0.06359	0.06359		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.00003173	0.00003173		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	J
Molybdenum	A	mg/L	0.0009536	0.0009536		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	J
Nickel	A	mg/L	0.002829	0.002829		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.0003585	0.0003585		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-6.348E-05	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.1958	0.1958		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	-7.892E-07	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	U
Thorium	A	mg/L	0.00002506	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	U
Titanium	A	mg/L	0.01206	0.01206		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0.00006122	0.00006122		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	J

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046187	B22020962-026	ICPMS-6020-W-	SAMP		2/18/2022 7:08:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Calcium	B	mg/L	29	29		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	D
Iron	B	mg/L	0.7387	0.7387		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.7387	0.7387		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	21.69	21.69		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	D
Zinc	B	mg/L	0.02151	0.02151		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	D

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046188	CCV	ICPMS-6020-W-	CCV		2/18/2022 7:15:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04301	0.04301		0.05	0	0	0.0017836	0.001	1	86%	90	110	0%	S
Antimony	A	mg/L	0.0519	0.0519		0.05	0	0	6.768E-05	0.001	0.1	104%	90	110	0%	
Arsenic	A	mg/L	0.04871	0.04871		0.05	0	0	8.203E-05	0.001	1	97%	90	110	0%	
Barium	A	mg/L	0.05103	0.05103		0.05	0	0	6.762E-05	0.001	1	102%	90	110	0%	
Beryllium	A	mg/L	0.03226	0.03226		0.05	0	0	8.516E-05	0.001	1	65%	90	110	0%	S
Boron	A	mg/L	0.03639	0.03639		0.05	0	0	0.0039526	0.00561	1	73%	90	110	0%	S
Cadmium	A	mg/L	0.04945	0.04945		0.05	0	0	2.308E-05	0.001	1	99%	90	110	0%	
Calcium	A	mg/L	11.21	11.21		12.5	0	0	0.2027235	0.02092	50	90%	90	110	0%	
Cerium	A	mg/L	0.05224	0.05224		0.05	0	0	0.0000222	0.001	0.1	104%	90	110	0%	
Chromium	A	mg/L	0.0479	0.0479		0.05	0	0	0.0002538	0.001	1	96%	90	110	0%	
Cobalt	A	mg/L	0.04846	0.04846		0.05	0	0	2.141E-05	0.001	1	97%	90	110	0%	
Copper	A	mg/L	0.05124	0.05124		0.05	0	0	0.0001748	0.001	1	102%	90	110	0%	
Iron	A	mg/L	1.269	1.269		1.3	0	0	0.0021157	0.00119	5	98%	90	110	0%	
Lanthanum	A	mg/L	0.05204	0.05204		0.05	0	0	6.805E-05	0.001	0.1	104%	90	110	0%	
Lead	A	mg/L	0.05033	0.05033		0.05	0	0	3.031E-05	0.001	1	101%	90	110	0%	
Magnesium	A	mg/L	11.97	11.97		12.5	0	0	0.0203306	0.00564	50	96%	90	110	0%	
Manganese	A	mg/L	0.04666	0.04666		0.05	0	0	7.309E-05	0.001	1	93%	90	110	0%	
Mercury	A	mg/L	0.0009884	0.0009884		0.001	0	0	3.043E-05	0.001	0.002	99%	90	110	0%	
Molybdenum	A	mg/L	0.04834	0.04834		0.05	0	0	8.113E-05	0.001	0.1	97%	90	110	0%	
Nickel	A	mg/L	0.04944	0.04944		0.05	0	0	0.0001769	0.001	1	99%	90	110	0%	
Potassium	A	mg/L	10.22	10.22		12.5	0	0	0.0215433	0.08139	50	82%	90	110	0%	S
Selenium	A	mg/L	0.05098	0.05098		0.05	0	0	7.174E-05	0.001	1	102%	90	110	0%	
Silicon	A	mg/L	0.2287	0.2287		0.2	0	0	0.0033337	0.1	0.4	114%	90	110	0%	S
Silver	A	mg/L	0.01961	0.01961		0.02	0	0	2.644E-05	0.001	0.04	98%	90	110	0%	
Sodium	A	mg/L	12.05	12.05		12.5	0	0	0.0451914	0.02171	50	96%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046188	CCV	ICPMS-6020-W- CCV			2/18/2022 7:15:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Strontium	A	mg/L	0.04851	0.04851		0.05	0	0	9.743E-05	0.001	1	97%	90	110	0%	
Thallium	A	mg/L	0.05039	0.05039		0.05	0	0	4.842E-05	0.001	1	101%	90	110	0%	
Thorium	A	mg/L	0.04905	0.04905		0.05	0	0	3.018E-05	0.001	1	98%	90	110	0%	
Tin	A	mg/L	0.04333	0.04333		0.05	0	0	0.0009928	0.00132	0.1	87%	90	110	0%	S
Titanium	A	mg/L	0.04622	0.04622		0.05	0	0	0.0001004	0.001	1	92%	90	110	0%	
Uranium	A	mg/L	0.05165	0.05165		0.05	0	0	2.468E-05	0.0003	1	103%	90	110	0%	
Vanadium	A	mg/L	0.04712	0.04712		0.05	0	0	0.0018612	0.0013	1	94%	90	110	0%	
Zinc	A	mg/L	0.05174	0.05174		0.05	0	0	0.0010089	0.00273	1	103%	90	110	0%	
Iron, Ferrous	C	mg/L	1.269	1.269		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046189	CCB	ICPMS-6020-W- CCB			2/18/2022 7:21:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-8.011E-05	-8.011E-05		0	0	0	0.0017836	0.001	1	0%				0%
Antimony	A	mg/L	0.000151	0.000151		0	0	0	6.768E-05	0.001	0.1	0%				0%
Arsenic	A	mg/L	-0.0001153	-0.0001153		0	0	0	8.203E-05	0.001	1	0%				0%
Barium	A	mg/L	1.096E-06	1.096E-06		0	0	0	6.762E-05	0.001	1	0%				0%
Beryllium	A	mg/L	-4.113E-05	-4.113E-05		0	0	0	8.516E-05	0.001	1	0%				0%
Boron	A	mg/L	0.0004999	0.0004999		0	0	0	0.0039526	0.00561	1	0%				0%
Cadmium	A	mg/L	0.00001612	0.00001612		0	0	0	2.308E-05	0.001	1	0%				0%
Calcium	A	mg/L	-0.003018	-0.003018		0	0	0	0.2027235	0.02092	50	0%				0%
Cerium	A	mg/L	1.664E-07	1.664E-07		0	0	0	0.0000222	0.001	0.1	0%	0	0		0%
Chromium	A	mg/L	0.00004468	0.00004468		0	0	0	0.0002538	0.001	1	0%				0%
Cobalt	A	mg/L	-3.749E-07	-3.749E-07		0	0	0	2.141E-05	0.001	1	0%				0%
Copper	A	mg/L	-0.000122	-0.000122		0	0	0	0.0001748	0.001	1	0%				0%
Iron	A	mg/L	0.000225	0.000225		0	0	0	0.0021157	0.00119	5	0%				0%
Lanthanum	A	mg/L	9.332E-07	9.332E-07		0	0	0	6.805E-05	0.001	0.1	0%	0	0		0%
Lead	A	mg/L	-0.0000476	-0.0000476		0	0	0	3.031E-05	0.001	1	0%				0%
Magnesium	A	mg/L	0.00155	0.00155		0	0	0	0.0203306	0.00564	50	0%				0%
Manganese	A	mg/L	0.00001146	0.00001146		0	0	0	7.309E-05	0.001	1	0%				0%
Mercury	A	mg/L	6.664E-06	6.664E-06		0	0	0	3.043E-05	0.001	0.002	0%				0%
Molybdenum	A	mg/L	0.00002983	0.00002983		0	0	0	8.113E-05	0.001	0.1	0%				0%
Nickel	A	mg/L	4.652E-06	4.652E-06		0	0	0	0.0001769	0.001	1	0%				0%
Potassium	A	mg/L	-0.05551	-0.05551		0	0	0	0.0215433	0.08139	50	0%				0%

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046189	CCB	ICPMS-6020-W-	CCB		2/18/2022 7:21:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Selenium	A	mg/L	5.921E-06	5.921E-06		0	0	0	7.174E-05	0.001	1	0%			0%	
Silicon	A	mg/L	0.0155	0.0155		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-2.833E-06	-2.833E-06		0	0	0	2.644E-05	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.03123	0.03123		0	0	0	0.0451914	0.02171	50	0%			0%	
Strontium	A	mg/L	-7.509E-06	-7.509E-06		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00005448	0.00005448		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00003067	0.00003067		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00003026	0.00003026		0	0	0	0.0009928	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.00001227	0.00001227		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	3.309E-06	3.309E-06		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.0009697	0.0009697		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	0.00014	0.00014		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.000225	0.000225		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046190	B22020962-026	ICPMS-6020-W-	SAMP		2/18/2022 7:27:3	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.007264	0.007264		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0.009938	0.009938		0	0	0	0.0003412	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.09469	0.09469		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.001025	0.001025		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	J
Cerium	A	mg/L	0.004648	0.004648		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	
Cobalt	A	mg/L	0.003861	0.003861		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	
Lanthanum	A	mg/L	0.002018	0.002018		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	0.1291	0.1291		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0.2515	0.2515		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.002342	0.002342		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.0005198	0.0005198		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	0.0001723	0.0001723		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	J
Strontium	A	mg/L	0.2202	0.2202		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0000229	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Uranium	A	mg/L	0.0001808	0.0001808		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	J
Chromium	B	mg/L	0.02376	0.02376		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	D
Magnesium	B	mg/L	22.71	22.71		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046190	B22020962-026	ICPMS-6020-W-	SAMP		2/18/2022 7:27:3	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Nickel	B	mg/L	0.01687	0.01687		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	D
Thorium	B	mg/L	0.0003539	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Zinc	B	mg/L	0.239	0.239		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	D
Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046191	B22020962-031	ICPMS-6020-W-	SAMP		2/18/2022 7:33:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00004579	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	U
Arsenic	A	mg/L	0.0002751	0.0002751		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.01213	0.01213		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00002262	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	U
Cerium	A	mg/L	4.767E-06	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	U
Chromium	A	mg/L	0.0005309	0.0005309		0	0	0	0.0002538	0.001	1	0%	0	0	0%	J
Cobalt	A	mg/L	0.00008478	0.00008478		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	-2.891E-05	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.001413	0.001413		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0.00051	0.00051		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	J
Molybdenum	A	mg/L	0.001426	0.001426		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	0.0004579	0.0004579		0	0	0	0.0001769	0.001	1	0%	0	0	0%	J
Selenium	A	mg/L	0.0003881	0.0003881		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-4.618E-05	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.2649	0.2649		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	3.229E-06	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	U
Thorium	A	mg/L	1.591E-06	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	U
Uranium	A	mg/L	0.00006003	0.00006003		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	J
Iron	B	mg/L	0.007505	0.007505		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.007505	0.007505		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	36.51	36.51		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	D
Zinc	B	mg/L	-3.832E-05	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	LU

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046192	B22020962-031	ICPMS-6020-W-	SAMP		2/18/2022 7:40:0	1	163745	2/14/2022 1:	0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00007051	0		0	0	0	0.0002799	0.001	0.1	0%	0	0	0%	U
Arsenic	A	mg/L	0.0007516	0.0007516		0	0	0	0.0003412	0.001	1	0%	0	0	0%	J
Barium	A	mg/L	0.0123	0.0123		0	0	0	0.0002682	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.0000363	0.0000363		0	0	0	1.821E-05	0.005	1	0%	0	0	0%	J
Cerium	A	mg/L	0.00001973	0		0	0	0	2.738E-05	0.001	0.1	0%	0	0	0%	U
Cobalt	A	mg/L	0.0002191	0.0002191		0	0	0	9.541E-05	0.001	1	0%	0	0	0%	J
Lanthanum	A	mg/L	8.832E-06	0		0	0	0	0.000055	0.001	0.1	0%	0	0	0%	U
Lead	A	mg/L	-5.323E-06	0		0	0	0	7.716E-05	0.001	1	0%	0	0	0%	U
Manganese	A	mg/L	0.001641	0.001641		0	0	0	0.0005399	0.001	1	0%	0	0	0%	
Molybdenum	A	mg/L	0.001445	0.001445		0	0	0	0.0001763	0.001	0.1	0%	0	0	0%	
Selenium	A	mg/L	0.0004491	0.0004491		0	0	0	0.0001357	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	-3.869E-05	0		0	0	0	4.281E-05	0.001	0.04	0%	0	0	0%	U
Strontium	A	mg/L	0.2867	0.2867		0	0	0	0.0002433	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00001561	0		0	0	0	0.0001114	0.001	1	0%	0	0	0%	U
Uranium	A	mg/L	0.00006087	0.00006087		0	0	0	1.699E-05	0.0003	1	0%	0	0	0%	J
Chromium	B	mg/L	0.0008741	0		0	0	0	0.0015375	0.0015375	1	0%	0	0	0%	LU
Iron	B	mg/L	0.06572	0.06572		0	0	0	0.007424	0.00513	5	0%	0	0	0%	D
Magnesium	B	mg/L	36.4	36.4		0	0	0	0.0104254	0.0081522	50	0%	0	0	0%	D
Nickel	B	mg/L	0.0005458	0.0005458		0	0	0	0.0002288	0.0024200	1	0%	0	0	0%	JL
Thorium	B	mg/L	0.00003382	0		0	0	0	0.0003796	0.00415	1	0%	0	0	0%	LU
Zinc	B	mg/L	0.004845	0.004845		0	0	0	0.0011617	0.0065544	1	0%	0	0	0%	JL

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046193	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 7:46:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00001842	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0001173	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	1.456E-06	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00001381	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	1.883E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00002583	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-5.474E-07	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-0.0000498	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	5.272E-06	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046193	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 7:46:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Mercury	A	mg/L	0.00001081	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	2.962E-06	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	0.00002839	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	-7.778E-06	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silver	A	mg/L	-6.355E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-0.0000146	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	2.266E-07	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	1.132E-06	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	1.632E-07	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Iron	B	mg/L	0.0002196	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0002196	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.00278	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Sodium	B	mg/L	0.03281	0		0	0	0	0.0451914	0.02171	50	0%	0	0	0%	L
Vanadium	B	mg/L	0.0002297	0		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	B	mg/L	0.000427	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046194	CCV	ICPMS-6020-W-	CCV		2/18/2022 7:52:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0434	0.0434		0.05	0	0	0.0017836	0.001	1	87%	90	110	0%	S
Antimony	A	mg/L	0.05233	0.05233		0.05	0	0	6.768E-05	0.001	0.1	105%	90	110	0%	
Arsenic	A	mg/L	0.04786	0.04786		0.05	0	0	8.203E-05	0.001	1	96%	90	110	0%	
Barium	A	mg/L	0.05039	0.05039		0.05	0	0	6.762E-05	0.001	1	101%	90	110	0%	
Beryllium	A	mg/L	0.03089	0.03089		0.05	0	0	8.516E-05	0.001	1	62%	90	110	0%	S
Boron	A	mg/L	0.03597	0.03597		0.05	0	0	0.0039526	0.00561	1	72%	90	110	0%	S
Cadmium	A	mg/L	0.04979	0.04979		0.05	0	0	2.308E-05	0.001	1	100%	90	110	0%	
Calcium	A	mg/L	11.16	11.16		12.5	0	0	0.2027235	0.02092	50	89%	90	110	0%	S
Cerium	A	mg/L	0.05205	0.05205		0.05	0	0	0.0000222	0.001	0.1	104%	90	110	0%	
Chromium	A	mg/L	0.04618	0.04618		0.05	0	0	0.0002538	0.001	1	92%	90	110	0%	
Cobalt	A	mg/L	0.04755	0.04755		0.05	0	0	2.141E-05	0.001	1	95%	90	110	0%	
Copper	A	mg/L	0.05074	0.05074		0.05	0	0	0.0001748	0.001	1	101%	90	110	0%	
Iron	A	mg/L	1.255	1.255		1.3	0	0	0.0021157	0.00119	5	97%	90	110	0%	
Lanthanum	A	mg/L	0.05202	0.05202		0.05	0	0	6.805E-05	0.001	0.1	104%	90	110	0%	
Lead	A	mg/L	0.0492	0.0492		0.05	0	0	3.031E-05	0.001	1	98%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046194	CCV	ICPMS-6020-W- CCV			2/18/2022 7:52:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Magnesium	A	mg/L	11.85	11.85		12.5	0	0	0.0203306	0.00564	50	95%	90	110	0%	
Manganese	A	mg/L	0.04566	0.04566		0.05	0	0	7.309E-05	0.001	1	91%	90	110	0%	
Mercury	A	mg/L	0.000998	0.000998		0.001	0	0	3.043E-05	0.001	0.002	100%	90	110	0%	
Molybdenum	A	mg/L	0.04777	0.04777		0.05	0	0	8.113E-05	0.001	0.1	96%	90	110	0%	
Nickel	A	mg/L	0.04917	0.04917		0.05	0	0	0.0001769	0.001	1	98%	90	110	0%	
Potassium	A	mg/L	9.835	9.835		12.5	0	0	0.0215433	0.08139	50	79%	90	110	0%	S
Selenium	A	mg/L	0.04994	0.04994		0.05	0	0	7.174E-05	0.001	1	100%	90	110	0%	
Silicon	A	mg/L	0.2619	0.2619		0.2	0	0	0.0033337	0.1	0.4	131%	90	110	0%	S
Silver	A	mg/L	0.01927	0.01927		0.02	0	0	2.644E-05	0.001	0.04	96%	90	110	0%	
Sodium	A	mg/L	12.07	12.07		12.5	0	0	0.0451914	0.02171	50	97%	90	110	0%	
Strontium	A	mg/L	0.04795	0.04795		0.05	0	0	9.743E-05	0.001	1	96%	90	110	0%	
Thallium	A	mg/L	0.05076	0.05076		0.05	0	0	4.842E-05	0.001	1	102%	90	110	0%	
Thorium	A	mg/L	0.05039	0.05039		0.05	0	0	3.018E-05	0.001	1	101%	90	110	0%	
Tin	A	mg/L	0.04331	0.04331		0.05	0	0	0.0009928	0.00132	0.1	87%	90	110	0%	S
Titanium	A	mg/L	0.04449	0.04449		0.05	0	0	0.0001004	0.001	1	89%	90	110	0%	S
Uranium	A	mg/L	0.05113	0.05113		0.05	0	0	2.468E-05	0.0003	1	102%	90	110	0%	
Vanadium	A	mg/L	0.0468	0.0468		0.05	0	0	0.0018612	0.0013	1	94%	90	110	0%	
Zinc	A	mg/L	0.04933	0.04933		0.05	0	0	0.0010089	0.00273	1	99%	90	110	0%	
Iron, Ferrous	C	mg/L	1.255	1.255		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046195	CCB	ICPMS-6020-W- CCB			2/18/2022 7:58:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	-9.621E-05	-9.621E-05		0	0	0	0.0017836	0.001	1	0%			0%	
Antimony	A	mg/L	0.0001538	0.0001538		0	0	0	6.768E-05	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-0.0001008	-0.0001008		0	0	0	8.203E-05	0.001	1	0%			0%	
Barium	A	mg/L	1.784E-06	1.784E-06		0	0	0	6.762E-05	0.001	1	0%			0%	
Beryllium	A	mg/L	-1.105E-05	-1.105E-05		0	0	0	8.516E-05	0.001	1	0%			0%	
Boron	A	mg/L	0.0004125	0.0004125		0	0	0	0.0039526	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.0000083	0.0000083		0	0	0	2.308E-05	0.001	1	0%			0%	
Calcium	A	mg/L	-0.003011	-0.003011		0	0	0	0.2027235	0.02092	50	0%			0%	
Cerium	A	mg/L	7.195E-07	7.195E-07		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.00002971	0.00002971		0	0	0	0.0002538	0.001	1	0%			0%	
Cobalt	A	mg/L	-3.183E-06	-3.183E-06		0	0	0	2.141E-05	0.001	1	0%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046195	CCB	ICPMS-6020-W-	CCB		2/18/2022 7:58:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	-0.0001337	-0.0001337		0	0	0	0.0001748	0.001	1	0%			0%	
Iron	A	mg/L	0.0002621	0.0002621		0	0	0	0.0021157	0.00119	5	0%			0%	
Lanthanum	A	mg/L	4.111E-08	4.111E-08		0	0	0	6.805E-05	0.001	0.1	0%	0	0	0%	
Lead	A	mg/L	-5.122E-05	-5.122E-05		0	0	0	3.031E-05	0.001	1	0%			0%	
Magnesium	A	mg/L	0.001845	0.001845		0	0	0	0.0203306	0.00564	50	0%			0%	
Manganese	A	mg/L	6.972E-06	6.972E-06		0	0	0	7.309E-05	0.001	1	0%			0%	
Mercury	A	mg/L	2.772E-06	2.772E-06		0	0	0	3.043E-05	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.00002801	0.00002801		0	0	0	8.113E-05	0.001	0.1	0%			0%	
Nickel	A	mg/L	0.0000255	0.0000255		0	0	0	0.0001769	0.001	1	0%			0%	
Potassium	A	mg/L	-0.05765	-0.05765		0	0	0	0.0215433	0.08139	50	0%			0%	
Selenium	A	mg/L	2.996E-06	2.996E-06		0	0	0	7.174E-05	0.001	1	0%			0%	
Silicon	A	mg/L	0.04031	0.04031		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	0.00000075	0.00000075		0	0	0	2.644E-05	0.001	0.04	0%			0%	
Sodium	A	mg/L	0.027	0.027		0	0	0	0.0451914	0.02171	50	0%			0%	
Strontium	A	mg/L	-7.306E-06	-7.306E-06		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00006024	0.00006024		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.00003227	0.00003227		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Tin	A	mg/L	0.00004461	0.00004461		0	0	0	0.0009928	0.00132	0.1	0%	0	0	0%	
Titanium	A	mg/L	0.00009582	0.00009582		0	0	0	0.0001004	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	3.052E-06	3.052E-06		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Vanadium	A	mg/L	0.001072	0.001072		0	0	0	0.0018612	0.0013	1	0%	0	0	0%	
Zinc	A	mg/L	0.00009505	0.00009505		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	
Iron, Ferrous	C	mg/L	0.0002621	0.0002621		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046196	Cal Blk	ICPMS-6020-W-	SAMP		2/18/2022 8:05:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	0	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	0	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046196	Cal Blk	ICPMS-6020-W-	SAMP		2/18/2022 8:05:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lead	A	mg/L	0	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	0	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	0	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	0	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silver	A	mg/L	0	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	0	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Uranium	A	mg/L	0	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Iron	B	mg/L	0	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Zinc	B	mg/L	0	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046197	0.025 ppb STD	ICPMS-6020B-C	Cal1		2/18/2022 8:11:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001635	0.0001635		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	5.464E-06	5.464E-06		0	0	0		0.001		0%			0%	
Arsenic	A	mg/L	0.00004028	0.00004028		0.000025	0	0		0.001		161%	80	120	0%	S
Barium	A	mg/L	0.00002564	0.00002564		0.000025	0	0		0.0003		103%	80	120	0%	
Beryllium	A	mg/L	0.00001933	0.00001933		0.000025	0	0		0.001		77%	80	120	0%	S
Boron	A	mg/L	-6.966E-05	-6.966E-05		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	7.692E-06	7.692E-06		0.000025	0	0		0.001		31%	80	120	0%	S
Calcium	A	mg/L	0.00687	0.00687		0	0	0		1		0%			0%	
Cerium	A	mg/L	0.00002877	0.00002877		0.000025	0	0		0.001		115%	80	120	0%	
Chromium	A	mg/L	0.00003887	0.00003887		0.000025	0	0		0.001		155%	80	120	0%	S
Cobalt	A	mg/L	0.00002682	0.00002682		0.000025	0	0		0.001		107%	80	120	0%	
Copper	A	mg/L	0.00006859	0.00006859		0	0	0		0.005		0%			0%	
Iron	A	mg/L	0.0007313	0.0007313		0	0	0		0.01		0%			0%	
Lanthanum	A	mg/L	0.00002488	0.00002488		0.000025	0	0		0.001		100%	80	120	0%	
Lead	A	mg/L	0.00002414	0.00002414		0.000025	0	0		0.001		97%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046197	0.025 ppb STD	ICPMS-6020B-C Cal1			2/18/2022 8:11:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Lithium	A	mg/L	0.000246	0.000246		0.0003125	0	0		1		79%	80	120	0%	S
Magnesium	A	mg/L	0.006861	0.006861		0	0	0		1		0%			0%	
Manganese	A	mg/L	0.00002402	0.00002402		0	0	0		0.001		0%			0%	
Mercury	A	mg/L	-8.551E-07	-8.551E-07		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00002092	0.00002092		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.00004255	0.00004255		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.01022	0.01022		0.00625	0	0		1		164%	80	120	0%	S
Selenium	A	mg/L	0.00003216	0.00003216		0.000025	0	0		0.005		129%	80	120	0%	S
Silicon	A	mg/L	-0.007342	-0.007342		0	0	0		0.1		0%			0%	
Silver	A	mg/L	9.658E-06	9.658E-06		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	0.007537	0.007537		0.00625	0	0		1		121%	80	120	0%	S
Strontium	A	mg/L	0.00001367	0.00001367		0	0	0		0.001		0%	80	120	0%	
Thallium	A	mg/L	0.00001177	0.00001177		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.00001089	0.00001089		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.01508	0.01508		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.00007317	0.00007317		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00002476	0.00002476		0.000025	0	0		0.001		99%	80	120	0%	
Vanadium	A	mg/L	0.0002864	0.0002864		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.0001448	0.0001448		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.0007313	0.0007313		0.000025	0	0		0.01	5	2925%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.0157119	-0.0157119		0.0000535	0	0		0.214	0.9	-29368%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046198	0.05 ppb STD	ICPMS-6020B-C Cal2			2/18/2022 8:17:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0001519	0.0001519		0	0	0		0.01		0%			0%	
Antimony	A	mg/L	0.00003286	0.00003286		0.00005	0	0		0.001		66%	80	120	0%	S
Arsenic	A	mg/L	0.00007928	0.00007928		0.00005	0	0		0.001		159%	80	120	0%	S
Barium	A	mg/L	0.00004911	0.00004911		0.00005	0	0		0.0003		98%	80	120	0%	
Beryllium	A	mg/L	0.00004273	0.00004273		0.00005	0	0		0.001		85%	80	120	0%	
Boron	A	mg/L	-8.175E-05	-8.175E-05		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.00002685	0.00002685		0.00005	0	0		0.001		54%	80	120	0%	S
Calcium	A	mg/L	0.01491	0.01491		0.0125	0	0		1		119%	80	120	0%	
Cerium	A	mg/L	0.0000584	0.0000584		0.00005	0	0		0.001		117%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046198	0.05 ppb STD	ICPMS-6020B-C Cal2			2/18/2022 8:17:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Chromium	A	mg/L	0.00007875	0.00007875		0.00005	0	0		0.001		158%	80	120	0%	S
Cobalt	A	mg/L	0.00005633	0.00005633		0	0	0		0.001		0%			0%	
Copper	A	mg/L	0.00009457	0.00009457		0.00005	0	0		0.005		189%	80	120	0%	S
Iron	A	mg/L	0.001668	0.001668		0.00125	0	0		0.01		133%	80	120	0%	S
Lanthanum	A	mg/L	0.00006393	0.00006393		0.00005	0	0		0.001		128%	80	120	0%	S
Lead	A	mg/L	0.00005132	0.00005132		0.00005	0	0		0.001		103%	80	120	0%	
Lithium	A	mg/L	0.0003217	0.0003217		0.000625	0	0		1		51%	80	120	0%	S
Magnesium	A	mg/L	0.01566	0.01566		0.0125	0	0		1		125%	80	120	0%	S
Manganese	A	mg/L	0.00005003	0.00005003		0.00005	0	0		0.001		100%	80	120	0%	
Mercury	A	mg/L	1.514E-06	1.514E-06		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.00005598	0.00005598		0.00005	0	0		0.001		112%	80	120	0%	
Nickel	A	mg/L	0.0001075	0.0001075		0	0	0		0.005		0%			0%	
Potassium	A	mg/L	0.01341	0.01341		0.0125	0	0		1		107%	80	120	0%	
Selenium	A	mg/L	0.00006809	0.00006809		0.00005	0	0		0.005		136%	80	120	0%	S
Silicon	A	mg/L	-0.00746	-0.00746		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.00002508	0.00002508		0.00002	0	0		0.001		125%	80	120	0%	S
Sodium	A	mg/L	0.01085	0.01085		0.0125	0	0		1		87%	80	120	0%	
Strontium	A	mg/L	0.00005081	0.00005081		0.00005	0	0		0.001		102%	80	120	0%	
Thallium	A	mg/L	0.00003546	0.00003546		0	0	0		0.001		0%			0%	
Thorium	A	mg/L	0.00003048	0.00003048		0	0	0		0.05		0%			0%	
Tin	A	mg/L	0.01528	0.01528		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.0001266	0.0001266		0	0	0		0.001		0%			0%	
Uranium	A	mg/L	0.00005523	0.00005523		0.00005	0	0		0.001		110%	80	120	0%	
Vanadium	A	mg/L	0.0005165	0.0005165		0	0	0		0.005		0%			0%	
Zinc	A	mg/L	0.0002324	0.0002324		0	0	0		0.01		0%			0%	
Iron, Ferrous	C	mg/L	0.001668	0.001668		0.00005	0	0		0.01	5	3336%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.0159644	-0.0159644		0.00428	0	0		0.214	0.9	-373%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046199	0.10 ppb STD	ICPMS-6020B-C Cal3			2/18/2022 8:24:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0002393	0.0002393		0.0001	0	0		0.01		239%	80	120	0%	S
Antimony	A	mg/L	0.00008559	0.00008559		0.0001	0	0		0.001		86%	80	120	0%	
Arsenic	A	mg/L	0.000159	0.000159		0.0001	0	0		0.001		159%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046199	0.10 ppb STD	ICPMS-6020B-C Cal3			2/18/2022 8:24:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Barium	A	mg/L	0.0001238	0.0001238		0.0001	0	0		0.0003		124%	80	120	0%	S
Beryllium	A	mg/L	0.00008354	0.00008354		0.0001	0	0		0.001		84%	80	120	0%	
Boron	A	mg/L	-2.879E-05	-2.879E-05		0	0	0		0.1		0%			0%	
Cadmium	A	mg/L	0.00009211	0.00009211		0.0001	0	0		0.001		92%	80	120	0%	
Calcium	A	mg/L	0.03052	0.03052		0.025	0	0		1		122%	80	120	0%	S
Cerium	A	mg/L	0.0001368	0.0001368		0.0001	0	0		0.001		137%	80	120	0%	S
Chromium	A	mg/L	0.0001312	0.0001312		0.0001	0	0		0.001		131%	80	120	0%	S
Cobalt	A	mg/L	0.0001204	0.0001204		0.0001	0	0		0.001		120%	80	120	0%	
Copper	A	mg/L	0.0001593	0.0001593		0.0001	0	0		0.005		159%	80	120	0%	S
Iron	A	mg/L	0.003439	0.003439		0.0025	0	0		0.01		138%	80	120	0%	S
Lanthanum	A	mg/L	0.0001291	0.0001291		0.0001	0	0		0.001		129%	80	120	0%	S
Lead	A	mg/L	0.0001231	0.0001231		0.0001	0	0		0.001		123%	80	120	0%	S
Lithium	A	mg/L	0.0007537	0.0007537		0.00125	0	0		1		60%	80	120	0%	S
Magnesium	A	mg/L	0.03142	0.03142		0.025	0	0		1		126%	80	120	0%	S
Manganese	A	mg/L	0.0001145	0.0001145		0.0001	0	0		0.001		115%	80	120	0%	
Mercury	A	mg/L	5.461E-06	5.461E-06		0.000002	0	0		0.001		273%	80	120	0%	S
Molybdenum	A	mg/L	0.00009883	0.00009883		0.0001	0	0		0.001		99%	80	120	0%	
Nickel	A	mg/L	0.0001416	0.0001416		0.0001	0	0		0.005		142%	80	120	0%	S
Potassium	A	mg/L	0.03205	0.03205		0.025	0	0		1		128%	80	120	0%	S
Selenium	A	mg/L	0.0001415	0.0001415		0.0001	0	0		0.005		142%	80	120	0%	S
Silicon	A	mg/L	-0.01255	-0.01255		0.0004	0	0		0.1		-3138%	80	120	0%	S
Silver	A	mg/L	0.00004991	0.00004991		0.00004	0	0		0.001		125%	80	120	0%	S
Sodium	A	mg/L	0.0283	0.0283		0.025	0	0		1		113%	80	120	0%	
Strontium	A	mg/L	0.0001325	0.0001325		0.0001	0	0		0.001		133%	80	120	0%	S
Thallium	A	mg/L	0.0001031	0.0001031		0.0001	0	0		0.001		103%	80	120	0%	
Thorium	A	mg/L	0.00008102	0.00008102		0.0001	0	0		0.05		81%	80	120	0%	
Tin	A	mg/L	0.01528	0.01528		0.0001	0	0		0.001		15280%	80	120	0%	S
Titanium	A	mg/L	0.0001906	0.0001906		0.0001	0	0		0.001		191%	80	120	0%	S
Uranium	A	mg/L	0.0001258	0.0001258		0.0001	0	0		0.001		126%	80	120	0%	S
Vanadium	A	mg/L	0.0004466	0.0004466		0.0001	0	0		0.005		447%	80	120	0%	S
Zinc	A	mg/L	0.000273	0.000273		0.0001	0	0		0.01		273%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.003439	0.003439		0.0001	0	0		0.01	5	3439%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.026857	-0.026857		0.00856	0	0		0.214	0.9	-314%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046200	0.5 ppb STD	ICPMS-6020B-C	CaI4		2/18/2022 8:30:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0005335	0.0005335		0.0005	0	0		0.01		107%	80	120	0%	
Antimony	A	mg/L	0.0004815	0.0004815		0.0005	0	0		0.001		96%	80	120	0%	
Arsenic	A	mg/L	0.0005236	0.0005236		0.0005	0	0		0.001		105%	80	120	0%	
Barium	A	mg/L	0.0004955	0.0004955		0.0005	0	0		0.0003		99%	80	120	0%	
Beryllium	A	mg/L	0.0003282	0.0003282		0.0005	0	0		0.001		66%	80	120	0%	S
Boron	A	mg/L	0.0001363	0.0001363		0.0005	0	0		0.1		27%	80	120	0%	S
Cadmium	A	mg/L	0.0004764	0.0004764		0.0005	0	0		0.001		95%	80	120	0%	
Calcium	A	mg/L	0.1212	0.1212		0.125	0	0		1		97%	80	120	0%	
Cerium	A	mg/L	0.0005772	0.0005772		0.0005	0	0		0.001		115%	80	120	0%	
Chromium	A	mg/L	0.0005111	0.0005111		0.0005	0	0		0.001		102%	80	120	0%	
Cobalt	A	mg/L	0.0004998	0.0004998		0.0005	0	0		0.001		100%	80	120	0%	
Copper	A	mg/L	0.0006204	0.0006204		0.0005	0	0		0.005		124%	80	120	0%	S
Iron	A	mg/L	0.01376	0.01376		0.0125	0	0		0.01		110%	80	120	0%	
Lanthanum	A	mg/L	0.0005539	0.0005539		0.0005	0	0		0.001		111%	80	120	0%	
Lead	A	mg/L	0.0004952	0.0004952		0.0005	0	0		0.001		99%	80	120	0%	
Lithium	A	mg/L	0.003645	0.003645		0.00625	0	0		1		58%	80	120	0%	S
Magnesium	A	mg/L	0.1386	0.1386		0.125	0	0		1		111%	80	120	0%	
Manganese	A	mg/L	0.0005006	0.0005006		0.0005	0	0		0.001		100%	80	120	0%	
Mercury	A	mg/L	0.00001525	0.00001525		0.00001	0	0		0.001		153%	80	120	0%	S
Molybdenum	A	mg/L	0.0004699	0.0004699		0.0005	0	0		0.001		94%	80	120	0%	
Nickel	A	mg/L	0.0005319	0.0005319		0.0005	0	0		0.005		106%	80	120	0%	
Potassium	A	mg/L	0.1116	0.1116		0.125	0	0		1		89%	80	120	0%	
Selenium	A	mg/L	0.0005465	0.0005465		0.0005	0	0		0.005		109%	80	120	0%	
Silicon	A	mg/L	-0.0123	-0.0123		0.002	0	0		0.1		-615%	80	120	0%	S
Silver	A	mg/L	0.0002086	0.0002086		0.0002	0	0		0.001		104%	80	120	0%	
Sodium	A	mg/L	0.1306	0.1306		0.125	0	0		1		104%	80	120	0%	
Strontium	A	mg/L	0.0005202	0.0005202		0.0005	0	0		0.001		104%	80	120	0%	
Thallium	A	mg/L	0.0004938	0.0004938		0.0005	0	0		0.001		99%	80	120	0%	
Thorium	A	mg/L	0.0004077	0.0004077		0.0005	0	0		0.05		82%	80	120	0%	
Tin	A	mg/L	0.01513	0.01513		0.0005	0	0		0.001		3026%	80	120	0%	S
Titanium	A	mg/L	0.0004864	0.0004864		0.0005	0	0		0.001		97%	80	120	0%	
Uranium	A	mg/L	0.0005071	0.0005071		0.0005	0	0		0.001		101%	80	120	0%	
Vanadium	A	mg/L	0.0007807	0.0007807		0.0005	0	0		0.005		156%	80	120	0%	S
Zinc	A	mg/L	0.0004909	0.0004909		0.0005	0	0		0.01		98%	80	120	0%	
Iron, Ferrous	C	mg/L	0.01376	0.01376		0.0005	0	0		0.01	5	2752%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046200	0.5 ppb STD	ICPMS-6020B-C Cal4			2/18/2022 8:30:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon as SiO2	C	mg/L	-0.026322	-0.026322		0.0428	0	0		0.214	0.9	-61%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046201	1 ppb STD	ICPMS-6020B-C Cal5			2/18/2022 8:36:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.001161	0.001161		0.001	0	0		0.01		116%	80	120	0%	
Antimony	A	mg/L	0.001113	0.001113		0.001	0	0		0.001		111%	80	120	0%	
Arsenic	A	mg/L	0.001103	0.001103		0.001	0	0		0.001		110%	80	120	0%	
Barium	A	mg/L	0.001094	0.001094		0.001	0	0		0.0003		109%	80	120	0%	
Beryllium	A	mg/L	0.0007738	0.0007738		0.001	0	0		0.001		77%	80	120	0%	S
Boron	A	mg/L	0.0006548	0.0006548		0.001	0	0		0.1		65%	80	120	0%	S
Cadmium	A	mg/L	0.001128	0.001128		0.001	0	0		0.001		113%	80	120	0%	
Calcium	A	mg/L	0.2799	0.2799		0.25	0	0		1		112%	80	120	0%	
Cerium	A	mg/L	0.001275	0.001275		0.001	0	0		0.001		127%	80	120	0%	S
Chromium	A	mg/L	0.001112	0.001112		0.001	0	0		0.001		111%	80	120	0%	
Cobalt	A	mg/L	0.001131	0.001131		0.001	0	0		0.001		113%	80	120	0%	
Copper	A	mg/L	0.001278	0.001278		0.001	0	0		0.005		128%	80	120	0%	S
Iron	A	mg/L	0.03061	0.03061		0.025	0	0		0.01		122%	80	120	0%	S
Lanthanum	A	mg/L	0.001264	0.001264		0.001	0	0		0.001		126%	80	120	0%	S
Lead	A	mg/L	0.00112	0.00112		0.001	0	0		0.001		112%	80	120	0%	
Lithium	A	mg/L	0.008708	0.008708		0.0125	0	0		1		70%	80	120	0%	S
Magnesium	A	mg/L	0.306	0.306		0.25	0	0		1		122%	80	120	0%	S
Manganese	A	mg/L	0.001087	0.001087		0.001	0	0		0.001		109%	80	120	0%	
Mercury	A	mg/L	0.00002355	0.00002355		0.00002	0	0		0.001		118%	80	120	0%	
Molybdenum	A	mg/L	0.001002	0.001002		0.001	0	0		0.001		100%	80	120	0%	
Nickel	A	mg/L	0.001187	0.001187		0.001	0	0		0.005		119%	80	120	0%	
Potassium	A	mg/L	0.2311	0.2311		0.25	0	0		1		92%	80	120	0%	
Selenium	A	mg/L	0.001179	0.001179		0.001	0	0		0.005		118%	80	120	0%	
Silicon	A	mg/L	-0.01134	-0.01134		0.004	0	0		0.1		-283%	80	120	0%	S
Silver	A	mg/L	0.0004479	0.0004479		0.0004	0	0		0.001		112%	80	120	0%	
Sodium	A	mg/L	0.2926	0.2926		0.25	0	0		1		117%	80	120	0%	
Strontium	A	mg/L	0.001115	0.001115		0.001	0	0		0.001		111%	80	120	0%	
Thallium	A	mg/L	0.001086	0.001086		0.001	0	0		0.001		109%	80	120	0%	
Thorium	A	mg/L	0.001003	0.001003		0.001	0	0		0.05		100%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046201	1 ppb STD	ICPMS-6020B-C Cal5			2/18/2022 8:36:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Tin	A	mg/L	0.01627	0.01627		0.001	0	0		0.001		1627%	80	120	0%	S
Titanium	A	mg/L	0.001029	0.001029		0.001	0	0		0.001		103%	80	120	0%	
Uranium	A	mg/L	0.001157	0.001157		0.001	0	0		0.001		116%	80	120	0%	
Vanadium	A	mg/L	0.001098	0.001098		0.001	0	0		0.005		110%	80	120	0%	
Zinc	A	mg/L	0.001256	0.001256		0.001	0	0		0.01		126%	80	120	0%	S
Iron, Ferrous	C	mg/L	0.03061	0.03061		0.001	0	0		0.01	5	3061%	80	120	0%	S
Silicon as SiO2	C	mg/L	-0.0242676	-0.0242676		0.0856	0	0		0.214	0.9	-28%	80	120	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046202	10 ppb STD	ICPMS-6020B-C Cal6			2/18/2022 8:43:1	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.00879	0.00879		0.01	0	0		0.01		88%	90	110	0%	S
Antimony	A	mg/L	0.01009	0.01009		0.01	0	0		0.001		101%	90	110	0%	
Arsenic	A	mg/L	0.01007	0.01007		0.01	0	0		0.001		101%	90	110	0%	
Barium	A	mg/L	0.01045	0.01045		0.01	0	0		0.0003		104%	90	110	0%	
Beryllium	A	mg/L	0.006522	0.006522		0.01	0	0		0.001		65%	90	110	0%	S
Boron	A	mg/L	0.007048	0.007048		0.01	0	0		0.1		70%	90	110	0%	S
Cadmium	A	mg/L	0.0103	0.0103		0.01	0	0		0.001		103%	90	110	0%	
Calcium	A	mg/L	2.419	2.419		2.5	0	0		1		97%	90	110	0%	
Cerium	A	mg/L	0.01147	0.01147		0.01	0	0		0.001		115%	90	110	0%	S
Chromium	A	mg/L	0.01006	0.01006		0.01	0	0		0.001		101%	90	110	0%	
Cobalt	A	mg/L	0.01017	0.01017		0.01	0	0		0.001		102%	90	110	0%	
Copper	A	mg/L	0.01108	0.01108		0.01	0	0		0.005		111%	90	110	0%	S
Iron	A	mg/L	0.2726	0.2726		0.25	0	0		0.01		109%	90	110	0%	
Lanthanum	A	mg/L	0.01112	0.01112		0.01	0	0		0.001		111%	90	110	0%	S
Lead	A	mg/L	0.01013	0.01013		0.01	0	0		0.001		101%	90	110	0%	
Lithium	A	mg/L	0.07481	0.07481		0.125	0	0		1		60%	90	110	0%	S
Magnesium	A	mg/L	2.659	2.659		2.5	0	0		1		106%	90	110	0%	
Manganese	A	mg/L	0.00969	0.00969		0.01	0	0		0.001		97%	90	110	0%	
Mercury	A	mg/L	0.0002057	0.0002057		0.0002	0	0		0.001		103%	90	110	0%	
Molybdenum	A	mg/L	0.009348	0.009348		0.01	0	0		0.001		93%	90	110	0%	
Nickel	A	mg/L	0.01043	0.01043		0.01	0	0		0.005		104%	90	110	0%	
Potassium	A	mg/L	2.184	2.184		2.5	0	0		1		87%	90	110	0%	S
Selenium	A	mg/L	0.01054	0.01054		0.01	0	0		0.005		105%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046202	10 ppb STD	ICPMS-6020B-C Cal6			2/18/2022 8:43:1	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Silicon	A	mg/L	0.02375	0.02375		0.04	0	0		0.1		59%	90	110	0%	S
Silver	A	mg/L	0.004048	0.004048		0.004	0	0		0.001		101%	90	110	0%	
Sodium	A	mg/L	2.718	2.718		2.5	0	0		1		109%	90	110	0%	
Strontium	A	mg/L	0.01018	0.01018		0.01	0	0		0.001		102%	90	110	0%	
Thallium	A	mg/L	0.01004	0.01004		0.01	0	0		0.001		100%	90	110	0%	
Thorium	A	mg/L	0.009843	0.009843		0.01	0	0		0.05		98%	90	110	0%	
Tin	A	mg/L	0.02435	0.02435		0.01	0	0		0.001		244%	90	110	0%	S
Titanium	A	mg/L	0.008839	0.008839		0.01	0	0		0.001		88%	90	110	0%	S
Uranium	A	mg/L	0.01057	0.01057		0.01	0	0		0.001		106%	90	110	0%	
Vanadium	A	mg/L	0.009993	0.009993		0.01	0	0		0.005		100%	90	110	0%	
Zinc	A	mg/L	0.01091	0.01091		0.01	0	0		0.01		109%	90	110	0%	
Iron, Ferrous	C	mg/L	0.2726	0.2726		0.01	0	0		0.01	5	2726%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.050825	0.050825		0.856	0	0		0.214	0.9	6%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046203	50 ppb STD	ICPMS-6020B-C Cal7			2/18/2022 8:49:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.04377	0.04377		0.05	0	0		0.01		88%	90	110	0%	S
Antimony	A	mg/L	0.0514	0.0514		0.05	0	0		0.001		103%	90	110	0%	
Arsenic	A	mg/L	0.04894	0.04894		0.05	0	0		0.001		98%	90	110	0%	
Barium	A	mg/L	0.04943	0.04943		0.05	0	0		0.0003		99%	90	110	0%	
Beryllium	A	mg/L	0.03416	0.03416		0.05	0	0		0.001		68%	90	110	0%	S
Boron	A	mg/L	0.03833	0.03833		0.05	0	0		0.1		77%	90	110	0%	S
Cadmium	A	mg/L	0.04856	0.04856		0.05	0	0		0.001		97%	90	110	0%	
Calcium	A	mg/L	11.03	11.03		12.5	0	0		1		88%	90	110	0%	S
Cerium	A	mg/L	0.05301	0.05301		0.05	0	0		0.001		106%	90	110	0%	
Chromium	A	mg/L	0.04767	0.04767		0.05	0	0		0.001		95%	90	110	0%	
Cobalt	A	mg/L	0.0478	0.0478		0.05	0	0		0.001		96%	90	110	0%	
Copper	A	mg/L	0.05141	0.05141		0.05	0	0		0.005		103%	90	110	0%	
Iron	A	mg/L	1.266	1.266		1.25	0	0		0.01		101%	90	110	0%	
Lanthanum	A	mg/L	0.05146	0.05146		0.05	0	0		0.001		103%	90	110	0%	
Lead	A	mg/L	0.0495	0.0495		0.05	0	0		0.001		99%	90	110	0%	
Lithium	A	mg/L	0.3647	0.3647		0.625	0	0		1		58%	90	110	0%	S
Magnesium	A	mg/L	12.09	12.09		12.5	0	0		1		97%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046203	50 ppb STD	ICPMS-6020B-C Cal7			2/18/2022 8:49:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.0465	0.0465		0.05	0	0		0.001		93%	90	110	0%	
Mercury	A	mg/L	0.0009665	0.0009665		0.001	0	0		0.001		97%	90	110	0%	
Molybdenum	A	mg/L	0.04645	0.04645		0.05	0	0		0.001		93%	90	110	0%	
Nickel	A	mg/L	0.05038	0.05038		0.05	0	0		0.005		101%	90	110	0%	
Potassium	A	mg/L	9.981	9.981		12.5	0	0		1		80%	90	110	0%	S
Selenium	A	mg/L	0.05084	0.05084		0.05	0	0		0.005		102%	90	110	0%	
Silicon	A	mg/L	0.2055	0.2055		0.2	0	0		0.1		103%	90	110	0%	
Silver	A	mg/L	0.01899	0.01899		0.02	0	0		0.001		95%	90	110	0%	
Sodium	A	mg/L	12	12		12.5	0	0		1		96%	90	110	0%	
Strontium	A	mg/L	0.04909	0.04909		0.05	0	0		0.001		98%	90	110	0%	
Thallium	A	mg/L	0.05008	0.05008		0.05	0	0		0.001		100%	90	110	0%	
Thorium	A	mg/L	0.05099	0.05099		0.05	0	0		0.05		102%	90	110	0%	
Tin	A	mg/L	0.04471	0.04471		0.05	0	0		0.001		89%	90	110	0%	S
Titanium	A	mg/L	0.0455	0.0455		0.05	0	0		0.001		91%	90	110	0%	
Uranium	A	mg/L	0.05215	0.05215		0.05	0	0		0.001		104%	90	110	0%	
Vanadium	A	mg/L	0.04683	0.04683		0.05	0	0		0.005		94%	90	110	0%	
Zinc	A	mg/L	0.05003	0.05003		0.05	0	0		0.01		100%	90	110	0%	
Iron, Ferrous	C	mg/L	1.266	1.266		0.05	0	0		0.01	5	2532%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.43977	0.43977		4.28	0	0		0.214	0.9	10%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046204	100 ppb STD	ICPMS-6020B-C Cal8			2/18/2022 8:56:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.09991	0.09991		0.1	0	0		0.01		100%	90	110	0%	
Antimony	A	mg/L	0.099	0.099		0.1	0	0		0.001		99%	90	110	0%	
Arsenic	A	mg/L	0.09966	0.09966		0.1	0	0		0.001		100%	90	110	0%	
Barium	A	mg/L	0.1001	0.1001		0.1	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	0.09954	0.09954		0.1	0	0		0.001		100%	90	110	0%	
Boron	A	mg/L	0.09933	0.09933		0.1	0	0		0.1		99%	90	110	0%	
Cadmium	A	mg/L	0.1004	0.1004		0.1	0	0		0.001		100%	90	110	0%	
Calcium	A	mg/L	25.12	25.12		25	0	0		1		100%	90	110	0%	
Cerium	A	mg/L	0.1002	0.1002		0.1	0	0		0.001		100%	90	110	0%	
Chromium	A	mg/L	0.09955	0.09955		0.1	0	0		0.001		100%	90	110	0%	
Cobalt	A	mg/L	0.09896	0.09896		0.1	0	0		0.001		99%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046204	100 ppb STD	ICPMS-6020B-C Cal8			2/18/2022 8:56:0	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Copper	A	mg/L	0.09955	0.09955		0.1	0	0		0.005		100%	90	110	0%	
Iron	A	mg/L	2.599	2.599		2.5	0	0		0.01		104%	90	110	0%	
Lanthanum	A	mg/L	0.1002	0.1002		0.1	0	0		0.001		100%	90	110	0%	
Lead	A	mg/L	0.1005	0.1005		0.1	0	0		0.001		100%	90	110	0%	
Lithium	A	mg/L	1.257	1.257		1.25	0	0		1		101%	90	110	0%	
Magnesium	A	mg/L	24.95	24.95		25	0	0		1		100%	90	110	0%	
Manganese	A	mg/L	0.09967	0.09967		0.1	0	0		0.001		100%	90	110	0%	
Mercury	A	mg/L	0.002024	0.002024		0.002	0	0		0.001		101%	90	110	0%	
Molybdenum	A	mg/L	0.1001	0.1001		0.1	0	0		0.001		100%	90	110	0%	
Nickel	A	mg/L	0.09938	0.09938		0.1	0	0		0.005		99%	90	110	0%	
Potassium	A	mg/L	25.2	25.2		25	0	0		1		101%	90	110	0%	
Selenium	A	mg/L	0.09961	0.09961		0.1	0	0		0.005		100%	90	110	0%	
Silicon	A	mg/L	0.3964	0.3964		0.4	0	0		0.1		99%	90	110	0%	
Silver	A	mg/L	0.03998	0.03998		0.04	0	0		0.001		100%	90	110	0%	
Sodium	A	mg/L	25.09	25.09		25	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.09957	0.09957		0.1	0	0		0.001		100%	90	110	0%	
Thallium	A	mg/L	0.09957	0.09957		0.1	0	0		0.001		100%	90	110	0%	
Thorium	A	mg/L	0.09956	0.09956		0.1	0	0		0.05		100%	90	110	0%	
Tin	A	mg/L	0.1019	0.1019		0.1	0	0		0.001		102%	90	110	0%	
Titanium	A	mg/L	0.09921	0.09921		0.1	0	0		0.001		99%	90	110	0%	
Uranium	A	mg/L	0.1001	0.1001		0.1	0	0		0.001		100%	90	110	0%	
Vanadium	A	mg/L	0.0997	0.0997		0.1	0	0		0.005		100%	90	110	0%	
Zinc	A	mg/L	0.1001	0.1001		0.1	0	0		0.01		100%	90	110	0%	
Iron, Ferrous	C	mg/L	2.599	2.599		0.1	0	0		0.01	5	2599%	90	110	0%	S
Silicon as SiO2	C	mg/L	0.848296	0.848296		8.56	0	0		0.214	0.9	10%	90	110	0%	S

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046205	1000 ppb STD	ICPMS-6020B-C Cal10			2/18/2022 9:02:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.9999	0.9999		1	0	0		0.01		100%	90	110	0%	
Antimony	A	mg/L	0.000322	0.000322		0	0	0		0.001		0%			0%	
Arsenic	A	mg/L	0.9997	0.9997		1	0	0		0.001		100%	90	110	0%	
Barium	A	mg/L	0.9999	0.9999		1	0	0		0.0003		100%	90	110	0%	
Beryllium	A	mg/L	1.001	1.001		1	0	0		0.001		100%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046205	1000 ppb STD	ICPMS-6020B-C	Cal10		2/18/2022 9:02:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Boron	A	mg/L	1	1		1	0	0		0.1		100%	90	110	0%	
Cadmium	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Calcium	A	mg/L	49.83	49.83		50	0	0		1		100%	90	110	0%	
Cerium	A	mg/L	0.00002325	0.00002325		0	0	0		0.001		0%			0%	
Chromium	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Cobalt	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Copper	A	mg/L	0.9992	0.9992		1	0	0		0.005		100%	90	110	0%	
Iron	A	mg/L	5.996	5.996		6	0	0		0.01		100%	90	110	0%	
Lanthanum	A	mg/L	9.156E-06	9.156E-06		0	0	0		0.001		0%			0%	
Lead	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Lithium	A	mg/L	2.549	2.549		2.5	0	0		1		102%	90	110	0%	
Magnesium	A	mg/L	49.88	49.88		50	0	0		1		100%	90	110	0%	
Manganese	A	mg/L	0.9997	0.9997		1	0	0		0.001		100%	90		0%	
Mercury	A	mg/L	0.0000139	0.0000139		0	0	0		0.001		0%			0%	
Molybdenum	A	mg/L	0.0001111	0.0001111		0	0	0		0.001		0%			0%	
Nickel	A	mg/L	0.9995	0.9995		1	0	0		0.005		100%	90	110	0%	
Potassium	A	mg/L	50.15	50.15		50	0	0		1		100%	90	110	0%	
Selenium	A	mg/L	0.9998	0.9998		1	0	0		0.005		100%	90	110	0%	
Silicon	A	mg/L	-0.01769	-0.01769		0	0	0		0.1		0%			0%	
Silver	A	mg/L	0.381	0.381		0	0	0		0.001		0%			0%	
Sodium	A	mg/L	50	50		50	0	0		1		100%	90	110	0%	
Strontium	A	mg/L	0.9997	0.9997		1	0	0		0.001		100%	90	110	0%	
Thallium	A	mg/L	1	1		1	0	0		0.001		100%	90	110	0%	
Thorium	A	mg/L	1	1		1	0	0		0.05		100%	90	110	0%	
Tin	A	mg/L	0.01485	0.01485		0	0	0		0.001		0%			0%	
Titanium	A	mg/L	0.006501	0.006501		1	0	0		0.001		1%	90	110	0%	S
Uranium	A	mg/L	0.9999	0.9999		1	0	0		0.001		100%	90	110	0%	
Vanadium	A	mg/L	1	1		1	0	0		0.005		100%	90	110	0%	
Zinc	A	mg/L	0.9993	0.9993		1	0	0		0.01		100%	90	110	0%	
Iron, Ferrous	C	mg/L	5.996	5.996		0	0	0		0.01	5	0%			0%	
Silicon as SiO2	C	mg/L	-0.0378566	-0.0378566		0	0	0		0.214	0.9	0%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046206	100 ppb Br STD	ICPMS-6020-W-	SAMP		2/18/2022 9:08:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	0.00004591	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-1.707E-05	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	0.00001413	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.00008664	0.00008664		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	4.831E-08	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	8.846E-06	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	0.00002743	0.00002743		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	J
Lead	A	mg/L	0.00003242	0.00003242		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	J
Manganese	A	mg/L	0.00002898	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	1.403E-07	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.00001571	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	-3.391E-07	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.0001543	0.0001543		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	J
Silver	A	mg/L	0.00007546	0.00007546		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	J
Strontium	A	mg/L	6.187E-06	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.0001165	0.0001165		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	J
Thorium	A	mg/L	0.0002002	0.0002002		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	0.00003513	0.00003513		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	J
Iron	B	mg/L	0.0001037	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.0001037	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.0002196	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Zinc	B	mg/L	0.00001802	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046207	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 9:15:1	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Antimony	A	mg/L	7.214E-06	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-5.723E-05	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	2.395E-08	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	
Cadmium	A	mg/L	0.0000334	0.0000334		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	J
Cerium	A	mg/L	-2.076E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	0.000022	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	8.988E-06	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Lead	A	mg/L	0.00001086	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046207	Rinse	ICPMS-6020-W- SAMP				2/18/2022 9:15:1	1	R374975		0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.0000113	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	4.956E-07	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	1.982E-06	0		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	
Nickel	A	mg/L	0.00001484	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.00004569	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silver	A	mg/L	1.117E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	2.659E-06	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	0.00003793	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	0.0000435	0.0000435		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	7.595E-06	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Iron	B	mg/L	-8.381E-05	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	-8.381E-05	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	0.0005319	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Zinc	B	mg/L	-0.0001779	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046208	QCS	ICPMS-6020-W- ICV				2/18/2022 9:21:2	1	R374975		0	0					
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.2399	0.2399		0.25	0	0	0.0017836	0.001	1	96%	90	110	0%	
Antimony	A	mg/L	0.05063	0.05063		0.05	0	0	6.768E-05	0.001	0.1	101%	90	110	0%	
Arsenic	A	mg/L	0.05006	0.05006		0.05	0	0	8.203E-05	0.001	1	100%	90	110	0%	
Barium	A	mg/L	0.0497	0.0497		0.05	0	0	6.762E-05	0.001	1	99%	90	110	0%	
Beryllium	A	mg/L	0.02099	0.02099		0.025	0	0	8.516E-05	0.001	1	84%	90	110	0%	S
Boron	A	mg/L	0.04705	0.04705		0.05	0	0	0.0039526	0.00561	1	94%	90	110	0%	
Cadmium	A	mg/L	0.02433	0.02433		0.025	0	0	2.308E-05	0.001	1	97%	90	110	0%	
Calcium	A	mg/L	2.576	2.576		2.5	0	0	0.2027235	0.02092	50	103%	90	110	0%	
Cerium	A	mg/L	0.05169	0.05169		0.05	0	0	0.0000222	0.001	0.1	103%	90	110	0%	
Chromium	A	mg/L	0.04867	0.04867		0.05	0	0	0.0002538	0.001	1	97%	90	110	0%	
Cobalt	A	mg/L	0.0508	0.0508		0.05	0	0	2.141E-05	0.001	1	102%	90	110	0%	
Copper	A	mg/L	0.05478	0.05478		0.05	0	0	0.0001748	0.001	1	110%	90	110	0%	
Iron	A	mg/L	0.2557	0.2557		0.25	0	0	0.0021157	0.00119	5	102%	90	110	0%	
Lanthanum	A	mg/L	0.05223	0.05223		0.05	0	0	6.805E-05	0.001	0.1	104%	90	110	0%	
Lead	A	mg/L	0.04994	0.04994		0.05	0	0	3.031E-05	0.001	1	100%	90	110	0%	
Magnesium	A	mg/L	2.545	2.545		2.5	0	0	0.0203306	0.00564	50	102%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046208	QCS	ICPMS-6020-W- ICV			2/18/2022 9:21:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Manganese	A	mg/L	0.2536	0.2536		0.25	0	0	7.309E-05	0.001	1	101%	90	110	0%	
Mercury	A	mg/L	0.001013	0.001013		0.001	0	0	3.043E-05	0.001	0.002	101%	90	110	0%	
Molybdenum	A	mg/L	0.04905	0.04905		0.05	0	0	8.113E-05	0.001	0.1	98%	90	110	0%	
Nickel	A	mg/L	0.05326	0.05326		0.05	0	0	0.0001769	0.001	1	107%	90	110	0%	
Potassium	A	mg/L	2.41	2.41		2.5	0	0	0.0215433	0.08139	50	96%	90	110	0%	
Selenium	A	mg/L	0.05098	0.05098		0.05	0	0	7.174E-05	0.001	1	102%	90	110	0%	
Silicon	A	mg/L	0.4977	0.4977		0.5	0	0	0.0033337	0.1	0.4	100%	90	110	0%	
Silver	A	mg/L	0.02518	0.02518		0.025	0	0	2.644E-05	0.001	0.04	101%	90	110	0%	
Sodium	A	mg/L	2.576	2.576		2.5	0	0	0.0451914	0.02171	50	103%	90	110	0%	
Strontium	A	mg/L	0.04982	0.04982		0.05	0	0	9.743E-05	0.001	1	100%	90	110	0%	
Thallium	A	mg/L	0.04818	0.04818		0.05	0	0	4.842E-05	0.001	1	96%	90	110	0%	
Thorium	A	mg/L	0.04869	0.04869		0.05	0	0	3.018E-05	0.001	1	97%	90	110	0%	
Tin	A	mg/L	0.04392	0.04392		0.05	0	0	0.0009928	0.00132	0.1	88%	90	110	0%	S
Titanium	A	mg/L	0.05069	0.05069		0.05	0	0	0.0001004	0.001	1	101%	90	110	0%	
Uranium	A	mg/L	0.05133	0.05133		0.05	0	0	2.468E-05	0.0003	1	103%	90	110	0%	
Vanadium	A	mg/L	0.04571	0.04571		0.05	0	0	0.0018612	0.0013	1	91%	90	110	0%	
Zinc	A	mg/L	0.05267	0.05267		0.05	0	0	0.0010089	0.00273	1	105%	90	110	0%	
Iron, Ferrous	C	mg/L	0.2557	0.2557		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046209	ICSA	ICPMS-6020-W- ICSA			2/18/2022 9:27:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	39.94	39.94		40	0	0	0.0017836	0.001	1	100%	80	120	0%	
Antimony	A	mg/L	0.0001591	0.0001591		0	0	0	6.768E-05	0.001	0.1	0%			0%	
Arsenic	A	mg/L	-6.641E-05	-6.641E-05		0	0	0	8.203E-05	0.001	1	0%			0%	
Barium	A	mg/L	0.0001607	0.0001607		0	0	0	6.762E-05	0.001	1	0%			0%	
Beryllium	A	mg/L	0.00003148	0.00003148		0	0	0	8.516E-05	0.001	1	0%			0%	
Boron	A	mg/L	0.00125	0.00125		0	0	0	0.0039526	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.00006724	0.00006724		0	0	0	2.308E-05	0.001	1	0%			0%	
Calcium	A	mg/L	123.3	123.3		120	0	0	0.2027235	0.02092	50	103%	80	120	0%	
Cerium	A	mg/L	8.406E-06	8.406E-06		0	0	0	0.0000222	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.001883	0.001883		0	0	0	0.0002538	0.001	1	0%			0%	
Cobalt	A	mg/L	0.0001726	0.0001726		0	0	0	2.141E-05	0.001	1	0%			0%	
Copper	A	mg/L	0.00009609	0.00009609		0	0	0	0.0001748	0.001	1	0%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046209	ICSA	ICPMS-6020-W-	ICSA		2/18/2022 9:27:3	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Iron	A	mg/L	104	104		100	0	0	0.0021157	0.00119	5	104%	80	120	0%	
Lanthanum	A	mg/L	5.534E-06	5.534E-06		0	0	0	6.805E-05	0.001	0.1	0%			0%	
Lead	A	mg/L	0.00004726	0.00004726		0	0	0	3.031E-05	0.001	1	0%			0%	
Magnesium	A	mg/L	40.13	40.13		50	0	0	0.0203306	0.00564	50	80%			0%	
Manganese	A	mg/L	0.0002674	0.0002674		0	0	0	7.309E-05	0.001	1	0%			0%	
Mercury	A	mg/L	3.944E-06	3.944E-06		0	0	0	3.043E-05	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.8276	0.8276		0.8	0	0	8.113E-05	0.001	0.1	103%	80	120	0%	
Nickel	A	mg/L	0.00009006	0.00009006		0	0	0	0.0001769	0.001	1	0%			0%	
Potassium	A	mg/L	40.58	40.58		50	0	0	0.0215433	0.08139	50	81%			0%	
Selenium	A	mg/L	0.0001751	0.0001751		0	0	0	7.174E-05	0.001	1	0%			0%	
Silicon	A	mg/L	-0.02096	-0.02096		0	0	0	0.0033337	0.1	0.4	0%			0%	
Silver	A	mg/L	0.00001023	0.00001023		0	0	0	2.644E-05	0.001	0.04	0%			0%	
Sodium	A	mg/L	100.8	100.8		100	0	0	0.0451914	0.02171	50	101%			0%	
Strontium	A	mg/L	0.001018	0.001018		0	0	0	9.743E-05	0.001	1	0%			0%	
Thallium	A	mg/L	0.00005835	0.00005835		0	0	0	4.842E-05	0.001	1	0%			0%	
Thorium	A	mg/L	0.00008514	0.00008514		0	0	0	3.018E-05	0.001	1	0%			0%	
Tin	A	mg/L	0.01412	0.01412		0	0	0	0.0009928	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.8251	0.8251		0.8	0	0	0.0001004	0.001	1	103%			0%	
Uranium	A	mg/L	0.00002529	0.00002529		0	0	0	2.468E-05	0.0003	1	0%			0%	
Vanadium	A	mg/L	-0.004486	-0.004486		0	0	0	0.0018612	0.0013	1	0%			0%	
Zinc	A	mg/L	0.00001154	0.00001154		0	0	0	0.0010089	0.00273	1	0%			0%	
Iron, Ferrous	C	mg/L	104	104		0	0	0	0.0021157	0.00119	5	0%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046210	ICSAB	ICPMS-6020-W-	ICSAB		2/18/2022 9:33:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	39.11	39.11		40	0	0	0.0017836	0.001	1	98%	80	120	0%	
Antimony	A	mg/L	0.00005455	0.00005455		0	0	0	6.768E-05	0.001	0.1	0%			0%	
Arsenic	A	mg/L	0.00988	0.00988		0.01	0	0	8.203E-05	0.001	1	99%	80	120	0%	
Barium	A	mg/L	0.0001656	0.0001656		0	0	0	6.762E-05	0.001	1	0%			0%	
Beryllium	A	mg/L	0.00002204	0.00002204		0	0	0	8.516E-05	0.001	1	0%			0%	
Boron	A	mg/L	0.0007994	0.0007994		0	0	0	0.0039526	0.00561	1	0%			0%	
Cadmium	A	mg/L	0.009655	0.009655		0.01	0	0	2.308E-05	0.001	1	97%	80	120	0%	
Calcium	A	mg/L	124.8	124.8		120	0	0	0.2027235	0.02092	50	104%	80	120	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046210	IC SAB	ICPMS-6020-W- ICSAB			2/18/2022 9:33:5	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cerium	A	mg/L	9.201E-06	9.201E-06		0	0	0	0.0000222	0.001	0.1	0%			0%	
Chromium	A	mg/L	0.02184	0.02184		0.02	0	0	0.0002538	0.001	1	109%	80	120	0%	
Cobalt	A	mg/L	0.02094	0.02094		0.02	0	0	2.141E-05	0.001	1	105%	80	120	0%	
Copper	A	mg/L	0.02027	0.02027		0.02	0	0	0.0001748	0.001	1	101%	80	120	0%	
Iron	A	mg/L	101.7	101.7		100	0	0	0.0021157	0.00119	5	102%	80	120	0%	
Lanthanum	A	mg/L	6.082E-06	6.082E-06		0	0	0	6.805E-05	0.001	0.1	0%			0%	
Lead	A	mg/L	0.00003882	0.00003882		0	0	0	3.031E-05	0.001	1	0%			0%	
Magnesium	A	mg/L	40.69	40.69		40	0	0	0.0203306	0.00564	50	102%	80	120	0%	
Manganese	A	mg/L	0.02021	0.02021		0.02	0	0	7.309E-05	0.001	1	101%	80	120	0%	
Mercury	A	mg/L	-2.04E-06	-2.04E-06		0	0	0	3.043E-05	0.001	0.002	0%			0%	
Molybdenum	A	mg/L	0.8454	0.8454		0.8	0	0	8.113E-05	0.001	0.1	106%	80	120	0%	
Nickel	A	mg/L	0.0201	0.0201		0.02	0	0	0.0001769	0.001	1	101%	80	120	0%	
Potassium	A	mg/L	40.21	40.21		40	0	0	0.0215433	0.08139	50	101%	80	120	0%	
Selenium	A	mg/L	0.01017	0.01017		0.01	0	0	7.174E-05	0.001	1	102%	80	120	0%	
Silicon	A	mg/L	-0.02113	-0.02113		0	0	0	0.0033337	0.1	0.4	0%			0%	
Silver	A	mg/L	0.004602	0.004602		0.005	0	0	2.644E-05	0.001	0.04	92%	80	120	0%	
Sodium	A	mg/L	99.19	99.19		100	0	0	0.0451914	0.02171	50	99%	80	120	0%	
Strontium	A	mg/L	0.001018	0.001018		0	0	0	9.743E-05	0.001	1	0%			0%	
Thallium	A	mg/L	7.309E-06	7.309E-06		0	0	0	4.842E-05	0.001	1	0%			0%	
Thorium	A	mg/L	0.00003152	0.00003152		0	0	0	3.018E-05	0.001	1	0%			0%	
Tin	A	mg/L	0.01425	0.01425		0	0	0	0.0009928	0.00132	0.1	0%			0%	
Titanium	A	mg/L	0.8724	0.8724		0.8	0	0	0.0001004	0.001	1	109%	80	120	0%	
Uranium	A	mg/L	0.00002141	0.00002141		0	0	0	2.468E-05	0.0003	1	0%			0%	
Vanadium	A	mg/L	0.01527	0.01527		0.02	0	0	0.0018612	0.0013	1	76%	80	120	0%	S
Zinc	A	mg/L	0.009651	0.009651		0.01	0	0	0.0010089	0.00273	1	97%	80	120	0%	
Iron, Ferrous	C	mg/L	101.7	101.7		0	0	0	0.0021157	0.00119	5	0%			0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046211	Rinse	ICPMS-6020-W- SAMP			2/18/2022 9:40:1	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0003831	0		0	0	0	0.0017836	0.001	1	0%	0	0	0%	
Antimony	A	mg/L	-1.075E-05	0		0	0	0	6.768E-05	0.001	0.1	0%	0	0	0%	
Arsenic	A	mg/L	-0.0001695	0		0	0	0	8.203E-05	0.001	1	0%	0	0	0%	
Barium	A	mg/L	-9.331E-07	0		0	0	0	6.762E-05	0.001	1	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046211	Rinse	ICPMS-6020-W-	SAMP		2/18/2022 9:40:1	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Cadmium	A	mg/L	0.00000765	0		0	0	0	2.308E-05	0.001	1	0%	0	0	0%	
Cerium	A	mg/L	-8.449E-07	0		0	0	0	0.0000222	0.001	0.1	0%	0	0	0%	
Chromium	A	mg/L	-0.0000296	0		0	0	0	0.0002538	0.001	1	0%	0	0	0%	
Cobalt	A	mg/L	-3.946E-06	0		0	0	0	2.141E-05	0.001	1	0%	0	0	0%	
Copper	A	mg/L	-1.705E-05	0		0	0	0	0.0001748	0.001	1	0%	0	0	0%	
Lead	A	mg/L	-3.134E-06	0		0	0	0	3.031E-05	0.001	1	0%	0	0	0%	
Manganese	A	mg/L	-1.321E-05	0		0	0	0	7.309E-05	0.001	1	0%	0	0	0%	
Mercury	A	mg/L	-3.856E-06	0		0	0	0	3.043E-05	0.001	0.002	0%	0	0	0%	
Molybdenum	A	mg/L	0.0003682	0.0003682		0	0	0	8.113E-05	0.001	0.1	0%	0	0	0%	J
Nickel	A	mg/L	3.996E-06	0		0	0	0	0.0001769	0.001	1	0%	0	0	0%	
Selenium	A	mg/L	0.00001689	0		0	0	0	7.174E-05	0.001	1	0%	0	0	0%	
Silicon	A	mg/L	-0.02424	0		0	0	0	0.0033337	0.1	0.4	0%	0	0	0%	
Silver	A	mg/L	-1.775E-06	0		0	0	0	2.644E-05	0.001	0.04	0%	0	0	0%	
Strontium	A	mg/L	-1.828E-06	0		0	0	0	9.743E-05	0.001	1	0%	0	0	0%	
Thallium	A	mg/L	3.308E-06	0		0	0	0	4.842E-05	0.001	1	0%	0	0	0%	
Thorium	A	mg/L	-6.078E-07	0		0	0	0	3.018E-05	0.001	1	0%	0	0	0%	
Titanium	A	mg/L	0.0002287	0.0002287		0	0	0	0.0001004	0.001	1	0%	0	0	0%	J
Uranium	A	mg/L	7.829E-07	0		0	0	0	2.468E-05	0.0003	1	0%	0	0	0%	
Boron	B	mg/L	0.0004259	0		0	0	0	0.0039526	0.00561	1	0%	0	0	0%	L
Calcium	B	mg/L	0.001902	0		0	0	0	0.2027235	0.02092	50	0%	0	0	0%	L
Iron	B	mg/L	0.00176	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Iron, Ferrous	B	mg/L	0.00176	0		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	
Magnesium	B	mg/L	-0.0009686	0		0	0	0	0.0203306	0.00564	50	0%	0	0	0%	L
Potassium	B	mg/L	0.008696	0		0	0	0	0.0215433	0.08139	50	0%	0	0	0%	L
Zinc	B	mg/L	-0.000186	0		0	0	0	0.0010089	0.00273	1	0%	0	0	0%	L

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046212	CCV	ICPMS-6020-W-	CCV		2/18/2022 9:46:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.05224	0.05224		0.05	0	0	0.0017836	0.001	1	104%	90	110	0%	
Antimony	A	mg/L	0.05308	0.05308		0.05	0	0	6.768E-05	0.001	0.1	106%	90	110	0%	
Arsenic	A	mg/L	0.05124	0.05124		0.05	0	0	8.203E-05	0.001	1	102%	90	110	0%	
Barium	A	mg/L	0.05071	0.05071		0.05	0	0	6.762E-05	0.001	1	101%	90	110	0%	
Beryllium	A	mg/L	0.0464	0.0464		0.05	0	0	8.516E-05	0.001	1	93%	90	110	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046212	CCV	ICPMS-6020-W- CCV			2/18/2022 9:46:2	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Boron	A	mg/L	0.04882	0.04882		0.05	0	0	0.0039526	0.00561	1	98%	90	110	0%	
Cadmium	A	mg/L	0.05062	0.05062		0.05	0	0	2.308E-05	0.001	1	101%	90	110	0%	
Calcium	A	mg/L	12.42	12.42		12.5	0	0	0.2027235	0.02092	50	99%	90	110	0%	
Cerium	A	mg/L	0.04745	0.04745		0.05	0	0	0.0000222	0.001	0.1	95%	90	110	0%	
Chromium	A	mg/L	0.0512	0.0512		0.05	0	0	0.0002538	0.001	1	102%	90	110	0%	
Cobalt	A	mg/L	0.05166	0.05166		0.05	0	0	2.141E-05	0.001	1	103%	90	110	0%	
Copper	A	mg/L	0.05419	0.05419		0.05	0	0	0.0001748	0.001	1	108%	90	110	0%	
Iron	A	mg/L	1.313	1.313		1.3	0	0	0.0021157	0.00119	5	101%	90	110	0%	
Lanthanum	A	mg/L	0.05035	0.05035		0.05	0	0	6.805E-05	0.001	0.1	101%	90	110	0%	
Lead	A	mg/L	0.04891	0.04891		0.05	0	0	3.031E-05	0.001	1	98%	90	110	0%	
Magnesium	A	mg/L	12.14	12.14		12.5	0	0	0.0203306	0.00564	50	97%	90	110	0%	
Manganese	A	mg/L	0.05175	0.05175		0.05	0	0	7.309E-05	0.001	1	103%	90	110	0%	
Mercury	A	mg/L	0.0009486	0.0009486		0.001	0	0	3.043E-05	0.001	0.002	95%	90	110	0%	
Molybdenum	A	mg/L	0.05163	0.05163		0.05	0	0	8.113E-05	0.001	0.1	103%	90	110	0%	
Nickel	A	mg/L	0.0537	0.0537		0.05	0	0	0.0001769	0.001	1	107%	90	110	0%	
Potassium	A	mg/L	12.36	12.36		12.5	0	0	0.0215433	0.08139	50	99%	90	110	0%	
Selenium	A	mg/L	0.05157	0.05157		0.05	0	0	7.174E-05	0.001	1	103%	90	110	0%	
Silicon	A	mg/L	0.1998	0.1998		0.2	0	0	0.0033337	0.1	0.4	100%	90	110	0%	
Silver	A	mg/L	0.0207	0.0207		0.02	0	0	2.644E-05	0.001	0.04	103%	90	110	0%	
Sodium	A	mg/L	12.3	12.3		12.5	0	0	0.0451914	0.02171	50	98%	90	110	0%	
Strontium	A	mg/L	0.05206	0.05206		0.05	0	0	9.743E-05	0.001	1	104%	90	110	0%	
Thallium	A	mg/L	0.04906	0.04906		0.05	0	0	4.842E-05	0.001	1	98%	90	110	0%	
Thorium	A	mg/L	0.04917	0.04917		0.05	0	0	3.018E-05	0.001	1	98%	90	110	0%	
Tin	A	mg/L	0.04448	0.04448		0.05	0	0	0.0009928	0.00132	0.1	89%	90	110	0%	S
Titanium	A	mg/L	0.0519	0.0519		0.05	0	0	0.0001004	0.001	1	104%	90	110	0%	
Uranium	A	mg/L	0.04835	0.04835		0.05	0	0	2.468E-05	0.0003	1	97%	90	110	0%	
Vanadium	A	mg/L	0.04767	0.04767		0.05	0	0	0.0018612	0.0013	1	95%	90	110	0%	
Zinc	A	mg/L	0.05256	0.05256		0.05	0	0	0.0010089	0.00273	1	105%	90	110	0%	
Iron, Ferrous	C	mg/L	1.313	1.313		0	0	0	0.0021157	0.00119	5	0%	0	0	0%	

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046213	CCB	ICPMS-6020-W- CCB			2/18/2022 9:52:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q

Seq No	Lab ID	Test Code	Sample Typ	File ID	Analysis Date	DF	Batch ID	Prep Date	SPKref	RPDref	pmoist					
15046213	CCB	ICPMS-6020-W-	CCB		2/18/2022 9:52:4	1	R374975		0	0						
Analyte	T	Units	RAW	Final	Text	Spike	SPKref	RPDref	MDL	PQL	UQL	%REC	LOW	HIGH	%RPD	Q
Aluminum	A	mg/L	0.0002046	0.0002046		0	0	0	0.0017836	0.001	1	0%				0%
Antimony	A	mg/L	0.0001129	0.0001129		0	0	0	6.768E-05	0.001	0.1	0%				0%
Arsenic	A	mg/L	-0.0001397	-0.0001397		0	0	0	8.203E-05	0.001	1	0%				0%
Barium	A	mg/L	-2.102E-06	-2.102E-06		0	0	0	6.762E-05	0.001	1	0%				0%
Beryllium	A	mg/L	0.00004107	0.00004107		0	0	0	8.516E-05	0.001	1	0%				0%
Boron	A	mg/L	0.0003436	0.0003436		0	0	0	0.0039526	0.00561	1	0%				0%
Cadmium	A	mg/L	0.00001325	0.00001325		0	0	0	2.308E-05	0.001	1	0%				0%
Calcium	A	mg/L	0.0009662	0.0009662		0	0	0	0.2027235	0.02092	50	0%				0%
Cerium	A	mg/L	-3.244E-07	-3.244E-07		0	0	0	0.0000222	0.001	0.1	0%	0	0		0%
Chromium	A	mg/L	-1.276E-05	-1.276E-05		0	0	0	0.0002538	0.001	1	0%				0%
Cobalt	A	mg/L	-2.713E-06	-2.713E-06		0	0	0	2.141E-05	0.001	1	0%				0%
Copper	A	mg/L	-1.838E-05	-1.838E-05		0	0	0	0.0001748	0.001	1	0%				0%
Iron	A	mg/L	0.0006244	0.0006244		0	0	0	0.0021157	0.00119	5	0%				0%
Lanthanum	A	mg/L	7.136E-08	7.136E-08		0	0	0	6.805E-05	0.001	0.1	0%	0	0		0%
Lead	A	mg/L	-2.035E-06	-2.035E-06		0	0	0	3.031E-05	0.001	1	0%				0%
Magnesium	A	mg/L	-0.0005588	-0.0005588		0	0	0	0.0203306	0.00564	50	0%				0%
Manganese	A	mg/L	-1.713E-05	-1.713E-05		0	0	0	7.309E-05	0.001	1	0%				0%
Mercury	A	mg/L	-6.482E-06	-6.482E-06		0	0	0	3.043E-05	0.001	0.002	0%				0%
Molybdenum	A	mg/L	0.00006057	0.00006057		0	0	0	8.113E-05	0.001	0.1	0%				0%
Nickel	A	mg/L	3.417E-06	3.417E-06		0	0	0	0.0001769	0.001	1	0%				0%
Potassium	A	mg/L	0.01415	0.01415		0	0	0	0.0215433	0.08139	50	0%				0%
Selenium	A	mg/L	0.00001362	0.00001362		0	0	0	7.174E-05	0.001	1	0%				0%
Silicon	A	mg/L	-0.02536	-0.02536		0	0	0	0.0033337	0.1	0.4	0%	0	0		0%
Silver	A	mg/L	9.051E-07	9.051E-07		0	0	0	2.644E-05	0.001	0.04	0%				0%
Sodium	A	mg/L	-0.02253	-0.02253		0	0	0	0.0451914	0.02171	50	0%				0%
Strontium	A	mg/L	-2.475E-06	-2.475E-06		0	0	0	9.743E-05	0.001	1	0%	0	0		0%
Thallium	A	mg/L	0.00005461	0.00005461		0	0	0	4.842E-05	0.001	1	0%	0	0		0%
Thorium	A	mg/L	0.00002257	0.00002257		0	0	0	3.018E-05	0.001	1	0%	0	0		0%
Tin	A	mg/L	0.00004222	0.00004222		0	0	0	0.0009928	0.00132	0.1	0%	0	0		0%
Titanium	A	mg/L	0.0001019	0.0001019		0	0	0	0.0001004	0.001	1	0%	0	0		0%
Uranium	A	mg/L	2.697E-06	2.697E-06		0	0	0	2.468E-05	0.0003	1	0%	0	0		0%
Vanadium	A	mg/L	-0.003945	-0.003945		0	0	0	0.0018612	0.0013	1	0%	0	0		0%
Zinc	A	mg/L	-0.0002102	-0.0002102		0	0	0	0.0010089	0.00273	1	0%	0	0		0%
Iron, Ferrous	C	mg/L	0.0006244	0.0006244		0	0	0	0.0021157	0.00119	5	0%	0	0		0%

Batch Summary Report

Batch Folder: D:\Agilent\ICPMH\1\DATA\220218BDoD.b\

 Analysis File: 220218BDoD.batch.bin

 Tune Step: #1 No Gas

 #2 H2

 #3 He

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
1		2022-02-18 12:08:50	001BLKV.d	Rinse	BlkVrfy		1.0000
2		2022-02-18 12:15:02	002BLKV.d	Rinse	BlkVrfy		1.0000
3		2022-02-18 12:21:15	003BLKV.d	Rinse	BlkVrfy		1.0000
4		2022-02-18 12:27:28	004BLKV.d	Rinse	BlkVrfy		1.0000
5		2022-02-18 12:33:41	005BLKV.d	Rinse	BlkVrfy		1.0000
6		2022-02-18 12:40:02	006BLKV.d	Rinse	BlkVrfy		1.0000
7		2022-02-18 12:46:15	007BLKV.d	Rinse	BlkVrfy		1.0000
8		2022-02-18 12:52:29	008BLKV.d	Rinse	BlkVrfy		1.0000
9		2022-02-18 12:58:43	009CALB.d	Cal Blk	CalBlk	1	1.0000
10		2022-02-18 13:05:49	010CALB.d	0.025 ppb STD	CalStd	2	1.0000
11		2022-02-18 13:12:28	011CALB.d	0.05 ppb STD	CalStd	3	1.0000
12		2022-02-18 13:19:06	012CALB.d	0.10 ppb STD	CalStd	4	1.0000
13		2022-02-18 13:25:43	013CALB.d	0.5 ppb STD	CalStd	5	1.0000
14		2022-02-18 13:32:21	014CALB.d	1 ppb STD	CalStd	6	1.0000
15		2022-02-18 13:38:59	015CALB.d	10 ppb STD	CalStd	7	1.0000
16		2022-02-18 13:45:37	016BLKV.d	Rinse	BlkVrfy		1.0000
17		2022-02-18 13:51:50	017BLKV.d	Rinse	BlkVrfy		1.0000
18		2022-02-18 13:58:03	018BLKV.d	Rinse	BlkVrfy		1.0000
19		2022-02-18 14:04:17	019BLKV.d	Rinse	BlkVrfy		1.0000
20		2022-02-18 14:10:31	020CALB.d	Cal Blk	CalBlk	1	1.0000
21		2022-02-18 14:17:08	021CALB.d	0.025 ppb STD	CalStd	2	1.0000
22		2022-02-18 14:23:46	022CALB.d	0.05 ppb STD	CalStd	3	1.0000
23		2022-02-18 14:30:23	023CALB.d	0.10 ppb STD	CalStd	4	1.0000
24		2022-02-18 14:36:59	024CALB.d	0.5 ppb STD	CalStd	5	1.0000
25		2022-02-18 14:43:35	025CALB.d	1 ppb STD	CalStd	6	1.0000

Batch Summary Report

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
26		2022-02-18 14:50:12	026CAL.S.d	10 ppb STD	CalStd	7	1.0000
27		2022-02-18 14:56:48	027CAL.S.d	50 ppb STD	CalStd	8	1.0000
28		2022-02-18 15:03:23	028CAL.S.d	100 ppb STD	CalStd	9	1.0000
29	On	2022-02-18 15:09:56	029CAL.S.d	1000 ppb STD	CalStd	10	1.0000
30		2022-02-18 15:16:24	030CAL.S.d	100 ppb Br STD	CalStd	11	1.0000
31		2022-02-18 15:22:49	031BLKV.d	Rinse	BlkVrfy		1.0000
32		2022-02-18 15:29:03	032_QC1.d	QCS	QC1		1.0000
33		2022-02-18 15:35:18	033_CCV.d	CCV	CCV		1.0000
34		2022-02-18 15:41:32	034_CCB.d	CCB	CCB		1.0000
35		2022-02-18 15:47:47	035BLKV.d	Rinse	BlkVrfy		1.0000
36		2022-02-18 15:54:03	036MBLK.d	LRB	MBLK		1.0000
37		2022-02-18 16:00:18	037_LFB.d	LFB	LFB		1.0300
38		2022-02-18 16:06:35	038ICSA.d	ICSA	ICSA		1.0000
39		2022-02-18 16:12:52	039ICSAB.d	ICSAB	ICSAB		1.0000
40		2022-02-18 16:19:08	040BLKV.d	Rinse	BlkVrfy		1.0000
41		2022-02-18 16:25:22	041BLKV.d	Rinse	BlkVrfy		1.0000
42		2022-02-18 16:31:36	042_CCV.d	CCV	CCV		1.0000
43		2022-02-18 16:37:50	043_CCB.d	CCB	CCB		1.0000
44		2022-02-18 16:44:05	044ARef.d	MB-163745	AllRef		1.0000
45		2022-02-18 16:50:19	045LCS4.d	LCS4-163745	LCS4		1.0000
46		2022-02-18 16:56:33	046SMPL.d	B22020962-001A	Sample		1.0000
47		2022-02-18 17:02:46	047ARef.d	B22020962-001ADIL	AllRef		5.0000
48		2022-02-18 17:09:00	048MS.d	B22020962-001AMS	MS		1.0300
49		2022-02-18 17:15:15	049MSD.d	B22020962-001AMSD	MSD		1.0300
50		2022-02-18 17:21:29	050BLKV.d	Rinse	BlkVrfy		1.0000
51		2022-02-18 17:27:43	051SMPL.d	B22020962-001B	Sample		1.0000
52		2022-02-18 17:33:56	052SMPL.d	B22020962-001BDIL	Sample		5.0000
53		2022-02-18 17:40:09	053ARef.d	B22020962-001BPDS1	AllRef		1.0300
54		2022-02-18 17:46:23	054MS4.d	B22020962-001BMS4	MS4		1.0000
55		2022-02-18 17:52:38	055_CCV.d	CCV	CCV		1.0000
56		2022-02-18 17:58:51	056_CCB.d	CCB	CCB		1.0000
57		2022-02-18 18:05:06	057MSD4.d	B22020962-001BMSD4	MSD4		1.0000

Batch Summary Report

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
58		2022-02-18 18:11:22	058BLKV.d	Rinse	BlkVrfy		1.0000
59		2022-02-18 18:17:35	059SMPL.d	B22020962-006A	Sample		1.0000
60		2022-02-18 18:23:49	060SMPL.d	B22020962-006B	Sample		1.0000
61		2022-02-18 18:30:02	061SMPL.d	B22020962-011A	Sample		1.0000
62		2022-02-18 18:36:17	062SMPL.d	B22020962-011B	Sample		1.0000
63		2022-02-18 18:43:55	063SMPL.d	B22020962-016A	Sample		1.0000
64		2022-02-18 18:50:10	064SMPL.d	B22020962-016B	Sample		1.0000
65		2022-02-18 18:56:25	065SMPL.d	B22020962-021A	Sample		1.0000
66		2022-02-18 19:02:39	066SMPL.d	B22020962-021B	Sample		1.0000
67		2022-02-18 19:08:53	067SMPL.d	B22020962-026A	Sample		1.0000
68		2022-02-18 19:15:07	068_CCV.d	CCV	CCV		1.0000
69		2022-02-18 19:21:22	069_CCB.d	CCB	CCB		1.0000
70		2022-02-18 19:27:36	070SMPL.d	B22020962-026B	Sample		1.0000
71		2022-02-18 19:33:52	071SMPL.d	B22020962-031A	Sample		1.0000
72		2022-02-18 19:40:06	072SMPL.d	B22020962-031B	Sample		1.0000
73		2022-02-18 19:46:20	073BLKV.d	Rinse	BlkVrfy		1.0000
74		2022-02-18 19:52:33	074_CCV.d	CCV	CCV		1.0000
75		2022-02-18 19:58:47	075_CCB.d	CCB	CCB		1.0000
76		2022-02-18 20:05:02	076CALB.d	Cal Blk	CalBlk	1	1.0000
77		2022-02-18 20:11:24	077CAL.S.d	0.025 ppb STD	CalStd	2	1.0000
78		2022-02-18 20:17:47	078CAL.S.d	0.05 ppb STD	CalStd	3	1.0000
79		2022-02-18 20:24:09	079CAL.S.d	0.10 ppb STD	CalStd	4	1.0000
80		2022-02-18 20:30:31	080CAL.S.d	0.5 ppb STD	CalStd	5	1.0000
81		2022-02-18 20:36:56	081CAL.S.d	1 ppb STD	CalStd	6	1.0000
82		2022-02-18 20:43:18	082CAL.S.d	10 ppb STD	CalStd	7	1.0000
83		2022-02-18 20:49:41	083CAL.S.d	50 ppb STD	CalStd	8	1.0000
84		2022-02-18 20:56:02	084CAL.S.d	100 ppb STD	CalStd	9	1.0000
85		2022-02-18 21:02:24	085CAL.S.d	1000 ppb STD	CalStd	10	1.0000
86		2022-02-18 21:08:48	086CAL.S.d	100 ppb Br STD	CalStd	11	1.0000
87		2022-02-18 21:15:10	087BLKV.d	Rinse	BlkVrfy		1.0000
88		2022-02-18 21:21:24	088_QC1.d	QCS	QC1		1.0000
89		2022-02-18 21:27:39	089ICSA.d	ICSA	ICSA		1.0000

Batch Summary Report

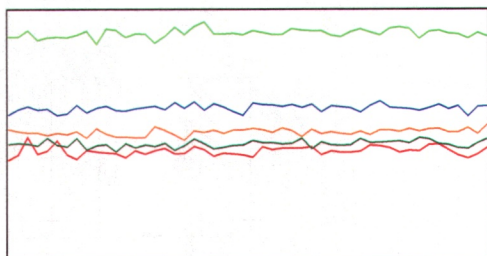
	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
90		2022-02-18 21:33:56	090ICSAB.d	ICSAB	ICSAB		1.0000
91		2022-02-18 21:40:13	091BLKV.d	Rinse	BlkVrfy		1.0000
92		2022-02-18 21:46:27	092_CCV.d	CCV	CCV		1.0000
93		2022-02-18 21:52:41	093_CCB.d	CCB	CCB		1.0000

Tune Report

Operator Name elim
 Acq/Data Batch D:\Agilent\ICPMH\1\DATA\220218BDoD.b
 Acq. Date-Time 2022-02-18 11:00:43
 Report Comment ICPMS207-B JPV
 Instrument Name G8403A JP17281923

[No Gas]

Sensitivity



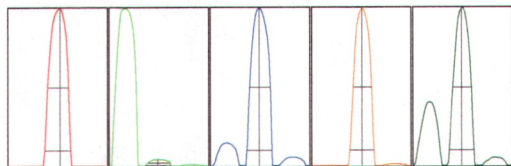
Mass	Range	Count	RSD%	Background
9	500000	218299	4.188	3.500
24	50000	45487	1.837	4.600
59	100000	60929	2.360	2.500
115	100000	51354	2.497	3.000
208	50000	23269	2.894	8.800

Sampling Period [sec] 0.514
 Integration Time [sec] 0.1

Oxide/Doubly Charged Ratio

Oxide 156 / 140 0.996 %
 Doubly Charged 70 / 140 1.216 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	228646.20	9.10	0.62	0.782
24	45311.12	24.00	0.65	0.772
59	60722.62	59.00	0.62	0.754
115	50995.21	115.05	0.56	0.735
208	23163.27	208.00	0.56	0.757

Integration Time [sec] 0.1
 Acquisition Time [sec] 37.4
 Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.80 L/min	Dilution Gas	0.12 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.00 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.6 V	Deflect	15.2 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-35 V

Tune Report

Omega Bias -80 V

Cell Exit -50 V

Cell Parameters

Use Gas No

3rd Gas Flow --

Energy Discrimination 5.0 V

He Flow 0.0 mL/min

OctP Bias -8.0 V

H2 Flow 0.0 mL/min

OctP RF 190 V

QP Parameters

Mass Gain 125

Axis Gain 0.9989

QP Bias -3.0 V

Mass Offset 126

Axis Offset 0.14

Hardware Settings

Torch

Torch H -0.3 mm

Torch V -0.6 mm

EM

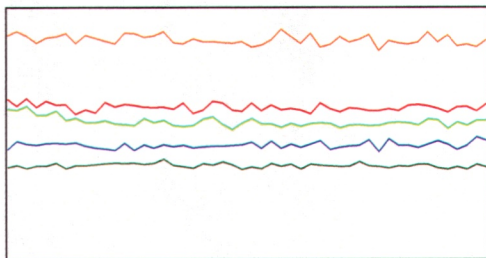
Discriminator 5.0 mV

Analog HV 2331 V

Pulse HV 1763 V

[H2]

Sensitivity



Mass	Range	Count	RSD%	Background
9	50000	30454	2.536	0.200
24	20000	10997	3.692	1.700
59	50000	22809	2.744	0.200
115	50000	43867	2.215	0.100
208	50000	18733	2.432	0.300

Sampling Period [sec] 0.514

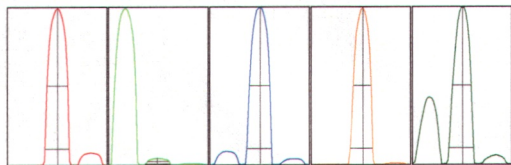
Integration Time [sec] 0.1

Oxide/Doubly Charged Ratio

Oxide --

Doubly Charged 70 / 140 1.069 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	30070.60	9.05	0.62	0.731
24	10766.93	24.00	0.65	0.764
59	22972.45	59.05	0.61	0.748
115	44693.31	115.10	0.54	0.694
208	17926.26	208.05	0.57	0.759

Integration Time [sec] 0.1

Acquisition Time [sec] 37.4

Y Axis Linear

Tune Parameters

Plasma Parameters

Tune Report

Plasma Mode	---	Nebulizer Gas	0.80 L/min	Dilution Gas	0.12 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.00 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.4 V	Deflect	3.2 V
Extract 2	-225.0 V	Cell Entrance	-30 V	Plate Bias	-80 V
Omega Bias	-95 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	3.8 mL/min	OctP RF	170 V		

QP Parameters

Mass Gain	125	Axis Gain	0.9989	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	0.14		

Hardware Settings

Torch

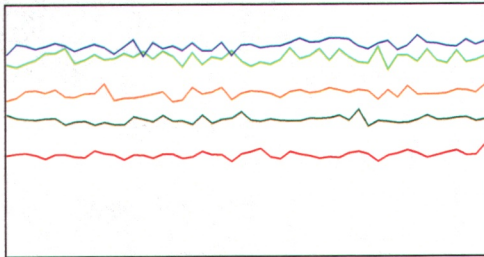
Torch H	-0.3 mm	Torch V	-0.6 mm
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EM

Discriminator	5.0 mV	Analog HV	2331 V	Pulse HV	1763 V
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[He]

Sensitivity



Mass	Range	Count	RSD%	Background
9	5000	2019	3.119	2.400
24	2000	1580	2.906	1.100
59	20000	16793	2.162	0.500
115	20000	13011	2.541	0.900
208	20000	10852	2.432	0.900

Sampling Period [sec] 0.514

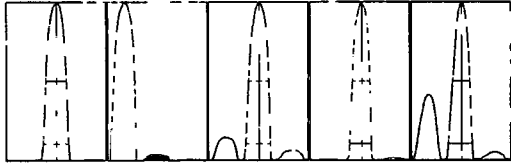
Integration Time [sec] 0.1

Oxide/Doubly Charged Ratio

Oxide	---
Doubly Charged	70 / 140 1.103 %

Resolution/Axis

Tune Report



Mass	Peak Height	Axis	W-50%	W-10%
9	1991.62	9.05	0.62	0.769
24	1537.34	24.00	0.65	0.758
59	17242.02	59.05	0.61	0.739
115	13599.19	115.10	0.53	0.671
208	10802.36	208.05	0.53	0.738

Integration Time [sec] 0.1
 Acquisition Time [sec] 37.4
 Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode	—	Nebulizer Gas	0.80 L/min	Dilution Gas	0.12 L/min
RF Power	1600 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.00 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	11.0 V	Deflect	1.0 V
Extract 2	-225.0 V	Cell Entrance	-30 V	Plate Bias	-80 V
Omega Bias	-90 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	4.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	125	Axis Gain	0.9989	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	0.14		

Hardware Settings

Torch

Torch H	-0.3 mm	Torch V	-0.6 mm
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EM

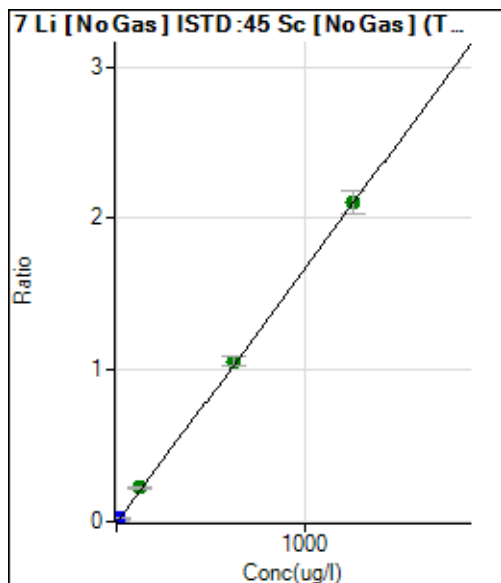
Discriminator	5.0 mV	Analog HV	2331 V	Pulse HV	1763 V
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Calibration for 044ARef.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\220218BDoD.b\
 Analysis File: 220218BDoD.batch.bin
 DA Date-Time: 2022-02-18 17:57:13
 Calibration Title:
 Calibration Method: External Calibration
 VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	020CALB.d	Cal Blk	2022-02-18 14:10:31
2	021CAL.S.d	0.025 ppb STD	2022-02-18 14:17:08
3	022CAL.S.d	0.05 ppb STD	2022-02-18 14:23:46
4	023CAL.S.d	0.10 ppb STD	2022-02-18 14:30:23
5	024CAL.S.d	0.5 ppb STD	2022-02-18 14:36:59
6	025CAL.S.d	1 ppb STD	2022-02-18 14:43:35
7	026CAL.S.d	10 ppb STD	2022-02-18 14:50:12
8	027CAL.S.d	50 ppb STD	2022-02-18 14:56:48
9	028CAL.S.d	100 ppb STD	2022-02-18 15:03:23
10			
11	030CAL.S.d	100 ppb Br STD	2022-02-18 15:16:24

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	17239.98	0.0037	P	4.9	
2	<input type="checkbox"/>	0.313	0.326	19275.90	0.0043	P	0.9	4.3
3	<input type="checkbox"/>	0.625	0.711	22332.61	0.0049	P	2.2	13.8
4	<input type="checkbox"/>	1.250	1.537	29309.21	0.0063	P	0.7	23.0
5	<input type="checkbox"/>	6.250	6.694	69548.55	0.0150	P	2.0	7.1
6	<input type="checkbox"/>	12.500	15.062	137273.66	0.0291	P	6.7	20.5
7	<input type="checkbox"/>	125.000	130.740	1056476.00	0.2238	A	2.1	4.6
8	<input type="checkbox"/>	625.000	625.166	4976645.46	1.0559	A	5.7	0.0
9	<input type="checkbox"/>	1250.000	1249.315	10109469.39	2.1064	A	6.6	-0.1
10	<input type="checkbox"/>	2500.000						
11	<input type="checkbox"/>			33152.58	0.0071	P	8.6	

$$y = 0.0017 * x + 0.0037$$

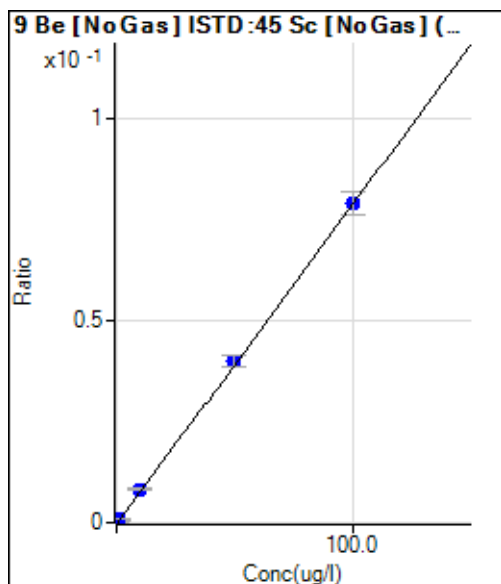
$$R = 1.0000$$

$$DL = 0.3265 \text{ ug/l}$$

$$BEC = 2.224 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	238.29	0.0001	P	6.4	
2	<input type="checkbox"/>	0.025	0.022	310.94	0.0001	P	9.0	-10.9
3	<input type="checkbox"/>	0.050	0.045	393.59	0.0001	P	5.6	-10.5
4	<input type="checkbox"/>	0.100	0.119	674.22	0.0001	P	4.6	18.6
5	<input type="checkbox"/>	0.500	0.508	2105.06	0.0005	P	0.7	1.6
6	<input type="checkbox"/>	1.000	1.131	4471.10	0.0009	P	6.5	13.1
7	<input type="checkbox"/>	10.000	10.318	38827.90	0.0082	P	3.6	3.2
8	<input type="checkbox"/>	50.000	50.326	187964.94	0.0399	P	7.5	0.7
9	<input type="checkbox"/>	100.000	99.804	379690.56	0.0791	P	6.8	-0.2
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			386.93	0.0001	P	10.7	

$$y = 7.9222E-004 * x + 5.1669E-005$$

$$R = 1.0000$$

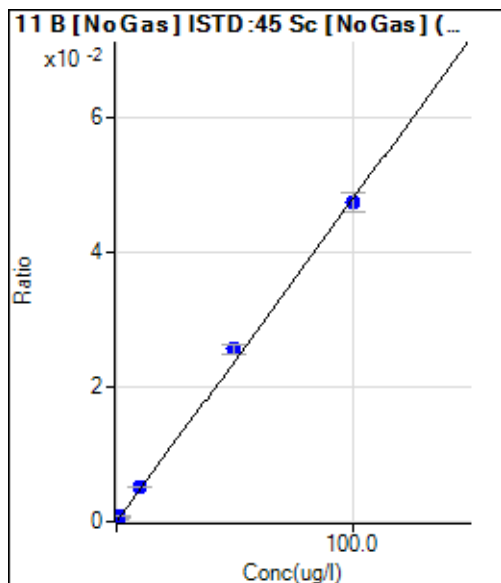
$$DL = 0.0126 \text{ ug/l}$$

$$BEC = 0.06522 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	1075.14	0.0002	P	3.8	
2	<input type="checkbox"/>			1003.77	0.0002	P	3.7	
3	<input type="checkbox"/>	0.050	0.000	1055.80	0.0002	P	0.6	-99.4
4	<input type="checkbox"/>	0.100	0.075	1245.89	0.0003	P	4.8	-25.5
5	<input type="checkbox"/>	0.500	0.521	2239.07	0.0005	P	4.4	4.2
6	<input type="checkbox"/>	1.000	1.111	3613.89	0.0008	P	6.3	11.1
7	<input type="checkbox"/>	10.000	10.177	24127.55	0.0051	P	2.0	1.8
8	<input type="checkbox"/>	50.000	52.995	120762.83	0.0256	P	5.9	6.0
9	<input type="checkbox"/>	100.000	98.484	227679.75	0.0474	P	6.3	-1.5
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			11345.49	0.0024	P	8.8	

$$y = 4.7927E-004 * x + 2.3337E-004$$

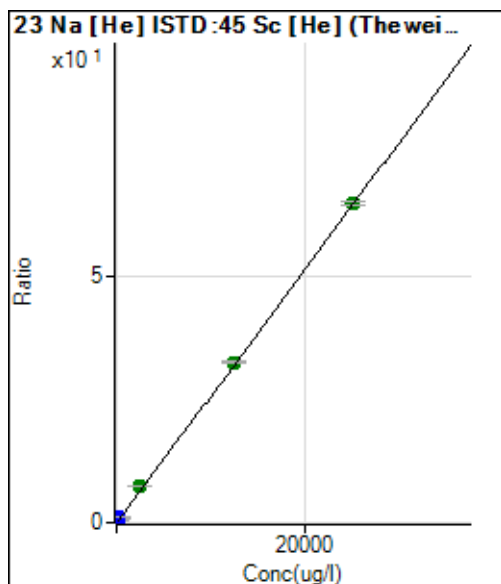
R = 0.9994

DL = 0.05535 ug/l

BEC = 0.4869 ug/l

Weight: 1/y

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	77561.79	0.2627	P	1.0	
2	<input type="checkbox"/>	6.250	6.950	83055.19	0.2807	P	1.0	11.2
3	<input type="checkbox"/>	12.500	15.193	88142.78	0.3021	P	2.2	21.5
4	<input type="checkbox"/>	25.000	30.097	101293.51	0.3408	P	2.0	20.4
5	<input type="checkbox"/>	125.000	137.095	185843.13	0.6182	P	1.2	9.7
6	<input type="checkbox"/>	250.000	310.456	323160.50	1.0678	P	0.4	24.2
7	<input type="checkbox"/>	2500.000	2743.313	2242873.56	7.3768	A	1.4	9.7
8	<input type="checkbox"/>	12500.00	12490.20	10349873.25	32.6527	A	1.7	-0.1
9	<input type="checkbox"/>	25000.00	24979.89	21011755.38	65.0414	A	1.0	-0.1
10	<input type="checkbox"/>	50000.00						
11	<input type="checkbox"/>			75025.65	0.2358	P	0.4	

$$y = 0.0026 * x + 0.2627$$

R = 1.0000

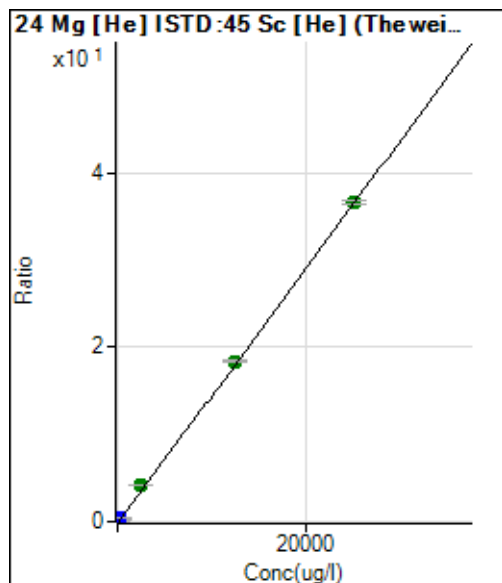
DL = 3.122 ug/l

BEC = 101.3 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	1284.18	0.0044	P	8.3	
2	<input type="checkbox"/>	6.250	7.247	4431.88	0.0150	P	4.6	16.0
3	<input type="checkbox"/>	12.500	14.794	7603.56	0.0261	P	5.0	18.4
4	<input type="checkbox"/>	25.000	34.113	16173.34	0.0544	P	1.3	36.5
5	<input type="checkbox"/>	125.000	140.591	63324.69	0.2106	P	1.8	12.5
6	<input type="checkbox"/>	250.000	313.616	140555.40	0.4644	P	1.6	25.4
7	<input type="checkbox"/>	2500.000	2819.356	1259078.29	4.1405	A	0.8	12.8
8	<input type="checkbox"/>	12500.00	12511.37	5819081.88	18.3590	A	1.2	0.1
9	<input type="checkbox"/>	25000.00	24961.65	11830775.94	36.6241	A	1.6	-0.2
10	<input type="checkbox"/>	50000.00						
11	<input type="checkbox"/>			1403.96	0.0044	P	13.9	

$$y = 0.0015 * x + 0.0044$$

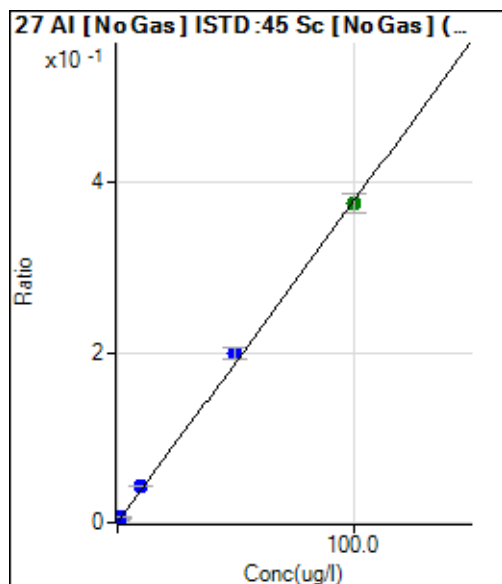
$$R = 0.9999$$

$$DL = 0.7403 \text{ ug/l}$$

$$BEC = 2.965 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	10628.25	0.0023	P	5.5	
2	<input type="checkbox"/>			13322.64	0.0030	P	5.3	
3	<input type="checkbox"/>	0.050	0.374	16883.36	0.0037	P	34.5	648.8
4	<input type="checkbox"/>	0.100	0.257	15179.95	0.0033	P	1.4	156.7
5	<input type="checkbox"/>	0.500	0.625	21642.34	0.0047	P	3.0	25.0
6	<input type="checkbox"/>	1.000	1.278	33715.67	0.0071	P	3.2	27.8
7	<input type="checkbox"/>	10.000	10.573	199613.84	0.0423	P	1.2	5.7
8	<input type="checkbox"/>	50.000	52.316	942424.50	0.2001	P	6.7	4.6
9	<input type="checkbox"/>	100.000	98.781	1803865.30	0.3758	A	6.2	-1.2
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			11586.77	0.0025	P	12.7	

$$y = 0.0038 * x + 0.0023$$

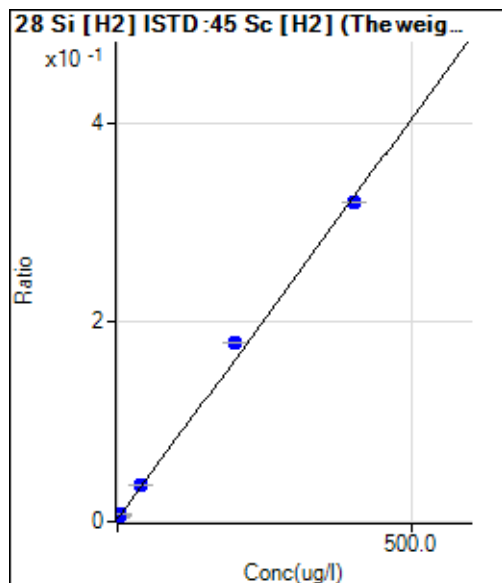
$$R = 0.9997$$

$$DL = 0.1016 \text{ ug/l}$$

$$BEC = 0.6105 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	De _t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	10163.56	0.0043	P	3.1	
2	<input type="checkbox"/>			10550.64	0.0046	P	1.9	
3	<input type="checkbox"/>	0.200	0.512	10874.98	0.0047	P	2.1	156.1
4	<input type="checkbox"/>	0.400	0.598	11106.59	0.0048	P	0.8	49.4
5	<input type="checkbox"/>	2.000	2.322	14302.57	0.0062	P	1.2	16.1
6	<input type="checkbox"/>	4.000	4.420	18259.79	0.0078	P	1.5	10.5
7	<input type="checkbox"/>	40.000	40.104	84158.69	0.0367	P	0.6	0.3
8	<input type="checkbox"/>	200.000	217.078	423050.44	0.1796	P	0.8	8.5
9	<input type="checkbox"/>	400.000	391.444	761644.49	0.3205	P	0.3	-2.1
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			10362.42	0.0043	P	4.5	

$$y = 8.0772E-004 * x + 0.0043$$

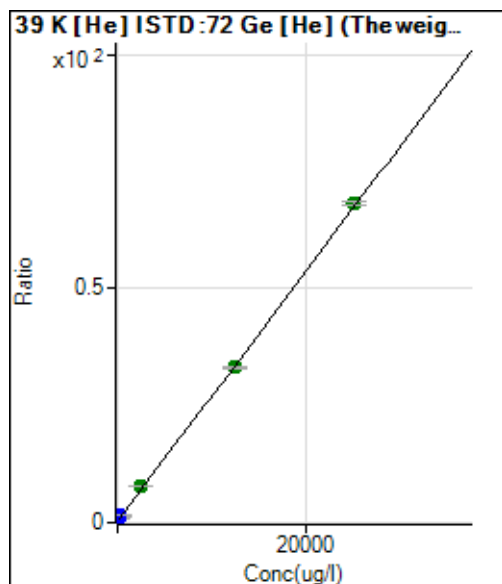
$$R = 0.9988$$

$$DL = 0.4955 \text{ ug/l}$$

$$BEC = 5.297 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	R _{ct}	Conc.	Calc Conc.	CPS	Ratio	De _t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	124553.90	0.7015	P	2.8	
2	<input type="checkbox"/>	6.250	5.622	125600.88	0.7166	P	1.2	-10.0
3	<input type="checkbox"/>	12.500	14.616	131461.44	0.7406	P	0.7	16.9
4	<input type="checkbox"/>	25.000	30.807	142272.75	0.7840	P	1.2	23.2
5	<input type="checkbox"/>	125.000	133.584	193968.81	1.0594	P	1.5	6.9
6	<input type="checkbox"/>	250.000	295.670	272432.98	1.4936	P	0.7	18.3
7	<input type="checkbox"/>	2500.000	2621.115	1399767.41	7.7237	A	1.1	4.8
8	<input type="checkbox"/>	12500.00	12084.47	6196706.36	33.0769	A	1.7	-3.3
9	<input type="checkbox"/>	25000.00	25195.14	12942760.50	68.2016	A	1.6	0.8
10	<input type="checkbox"/>	50000.00						
11	<input type="checkbox"/>			393214.40	2.1033	P	1.5	

$$y = 0.0027 * x + 0.7015$$

$$R = 0.9998$$

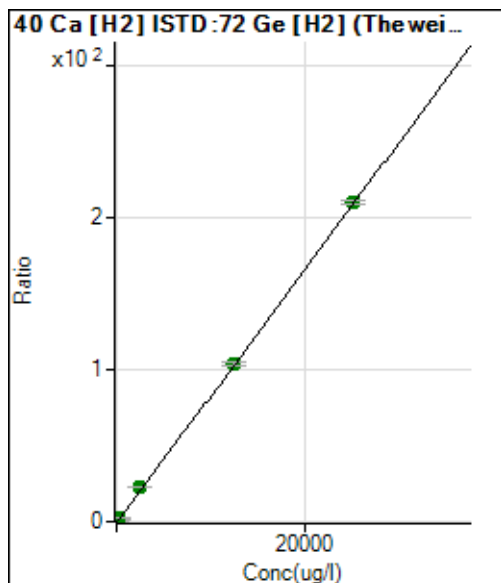
$$DL = 22.04 \text{ ug/l}$$

$$BEC = 261.8 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	153538.96	0.1927	P	1.7	
2	<input type="checkbox"/>	6.250	7.771	203955.39	0.2577	P	2.6	24.3
3	<input type="checkbox"/>	12.500	16.265	256728.25	0.3287	P	1.1	30.1
4	<input type="checkbox"/>	25.000	34.094	382162.98	0.4779	P	1.4	36.4
5	<input type="checkbox"/>	125.000	135.744	1044274.31	1.3282	P	2.6	8.6
6	<input type="checkbox"/>	250.000	311.411	2247816.62	2.7978	A	1.1	24.6
7	<input type="checkbox"/>	2500.000	2720.175	18209339.32	22.9483	A	1.0	8.8
8	<input type="checkbox"/>	12500.00	12345.12	84088408.78	103.465	A	2.1	-1.2
9	<input type="checkbox"/>	25000.00	25054.74	174012513.0	209.788	A	0.7	0.2
10	<input type="checkbox"/>	50000.00						
11	<input type="checkbox"/>			176876.02	0.2157	P	2.3	

$$y = 0.0084 * x + 0.1927$$

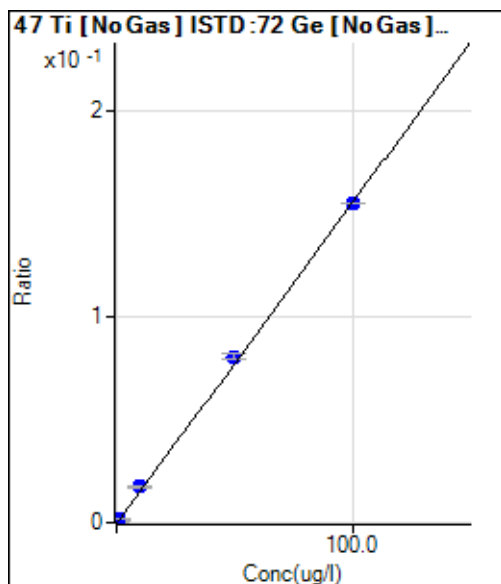
$$R = 0.9999$$

$$DL = 1.199 \text{ ug/l}$$

$$BEC = 23.03 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	268.61	0.0002	P	6.3	
2	<input type="checkbox"/>	0.025	0.108	443.79	0.0004	P	17.6	330.9
3	<input type="checkbox"/>	0.050	0.100	438.78	0.0004	P	15.4	99.6
4	<input type="checkbox"/>	0.100	0.188	595.61	0.0005	P	6.9	87.8
5	<input type="checkbox"/>	0.500	0.573	1276.35	0.0011	P	3.7	14.7
6	<input type="checkbox"/>	1.000	1.247	2546.13	0.0022	P	1.5	24.7
7	<input type="checkbox"/>	10.000	10.936	19649.49	0.0173	P	4.0	9.4
8	<input type="checkbox"/>	50.000	51.459	95173.09	0.0807	P	3.1	2.9
9	<input type="checkbox"/>	100.000	99.174	184552.05	0.1553	P	0.3	-0.8
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			342.02	0.0003	P	13.5	

$$y = 0.0016 * x + 2.3985E-004$$

$$R = 0.9998$$

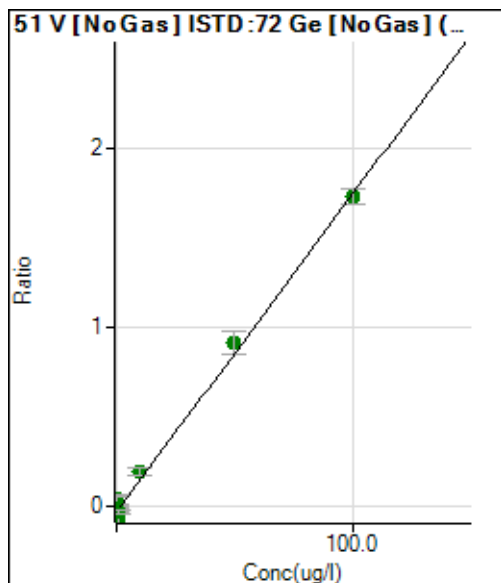
$$DL = 0.02903 \text{ ug/l}$$

$$BEC = 0.1534 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	-22964.23	-0.0203	A	-118.2	
2	<input type="checkbox"/>	0.025	3.447	44074.41	0.0411	A	115.0	13687.
3	<input type="checkbox"/>	0.050	2.418	25466.73	0.0228	A	261.5	4736.3
4	<input type="checkbox"/>	0.100	0.591	-10850.29	-0.0098	A	-275.8	491.3
5	<input type="checkbox"/>	0.500	-3.591	-93679.95	-0.0842	A	-100.0	-818.2
6	<input type="checkbox"/>	1.000	-0.539	-34470.78	-0.0299	A	-44.3	-153.9
7	<input type="checkbox"/>	10.000	12.281	224413.65	0.1983	A	19.1	22.8
8	<input type="checkbox"/>	50.000	52.803	1081519.23	0.9195	A	13.5	5.6
9	<input type="checkbox"/>	100.000	98.404	2057181.25	1.7311	A	5.0	-1.6
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			-10560.46	-0.0081	A	-326.6	

$$y = 0.0178 * x - 0.0203$$

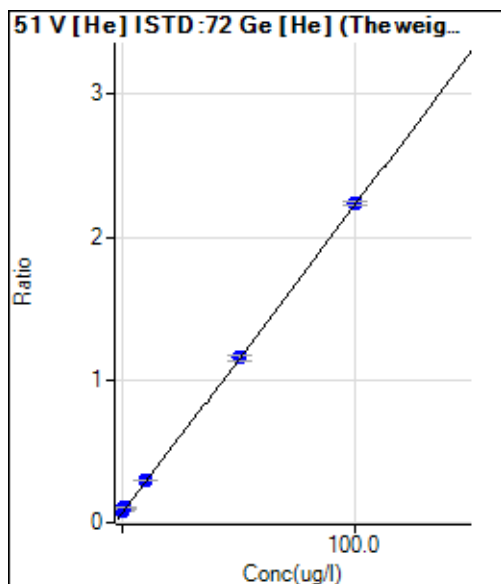
$$R = 0.9974$$

$$DL = 4.04 \text{ ug/l}$$

$$BEC = -1.139 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	14935.45	0.0841	P	3.4	
2	<input type="checkbox"/>	0.025	0.119	15189.02	0.0867	P	5.5	374.2
3	<input type="checkbox"/>	0.050	0.287	16025.48	0.0903	P	1.0	474.2
4	<input type="checkbox"/>	0.100	0.356	16653.95	0.0918	P	0.7	256.3
5	<input type="checkbox"/>	0.500	0.788	18502.79	0.1011	P	2.7	57.7
6	<input type="checkbox"/>	1.000	1.125	19752.19	0.1083	P	1.8	12.5
7	<input type="checkbox"/>	10.000	9.938	53969.82	0.2978	P	1.4	-0.6
8	<input type="checkbox"/>	50.000	49.790	216227.11	1.1547	P	3.5	-0.4
9	<input type="checkbox"/>	100.000	100.108	424466.79	2.2366	P	1.2	0.1
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			10608.33	0.0568	P	3.3	

$$y = 0.0215 * x + 0.0841$$

$$R = 1.0000$$

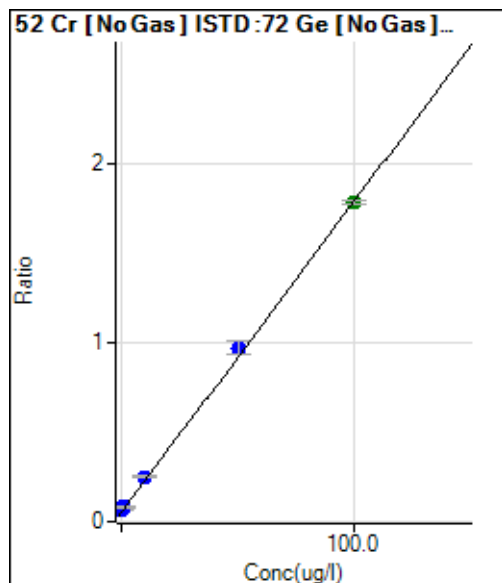
$$DL = 0.4043 \text{ ug/l}$$

$$BEC = 3.912 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	68136.69	0.0609	P	1.6	
2	<input type="checkbox"/>	0.025	0.137	68837.73	0.0633	P	5.1	449.1
3	<input type="checkbox"/>	0.050	0.116	69797.09	0.0629	P	4.1	132.9
4	<input type="checkbox"/>	0.100	0.387	75380.05	0.0676	P	2.4	286.9
5	<input type="checkbox"/>	0.500	1.016	88364.00	0.0786	P	1.8	103.2
6	<input type="checkbox"/>	1.000	1.231	95704.72	0.0824	P	4.7	23.1
7	<input type="checkbox"/>	10.000	10.985	286692.01	0.2530	P	3.8	9.8
8	<input type="checkbox"/>	50.000	52.251	1148386.89	0.9748	P	7.6	4.5
9	<input type="checkbox"/>	100.000	98.771	2125258.99	1.7885	A	1.6	-1.2
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			62538.85	0.0522	P	9.0	

$$y = 0.0175 * x + 0.0609$$

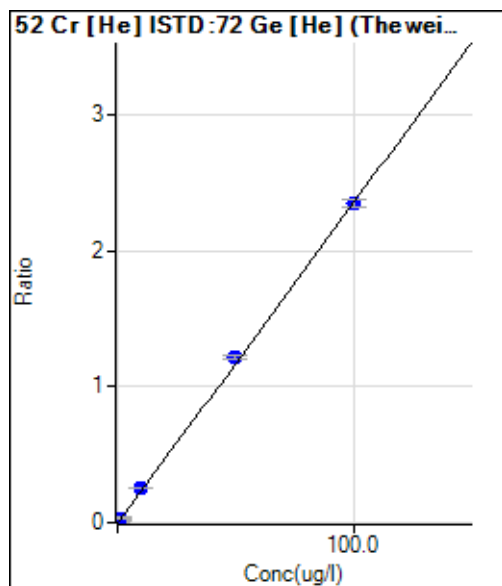
$$R = 0.9997$$

$$DL = 0.1685 \text{ ug/l}$$

$$BEC = 3.479 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	1143.39	0.0064	P	9.4	
2	<input type="checkbox"/>	0.025	0.039	1292.29	0.0074	P	8.8	57.7
3	<input type="checkbox"/>	0.050	0.057	1381.19	0.0078	P	3.3	13.4
4	<input type="checkbox"/>	0.100	0.140	1769.01	0.0098	P	4.3	40.3
5	<input type="checkbox"/>	0.500	0.517	3413.76	0.0186	P	2.6	3.4
6	<input type="checkbox"/>	1.000	1.213	6396.99	0.0351	P	3.3	21.3
7	<input type="checkbox"/>	10.000	10.595	46502.56	0.2566	P	1.9	5.9
8	<input type="checkbox"/>	50.000	51.356	228320.69	1.2190	P	1.8	2.7
9	<input type="checkbox"/>	100.000	99.260	445953.60	2.3500	P	2.0	-0.7
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			1236.73	0.0066	P	1.6	

$$y = 0.0236 * x + 0.0064$$

$$R = 0.9999$$

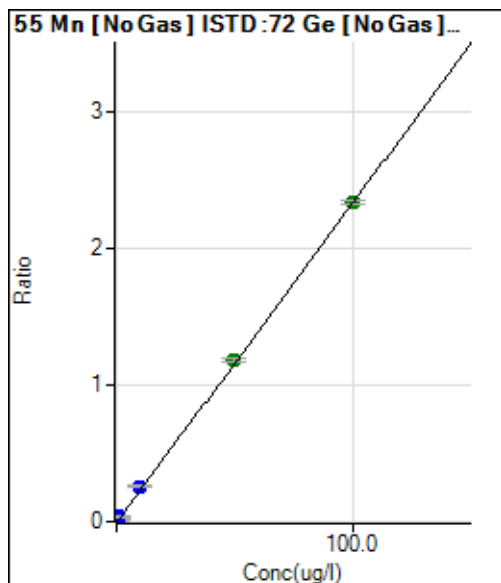
$$DL = 0.07679 \text{ ug/l}$$

$$BEC = 0.2728 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	6055.95	0.0054	P	5.5	
2	<input type="checkbox"/>	0.025	0.034	6744.87	0.0062	P	0.9	34.2
3	<input type="checkbox"/>	0.050	0.067	7733.40	0.0070	P	1.0	33.6
4	<input type="checkbox"/>	0.100	0.154	10046.91	0.0090	P	4.0	54.3
5	<input type="checkbox"/>	0.500	0.579	21283.26	0.0190	P	5.4	15.9
6	<input type="checkbox"/>	1.000	1.294	41446.34	0.0357	P	4.0	29.4
7	<input type="checkbox"/>	10.000	10.801	292448.77	0.2580	P	2.7	8.0
8	<input type="checkbox"/>	50.000	50.407	1396569.20	1.1841	A	2.8	0.8
9	<input type="checkbox"/>	100.000	99.713	2777162.41	2.3371	A	1.1	-0.3
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			10296.53	0.0086	P	7.9	

$$y = 0.0234 * x + 0.0054$$

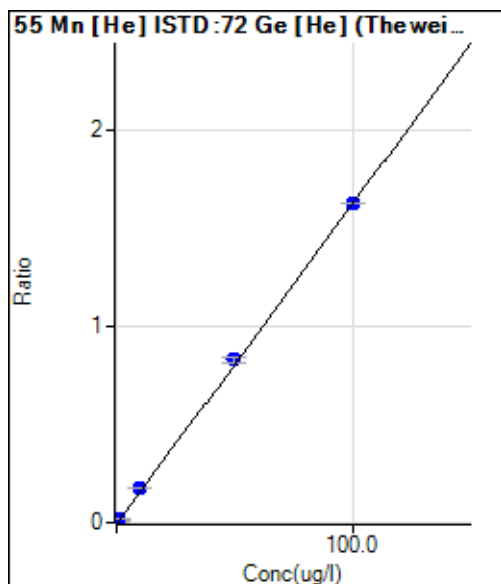
$$R = 1.0000$$

$$DL = 0.03797 \text{ ug/l}$$

$$BEC = 0.2312 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	91.98	0.0005	P	8.1	
2	<input type="checkbox"/>	0.025	0.034	189.63	0.0011	P	6.9	38.0
3	<input type="checkbox"/>	0.050	0.063	276.28	0.0016	P	6.2	27.0
4	<input type="checkbox"/>	0.100	0.133	489.91	0.0027	P	2.5	33.4
5	<input type="checkbox"/>	0.500	0.527	1672.43	0.0091	P	4.3	5.4
6	<input type="checkbox"/>	1.000	1.216	3719.73	0.0204	P	2.3	21.6
7	<input type="checkbox"/>	10.000	10.564	31399.49	0.1733	P	0.7	5.6
8	<input type="checkbox"/>	50.000	50.746	155492.68	0.8303	P	2.7	1.5
9	<input type="checkbox"/>	100.000	99.568	309058.63	1.6285	P	0.5	-0.4
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			176.64	0.0009	P	4.0	

$$y = 0.0164 * x + 5.1821E-004$$

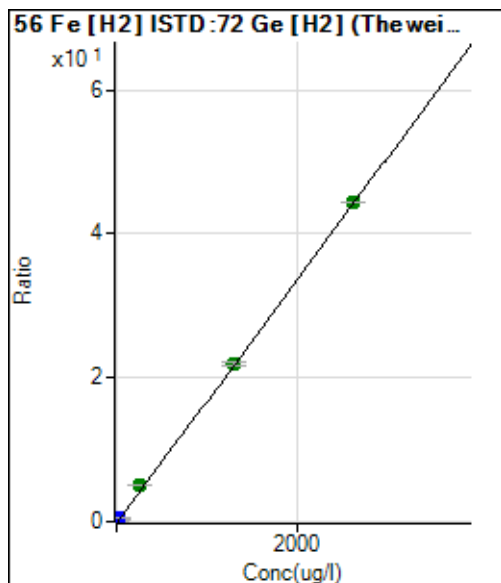
$$R = 1.0000$$

$$DL = 0.007688 \text{ ug/l}$$

$$BEC = 0.03169 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	7339.24	0.0092	P	3.3	
2	<input type="checkbox"/>	0.650	0.803	18111.06	0.0229	P	3.9	23.5
3	<input type="checkbox"/>	1.300	1.694	29730.07	0.0381	P	1.9	30.3
4	<input type="checkbox"/>	2.600	3.471	54641.15	0.0683	P	1.9	33.5
5	<input type="checkbox"/>	13.000	14.601	202788.44	0.2579	P	2.2	12.3
6	<input type="checkbox"/>	26.000	32.499	452074.05	0.5629	P	3.7	25.0
7	<input type="checkbox"/>	260.000	290.742	3937586.12	4.9623	A	0.3	11.8
8	<input type="checkbox"/>	1300.000	1285.539	17804443.19	21.9098	A	2.2	-1.1
9	<input type="checkbox"/>	2600.000	2604.082	36803159.36	44.3726	A	0.6	0.2
10	<input type="checkbox"/>	6000.000						
11	<input type="checkbox"/>			10950.12	0.0133	P	0.9	

$$y = 0.0170 * x + 0.0092$$

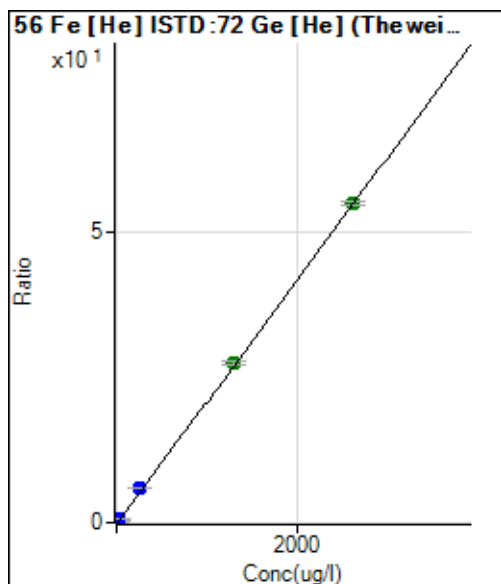
$$R = 0.9999$$

$$DL = 0.05419 \text{ ug/l}$$

$$BEC = 0.5404 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	5568.34	0.0314	P	4.8	
2	<input type="checkbox"/>	0.650	0.740	8250.64	0.0471	P	5.7	13.9
3	<input type="checkbox"/>	1.300	1.495	11195.55	0.0631	P	2.8	15.0
4	<input type="checkbox"/>	2.600	3.222	18094.37	0.0997	P	2.8	23.9
5	<input type="checkbox"/>	13.000	13.994	60128.34	0.3283	P	1.3	7.6
6	<input type="checkbox"/>	26.000	31.782	128736.96	0.7059	P	1.1	22.2
7	<input type="checkbox"/>	260.000	282.725	1093046.55	6.0314	P	1.5	8.7
8	<input type="checkbox"/>	1300.000	1303.031	5184767.50	27.6846	A	2.7	0.2
9	<input type="checkbox"/>	2600.000	2596.149	10461672.66	55.1275	A	1.3	-0.1
10	<input type="checkbox"/>	6000.000						
11	<input type="checkbox"/>			7549.55	0.0404	P	4.4	

$$y = 0.0212 * x + 0.0314$$

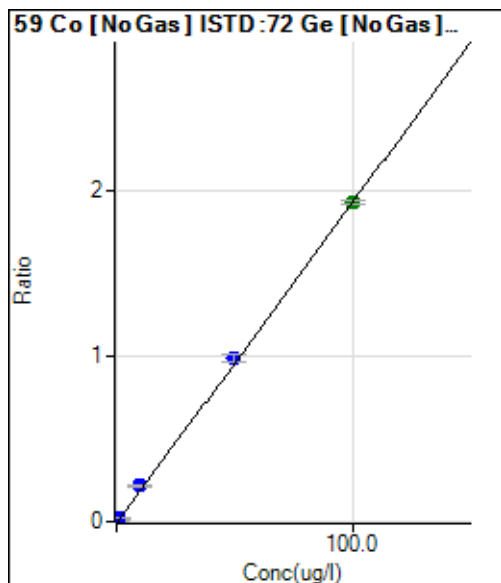
$$R = 1.0000$$

$$DL = 0.2132 \text{ ug/l}$$

$$BEC = 1.478 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	635.42	0.0006	P	32.3	
2	<input type="checkbox"/>	0.025	0.033	1304.15	0.0012	P	18.6	30.5
3	<input type="checkbox"/>	0.050	0.064	2009.50	0.0018	P	14.3	28.0
4	<input type="checkbox"/>	0.100	0.142	3709.79	0.0033	P	2.8	42.0
5	<input type="checkbox"/>	0.500	0.555	12750.30	0.0113	P	4.0	10.9
6	<input type="checkbox"/>	1.000	1.276	29487.98	0.0254	P	2.3	27.6
7	<input type="checkbox"/>	10.000	11.107	245283.30	0.2165	P	3.8	11.1
8	<input type="checkbox"/>	50.000	50.891	1167136.22	0.9897	P	4.0	1.8
9	<input type="checkbox"/>	100.000	99.441	2297478.33	1.9334	A	1.1	-0.6
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			1031.33	0.0009	P	14.7	

$$y = 0.0194 * x + 5.6810E-004$$

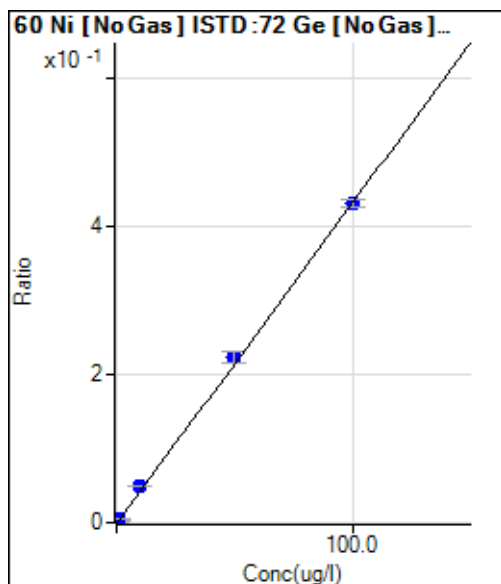
$$R = 0.9999$$

$$DL = 0.02832 \text{ ug/l}$$

$$BEC = 0.02923 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	974.77	0.0009	P	4.8	
2	<input type="checkbox"/>	0.025	0.034	1107.85	0.0010	P	15.8	37.9
3	<input type="checkbox"/>	0.050	0.080	1350.72	0.0012	P	6.3	59.6
4	<input type="checkbox"/>	0.100	0.150	1696.74	0.0015	P	10.2	50.0
5	<input type="checkbox"/>	0.500	0.616	3979.33	0.0035	P	8.9	23.1
6	<input type="checkbox"/>	1.000	1.247	7310.70	0.0063	P	0.8	24.7
7	<input type="checkbox"/>	10.000	11.101	55642.19	0.0491	P	3.6	11.0
8	<input type="checkbox"/>	50.000	51.254	263373.64	0.2235	P	6.6	2.5
9	<input type="checkbox"/>	100.000	99.260	513402.36	0.4320	P	2.0	-0.7
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			1490.46	0.0012	P	2.6	

$$y = 0.0043 * x + 8.7089E-004$$

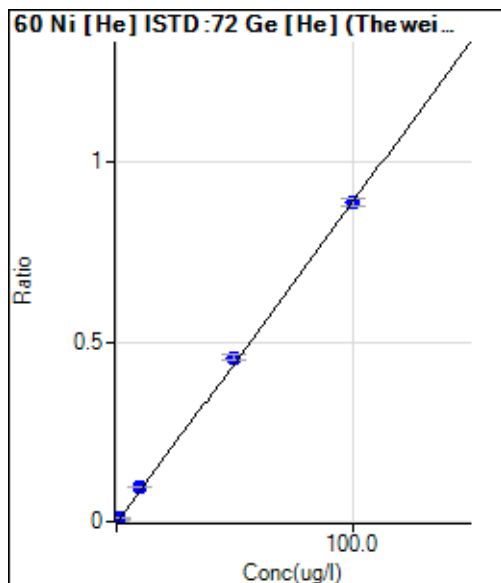
$$R = 0.9999$$

$$DL = 0.02894 \text{ ug/l}$$

$$BEC = 0.2005 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	105.55	0.0006	P	21.0	
2	<input type="checkbox"/>	0.025	0.038	163.34	0.0009	P	17.2	50.9
3	<input type="checkbox"/>	0.050	0.055	193.34	0.0011	P	15.8	10.5
4	<input type="checkbox"/>	0.100	0.138	332.23	0.0018	P	8.7	38.0
5	<input type="checkbox"/>	0.500	0.575	1051.15	0.0057	P	8.7	15.0
6	<input type="checkbox"/>	1.000	1.237	2127.95	0.0117	P	3.4	23.7
7	<input type="checkbox"/>	10.000	10.695	17454.95	0.0963	P	1.7	7.0
8	<input type="checkbox"/>	50.000	51.142	85822.20	0.4583	P	3.0	2.3
9	<input type="checkbox"/>	100.000	99.357	168842.09	0.8897	P	2.2	-0.6
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			133.33	0.0007	P	19.4	

$$y = 0.0089 * x + 5.9512E-004$$

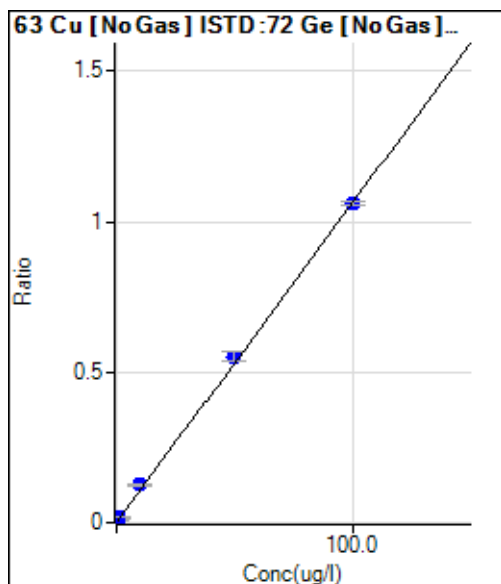
$$R = 0.9999$$

$$DL = 0.04197 \text{ ug/l}$$

$$BEC = 0.0665 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	7336.13	0.0066	P	2.9	
2	<input type="checkbox"/>	0.025	0.065	7880.63	0.0072	P	4.4	159.3
3	<input type="checkbox"/>	0.050	0.078	8192.92	0.0074	P	3.2	56.5
4	<input type="checkbox"/>	0.100	0.150	9077.14	0.0081	P	2.4	49.6
5	<input type="checkbox"/>	0.500	0.594	14454.27	0.0129	P	2.1	18.8
6	<input type="checkbox"/>	1.000	1.247	23006.59	0.0198	P	3.2	24.7
7	<input type="checkbox"/>	10.000	11.217	142515.20	0.1257	P	3.0	12.2
8	<input type="checkbox"/>	50.000	51.312	650296.79	0.5518	P	6.0	2.6
9	<input type="checkbox"/>	100.000	99.219	1260595.59	1.0608	P	1.8	-0.8
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			7983.39	0.0067	P	10.0	

$$y = 0.0106 * x + 0.0066$$

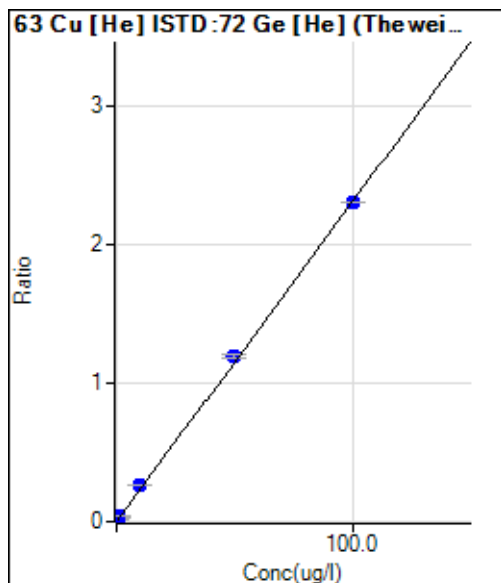
$$R = 0.9998$$

$$DL = 0.05396 \text{ ug/l}$$

$$BEC = 0.6167 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	2115.07	0.0119	P	3.9	
2	<input type="checkbox"/>	0.025	0.064	2348.05	0.0134	P	0.9	157.6
3	<input type="checkbox"/>	0.050	0.093	2496.39	0.0141	P	2.0	86.6
4	<input type="checkbox"/>	0.100	0.147	2777.04	0.0153	P	2.8	47.0
5	<input type="checkbox"/>	0.500	0.599	4715.16	0.0258	P	3.6	19.8
6	<input type="checkbox"/>	1.000	1.284	7587.46	0.0416	P	1.6	28.4
7	<input type="checkbox"/>	10.000	11.100	48668.82	0.2685	P	1.0	11.0
8	<input type="checkbox"/>	50.000	51.381	224718.85	1.1999	P	2.5	2.8
9	<input type="checkbox"/>	100.000	99.196	437503.24	2.3054	P	0.4	-0.8
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			2330.06	0.0125	P	3.0	

$$y = 0.0231 * x + 0.0119$$

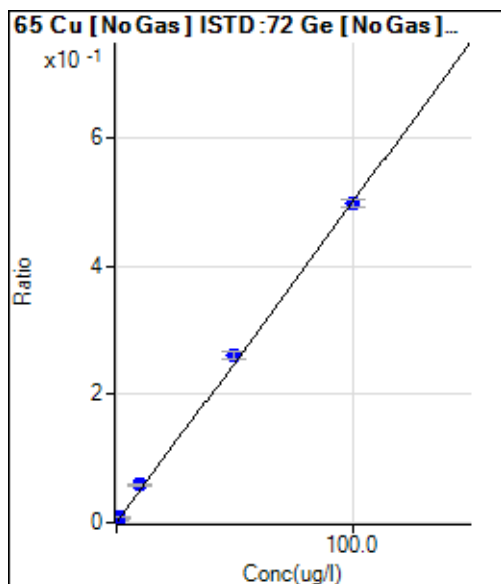
$$R = 0.9998$$

$$DL = 0.06039 \text{ ug/l}$$

$$BEC = 0.515 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	3068.23	0.0027	P	2.9	
2	<input type="checkbox"/>	0.025	0.078	3408.44	0.0031	P	3.9	212.6
3	<input type="checkbox"/>	0.050	0.074	3455.80	0.0031	P	3.3	48.8
4	<input type="checkbox"/>	0.100	0.140	3832.72	0.0034	P	3.8	39.5
5	<input type="checkbox"/>	0.500	0.622	6578.14	0.0059	P	2.2	24.5
6	<input type="checkbox"/>	1.000	1.257	10502.67	0.0090	P	1.8	25.7
7	<input type="checkbox"/>	10.000	11.266	67024.19	0.0592	P	4.3	12.7
8	<input type="checkbox"/>	50.000	51.680	308255.23	0.2615	P	5.0	3.4
9	<input type="checkbox"/>	100.000	99.030	592490.26	0.4986	P	2.3	-1.0
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			3398.43	0.0028	P	12.7	

$$y = 0.0050 * x + 0.0027$$

$$R = 0.9998$$

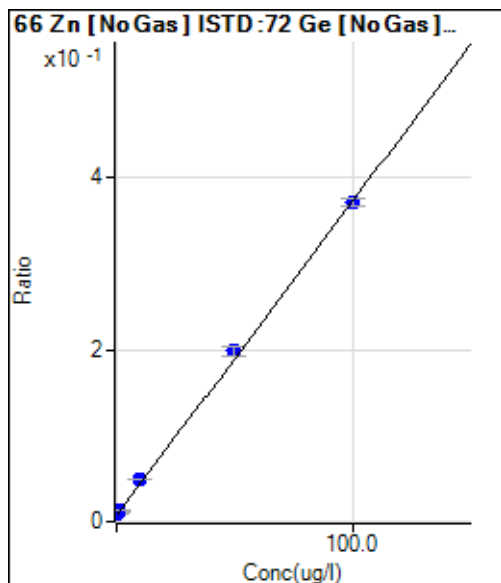
$$DL = 0.04814 \text{ ug/l}$$

$$BEC = 0.5473 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	10302.03	0.0092	P	4.6	
2	<input type="checkbox"/>			10315.54	0.0095	P	6.7	
3	<input type="checkbox"/>	0.050	0.124	10708.04	0.0097	P	1.4	147.6
4	<input type="checkbox"/>	0.100	0.287	11423.69	0.0102	P	1.2	186.8
5	<input type="checkbox"/>	0.500	0.647	12981.86	0.0116	P	6.2	29.4
6	<input type="checkbox"/>	1.000	1.192	15748.82	0.0136	P	6.4	19.2
7	<input type="checkbox"/>	10.000	10.954	55830.80	0.0493	P	2.7	9.5
8	<input type="checkbox"/>	50.000	51.667	233508.26	0.1982	P	6.3	3.3
9	<input type="checkbox"/>	100.000	99.068	441451.33	0.3715	P	1.9	-0.9
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			10685.11	0.0089	P	8.3	

$$y = 0.0037 * x + 0.0092$$

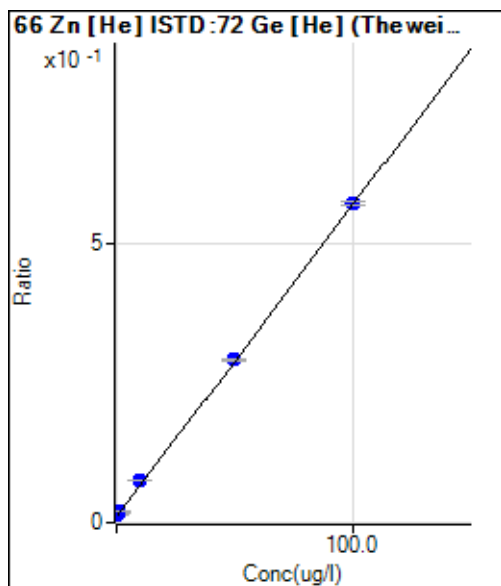
$$R = 0.9998$$

$$DL = 0.3467 \text{ ug/l}$$

$$BEC = 2.515 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	2431.33	0.0137	P	2.8	
2	<input type="checkbox"/>			2585.80	0.0148	P	3.3	
3	<input type="checkbox"/>	0.050	0.083	2511.34	0.0142	P	5.7	66.4
4	<input type="checkbox"/>	0.100	0.248	2733.61	0.0151	P	4.8	148.4
5	<input type="checkbox"/>	0.500	0.612	3130.36	0.0171	P	5.8	22.3
6	<input type="checkbox"/>	1.000	1.172	3687.16	0.0202	P	2.0	17.2
7	<input type="checkbox"/>	10.000	11.044	13628.65	0.0752	P	0.8	10.4
8	<input type="checkbox"/>	50.000	49.859	54582.05	0.2914	P	1.5	-0.3
9	<input type="checkbox"/>	100.000	99.964	108259.58	0.5705	P	0.7	0.0
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			2623.58	0.0140	P	4.7	

$$y = 0.0056 * x + 0.0137$$

$$R = 1.0000$$

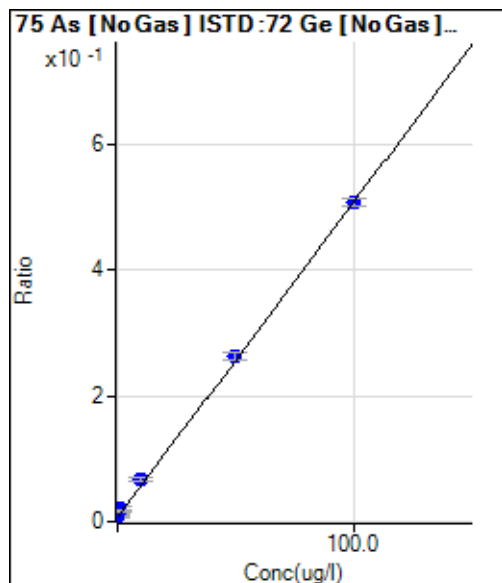
$$DL = 0.2034 \text{ ug/l}$$

$$BEC = 2.458 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	10694.07	0.0095	P	46.2	
2	<input type="checkbox"/>	0.025	-0.193	9297.81	0.0086	P	24.6	-874.0
3	<input type="checkbox"/>	0.050	0.479	13223.11	0.0119	P	29.6	857.2
4	<input type="checkbox"/>	0.100	0.655	14370.38	0.0128	P	50.5	555.2
5	<input type="checkbox"/>	0.500	2.123	22605.38	0.0202	P	27.5	324.5
6	<input type="checkbox"/>	1.000	1.508	19783.52	0.0171	P	28.6	50.8
7	<input type="checkbox"/>	10.000	11.457	75826.28	0.0669	P	9.2	14.6
8	<input type="checkbox"/>	50.000	50.815	311296.15	0.2641	P	4.4	1.6
9	<input type="checkbox"/>	100.000	99.433	603133.92	0.5075	P	2.4	-0.6
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			16532.22	0.0138	P	13.5	

$$y = 0.0050 * x + 0.0095$$

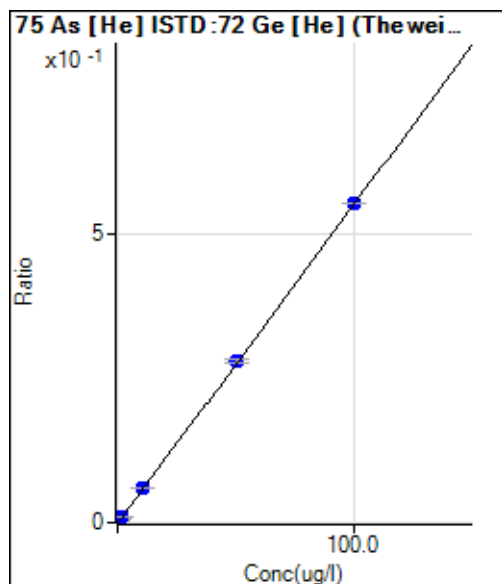
$$R = 0.9998$$

$$DL = 2.644 \text{ ug/l}$$

$$BEC = 1.906 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	445.07	0.0025	P	2.0	
2	<input type="checkbox"/>	0.025	0.034	472.13	0.0027	P	0.9	35.5
3	<input type="checkbox"/>	0.050	0.078	521.33	0.0029	P	2.3	55.9
4	<input type="checkbox"/>	0.100	0.142	597.47	0.0033	P	3.2	42.3
5	<input type="checkbox"/>	0.500	0.560	1025.95	0.0056	P	1.9	12.1
6	<input type="checkbox"/>	1.000	1.195	1662.19	0.0091	P	0.5	19.5
7	<input type="checkbox"/>	10.000	10.379	10850.88	0.0599	P	0.8	3.8
8	<input type="checkbox"/>	50.000	50.255	52498.76	0.2803	P	1.6	0.5
9	<input type="checkbox"/>	100.000	99.832	105193.09	0.5543	P	0.5	-0.2
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			449.87	0.0024	P	0.3	

$$y = 0.0055 * x + 0.0025$$

$$R = 1.0000$$

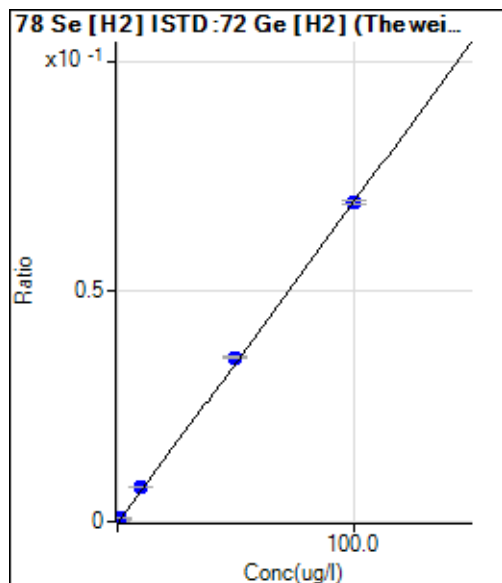
$$DL = 0.02701 \text{ ug/l}$$

$$BEC = 0.4535 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	28.44	0.0000	P	13.4	
2	<input type="checkbox"/>	0.025	0.023	40.89	0.0001	P	5.8	-8.2
3	<input type="checkbox"/>	0.050	0.059	59.89	0.0001	P	3.0	17.7
4	<input type="checkbox"/>	0.100	0.110	89.89	0.0001	P	3.4	10.1
5	<input type="checkbox"/>	0.500	0.517	311.11	0.0004	P	3.5	3.3
6	<input type="checkbox"/>	1.000	1.172	684.79	0.0009	P	2.6	17.2
7	<input type="checkbox"/>	10.000	10.492	5831.06	0.0073	P	0.8	4.9
8	<input type="checkbox"/>	50.000	51.128	28989.81	0.0357	P	0.9	2.3
9	<input type="checkbox"/>	100.000	99.385	57485.86	0.0693	P	1.2	-0.6
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			104.45	0.0001	P	1.5	

$$y = 6.9707E-004 * x + 3.5665E-005$$

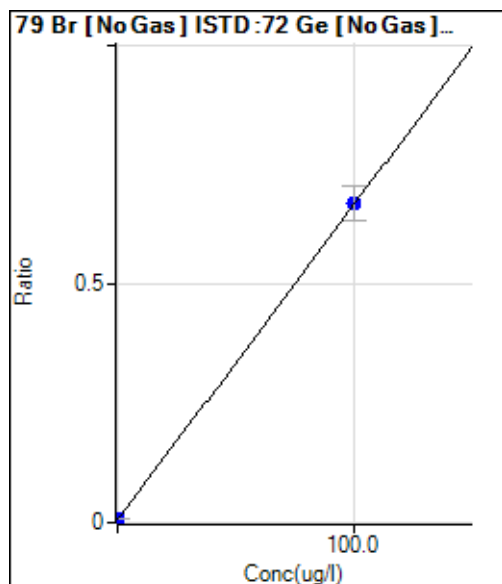
$$R = 0.9999$$

$$DL = 0.02058 \text{ ug/l}$$

$$BEC = 0.05116 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	10319.93	0.0092	P	1.2	
2	<input type="checkbox"/>			9078.23	0.0083	P	3.6	
3	<input type="checkbox"/>			9384.46	0.0085	P	5.4	
4	<input type="checkbox"/>			8968.37	0.0081	P	8.2	
5	<input type="checkbox"/>			9211.35	0.0082	P	0.6	
6	<input type="checkbox"/>			8831.88	0.0076	P	4.5	
7	<input type="checkbox"/>			8948.42	0.0079	P	2.2	
8	<input type="checkbox"/>			9690.77	0.0082	P	5.8	
9	<input type="checkbox"/>			10423.17	0.0088	P	1.4	
10	<input type="checkbox"/>							
11	<input type="checkbox"/>	100.000	100.000	800800.15	0.6690	P	10.9	0.0

$$y = 0.0066 * x + 0.0092$$

$$R = 1.0000$$

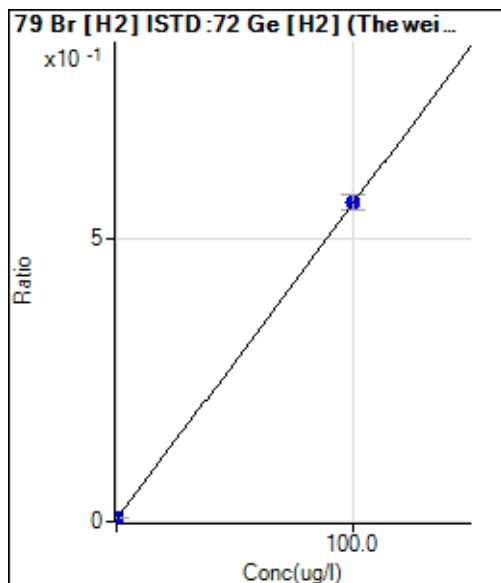
$$DL = 0.05181 \text{ ug/l}$$

$$BEC = 1.396 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	5769.73	0.0072	P	3.7	
2	<input type="checkbox"/>			5017.62	0.0063	P	1.2	
3	<input type="checkbox"/>			5030.90	0.0064	P	3.1	
4	<input type="checkbox"/>			4884.50	0.0061	P	1.5	
5	<input type="checkbox"/>			4748.04	0.0060	P	4.1	
6	<input type="checkbox"/>			4658.21	0.0058	P	1.9	
7	<input type="checkbox"/>			4791.32	0.0060	P	6.7	
8	<input type="checkbox"/>			5803.00	0.0071	P	6.6	
9	<input type="checkbox"/>			6511.90	0.0079	P	4.5	
10	<input type="checkbox"/>							
11	<input type="checkbox"/>	100.000	100.000	463200.05	0.5649	P	4.5	0.0

$$y = 0.0056 * x + 0.0072$$

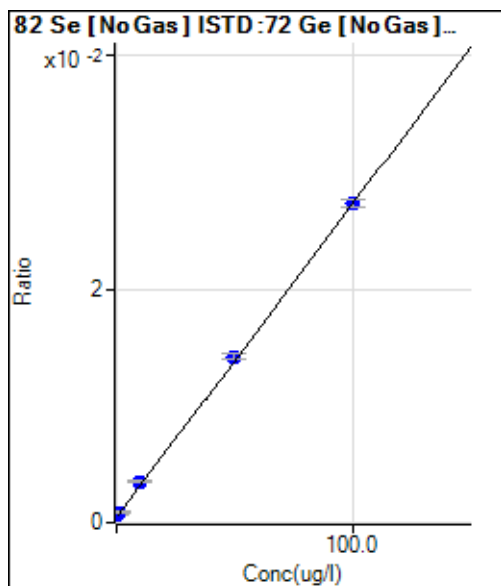
$$R = 1.0000$$

$$DL = 0.1422 \text{ ug/l}$$

$$BEC = 1.298 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	691.41	0.0006	P	8.8	
2	<input type="checkbox"/>	0.025	0.416	790.49	0.0007	P	22.4	1565.2
3	<input type="checkbox"/>	0.050	0.211	746.88	0.0007	P	16.7	321.4
4	<input type="checkbox"/>	0.100	0.074	711.41	0.0006	P	18.4	-25.6
5	<input type="checkbox"/>	0.500	0.759	922.23	0.0008	P	5.0	51.8
6	<input type="checkbox"/>	1.000	0.982	1025.05	0.0009	P	13.4	-1.8
7	<input type="checkbox"/>	10.000	10.864	4001.17	0.0035	P	8.6	8.6
8	<input type="checkbox"/>	50.000	50.606	16746.59	0.0142	P	3.9	1.2
9	<input type="checkbox"/>	100.000	99.609	32511.77	0.0274	P	2.0	-0.4
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			1294.14	0.0011	P	2.3	

$$y = 2.6847E-004 * x + 6.1682E-004$$

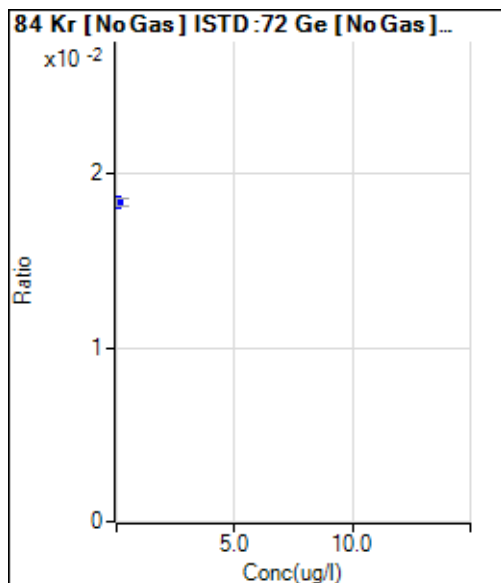
$$R = 0.9999$$

$$DL = 0.6082 \text{ ug/l}$$

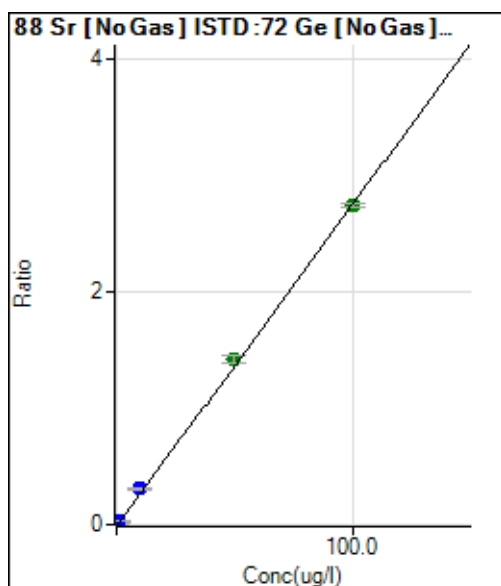
$$BEC = 2.298 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000		20554.07	0.0184	P	2.0	
2	<input type="checkbox"/>			20127.57	0.0185	P	4.4	
3	<input type="checkbox"/>			20663.94	0.0186	P	4.2	
4	<input type="checkbox"/>			20387.43	0.0183	P	6.5	
5	<input type="checkbox"/>			20364.13	0.0181	P	8.6	
6	<input type="checkbox"/>			20807.25	0.0179	P	4.9	
7	<input type="checkbox"/>			24309.25	0.0214	P	5.5	
8	<input type="checkbox"/>			32075.48	0.0272	P	9.7	
9	<input type="checkbox"/>			42268.22	0.0356	P	4.3	
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			21959.99	0.0183	P	9.0	



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	948.17	0.0008	P	15.1	
2	<input type="checkbox"/>	0.025	0.029	1813.20	0.0017	P	10.3	17.4
3	<input type="checkbox"/>	0.050	0.062	2854.64	0.0026	P	1.5	24.5
4	<input type="checkbox"/>	0.100	0.141	5293.85	0.0047	P	5.1	40.9
5	<input type="checkbox"/>	0.500	0.578	18938.48	0.0169	P	5.0	15.7
6	<input type="checkbox"/>	1.000	1.254	41334.40	0.0356	P	3.6	25.4
7	<input type="checkbox"/>	10.000	11.123	349874.18	0.3088	P	5.5	11.2
8	<input type="checkbox"/>	50.000	51.452	1680646.81	1.4254	A	4.8	2.9
9	<input type="checkbox"/>	100.000	99.159	3263409.83	2.7463	A	1.5	-0.8
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			1563.68	0.0013	P	8.6	

$$y = 0.0277 * x + 8.4808E-004$$

$$R = 0.9998$$

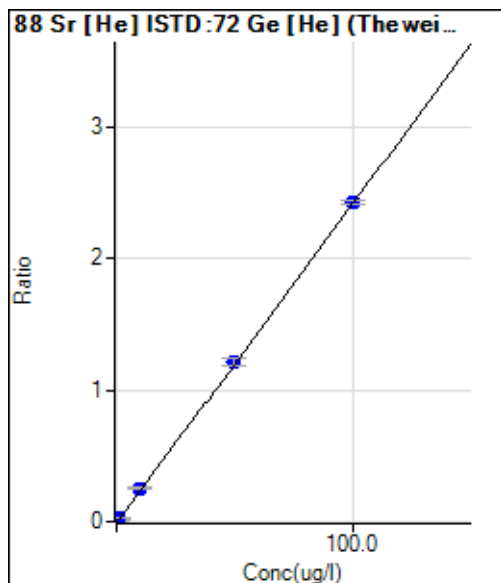
$$DL = 0.01392 \text{ ug/l}$$

$$BEC = 0.03063 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 044ARef.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	396.68	0.0022	P	9.0	
2	<input type="checkbox"/>	0.025	0.019	472.24	0.0027	P	14.0	-24.3
3	<input type="checkbox"/>	0.050	0.053	624.47	0.0035	P	6.3	5.9
4	<input type="checkbox"/>	0.100	0.141	1023.38	0.0056	P	5.7	40.6
5	<input type="checkbox"/>	0.500	0.513	2684.72	0.0147	P	4.1	2.6
6	<input type="checkbox"/>	1.000	1.159	5534.44	0.0303	P	3.4	15.9
7	<input type="checkbox"/>	10.000	10.377	45992.64	0.2538	P	1.9	3.8
8	<input type="checkbox"/>	50.000	50.056	227611.50	1.2157	P	4.5	0.1
9	<input type="checkbox"/>	100.000	99.933	460173.78	2.4248	P	1.4	-0.1
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			431.13	0.0023	P	9.3	

$$y = 0.0242 * x + 0.0022$$

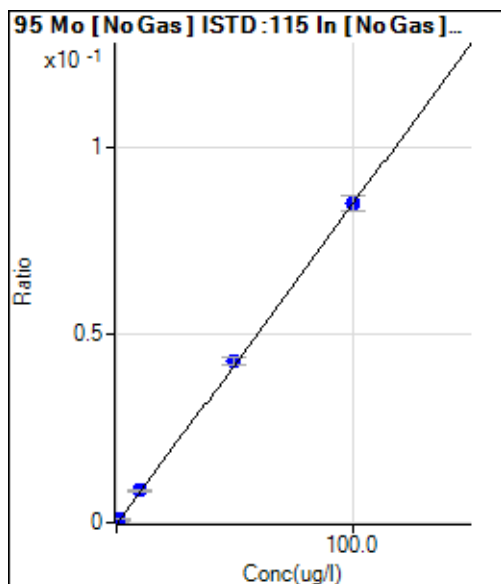
$$R = 1.0000$$

$$DL = 0.02496 \text{ ug/l}$$

$$BEC = 0.09217 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	26.66	0.0000	P	22.8	
2	<input type="checkbox"/>	0.025	0.027	194.45	0.0000	P	13.2	6.4
3	<input type="checkbox"/>	0.050	0.059	398.90	0.0001	P	8.8	18.0
4	<input type="checkbox"/>	0.100	0.124	817.81	0.0001	P	10.6	24.0
5	<input type="checkbox"/>	0.500	0.499	3265.95	0.0004	P	4.9	-0.1
6	<input type="checkbox"/>	1.000	1.137	7467.56	0.0010	P	2.3	13.7
7	<input type="checkbox"/>	10.000	9.938	65120.80	0.0085	P	1.6	-0.6
8	<input type="checkbox"/>	50.000	50.587	328223.33	0.0431	P	4.7	1.2
9	<input type="checkbox"/>	100.000	99.711	628007.69	0.0850	P	4.5	-0.3
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			165.56	0.0000	P	16.0	

$$y = 8.5246E-004 * x + 3.5028E-006$$

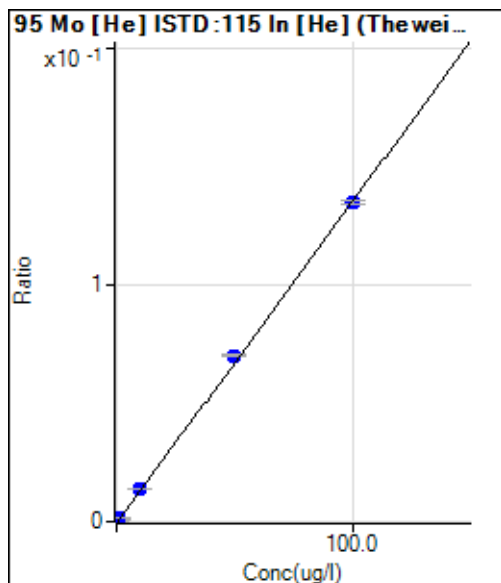
$$R = 1.0000$$

$$DL = 0.002808 \text{ ug/l}$$

$$BEC = 0.004109 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	8.89	0.0000	P	56.8	
2	<input type="checkbox"/>	0.025	0.030	76.66	0.0000	P	7.3	18.2
3	<input type="checkbox"/>	0.050	0.067	163.34	0.0001	P	22.6	34.0
4	<input type="checkbox"/>	0.100	0.110	268.89	0.0002	P	10.9	9.8
5	<input type="checkbox"/>	0.500	0.480	1145.61	0.0007	P	9.7	-4.0
6	<input type="checkbox"/>	1.000	1.145	2788.07	0.0016	P	6.0	14.5
7	<input type="checkbox"/>	10.000	10.074	23987.98	0.0137	P	1.8	0.7
8	<input type="checkbox"/>	50.000	51.651	121316.64	0.0704	P	0.8	3.3
9	<input type="checkbox"/>	100.000	99.166	238003.30	0.1352	P	1.2	-0.8
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			52.22	0.0000	P	19.8	

$$y = 0.0014 * x + 5.1354E-006$$

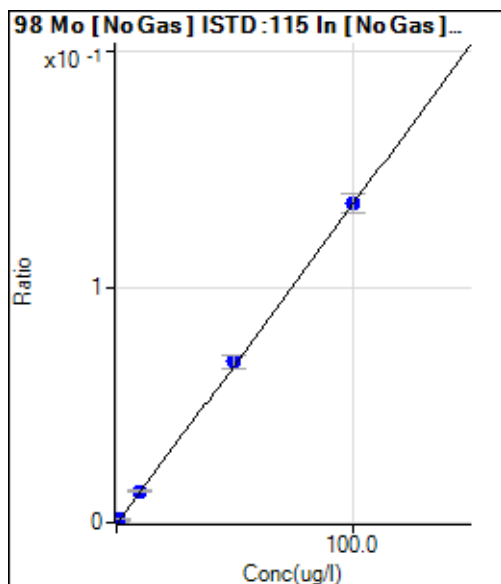
$$R = 0.9998$$

$$DL = 0.006425 \text{ ug/l}$$

$$BEC = 0.003768 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	54.59	0.0000	P	24.5	
2	<input type="checkbox"/>	0.025	0.024	290.77	0.0000	P	17.8	-5.8
3	<input type="checkbox"/>	0.050	0.060	652.38	0.0001	P	9.8	19.3
4	<input type="checkbox"/>	0.100	0.117	1248.12	0.0002	P	8.1	17.3
5	<input type="checkbox"/>	0.500	0.495	5172.85	0.0007	P	2.5	-1.1
6	<input type="checkbox"/>	1.000	1.138	11928.68	0.0016	P	3.9	13.8
7	<input type="checkbox"/>	10.000	9.839	102840.14	0.0134	P	1.8	-1.6
8	<input type="checkbox"/>	50.000	50.349	520374.05	0.0685	P	8.0	0.7
9	<input type="checkbox"/>	100.000	99.840	1002610.22	0.1357	P	6.2	-0.2
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			232.02	0.0000	P	7.6	

$$y = 0.0014 * x + 7.1646E-006$$

$$R = 1.0000$$

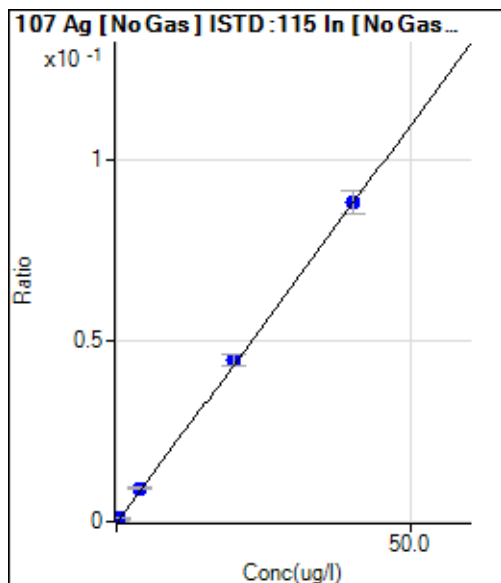
$$DL = 0.00387 \text{ ug/l}$$

$$BEC = 0.00527 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	1271.90	0.0002	P	2.2	
2	<input type="checkbox"/>	0.010	0.012	1437.99	0.0002	P	5.2	19.9
3	<input type="checkbox"/>	0.020	0.026	1651.43	0.0002	P	5.5	27.5
4	<input type="checkbox"/>	0.040	0.053	2130.36	0.0003	P	2.2	33.2
5	<input type="checkbox"/>	0.200	0.206	4735.37	0.0006	P	5.5	3.1
6	<input type="checkbox"/>	0.400	0.476	9349.51	0.0012	P	2.6	18.9
7	<input type="checkbox"/>	4.000	4.107	71031.00	0.0092	P	1.9	2.7
8	<input type="checkbox"/>	20.000	20.178	340409.36	0.0448	P	7.0	0.9
9	<input type="checkbox"/>	40.000	39.899	652097.37	0.0884	P	7.6	-0.3
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			1767.49	0.0002	P	4.1	

$$y = 0.0022 * x + 1.6681E-004$$

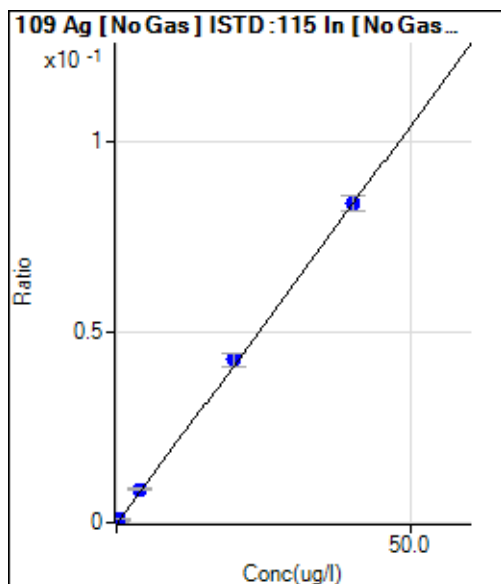
$$R = 1.0000$$

$$DL = 0.004901 \text{ ug/l}$$

$$BEC = 0.07547 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	1198.53	0.0002	P	6.0	
2	<input type="checkbox"/>	0.010	0.011	1349.94	0.0002	P	2.6	14.9
3	<input type="checkbox"/>	0.020	0.029	1607.40	0.0002	P	5.9	43.4
4	<input type="checkbox"/>	0.040	0.056	2059.65	0.0003	P	1.4	40.7
5	<input type="checkbox"/>	0.200	0.214	4599.94	0.0006	P	2.2	6.8
6	<input type="checkbox"/>	0.400	0.473	8804.29	0.0011	P	2.6	18.1
7	<input type="checkbox"/>	4.000	4.121	67525.17	0.0088	P	1.2	3.0
8	<input type="checkbox"/>	20.000	20.268	323931.40	0.0426	P	8.0	1.3
9	<input type="checkbox"/>	40.000	39.853	617869.64	0.0836	P	4.5	-0.4
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			1707.46	0.0002	P	9.6	

$$y = 0.0021 * x + 1.5720E-004$$

$$R = 1.0000$$

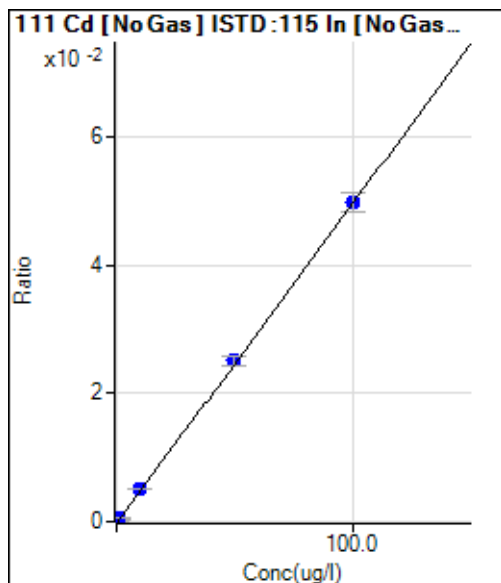
$$DL = 0.01362 \text{ ug/l}$$

$$BEC = 0.07506 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	-7.91	0.0000	P	-177.2	
2	<input type="checkbox"/>	0.025	0.031	109.72	0.0000	P	21.6	26.0
3	<input type="checkbox"/>	0.050	0.059	211.90	0.0000	P	10.7	19.0
4	<input type="checkbox"/>	0.100	0.132	484.50	0.0001	P	11.2	31.7
5	<input type="checkbox"/>	0.500	0.507	1918.11	0.0003	P	4.0	1.4
6	<input type="checkbox"/>	1.000	1.152	4408.82	0.0006	P	2.7	15.2
7	<input type="checkbox"/>	10.000	10.189	39082.64	0.0051	P	1.3	1.9
8	<input type="checkbox"/>	50.000	50.289	191002.27	0.0251	P	5.7	0.6
9	<input type="checkbox"/>	100.000	99.835	368040.82	0.0498	P	6.3	-0.2
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			399.48	0.0001	P	7.9	

$$y = 4.9928E-004 * x - 1.0439E-006$$

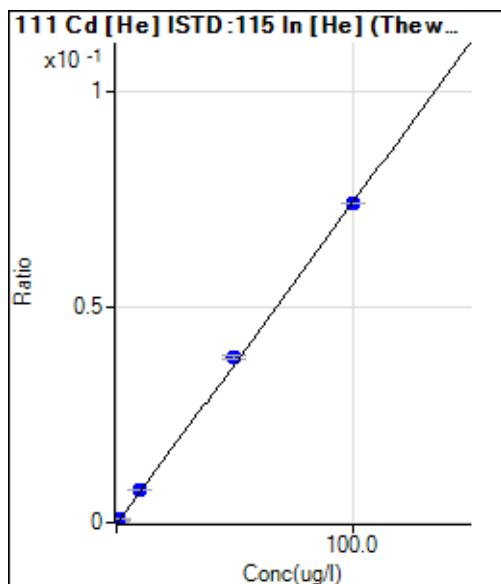
$$R = 1.0000$$

$$DL = 0.011111 \text{ ug/l}$$

$$BEC = -0.002091 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	4.67	0.0000	P	50.1	
2	<input type="checkbox"/>	0.025	0.027	39.22	0.0000	P	7.5	10.0
3	<input type="checkbox"/>	0.050	0.059	78.89	0.0000	P	7.8	17.8
4	<input type="checkbox"/>	0.100	0.119	159.44	0.0001	P	3.8	19.3
5	<input type="checkbox"/>	0.500	0.516	672.68	0.0004	P	2.5	3.2
6	<input type="checkbox"/>	1.000	1.165	1553.64	0.0009	P	3.6	16.5
7	<input type="checkbox"/>	10.000	10.353	13499.95	0.0077	P	0.9	3.5
8	<input type="checkbox"/>	50.000	51.415	66131.89	0.0384	P	1.5	2.8
9	<input type="checkbox"/>	100.000	99.256	130469.97	0.0741	P	0.6	-0.7
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			99.00	0.0001	P	16.5	

$$y = 7.4639E-004 * x + 2.7096E-006$$

$$R = 0.9999$$

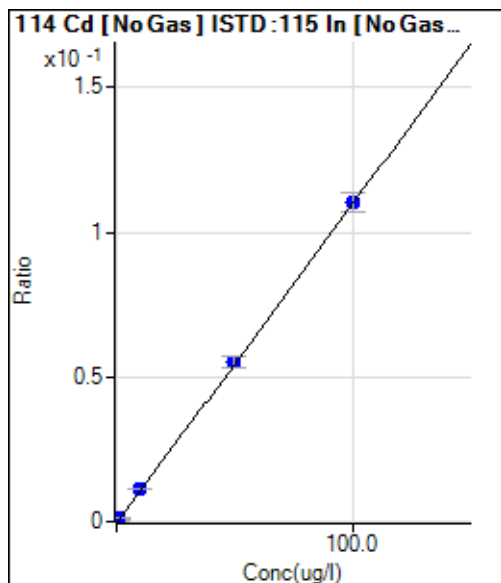
$$DL = 0.005454 \text{ ug/l}$$

$$BEC = 0.00363 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 044ARef.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	-96.25	0.0000	P	-26.0	
2	<input type="checkbox"/>	0.025	-0.009	-165.18	0.0000	P	-36.1	-134.3
3	<input type="checkbox"/>	0.050	0.040	237.83	0.0000	P	44.6	-19.4
4	<input type="checkbox"/>	0.100	0.122	916.02	0.0001	P	8.8	22.2
5	<input type="checkbox"/>	0.500	0.494	4057.67	0.0005	P	4.7	-1.2
6	<input type="checkbox"/>	1.000	1.117	9377.07	0.0012	P	4.4	11.7
7	<input type="checkbox"/>	10.000	10.167	86230.44	0.0112	P	1.4	1.7
8	<input type="checkbox"/>	50.000	50.132	421190.04	0.0554	P	6.7	0.3
9	<input type="checkbox"/>	100.000	99.916	815311.36	0.1104	P	5.6	-0.1
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			622.21	0.0001	P	2.0	

$$y = 0.0011 * x - 1.2645E-005$$

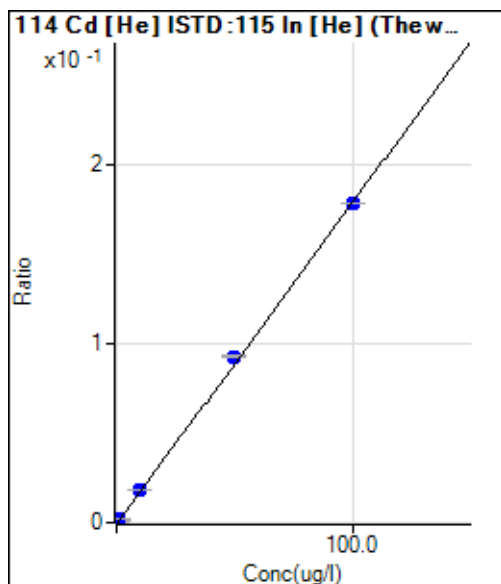
$$R = 1.0000$$

$$DL = 0.008941 \text{ ug/l}$$

$$BEC = -0.01144 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	11.33	0.0000	P	13.7	
2	<input type="checkbox"/>	0.025	-0.009	-15.15	0.0000	P	-6.6	-134.6
3	<input type="checkbox"/>	0.050	0.017	62.41	0.0000	P	13.6	-66.3
4	<input type="checkbox"/>	0.100	0.080	262.53	0.0002	P	21.5	-19.7
5	<input type="checkbox"/>	0.500	0.478	1503.69	0.0009	P	4.6	-4.4
6	<input type="checkbox"/>	1.000	1.120	3602.49	0.0020	P	1.3	12.0
7	<input type="checkbox"/>	10.000	10.317	32444.62	0.0186	P	1.3	3.2
8	<input type="checkbox"/>	50.000	51.595	160044.87	0.0929	P	1.8	3.2
9	<input type="checkbox"/>	100.000	99.170	314382.55	0.1785	P	0.6	-0.8
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			114.17	0.0001	P	14.7	

$$y = 0.0018 * x + 6.5749E-006$$

$$R = 0.9998$$

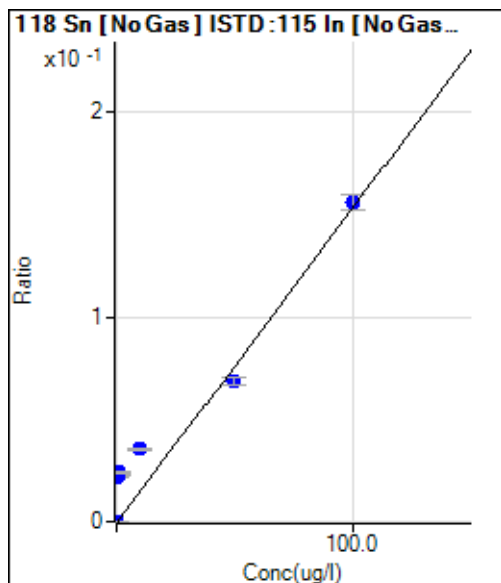
$$DL = 0.001504 \text{ ug/l}$$

$$BEC = 0.003653 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	761.85	0.0001	P	15.4	
2	<input type="checkbox"/>	0.025	14.555	167399.15	0.0225	P	1.0	58119.
3	<input type="checkbox"/>	0.050	14.164	161984.38	0.0219	P	4.3	28228.
4	<input type="checkbox"/>	0.100	14.442	167067.28	0.0223	P	1.5	14342.
5	<input type="checkbox"/>	0.500	14.821	174259.81	0.0229	P	1.4	2864.2
6	<input type="checkbox"/>	1.000	15.622	185241.75	0.0241	P	2.3	1462.2
7	<input type="checkbox"/>	10.000	22.997	272567.29	0.0355	P	1.9	130.0
8	<input type="checkbox"/>	50.000	44.334	519809.96	0.0683	P	5.3	-11.3
9	<input type="checkbox"/>	100.000	101.291	1151690.56	0.1559	P	4.6	1.3
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			168437.77	0.0224	P	11.4	

$$y = 0.0015 * x + 9.9905E-005$$

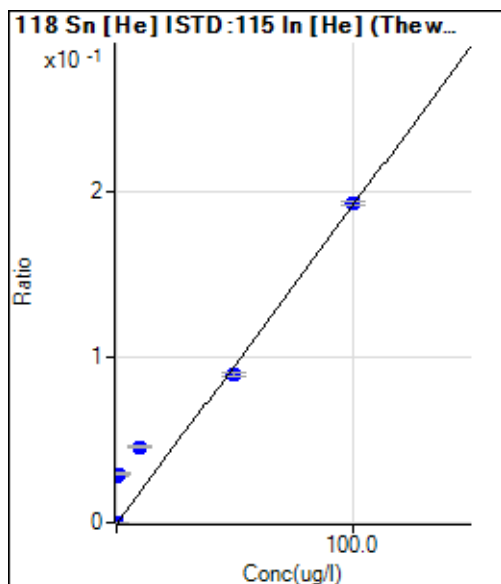
$$R = 0.9792$$

$$DL = 0.03007 \text{ ug/l}$$

$$BEC = 0.06495 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	238.89	0.0001	P	0.2	
2	<input type="checkbox"/>	0.025	14.493	47209.59	0.0280	P	1.3	57871.
3	<input type="checkbox"/>	0.050	14.958	48785.92	0.0289	P	1.1	29815.
4	<input type="checkbox"/>	0.100	14.833	49712.32	0.0286	P	3.2	14733.
5	<input type="checkbox"/>	0.500	15.232	50981.35	0.0294	P	1.0	2946.3
6	<input type="checkbox"/>	1.000	15.314	52594.96	0.0295	P	2.4	1431.4
7	<input type="checkbox"/>	10.000	23.747	79851.34	0.0457	P	1.9	137.5
8	<input type="checkbox"/>	50.000	46.340	153518.94	0.0891	P	2.8	-7.3
9	<input type="checkbox"/>	100.000	100.213	339010.98	0.1925	P	1.8	0.2
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			49527.32	0.0278	P	2.3	

$$y = 0.0019 * x + 1.3855E-004$$

$$R = 0.9813$$

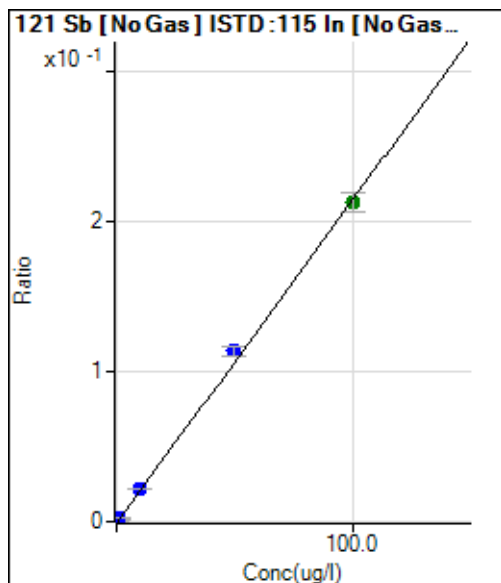
$$DL = 0.0004955 \text{ ug/l}$$

$$BEC = 0.07217 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	153.35	0.0000	P	10.6	
2	<input type="checkbox"/>	0.025	0.026	573.07	0.0001	P	0.8	5.4
3	<input type="checkbox"/>	0.050	0.052	978.80	0.0001	P	3.4	3.8
4	<input type="checkbox"/>	0.100	0.120	2083.70	0.0003	P	2.3	19.6
5	<input type="checkbox"/>	0.500	0.498	8331.32	0.0011	P	3.1	-0.4
6	<input type="checkbox"/>	1.000	1.117	18662.23	0.0024	P	2.3	11.7
7	<input type="checkbox"/>	10.000	9.973	165552.98	0.0215	P	1.9	-0.3
8	<input type="checkbox"/>	50.000	52.619	863934.37	0.1136	P	6.5	5.2
9	<input type="checkbox"/>	100.000	98.692	1573205.68	0.2130	A	6.0	-1.3
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			1212.84	0.0002	P	7.8	

$$y = 0.0022 * x + 2.0106E-005$$

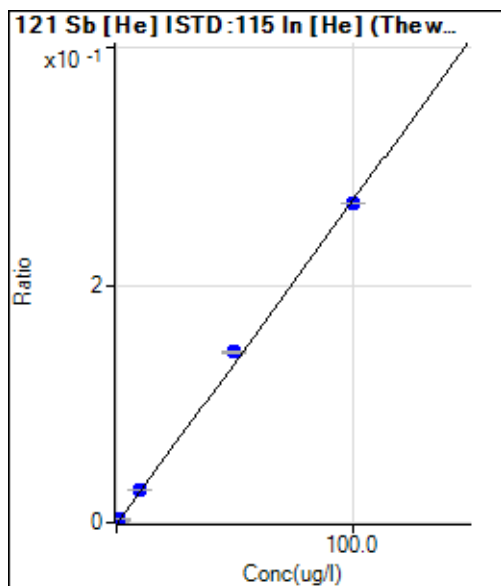
$$R = 0.9996$$

$$DL = 0.002975 \text{ ug/l}$$

$$BEC = 0.009315 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	38.00	0.0000	P	20.7	
2	<input type="checkbox"/>	0.025	0.029	170.02	0.0001	P	4.7	15.2
3	<input type="checkbox"/>	0.050	0.057	299.03	0.0002	P	0.7	13.4
4	<input type="checkbox"/>	0.100	0.126	635.75	0.0004	P	4.7	26.0
5	<input type="checkbox"/>	0.500	0.508	2444.13	0.0014	P	1.0	1.6
6	<input type="checkbox"/>	1.000	1.083	5303.20	0.0030	P	0.5	8.3
7	<input type="checkbox"/>	10.000	9.937	47399.58	0.0271	P	1.9	-0.6
8	<input type="checkbox"/>	50.000	52.691	247834.34	0.1438	P	1.7	5.4
9	<input type="checkbox"/>	100.000	98.660	474241.68	0.2693	P	0.2	-1.3
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			371.04	0.0002	P	2.5	

$$y = 0.0027 * x + 2.2065E-005$$

$$R = 0.9995$$

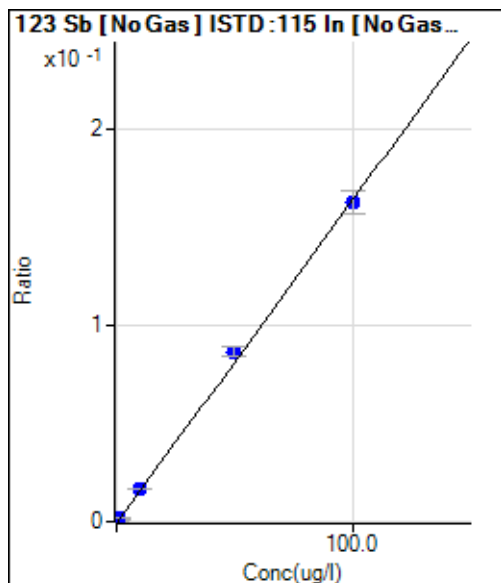
$$DL = 0.005032 \text{ ug/l}$$

$$BEC = 0.008085 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	119.68	0.0000	P	18.4	
2	<input type="checkbox"/>	0.025	0.026	439.05	0.0001	P	4.4	5.4
3	<input type="checkbox"/>	0.050	0.052	753.10	0.0001	P	9.2	4.6
4	<input type="checkbox"/>	0.100	0.118	1565.25	0.0002	P	1.4	17.6
5	<input type="checkbox"/>	0.500	0.495	6316.06	0.0008	P	3.8	-0.9
6	<input type="checkbox"/>	1.000	1.120	14262.02	0.0019	P	0.9	12.0
7	<input type="checkbox"/>	10.000	9.895	125161.08	0.0163	P	1.0	-1.0
8	<input type="checkbox"/>	50.000	52.577	657800.05	0.0865	P	6.2	5.2
9	<input type="checkbox"/>	100.000	98.721	1198579.69	0.1624	P	7.4	-1.3
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			959.13	0.0001	P	6.6	

$$y = 0.0016 * x + 1.5678E-005$$

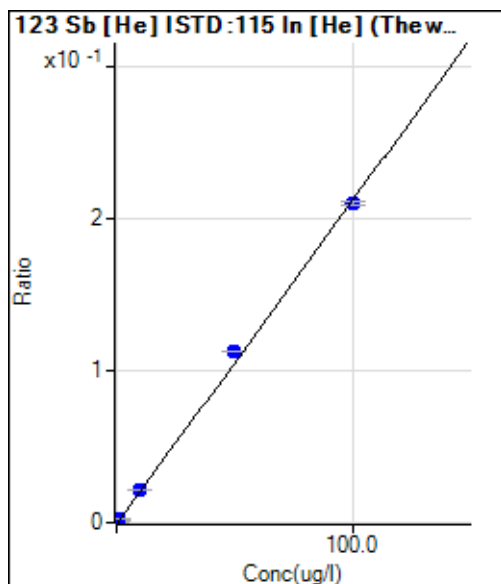
$$R = 0.9996$$

$$DL = 0.005265 \text{ ug/l}$$

$$BEC = 0.009533 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	32.67	0.0000	P	22.2	
2	<input type="checkbox"/>	0.025	0.028	134.35	0.0001	P	8.2	13.7
3	<input type="checkbox"/>	0.050	0.056	235.36	0.0001	P	6.3	12.7
4	<input type="checkbox"/>	0.100	0.122	485.39	0.0003	P	6.9	22.1
5	<input type="checkbox"/>	0.500	0.492	1852.64	0.0011	P	0.3	-1.7
6	<input type="checkbox"/>	1.000	1.111	4253.74	0.0024	P	1.1	11.1
7	<input type="checkbox"/>	10.000	10.065	37526.69	0.0215	P	1.7	0.6
8	<input type="checkbox"/>	50.000	52.916	194537.00	0.1129	P	0.8	5.8
9	<input type="checkbox"/>	100.000	98.534	370160.26	0.2102	P	1.1	-1.5
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			309.37	0.0002	P	5.0	

$$y = 0.0021 * x + 1.8939E-005$$

$$R = 0.9995$$

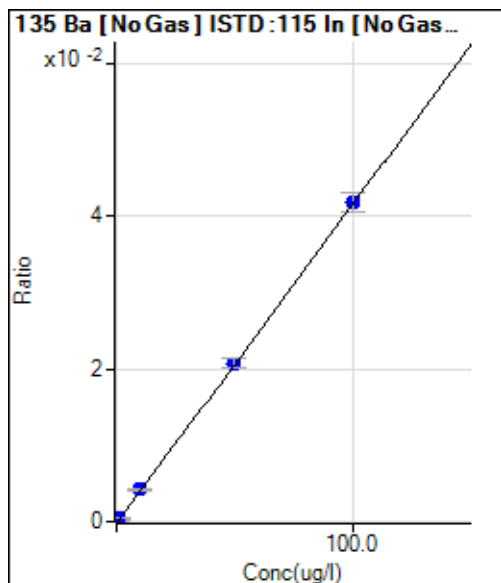
$$DL = 0.005918 \text{ ug/l}$$

$$BEC = 0.008879 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	19.96	0.0000	P	85.9	
2	<input type="checkbox"/>	0.025	0.040	143.05	0.0000	P	17.1	58.9
3	<input type="checkbox"/>	0.050	0.070	236.20	0.0000	P	3.4	40.1
4	<input type="checkbox"/>	0.100	0.151	492.37	0.0001	P	7.9	51.0
5	<input type="checkbox"/>	0.500	0.504	1623.55	0.0002	P	2.9	0.8
6	<input type="checkbox"/>	1.000	1.098	3543.45	0.0005	P	4.0	9.8
7	<input type="checkbox"/>	10.000	10.040	32270.34	0.0042	P	3.6	0.4
8	<input type="checkbox"/>	50.000	49.745	158231.51	0.0208	P	5.6	-0.5
9	<input type="checkbox"/>	100.000	100.123	309108.97	0.0419	P	6.0	0.1
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			59.88	0.0000	P	93.1	

$$y = 4.1805E-004 * x + 2.6078E-006$$

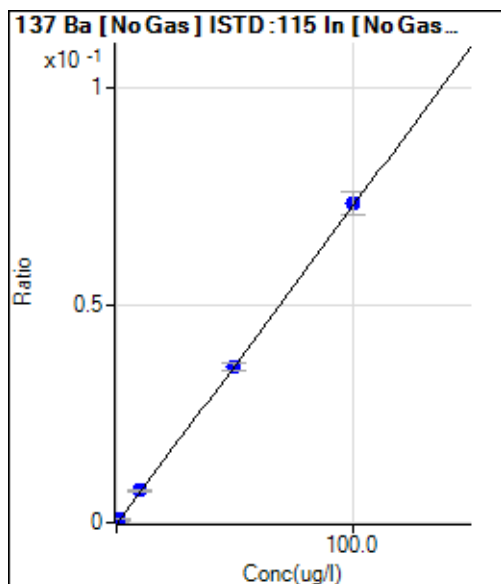
$$R = 1.0000$$

$$DL = 0.01608 \text{ ug/l}$$

$$BEC = 0.006238 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	33.27	0.0000	P	45.4	
2	<input type="checkbox"/>	0.025	0.041	252.84	0.0000	P	4.2	62.2
3	<input type="checkbox"/>	0.050	0.050	302.74	0.0000	P	10.9	0.3
4	<input type="checkbox"/>	0.100	0.118	678.67	0.0001	P	5.2	18.2
5	<input type="checkbox"/>	0.500	0.510	2867.95	0.0004	P	3.4	2.1
6	<input type="checkbox"/>	1.000	1.162	6548.55	0.0009	P	4.6	16.2
7	<input type="checkbox"/>	10.000	10.052	56416.34	0.0073	P	1.7	0.5
8	<input type="checkbox"/>	50.000	49.152	273055.02	0.0359	P	5.1	-1.7
9	<input type="checkbox"/>	100.000	100.417	541105.47	0.0733	P	7.4	0.4
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			116.43	0.0000	P	18.7	

$$y = 7.2999E-004 * x + 4.3553E-006$$

$$R = 1.0000$$

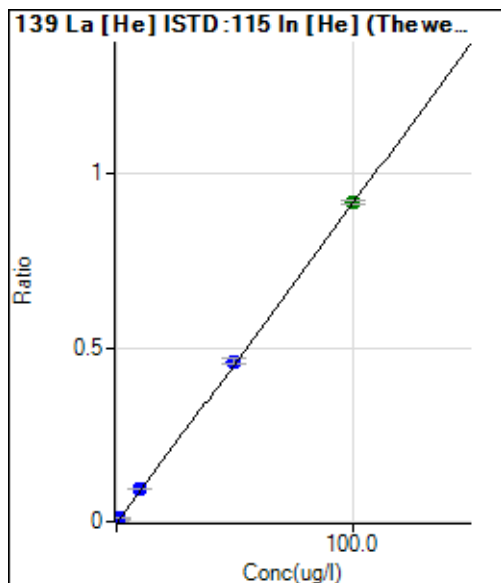
$$DL = 0.00812 \text{ ug/l}$$

$$BEC = 0.005966 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	8.89	0.0000	P	113.9	
2	<input type="checkbox"/>	0.025	0.029	460.01	0.0003	P	2.9	16.3
3	<input type="checkbox"/>	0.050	0.054	852.25	0.0005	P	5.3	8.5
4	<input type="checkbox"/>	0.100	0.124	1982.38	0.0011	P	4.0	23.6
5	<input type="checkbox"/>	0.500	0.522	8343.68	0.0048	P	1.3	4.5
6	<input type="checkbox"/>	1.000	1.142	18707.12	0.0105	P	3.1	14.2
7	<input type="checkbox"/>	10.000	10.269	164900.44	0.0944	P	2.3	2.7
8	<input type="checkbox"/>	50.000	50.219	795611.42	0.4617	P	3.4	0.4
9	<input type="checkbox"/>	100.000	99.862	1616957.51	0.9182	A	1.5	-0.1
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			13.34	0.0000	P	86.2	

$$y = 0.0092 * x + 5.1507E-006$$

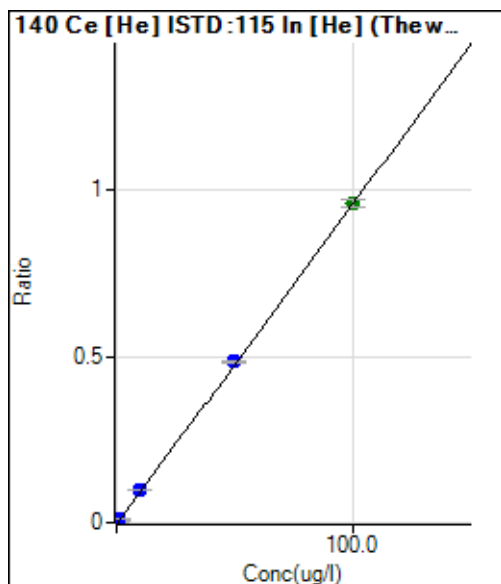
$$R = 1.0000$$

$$DL = 0.001914 \text{ ug/l}$$

$$BEC = 0.0005602 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	11.11	0.0000	P	63.0	
2	<input type="checkbox"/>	0.025	0.026	430.01	0.0003	P	10.0	3.0
3	<input type="checkbox"/>	0.050	0.058	952.26	0.0006	P	5.2	15.6
4	<input type="checkbox"/>	0.100	0.125	2102.39	0.0012	P	3.1	24.9
5	<input type="checkbox"/>	0.500	0.525	8791.73	0.0051	P	4.6	5.1
6	<input type="checkbox"/>	1.000	1.191	20451.83	0.0115	P	1.5	19.1
7	<input type="checkbox"/>	10.000	10.448	175797.57	0.1007	P	1.1	4.5
8	<input type="checkbox"/>	50.000	50.370	836151.69	0.4852	P	1.3	0.7
9	<input type="checkbox"/>	100.000	99.768	1692442.42	0.9611	A	2.0	-0.2
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			17.78	0.0000	P	59.9	

$$y = 0.0096 * x + 6.4640E-006$$

$$R = 1.0000$$

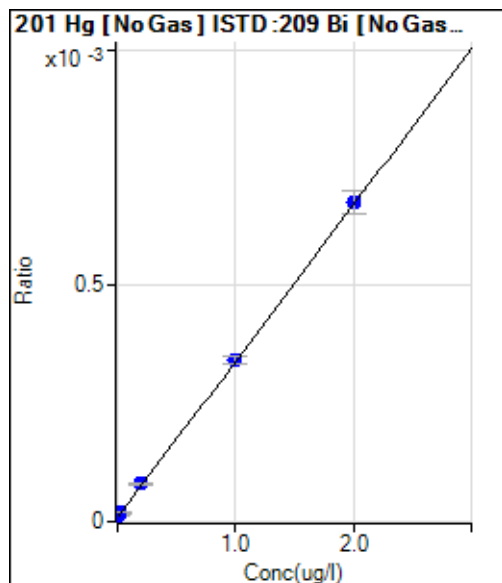
$$DL = 0.001268 \text{ ug/l}$$

$$BEC = 0.000671 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	73.99	0.0000	P	14.0	
2	<input type="checkbox"/>			76.65	0.0000	P	13.8	
3	<input type="checkbox"/>	0.001	0.001	76.98	0.0000	P	8.5	26.2
4	<input type="checkbox"/>	0.002	0.010	95.65	0.0000	P	4.3	406.0
5	<input type="checkbox"/>	0.010	0.012	100.31	0.0000	P	5.0	15.1
6	<input type="checkbox"/>	0.020	0.027	133.97	0.0000	P	2.8	34.1
7	<input type="checkbox"/>	0.200	0.205	497.91	0.0001	P	6.4	2.5
8	<input type="checkbox"/>	1.000	0.993	2007.76	0.0003	P	4.3	-0.7
9	<input type="checkbox"/>	2.000	2.003	3873.46	0.0007	P	7.4	0.2
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			74.99	0.0000	P	12.6	

$y = 3.3156E-004 * x + 1.2615E-005$

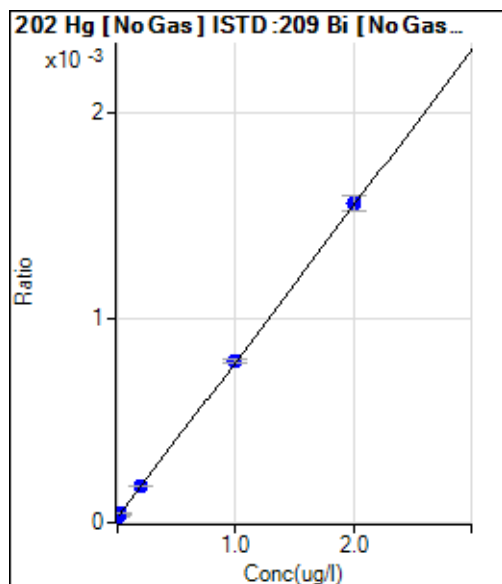
R = 1.0000

DL = 0.01594 ug/l

BEC = 0.03805 ug/l

Weight: 1/y

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	198.96	0.0000	P	6.6	
2	<input type="checkbox"/>			178.63	0.0000	P	7.4	
3	<input type="checkbox"/>	0.001	-0.003	185.96	0.0000	P	9.5	-418.2
4	<input type="checkbox"/>	0.002	0.004	218.96	0.0000	P	11.8	77.0
5	<input type="checkbox"/>	0.010	0.009	246.95	0.0000	P	7.3	-14.1
6	<input type="checkbox"/>	0.020	0.022	316.61	0.0001	P	2.0	10.9
7	<input type="checkbox"/>	0.200	0.189	1101.16	0.0002	P	3.1	-5.4
8	<input type="checkbox"/>	1.000	0.994	4647.89	0.0008	P	2.9	-0.6
9	<input type="checkbox"/>	2.000	2.004	8934.54	0.0016	P	4.6	0.2
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			194.96	0.0000	P	14.5	

$y = 7.6158E-004 * x + 3.3928E-005$

R = 1.0000

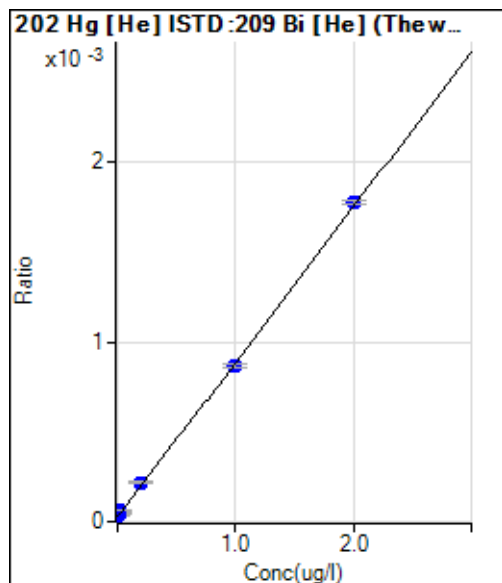
DL = 0.00885 ug/l

BEC = 0.04455 ug/l

Weight: 1/y

Min Conc: <None>

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	84.98	0.0000	P	2.6	
2	<input type="checkbox"/>			93.98	0.0000	P	10.1	
3	<input type="checkbox"/>	0.001	0.003	88.98	0.0000	P	4.4	243.2
4	<input type="checkbox"/>	0.002	0.004	93.98	0.0000	P	8.8	98.2
5	<input type="checkbox"/>	0.010	0.014	116.65	0.0000	P	9.6	38.2
6	<input type="checkbox"/>	0.020	0.031	153.64	0.0001	P	3.3	56.2
7	<input type="checkbox"/>	0.200	0.213	525.57	0.0002	P	3.4	6.7
8	<input type="checkbox"/>	1.000	0.964	2076.08	0.0009	P	2.0	-3.6
9	<input type="checkbox"/>	2.000	2.017	4135.49	0.0018	P	1.7	0.8
10	<input type="checkbox"/>							
11	<input type="checkbox"/>			96.31	0.0000	P	11.7	

$$y = 8.6430E-004 * x + 3.5060E-005$$

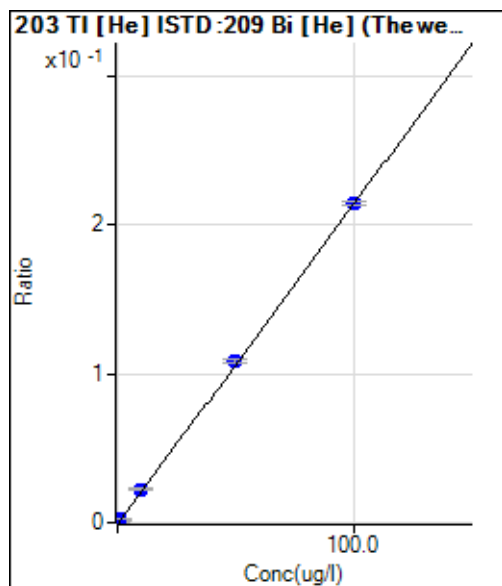
$$R = 0.9997$$

$$DL = 0.003145 \text{ ug/l}$$

$$BEC = 0.04056 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	113.38	0.0000	P	14.4	
2	<input type="checkbox"/>	0.025	0.022	226.76	0.0001	P	8.8	-13.7
3	<input type="checkbox"/>	0.050	0.058	402.84	0.0002	P	7.0	16.8
4	<input type="checkbox"/>	0.100	0.125	769.00	0.0003	P	4.6	24.7
5	<input type="checkbox"/>	0.500	0.496	2759.40	0.0011	P	3.3	-0.7
6	<input type="checkbox"/>	1.000	1.138	6164.58	0.0025	P	2.6	13.8
7	<input type="checkbox"/>	10.000	10.440	53809.72	0.0225	P	1.4	4.4
8	<input type="checkbox"/>	50.000	50.451	259171.31	0.1084	P	2.6	0.9
9	<input type="checkbox"/>	100.000	99.729	498258.15	0.2142	P	1.6	-0.3
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			672.95	0.0003	P	2.8	

$$y = 0.0021 * x + 4.6740E-005$$

$$R = 1.0000$$

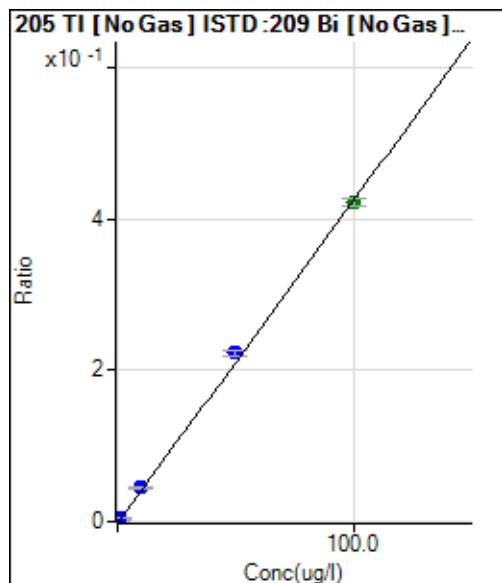
$$DL = 0.009404 \text{ ug/l}$$

$$BEC = 0.02176 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	570.02	0.0001	P	6.5	
2	<input type="checkbox"/>	0.025	0.024	1154.50	0.0002	P	1.4	-5.9
3	<input type="checkbox"/>	0.050	0.051	1860.14	0.0003	P	2.6	1.7
4	<input type="checkbox"/>	0.100	0.124	3761.67	0.0006	P	1.2	24.1
5	<input type="checkbox"/>	0.500	0.529	14393.42	0.0024	P	5.4	5.7
6	<input type="checkbox"/>	1.000	1.148	31173.37	0.0050	P	5.2	14.8
7	<input type="checkbox"/>	10.000	10.421	276361.94	0.0447	P	2.3	4.2
8	<input type="checkbox"/>	50.000	52.243	1313304.65	0.2235	P	3.6	4.5
9	<input type="checkbox"/>	100.000	98.835	2422310.09	0.4228	A	2.3	-1.2
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			4117.34	0.0007	P	6.1	

$$y = 0.0043 * x + 9.7196E-005$$

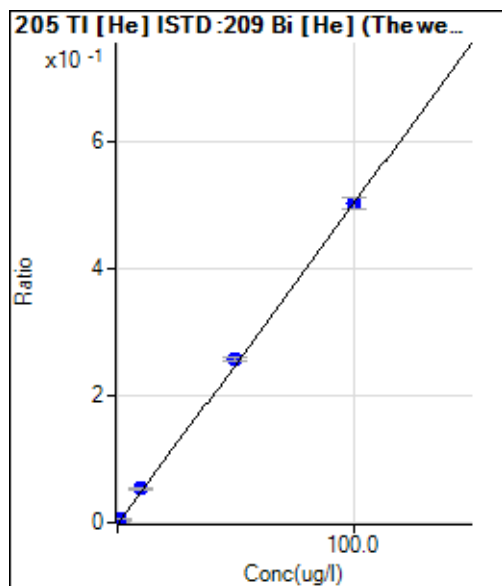
$$R = 0.9997$$

$$DL = 0.004462 \text{ ug/l}$$

$$BEC = 0.02272 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	276.11	0.0001	P	5.7	
2	<input type="checkbox"/>	0.025	0.023	558.24	0.0002	P	3.5	-8.4
3	<input type="checkbox"/>	0.050	0.052	887.05	0.0004	P	2.4	4.8
4	<input type="checkbox"/>	0.100	0.118	1744.15	0.0007	P	3.8	18.4
5	<input type="checkbox"/>	0.500	0.510	6679.70	0.0027	P	0.1	1.9
6	<input type="checkbox"/>	1.000	1.170	14947.73	0.0060	P	0.6	17.0
7	<input type="checkbox"/>	10.000	10.490	127456.99	0.0532	P	2.9	4.9
8	<input type="checkbox"/>	50.000	50.822	615501.59	0.2574	P	2.9	1.6
9	<input type="checkbox"/>	100.000	99.538	1172042.12	0.5041	P	3.5	-0.5
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			1626.09	0.0007	P	8.3	

$$y = 0.0051 * x + 1.1382E-004$$

$$R = 0.9999$$

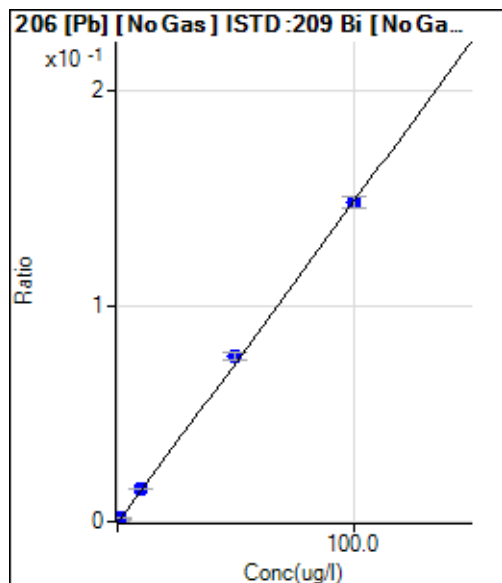
$$DL = 0.003877 \text{ ug/l}$$

$$BEC = 0.02248 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 044ARef.d



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	827.81	0.0001	P	9.6	
2	<input type="checkbox"/>	0.025	0.023	1027.82	0.0002	P	5.3	-6.3
3	<input type="checkbox"/>	0.050	0.043	1213.40	0.0002	P	6.0	-14.0
4	<input type="checkbox"/>	0.100	0.118	1897.93	0.0003	P	7.5	17.9
5	<input type="checkbox"/>	0.500	0.489	5319.99	0.0009	P	7.0	-2.2
6	<input type="checkbox"/>	1.000	1.161	11669.64	0.0019	P	4.1	16.1
7	<input type="checkbox"/>	10.000	10.213	95197.38	0.0154	P	3.1	2.1
8	<input type="checkbox"/>	50.000	51.467	452359.45	0.0770	P	4.5	2.9
9	<input type="checkbox"/>	100.000	99.244	849729.79	0.1484	P	3.5	-0.8
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			1105.61	0.0002	P	4.6	

$$y = 0.0015 * x + 1.4121E-004$$

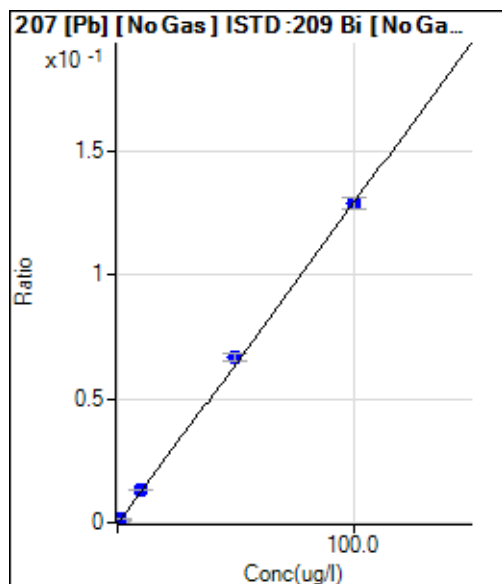
$$R = 0.9999$$

$$DL = 0.02716 \text{ ug/l}$$

$$BEC = 0.09455 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>



	R _j ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	721.14	0.0001	P	5.8	
2	<input type="checkbox"/>	0.025	0.025	903.37	0.0002	P	2.8	-1.4
3	<input type="checkbox"/>	0.050	0.049	1097.83	0.0002	P	6.0	-3.0
4	<input type="checkbox"/>	0.100	0.120	1666.78	0.0003	P	4.2	19.8
5	<input type="checkbox"/>	0.500	0.520	4869.83	0.0008	P	5.2	4.0
6	<input type="checkbox"/>	1.000	1.140	9968.24	0.0016	P	7.4	14.0
7	<input type="checkbox"/>	10.000	10.107	81897.50	0.0132	P	4.0	1.1
8	<input type="checkbox"/>	50.000	51.327	392147.33	0.0668	P	4.7	2.7
9	<input type="checkbox"/>	100.000	99.324	739387.56	0.1291	P	3.6	-0.7
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			957.82	0.0002	P	4.4	

$$y = 0.0013 * x + 1.2286E-004$$

$$R = 0.9999$$

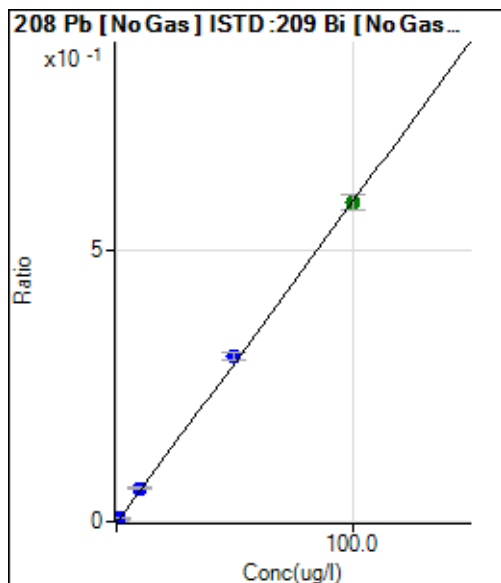
$$DL = 0.01636 \text{ ug/l}$$

$$BEC = 0.09463 \text{ ug/l}$$

Weight: 1/y

Min Conc: <None>

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	3365.75	0.0006	P	1.5	
2	<input type="checkbox"/>	0.025	0.020	4053.60	0.0007	P	1.2	-18.7
3	<input type="checkbox"/>	0.050	0.044	4929.28	0.0008	P	5.0	-12.2
4	<input type="checkbox"/>	0.100	0.119	7649.81	0.0013	P	4.6	18.7
5	<input type="checkbox"/>	0.500	0.505	21809.42	0.0036	P	3.4	1.0
6	<input type="checkbox"/>	1.000	1.132	45427.05	0.0073	P	4.2	13.2
7	<input type="checkbox"/>	10.000	10.279	381080.05	0.0616	P	2.4	2.8
8	<input type="checkbox"/>	50.000	51.459	1798314.47	0.3062	P	4.7	2.9
9	<input type="checkbox"/>	100.000	99.241	3378288.71	0.5899	A	4.5	-0.8
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			4331.41	0.0007	P	6.3	

$$y = 0.0059 * x + 5.7360E-004$$

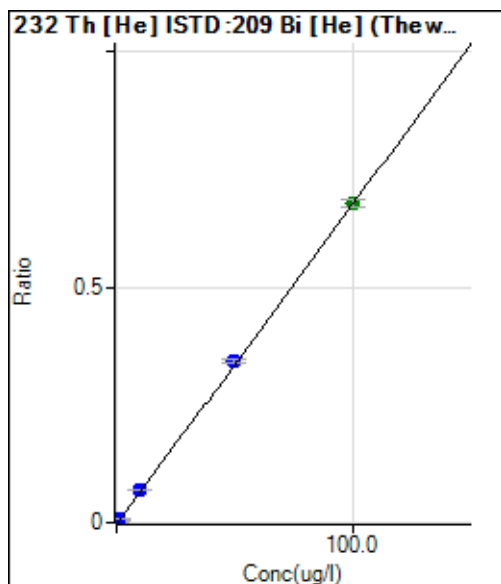
$$R = 0.9999$$

$$DL = 0.004308 \text{ ug/l}$$

$$BEC = 0.09659 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	97.37	0.0000	P	19.2	
2	<input type="checkbox"/>	0.025	0.013	306.80	0.0001	P	3.2	-49.4
3	<input type="checkbox"/>	0.050	0.033	618.93	0.0003	P	7.6	-33.9
4	<input type="checkbox"/>	0.100	0.075	1348.61	0.0006	P	9.7	-24.6
5	<input type="checkbox"/>	0.500	0.385	6578.31	0.0027	P	1.8	-23.1
6	<input type="checkbox"/>	1.000	0.989	16730.76	0.0068	P	4.6	-1.1
7	<input type="checkbox"/>	10.000	10.191	165944.28	0.0693	P	1.4	1.9
8	<input type="checkbox"/>	50.000	50.417	819132.75	0.3426	P	3.0	0.8
9	<input type="checkbox"/>	100.000	99.773	1576794.30	0.6780	A	2.0	-0.2
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			3677.34	0.0016	P	8.2	

$$y = 0.0068 * x + 4.0280E-005$$

$$R = 1.0000$$

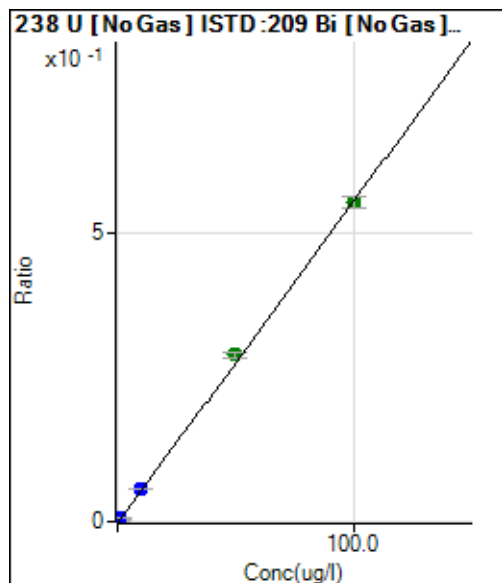
$$DL = 0.003407 \text{ ug/l}$$

$$BEC = 0.005928 \text{ ug/l}$$

$$\text{Weight: } 1/y$$

$$\text{Min Conc: } <\text{None}>$$

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	0.000	0.000	12.33	0.0000	P	24.8	
2	<input type="checkbox"/>	0.025	0.025	818.20	0.0001	P	5.8	-0.8
3	<input type="checkbox"/>	0.050	0.060	1967.04	0.0003	P	20.3	19.1
4	<input type="checkbox"/>	0.100	0.122	4074.16	0.0007	P	2.5	21.7
5	<input type="checkbox"/>	0.500	0.502	17082.42	0.0028	P	6.1	0.3
6	<input type="checkbox"/>	1.000	1.139	39505.01	0.0063	P	5.5	13.9
7	<input type="checkbox"/>	10.000	10.186	351180.27	0.0568	P	2.4	1.9
8	<input type="checkbox"/>	50.000	51.686	1692492.84	0.2881	A	4.1	3.4
9	<input type="checkbox"/>	100.000	99.137	3164804.46	0.5526	A	4.0	-0.9
10	<input type="checkbox"/>	1000.000						
11	<input type="checkbox"/>			1626.12	0.0003	P	14.2	

$$y = 0.0056 * x + 2.1029E-006$$

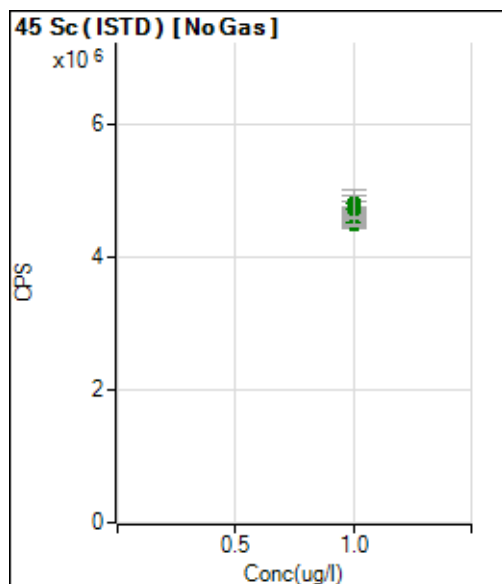
$$R = 0.9998$$

$$DL = 0.0002805 \text{ ug/l}$$

$$BEC = 0.0003772 \text{ ug/l}$$

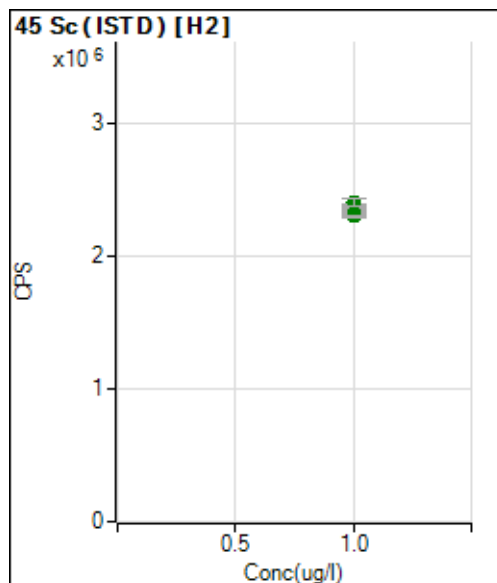
Weight: 1/y

Min Conc: <None>

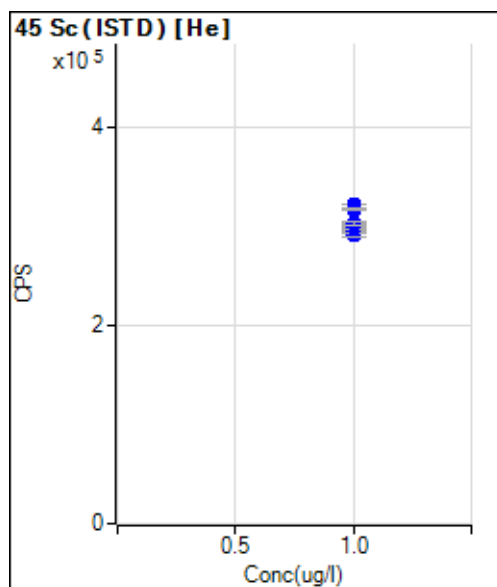


	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		4612030.28		A	4.6	
2	<input type="checkbox"/>	1.000		4491619.53		A	2.2	
3	<input type="checkbox"/>	1.000		4521253.81		A	1.5	
4	<input type="checkbox"/>	1.000		4629945.18		A	1.6	
5	<input type="checkbox"/>	1.000		4634544.10		A	1.8	
6	<input type="checkbox"/>	1.000		4727472.37		A	4.4	
7	<input type="checkbox"/>	1.000		4721644.70		A	1.6	
8	<input type="checkbox"/>	1.000		4721437.14		A	5.5	
9	<input type="checkbox"/>	1.000		4809968.37		A	5.0	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		4727811.79		A	11.5	

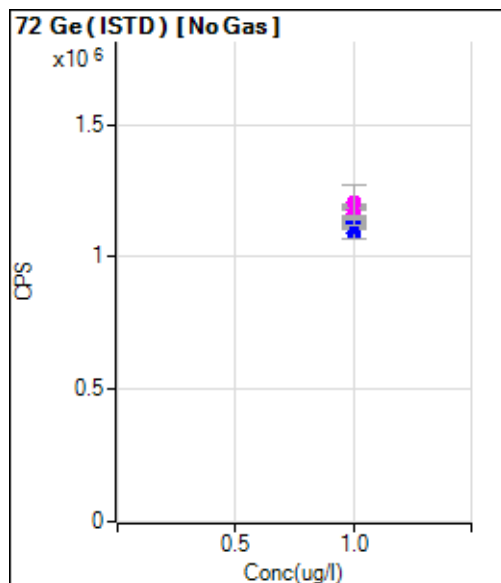
Calibration for 044ARef.d



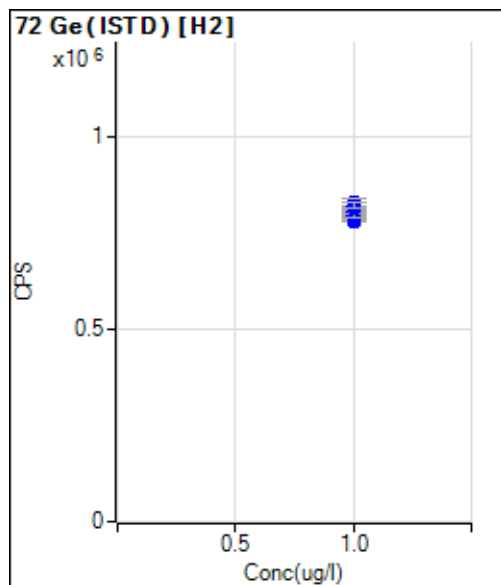
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		2375860.08		A	0.9	
2	<input type="checkbox"/>	1.000		2298550.99		A	0.2	
3	<input type="checkbox"/>	1.000		2317580.94		A	0.9	
4	<input type="checkbox"/>	1.000		2332626.70		A	0.8	
5	<input type="checkbox"/>	1.000		2324105.98		A	0.9	
6	<input type="checkbox"/>	1.000		2326536.19		A	0.5	
7	<input type="checkbox"/>	1.000		2294868.81		A	0.9	
8	<input type="checkbox"/>	1.000		2355354.82		A	0.7	
9	<input type="checkbox"/>	1.000		2376662.01		A	1.5	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		2401944.66		A	2.5	



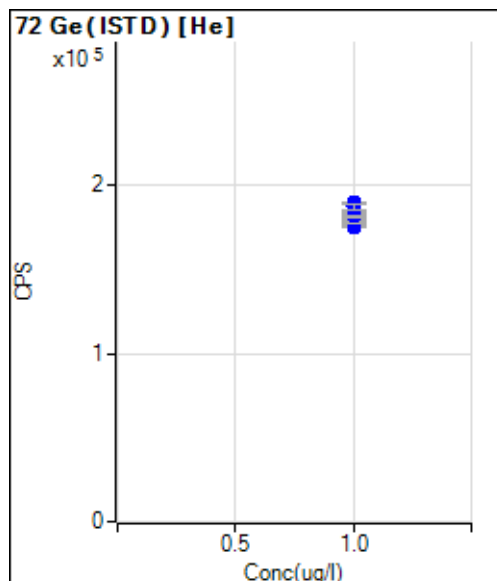
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		295242.14		P	0.2	
2	<input type="checkbox"/>	1.000		295878.55		P	1.2	
3	<input type="checkbox"/>	1.000		291831.36		P	1.6	
4	<input type="checkbox"/>	1.000		297338.60		P	2.0	
5	<input type="checkbox"/>	1.000		300643.95		P	1.7	
6	<input type="checkbox"/>	1.000		302648.51		P	0.7	
7	<input type="checkbox"/>	1.000		304075.90		P	1.2	
8	<input type="checkbox"/>	1.000		316961.38		P	0.2	
9	<input type="checkbox"/>	1.000		323042.11		P	0.5	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		318192.07		P	0.7	



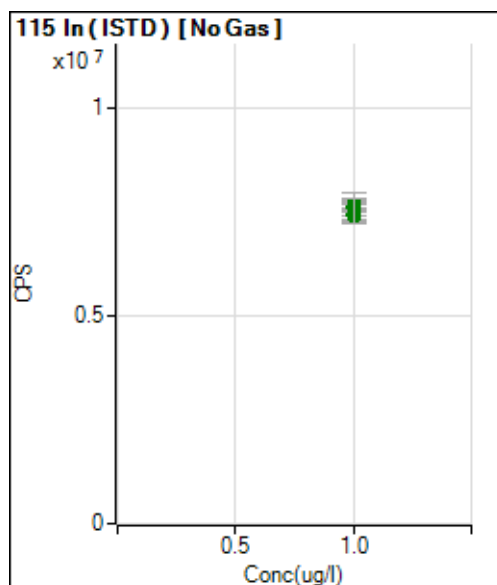
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		1119850.76		P	1.6	
2	<input type="checkbox"/>	1.000		1089257.33		P	3.3	
3	<input type="checkbox"/>	1.000		1109773.35		P	1.6	
4	<input type="checkbox"/>	1.000		1115126.60		P	2.4	
5	<input type="checkbox"/>	1.000		1123618.42		P	2.1	
6	<input type="checkbox"/>	1.000		1162679.94		M	2.6	
7	<input type="checkbox"/>	1.000		1133930.99		P	2.6	
8	<input type="checkbox"/>	1.000		1180212.46		M	3.7	
9	<input type="checkbox"/>	1.000		1188297.84		M	0.3	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		1206306.43		M	10.8	



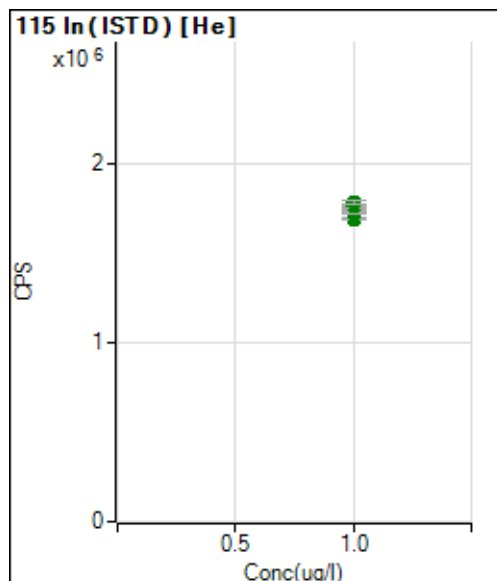
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		797006.22		P	1.5	
2	<input type="checkbox"/>	1.000		791572.85		P	0.7	
3	<input type="checkbox"/>	1.000		780962.17		P	0.6	
4	<input type="checkbox"/>	1.000		799677.50		P	1.4	
5	<input type="checkbox"/>	1.000		786184.47		P	0.2	
6	<input type="checkbox"/>	1.000		803508.33		P	1.8	
7	<input type="checkbox"/>	1.000		793477.20		P	1.1	
8	<input type="checkbox"/>	1.000		812650.87		P	1.0	
9	<input type="checkbox"/>	1.000		829479.33		P	2.1	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		820325.92		P	1.7	



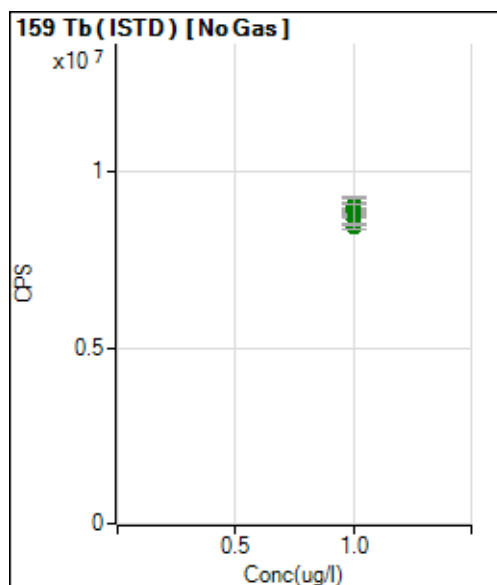
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		177587.89		P	1.0	
2	<input type="checkbox"/>	1.000		175279.48		P	0.9	
3	<input type="checkbox"/>	1.000		177496.41		P	0.6	
4	<input type="checkbox"/>	1.000		181484.06		P	1.9	
5	<input type="checkbox"/>	1.000		183110.03		P	1.0	
6	<input type="checkbox"/>	1.000		182394.52		P	0.9	
7	<input type="checkbox"/>	1.000		181235.22		P	0.6	
8	<input type="checkbox"/>	1.000		187351.07		P	2.1	
9	<input type="checkbox"/>	1.000		189776.68		P	0.5	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		186964.95		P	1.7	



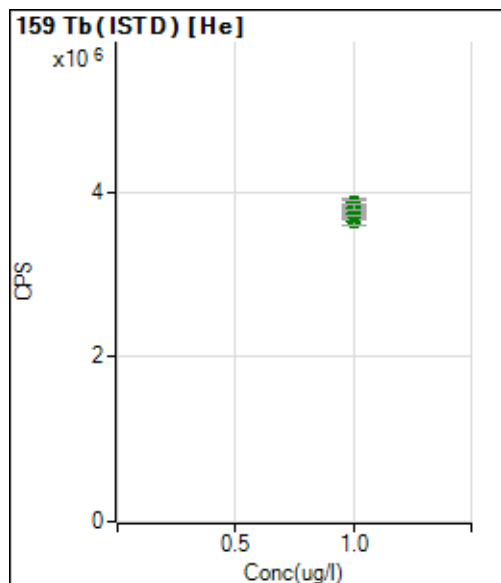
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		7623794.51		A	1.0	
2	<input type="checkbox"/>	1.000		7445114.34		A	3.0	
3	<input type="checkbox"/>	1.000		7406961.94		A	3.2	
4	<input type="checkbox"/>	1.000		7487300.24		A	0.3	
5	<input type="checkbox"/>	1.000		7612781.58		A	2.9	
6	<input type="checkbox"/>	1.000		7680333.49		A	3.0	
7	<input type="checkbox"/>	1.000		7684037.48		A	0.2	
8	<input type="checkbox"/>	1.000		7622961.51		A	5.3	
9	<input type="checkbox"/>	1.000		7397962.81		A	4.6	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		7587797.23		A	9.6	



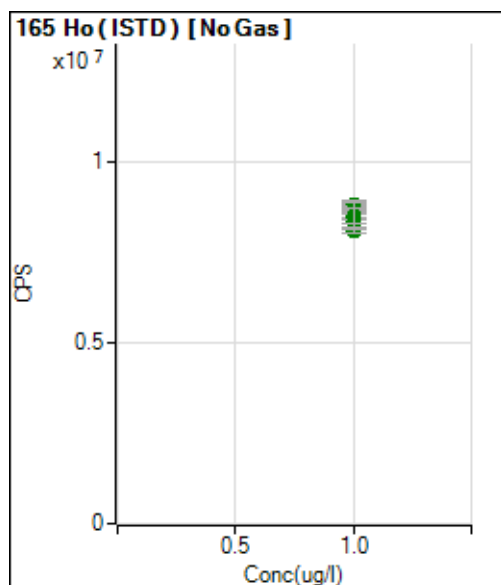
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		1724271.20		A	1.0	
2	<input type="checkbox"/>	1.000		1688421.97		A	0.5	
3	<input type="checkbox"/>	1.000		1690935.75		A	1.1	
4	<input type="checkbox"/>	1.000		1737268.71		A	0.5	
5	<input type="checkbox"/>	1.000		1735343.92		A	1.4	
6	<input type="checkbox"/>	1.000		1780980.31		A	1.0	
7	<input type="checkbox"/>	1.000		1746619.11		A	1.3	
8	<input type="checkbox"/>	1.000		1723294.12		A	0.8	
9	<input type="checkbox"/>	1.000		1761096.27		A	0.7	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		1783112.87		A	0.8	



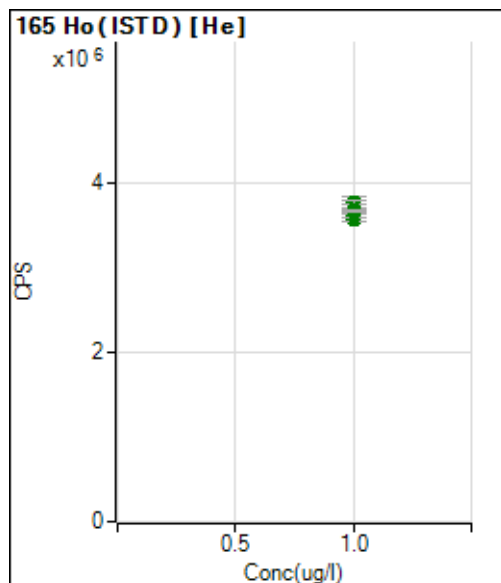
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		8764477.40		A	1.7	
2	<input type="checkbox"/>	1.000		8439079.46		A	2.2	
3	<input type="checkbox"/>	1.000		8718321.56		A	0.2	
4	<input type="checkbox"/>	1.000		8652571.95		A	3.4	
5	<input type="checkbox"/>	1.000		8997260.17		A	3.2	
6	<input type="checkbox"/>	1.000		9072671.21		A	3.9	
7	<input type="checkbox"/>	1.000		9018665.12		A	1.8	
8	<input type="checkbox"/>	1.000		8901784.28		A	4.1	
9	<input type="checkbox"/>	1.000		8953222.18		A	3.0	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		8870655.71		A	9.2	



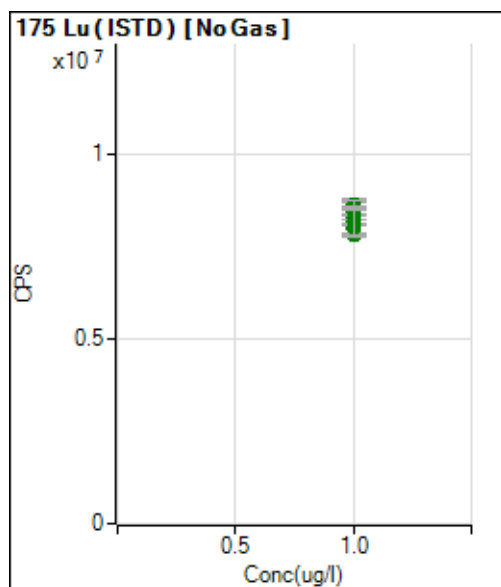
	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		3633206.31		A	1.5	
2	<input type="checkbox"/>	1.000		3707489.42		A	1.7	
3	<input type="checkbox"/>	1.000		3729493.06		A	2.1	
4	<input type="checkbox"/>	1.000		3824441.99		A	0.7	
5	<input type="checkbox"/>	1.000		3858317.35		A	2.9	
6	<input type="checkbox"/>	1.000		3877117.94		A	2.7	
7	<input type="checkbox"/>	1.000		3867769.69		A	3.4	
8	<input type="checkbox"/>	1.000		3855426.90		A	2.1	
9	<input type="checkbox"/>	1.000		3738691.32		A	1.6	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		3811530.98		A	1.8	



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		8312868.98		A	3.1	
2	<input type="checkbox"/>	1.000		8086499.60		A	1.3	
3	<input type="checkbox"/>	1.000		8378890.37		A	4.0	
4	<input type="checkbox"/>	1.000		8460727.20		A	1.9	
5	<input type="checkbox"/>	1.000		8688578.79		A	2.7	
6	<input type="checkbox"/>	1.000		8716726.84		A	2.3	
7	<input type="checkbox"/>	1.000		8831434.14		A	2.9	
8	<input type="checkbox"/>	1.000		8808081.42		A	2.3	
9	<input type="checkbox"/>	1.000		8497308.26		A	4.6	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		8532703.39		A	9.8	

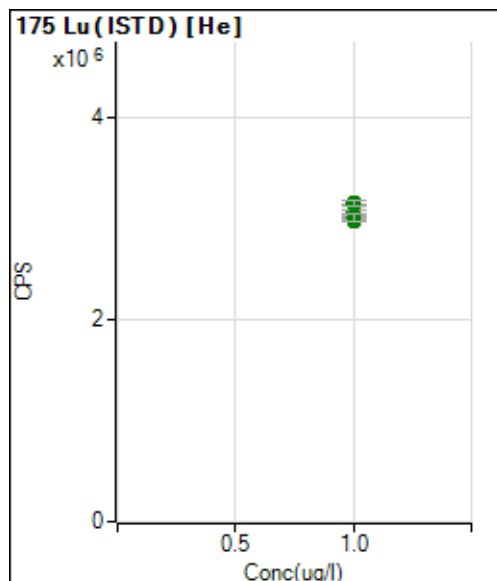


	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		3567002.50		A	1.3	
2	<input type="checkbox"/>	1.000		3673319.93		A	1.7	
3	<input type="checkbox"/>	1.000		3611442.12		A	1.4	
4	<input type="checkbox"/>	1.000		3669421.35		A	0.4	
5	<input type="checkbox"/>	1.000		3766665.49		A	3.6	
6	<input type="checkbox"/>	1.000		3683025.73		A	1.3	
7	<input type="checkbox"/>	1.000		3760910.78		A	2.5	
8	<input type="checkbox"/>	1.000		3685656.80		A	1.6	
9	<input type="checkbox"/>	1.000		3775060.39		A	1.6	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		3674130.59		A	1.1	

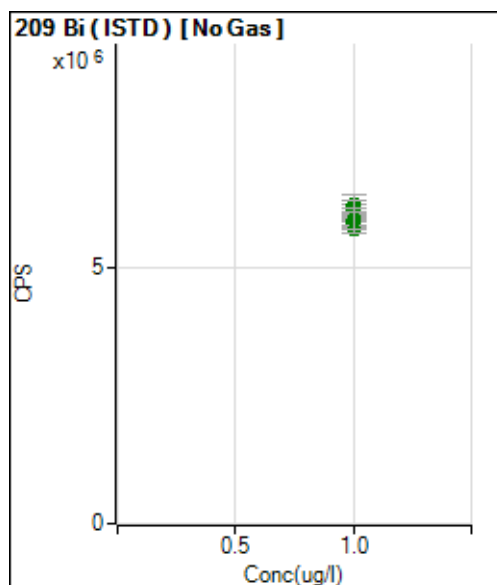


	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		7953142.92		A	3.1	
2	<input type="checkbox"/>	1.000		7813453.18		A	0.7	
3	<input type="checkbox"/>	1.000		8031725.87		A	5.2	
4	<input type="checkbox"/>	1.000		8430491.23		A	2.4	
5	<input type="checkbox"/>	1.000		8516585.98		A	3.5	
6	<input type="checkbox"/>	1.000		8574576.72		A	5.1	
7	<input type="checkbox"/>	1.000		8466952.38		A	1.8	
8	<input type="checkbox"/>	1.000		8631071.70		A	2.5	
9	<input type="checkbox"/>	1.000		8289073.57		A	4.4	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		8177170.63		A	10.2	

Calibration for 044ARef.d

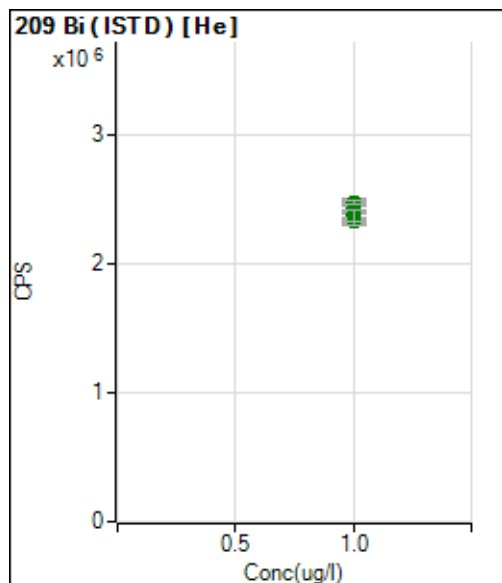


	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		3022010.39		A	1.1	
2	<input type="checkbox"/>	1.000		2985995.14		A	1.0	
3	<input type="checkbox"/>	1.000		2981112.52		A	0.7	
4	<input type="checkbox"/>	1.000		3061192.96		A	1.7	
5	<input type="checkbox"/>	1.000		3119369.68		A	1.5	
6	<input type="checkbox"/>	1.000		3165814.27		A	1.2	
7	<input type="checkbox"/>	1.000		3089343.14		A	2.8	
8	<input type="checkbox"/>	1.000		3137053.29		A	3.0	
9	<input type="checkbox"/>	1.000		3155914.45		A	1.9	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		3021921.89		A	2.5	



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		5867084.52		A	1.2	
2	<input type="checkbox"/>	1.000		5836573.15		A	3.3	
3	<input type="checkbox"/>	1.000		5914297.02		A	3.5	
4	<input type="checkbox"/>	1.000		5988047.44		A	2.1	
5	<input type="checkbox"/>	1.000		6111533.89		A	3.5	
6	<input type="checkbox"/>	1.000		6235597.07		A	5.9	
7	<input type="checkbox"/>	1.000		6188000.27		A	3.5	
8	<input type="checkbox"/>	1.000		5878849.66		A	2.9	
9	<input type="checkbox"/>	1.000		5730996.52		A	2.6	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		5948700.21		A	7.0	

Calibration for 044ARef.d



	Rj ct	Conc.	Calc Conc.	CPS	Ratio	De t	RSD	%RE
1	<input type="checkbox"/>	1.000		2423790.96		A	2.3	
2	<input type="checkbox"/>	1.000		2431799.90		A	3.9	
3	<input type="checkbox"/>	1.000		2339905.81		A	2.2	
4	<input type="checkbox"/>	1.000		2447913.31		A	4.4	
5	<input type="checkbox"/>	1.000		2479088.66		A	1.8	
6	<input type="checkbox"/>	1.000		2476181.33		A	1.6	
7	<input type="checkbox"/>	1.000		2395250.20		A	0.9	
8	<input type="checkbox"/>	1.000		2391908.87		A	2.3	
9	<input type="checkbox"/>	1.000		2326318.80		A	2.1	
10	<input type="checkbox"/>	1.000						
11	<input type="checkbox"/>	1.000		2373401.69		A	4.0	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 001BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 12:08:50
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas		ug/l	28785.99
Be	9	45	1	No Gas		ug/l	587.23
B	11	45	1	No Gas		ug/l	4727.98
Na	23	45	3	He		ug/l	136280.85
Mg	24	45	3	He		ug/l	1177.71
Al	27	45	1	No Gas		ug/l	21546.63
Si	28	45	2	H2		ug/l	12984.21
K	39	72	3	He		ug/l	139245.42
Ca	40	72	2	H2		ug/l	188225.97
Ti	47	72	1	No Gas		ug/l	670.69
V	51	72	1	No Gas		ug/l	-12522.69
V	51	72	3	He		ug/l	11463.42
Cr	52	72	1	No Gas		ug/l	64327.11
Cr	52	72	3	He		ug/l	1040.04
Mn	55	72	1	No Gas		ug/l	7274.08
Mn	55	72	3	He		ug/l	143.64
Fe	56	72	2	H2		ug/l	8551.12
Fe	56	72	3	He		ug/l	5186.15
Co	59	72	1	No Gas		ug/l	758.52
Ni	60	72	1	No Gas		ug/l	2455.34
Ni	60	72	3	He		ug/l	133.34
Cu	63	72	1	No Gas		ug/l	27323.70
Cu	63	72	3	He		ug/l	4030.76
Cu	65	72	1	No Gas		ug/l	6289.22
Zn	66	72	1	No Gas		ug/l	32901.00
Zn	66	72	3	He		ug/l	6188.03
As	75	72	1	No Gas		ug/l	14196.37
As	75	72	3	He		ug/l	425.13
Se	78	72	2	H2		ug/l	43.45
Br	79	72	1	No Gas		ug/l	5826.30
Br	79	72	2	H2		ug/l	3137.47
Se	82	72	1	No Gas		ug/l	726.88
Kr	84	72	1	No Gas		ug/l	21360.30
Sr	88	72	1	No Gas		ug/l	1127.84
Sr	88	72	3	He		ug/l	408.90
Mo	95	115	1	No Gas		ug/l	47.78
Mo	95	115	3	He		ug/l	10.00
Mo	98	115	1	No Gas		ug/l	132.99
Ag	107	115	1	No Gas		ug/l	1349.94
Ag	109	115	1	No Gas		ug/l	1399.97
Cd	111	115	1	No Gas		ug/l	-12.79

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	22.78
Cd	114	115	1	No Gas		ug/l	-52.75
Cd	114	115	3	He		ug/l	52.37
Sn	118	115	1	No Gas		ug/l	1097.87
Sn	118	115	3	He		ug/l	274.45
Sb	121	115	1	No Gas		ug/l	336.37
Sb	121	115	3	He		ug/l	94.68
Sb	123	115	1	No Gas		ug/l	266.36
Sb	123	115	3	He		ug/l	67.34
Ba	135	115	1	No Gas		ug/l	53.23
Ba	137	115	1	No Gas		ug/l	99.80
La	139	115	3	He		ug/l	7.78
Ce	140	115	3	He		ug/l	16.67
Hg	201	209	1	No Gas		ug/l	214.63
Hg	202	209	1	No Gas		ug/l	465.58
Hg	202	209	3	He		ug/l	175.30
Tl	203	209	3	He		ug/l	758.33
Tl	205	209	1	No Gas		ug/l	5757.95
Tl	205	209	3	He		ug/l	1761.50
[Pb]	206	209	1	No Gas		ug/l	2369.12
[Pb]	207	209	1	No Gas		ug/l	2041.28
Pb	208	209	1	No Gas		ug/l	9432.49
Th	232	209	3	He		ug/l	158.06
U	238	209	1	No Gas		ug/l	25.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4999855.68	
Sc	45	2	H2	2652506.32	
Sc	45	3	He	318696.45	
Ge	72	1	No Gas	1205691.75	
Ge	72	2	H2	848632.44	
Ge	72	3	He	187404.11	
In	115	1	No Gas	8416787.17	
In	115	3	He	1853303.92	
Tb	159	1	No Gas	9769282.79	
Tb	159	3	He	4012981.51	
Ho	165	1	No Gas	9368322.99	
Ho	165	3	He	3968250.40	
Lu	175	1	No Gas	9254143.71	
Lu	175	3	He	3333394.37	
Bi	209	1	No Gas	6853485.19	
Bi	209	3	He	2656857.94	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 002BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 12:15:02
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas		ug/l	22299.88
Be	9	45	1	No Gas		ug/l	392.26
B	11	45	1	No Gas		ug/l	2725.35
Na	23	45	3	He		ug/l	117106.94
Mg	24	45	3	He		ug/l	1167.73
Al	27	45	1	No Gas		ug/l	16664.97
Si	28	45	2	H2		ug/l	11476.34
K	39	72	3	He		ug/l	121302.88
Ca	40	72	2	H2		ug/l	173747.95
Ti	47	72	1	No Gas		ug/l	423.77
V	51	72	1	No Gas		ug/l	9533.28
V	51	72	3	He		ug/l	10033.50
Cr	52	72	1	No Gas		ug/l	51731.89
Cr	52	72	3	He		ug/l	1146.72
Mn	55	72	1	No Gas		ug/l	5766.41
Mn	55	72	3	He		ug/l	105.65
Fe	56	72	2	H2		ug/l	7382.65
Fe	56	72	3	He		ug/l	4864.03
Co	59	72	1	No Gas		ug/l	562.23
Ni	60	72	1	No Gas		ug/l	1646.83
Ni	60	72	3	He		ug/l	108.89
Cu	63	72	1	No Gas		ug/l	16255.54
Cu	63	72	3	He		ug/l	2875.71
Cu	65	72	1	No Gas		ug/l	4248.33
Zn	66	72	1	No Gas		ug/l	12340.20
Zn	66	72	3	He		ug/l	3024.77
As	75	72	1	No Gas		ug/l	20577.38
As	75	72	3	He		ug/l	369.20
Se	78	72	2	H2		ug/l	35.00
Br	79	72	1	No Gas		ug/l	7587.02
Br	79	72	2	H2		ug/l	4015.94
Se	82	72	1	No Gas		ug/l	631.28
Kr	84	72	1	No Gas		ug/l	19094.88
Sr	88	72	1	No Gas		ug/l	901.60
Sr	88	72	3	He		ug/l	417.79
Mo	95	115	1	No Gas		ug/l	24.44
Mo	95	115	3	He		ug/l	14.44
Mo	98	115	1	No Gas		ug/l	83.27
Ag	107	115	1	No Gas		ug/l	1188.53
Ag	109	115	1	No Gas		ug/l	1110.49
Cd	111	115	1	No Gas		ug/l	26.81

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	14.67
Cd	114	115	1	No Gas		ug/l	-73.07
Cd	114	115	3	He		ug/l	33.96
Sn	118	115	1	No Gas		ug/l	815.08
Sn	118	115	3	He		ug/l	244.45
Sb	121	115	1	No Gas		ug/l	181.69
Sb	121	115	3	He		ug/l	68.68
Sb	123	115	1	No Gas		ug/l	144.02
Sb	123	115	3	He		ug/l	46.67
Ba	135	115	1	No Gas		ug/l	39.92
Ba	137	115	1	No Gas		ug/l	59.88
La	139	115	3	He		ug/l	5.56
Ce	140	115	3	He		ug/l	10.00
Hg	201	209	1	No Gas		ug/l	99.98
Hg	202	209	1	No Gas		ug/l	212.63
Hg	202	209	3	He		ug/l	108.31
Tl	203	209	3	He		ug/l	459.53
Tl	205	209	1	No Gas		ug/l	2586.94
Tl	205	209	3	He		ug/l	1053.13
[Pb]	206	209	1	No Gas		ug/l	1616.78
[Pb]	207	209	1	No Gas		ug/l	1518.99
Pb	208	209	1	No Gas		ug/l	6776.29
Th	232	209	3	He		ug/l	84.03
U	238	209	1	No Gas		ug/l	12.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4370064.49	
Sc	45	2	H2	2480039.21	
Sc	45	3	He	292201.73	
Ge	72	1	No Gas	1077498.95	
Ge	72	2	H2	826432.34	
Ge	72	3	He	176788.56	
In	115	1	No Gas	6954031.45	
In	115	3	He	1710875.30	
Tb	159	1	No Gas	7742769.16	
Tb	159	3	He	3513690.73	
Ho	165	1	No Gas	7445878.53	
Ho	165	3	He	3382551.13	
Lu	175	1	No Gas	7203542.92	
Lu	175	3	He	2864312.57	
Bi	209	1	No Gas	5329241.21	
Bi	209	3	He	2327031.02	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 003BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDO.D.b
Acq Time 2022-02-18 12:21:15
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas		ug/l	22798.81
Be	9	45	1	No Gas		ug/l	445.25
B	11	45	1	No Gas		ug/l	2409.83
Na	23	45	3	He		ug/l	114353.86
Mg	24	45	3	He		ug/l	1244.26
Al	27	45	1	No Gas		ug/l	15828.45
Si	28	45	2	H2		ug/l	10591.33
K	39	72	3	He		ug/l	138254.99
Ca	40	72	2	H2		ug/l	162844.05
Ti	47	72	1	No Gas		ug/l	435.45
V	51	72	1	No Gas		ug/l	-27725.49
V	51	72	3	He		ug/l	12141.75
Cr	52	72	1	No Gas		ug/l	60144.22
Cr	52	72	3	He		ug/l	1100.05
Mn	55	72	1	No Gas		ug/l	6698.25
Mn	55	72	3	He		ug/l	123.64
Fe	56	72	2	H2		ug/l	7130.59
Fe	56	72	3	He		ug/l	5082.68
Co	59	72	1	No Gas		ug/l	602.16
Ni	60	72	1	No Gas		ug/l	1799.89
Ni	60	72	3	He		ug/l	135.56
Cu	63	72	1	No Gas		ug/l	15582.55
Cu	63	72	3	He		ug/l	3150.05
Cu	65	72	1	No Gas		ug/l	4399.77
Zn	66	72	1	No Gas		ug/l	11267.64
Zn	66	72	3	He		ug/l	2726.95
As	75	72	1	No Gas		ug/l	10659.24
As	75	72	3	He		ug/l	446.80
Se	78	72	2	H2		ug/l	32.56
Br	79	72	1	No Gas		ug/l	8126.22
Br	79	72	2	H2		ug/l	4082.50
Se	82	72	1	No Gas		ug/l	759.15
Kr	84	72	1	No Gas		ug/l	20520.55
Sr	88	72	1	No Gas		ug/l	934.87
Sr	88	72	3	He		ug/l	492.24
Mo	95	115	1	No Gas		ug/l	28.89
Mo	95	115	3	He		ug/l	17.78
Mo	98	115	1	No Gas		ug/l	83.27
Ag	107	115	1	No Gas		ug/l	1293.92
Ag	109	115	1	No Gas		ug/l	1164.52
Cd	111	115	1	No Gas		ug/l	17.27

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	11.22
Cd	114	115	1	No Gas		ug/l	-53.55
Cd	114	115	3	He		ug/l	24.68
Sn	118	115	1	No Gas		ug/l	731.90
Sn	118	115	3	He		ug/l	230.01
Sb	121	115	1	No Gas		ug/l	157.02
Sb	121	115	3	He		ug/l	47.67
Sb	123	115	1	No Gas		ug/l	128.68
Sb	123	115	3	He		ug/l	41.00
Ba	135	115	1	No Gas		ug/l	43.25
Ba	137	115	1	No Gas		ug/l	59.88
La	139	115	3	He		ug/l	7.78
Ce	140	115	3	He		ug/l	13.33
Hg	201	209	1	No Gas		ug/l	96.65
Hg	202	209	1	No Gas		ug/l	222.96
Hg	202	209	3	He		ug/l	104.98
Tl	203	209	3	He		ug/l	330.81
Tl	205	209	1	No Gas		ug/l	1896.82
Tl	205	209	3	He		ug/l	801.68
[Pb]	206	209	1	No Gas		ug/l	1805.69
[Pb]	207	209	1	No Gas		ug/l	1503.43
Pb	208	209	1	No Gas		ug/l	7081.90
Th	232	209	3	He		ug/l	97.37
U	238	209	1	No Gas		ug/l	9.67

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4720142.47	
Sc	45	2	H2	2497653.59	
Sc	45	3	He	313400.61	
Ge	72	1	No Gas	1204624.30	
Ge	72	2	H2	828106.75	
Ge	72	3	He	186364.19	
In	115	1	No Gas	7809257.09	
In	115	3	He	1834739.34	
Tb	159	1	No Gas	8708155.66	
Tb	159	3	He	3879957.97	
Ho	165	1	No Gas	8535084.73	
Ho	165	3	He	3869287.54	
Lu	175	1	No Gas	8232742.09	
Lu	175	3	He	3279077.17	
Bi	209	1	No Gas	6065099.87	
Bi	209	3	He	2571656.95	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 004BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDO.D.b
Acq Time 2022-02-18 12:27:28
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas		ug/l	23926.35
Be	9	45	1	No Gas		ug/l	492.24
B	11	45	1	No Gas		ug/l	2186.37
Na	23	45	3	He		ug/l	109488.05
Mg	24	45	3	He		ug/l	1201.00
Al	27	45	1	No Gas		ug/l	15335.71
Si	28	45	2	H2		ug/l	10545.29
K	39	72	3	He		ug/l	141979.01
Ca	40	72	2	H2		ug/l	158037.72
Ti	47	72	1	No Gas		ug/l	423.77
V	51	72	1	No Gas		ug/l	-33509.73
V	51	72	3	He		ug/l	12886.82
Cr	52	72	1	No Gas		ug/l	67524.89
Cr	52	72	3	He		ug/l	1110.05
Mn	55	72	1	No Gas		ug/l	6951.26
Mn	55	72	3	He		ug/l	168.99
Fe	56	72	2	H2		ug/l	7205.71
Fe	56	72	3	He		ug/l	5172.80
Co	59	72	1	No Gas		ug/l	562.23
Ni	60	72	1	No Gas		ug/l	1813.19
Ni	60	72	3	He		ug/l	96.67
Cu	63	72	1	No Gas		ug/l	15139.89
Cu	63	72	3	He		ug/l	3038.04
Cu	65	72	1	No Gas		ug/l	4550.54
Zn	66	72	1	No Gas		ug/l	10704.93
Zn	66	72	3	He		ug/l	2590.25
As	75	72	1	No Gas		ug/l	21770.37
As	75	72	3	He		ug/l	459.47
Se	78	72	2	H2		ug/l	32.33
Br	79	72	1	No Gas		ug/l	8349.25
Br	79	72	2	H2		ug/l	4545.04
Se	82	72	1	No Gas		ug/l	777.55
Kr	84	72	1	No Gas		ug/l	20823.72
Sr	88	72	1	No Gas		ug/l	931.53
Sr	88	72	3	He		ug/l	372.23
Mo	95	115	1	No Gas		ug/l	24.44
Mo	95	115	3	He		ug/l	7.78
Mo	98	115	1	No Gas		ug/l	92.36
Ag	107	115	1	No Gas		ug/l	1314.59
Ag	109	115	1	No Gas		ug/l	1209.87
Cd	111	115	1	No Gas		ug/l	-13.84

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	10.22
Cd	114	115	1	No Gas		ug/l	-79.38
Cd	114	115	3	He		ug/l	21.64
Sn	118	115	1	No Gas		ug/l	841.70
Sn	118	115	3	He		ug/l	288.90
Sb	121	115	1	No Gas		ug/l	131.68
Sb	121	115	3	He		ug/l	56.01
Sb	123	115	1	No Gas		ug/l	117.01
Sb	123	115	3	He		ug/l	39.67
Ba	135	115	1	No Gas		ug/l	26.61
Ba	137	115	1	No Gas		ug/l	73.19
La	139	115	3	He		ug/l	7.78
Ce	140	115	3	He		ug/l	6.67
Hg	201	209	1	No Gas		ug/l	74.32
Hg	202	209	1	No Gas		ug/l	177.97
Hg	202	209	3	He		ug/l	78.32
Tl	203	209	3	He		ug/l	291.46
Tl	205	209	1	No Gas		ug/l	1443.42
Tl	205	209	3	He		ug/l	714.31
[Pb]	206	209	1	No Gas		ug/l	1767.91
[Pb]	207	209	1	No Gas		ug/l	1393.42
Pb	208	209	1	No Gas		ug/l	6906.33
Th	232	209	3	He		ug/l	106.04
U	238	209	1	No Gas		ug/l	10.67

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4568928.25	
Sc	45	2	H2	2420853.66	
Sc	45	3	He	309027.26	
Ge	72	1	No Gas	1104715.45	
Ge	72	2	H2	797521.23	
Ge	72	3	He	182803.13	
In	115	1	No Gas	7304188.16	
In	115	3	He	1800872.70	
Tb	159	1	No Gas	8654611.13	
Tb	159	3	He	3905214.06	
Ho	165	1	No Gas	8449453.01	
Ho	165	3	He	3842140.63	
Lu	175	1	No Gas	8186627.69	
Lu	175	3	He	3273283.82	
Bi	209	1	No Gas	6118523.56	
Bi	209	3	He	2587795.28	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 005BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDO.D.b
Acq Time 2022-02-18 12:33:41
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas		ug/l	21900.48
Be	9	45	1	No Gas		ug/l	443.59
B	11	45	1	No Gas		ug/l	2226.40
Na	23	45	3	He		ug/l	105023.42
Mg	24	45	3	He		ug/l	1364.02
Al	27	45	1	No Gas		ug/l	15042.18
Si	28	45	2	H2		ug/l	10831.60
K	39	72	3	He		ug/l	139663.35
Ca	40	72	2	H2		ug/l	152569.17
Ti	47	72	1	No Gas		ug/l	398.74
V	51	72	1	No Gas		ug/l	51809.13
V	51	72	3	He		ug/l	13124.78
Cr	52	72	1	No Gas		ug/l	70041.41
Cr	52	72	3	He		ug/l	1051.16
Mn	55	72	1	No Gas		ug/l	6967.84
Mn	55	72	3	He		ug/l	112.31
Fe	56	72	2	H2		ug/l	7270.80
Fe	56	72	3	He		ug/l	5005.92
Co	59	72	1	No Gas		ug/l	605.48
Ni	60	72	1	No Gas		ug/l	1839.81
Ni	60	72	3	He		ug/l	122.22
Cu	63	72	1	No Gas		ug/l	14031.02
Cu	63	72	3	He		ug/l	2985.71
Cu	65	72	1	No Gas		ug/l	4387.10
Zn	66	72	1	No Gas		ug/l	10645.08
Zn	66	72	3	He		ug/l	2731.38
As	75	72	1	No Gas		ug/l	10111.76
As	75	72	3	He		ug/l	462.60
Se	78	72	2	H2		ug/l	28.11
Br	79	72	1	No Gas		ug/l	8838.56
Br	79	72	2	H2		ug/l	4654.86
Se	82	72	1	No Gas		ug/l	643.14
Kr	84	72	1	No Gas		ug/l	20334.10
Sr	88	72	1	No Gas		ug/l	1024.70
Sr	88	72	3	He		ug/l	413.35
Mo	95	115	1	No Gas		ug/l	31.11
Mo	95	115	3	He		ug/l	13.33
Mo	98	115	1	No Gas		ug/l	88.20
Ag	107	115	1	No Gas		ug/l	1293.92
Ag	109	115	1	No Gas		ug/l	1168.52
Cd	111	115	1	No Gas		ug/l	18.67

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	8.89
Cd	114	115	1	No Gas		ug/l	-95.88
Cd	114	115	3	He		ug/l	17.39
Sn	118	115	1	No Gas		ug/l	931.52
Sn	118	115	3	He		ug/l	261.12
Sb	121	115	1	No Gas		ug/l	157.69
Sb	121	115	3	He		ug/l	48.34
Sb	123	115	1	No Gas		ug/l	115.34
Sb	123	115	3	He		ug/l	34.00
Ba	135	115	1	No Gas		ug/l	26.61
Ba	137	115	1	No Gas		ug/l	59.88
La	139	115	3	He		ug/l	11.11
Ce	140	115	3	He		ug/l	12.22
Hg	201	209	1	No Gas		ug/l	89.32
Hg	202	209	1	No Gas		ug/l	201.63
Hg	202	209	3	He		ug/l	106.65
Tl	203	209	3	He		ug/l	250.10
Tl	205	209	1	No Gas		ug/l	1398.97
Tl	205	209	3	He		ug/l	640.94
[Pb]	206	209	1	No Gas		ug/l	1633.44
[Pb]	207	209	1	No Gas		ug/l	1410.08
Pb	208	209	1	No Gas		ug/l	6439.54
Th	232	209	3	He		ug/l	88.70
U	238	209	1	No Gas		ug/l	10.67

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4919898.30	
Sc	45	2	H2	2407282.34	
Sc	45	3	He	312068.31	
Ge	72	1	No Gas	1201498.17	
Ge	72	2	H2	814760.41	
Ge	72	3	He	185603.61	
In	115	1	No Gas	7935084.42	
In	115	3	He	1818744.47	
Tb	159	1	No Gas	9172781.26	
Tb	159	3	He	4004535.70	
Ho	165	1	No Gas	8959160.15	
Ho	165	3	He	4011730.63	
Lu	175	1	No Gas	8762002.42	
Lu	175	3	He	3339323.19	
Bi	209	1	No Gas	6538927.85	
Bi	209	3	He	2575292.80	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 006BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BD0D.b
Acq Time 2022-02-18 12:40:02
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas		ug/l	20922.04
Be	9	45	1	No Gas		ug/l	386.26
B	11	45	1	No Gas		ug/l	1746.14
Na	23	45	3	He		ug/l	102641.53
Mg	24	45	3	He		ug/l	1280.85
Al	27	45	1	No Gas		ug/l	14504.93
Si	28	45	2	H2		ug/l	10264.31
K	39	72	3	He		ug/l	135341.72
Ca	40	72	2	H2		ug/l	156059.45
Ti	47	72	1	No Gas		ug/l	377.05
V	51	72	1	No Gas		ug/l	17707.47
V	51	72	3	He		ug/l	12772.27
Cr	52	72	1	No Gas		ug/l	67474.65
Cr	52	72	3	He		ug/l	1107.83
Mn	55	72	1	No Gas		ug/l	6455.31
Mn	55	72	3	He		ug/l	107.31
Fe	56	72	2	H2		ug/l	7175.67
Fe	56	72	3	He		ug/l	5369.74
Co	59	72	1	No Gas		ug/l	555.58
Ni	60	72	1	No Gas		ug/l	1736.67
Ni	60	72	3	He		ug/l	85.55
Cu	63	72	1	No Gas		ug/l	12558.42
Cu	63	72	3	He		ug/l	2773.04
Cu	65	72	1	No Gas		ug/l	4098.90
Zn	66	72	1	No Gas		ug/l	10565.26
Zn	66	72	3	He		ug/l	2604.70
As	75	72	1	No Gas		ug/l	18639.08
As	75	72	3	He		ug/l	438.40
Se	78	72	2	H2		ug/l	30.67
Br	79	72	1	No Gas		ug/l	8658.81
Br	79	72	2	H2		ug/l	4731.41
Se	82	72	1	No Gas		ug/l	801.29
Kr	84	72	1	No Gas		ug/l	20111.06
Sr	88	72	1	No Gas		ug/l	1001.41
Sr	88	72	3	He		ug/l	410.01
Mo	95	115	1	No Gas		ug/l	34.45
Mo	95	115	3	He		ug/l	10.00
Mo	98	115	1	No Gas		ug/l	100.91
Ag	107	115	1	No Gas		ug/l	1259.23
Ag	109	115	1	No Gas		ug/l	1197.87
Cd	111	115	1	No Gas		ug/l	-21.58

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	7.00
Cd	114	115	1	No Gas		ug/l	-82.25
Cd	114	115	3	He		ug/l	18.64
Sn	118	115	1	No Gas		ug/l	848.35
Sn	118	115	3	He		ug/l	223.34
Sb	121	115	1	No Gas		ug/l	137.35
Sb	121	115	3	He		ug/l	47.67
Sb	123	115	1	No Gas		ug/l	109.01
Sb	123	115	3	He		ug/l	38.67
Ba	135	115	1	No Gas		ug/l	26.61
Ba	137	115	1	No Gas		ug/l	69.86
La	139	115	3	He		ug/l	5.56
Ce	140	115	3	He		ug/l	15.56
Hg	201	209	1	No Gas		ug/l	66.99
Hg	202	209	1	No Gas		ug/l	190.96
Hg	202	209	3	He		ug/l	77.32
Tl	203	209	3	He		ug/l	187.41
Tl	205	209	1	No Gas		ug/l	1046.72
Tl	205	209	3	He		ug/l	501.55
[Pb]	206	209	1	No Gas		ug/l	1573.44
[Pb]	207	209	1	No Gas		ug/l	1292.29
Pb	208	209	1	No Gas		ug/l	6051.69
Th	232	209	3	He		ug/l	84.70
U	238	209	1	No Gas		ug/l	12.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4671690.88	
Sc	45	2	H2	2310136.34	
Sc	45	3	He	305724.03	
Ge	72	1	No Gas	1142446.74	
Ge	72	2	H2	783147.17	
Ge	72	3	He	185104.02	
In	115	1	No Gas	7568929.57	
In	115	3	He	1783190.57	
Tb	159	1	No Gas	8719016.31	
Tb	159	3	He	3855004.45	
Ho	165	1	No Gas	8529450.19	
Ho	165	3	He	3672712.84	
Lu	175	1	No Gas	8268255.26	
Lu	175	3	He	3096588.12	
Bi	209	1	No Gas	6154073.94	
Bi	209	3	He	2493371.28	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 007BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 12:46:15
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas		ug/l	19247.19
Be	9	45	1	No Gas		ug/l	352.27
B	11	45	1	No Gas		ug/l	1690.78
Na	23	45	3	He		ug/l	99394.37
Mg	24	45	3	He		ug/l	1257.56
Al	27	45	1	No Gas		ug/l	14090.05
Si	28	45	2	H2		ug/l	10816.26
K	39	72	3	He		ug/l	129358.98
Ca	40	72	2	H2		ug/l	157566.64
Ti	47	72	1	No Gas		ug/l	345.35
V	51	72	1	No Gas		ug/l	-33573.03
V	51	72	3	He		ug/l	12087.26
Cr	52	72	1	No Gas		ug/l	63845.25
Cr	52	72	3	He		ug/l	1154.50
Mn	55	72	1	No Gas		ug/l	6195.71
Mn	55	72	3	He		ug/l	96.98
Fe	56	72	2	H2		ug/l	6977.03
Fe	56	72	3	He		ug/l	5309.65
Co	59	72	1	No Gas		ug/l	628.77
Ni	60	72	1	No Gas		ug/l	1630.19
Ni	60	72	3	He		ug/l	112.23
Cu	63	72	1	No Gas		ug/l	11330.93
Cu	63	72	3	He		ug/l	2738.04
Cu	65	72	1	No Gas		ug/l	3950.13
Zn	66	72	1	No Gas		ug/l	11018.02
Zn	66	72	3	He		ug/l	2578.03
As	75	72	1	No Gas		ug/l	16400.13
As	75	72	3	He		ug/l	415.60
Se	78	72	2	H2		ug/l	29.00
Br	79	72	1	No Gas		ug/l	8722.03
Br	79	72	2	H2		ug/l	4578.34
Se	82	72	1	No Gas		ug/l	603.80
Kr	84	72	1	No Gas		ug/l	21176.98
Sr	88	72	1	No Gas		ug/l	874.98
Sr	88	72	3	He		ug/l	422.24
Mo	95	115	1	No Gas		ug/l	21.11
Mo	95	115	3	He		ug/l	7.78
Mo	98	115	1	No Gas		ug/l	81.87
Ag	107	115	1	No Gas		ug/l	1217.88
Ag	109	115	1	No Gas		ug/l	1165.19
Cd	111	115	1	No Gas		ug/l	-18.49

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	7.00
Cd	114	115	1	No Gas		ug/l	-141.89
Cd	114	115	3	He		ug/l	12.83
Sn	118	115	1	No Gas		ug/l	835.04
Sn	118	115	3	He		ug/l	248.89
Sb	121	115	1	No Gas		ug/l	151.69
Sb	121	115	3	He		ug/l	53.34
Sb	123	115	1	No Gas		ug/l	121.34
Sb	123	115	3	He		ug/l	35.00
Ba	135	115	1	No Gas		ug/l	19.96
Ba	137	115	1	No Gas		ug/l	49.90
La	139	115	3	He		ug/l	4.45
Ce	140	115	3	He		ug/l	14.44
Hg	201	209	1	No Gas		ug/l	76.98
Hg	202	209	1	No Gas		ug/l	178.97
Hg	202	209	3	He		ug/l	85.65
Tl	203	209	3	He		ug/l	202.75
Tl	205	209	1	No Gas		ug/l	1041.16
Tl	205	209	3	He		ug/l	473.53
[Pb]	206	209	1	No Gas		ug/l	1346.75
[Pb]	207	209	1	No Gas		ug/l	1212.29
Pb	208	209	1	No Gas		ug/l	5427.14
Th	232	209	3	He		ug/l	54.69
U	238	209	1	No Gas		ug/l	14.67

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4402640.87	
Sc	45	2	H2	2408707.99	
Sc	45	3	He	302421.08	
Ge	72	1	No Gas	1088793.05	
Ge	72	2	H2	820587.61	
Ge	72	3	He	180281.25	
In	115	1	No Gas	7271736.25	
In	115	3	He	1761690.88	
Tb	159	1	No Gas	7885059.05	
Tb	159	3	He	3791290.69	
Ho	165	1	No Gas	7992659.57	
Ho	165	3	He	3706411.49	
Lu	175	1	No Gas	7897878.43	
Lu	175	3	He	3045196.29	
Bi	209	1	No Gas	5641787.44	
Bi	209	3	He	2534811.66	

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 008BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 12:52:29
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas		ug/l	18475.26
Be	9	45	1	No Gas		ug/l	330.94
B	11	45	1	No Gas		ug/l	1331.93
Na	23	45	3	He		ug/l	97550.11
Mg	24	45	3	He		ug/l	1374.01
Al	27	45	1	No Gas		ug/l	13110.24
Si	28	45	2	H2		ug/l	9845.20
K	39	72	3	He		ug/l	127559.92
Ca	40	72	2	H2		ug/l	156756.18
Ti	47	72	1	No Gas		ug/l	395.40
V	51	72	1	No Gas		ug/l	4683.23
V	51	72	3	He		ug/l	12555.43
Cr	52	72	1	No Gas		ug/l	62285.03
Cr	52	72	3	He		ug/l	1086.72
Mn	55	72	1	No Gas		ug/l	6165.77
Mn	55	72	3	He		ug/l	101.98
Fe	56	72	2	H2		ug/l	7152.29
Fe	56	72	3	He		ug/l	5207.84
Co	59	72	1	No Gas		ug/l	555.58
Ni	60	72	1	No Gas		ug/l	1527.07
Ni	60	72	3	He		ug/l	81.11
Cu	63	72	1	No Gas		ug/l	10481.96
Cu	63	72	3	He		ug/l	2570.72
Cu	65	72	1	No Gas		ug/l	3739.99
Zn	66	72	1	No Gas		ug/l	10125.86
Zn	66	72	3	He		ug/l	2508.01
As	75	72	1	No Gas		ug/l	12696.71
As	75	72	3	He		ug/l	433.53
Se	78	72	2	H2		ug/l	30.22
Br	79	72	1	No Gas		ug/l	9847.15
Br	79	72	2	H2		ug/l	5307.15
Se	82	72	1	No Gas		ug/l	619.67
Kr	84	72	1	No Gas		ug/l	19994.33
Sr	88	72	1	No Gas		ug/l	931.55
Sr	88	72	3	He		ug/l	396.68
Mo	95	115	1	No Gas		ug/l	20.00
Mo	95	115	3	He		ug/l	12.22
Mo	98	115	1	No Gas		ug/l	65.83
Ag	107	115	1	No Gas		ug/l	1246.56
Ag	109	115	1	No Gas		ug/l	1211.87
Cd	111	115	1	No Gas		ug/l	53.49

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	8.66
Cd	114	115	1	No Gas		ug/l	-46.89
Cd	114	115	3	He		ug/l	12.23
Sn	118	115	1	No Gas		ug/l	775.16
Sn	118	115	3	He		ug/l	246.67
Sb	121	115	1	No Gas		ug/l	124.01
Sb	121	115	3	He		ug/l	35.33
Sb	123	115	1	No Gas		ug/l	103.34
Sb	123	115	3	He		ug/l	30.33
Ba	135	115	1	No Gas		ug/l	46.57
Ba	137	115	1	No Gas		ug/l	46.57
La	139	115	3	He		ug/l	3.33
Ce	140	115	3	He		ug/l	5.56
Hg	201	209	1	No Gas		ug/l	72.65
Hg	202	209	1	No Gas		ug/l	183.97
Hg	202	209	3	He		ug/l	83.98
Tl	203	209	3	He		ug/l	189.41
Tl	205	209	1	No Gas		ug/l	911.15
Tl	205	209	3	He		ug/l	444.19
[Pb]	206	209	1	No Gas		ug/l	1331.19
[Pb]	207	209	1	No Gas		ug/l	1102.28
Pb	208	209	1	No Gas		ug/l	5197.10
Th	232	209	3	He		ug/l	73.36
U	238	209	1	No Gas		ug/l	17.00

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4673327.11	
Sc	45	2	H2	2396835.54	
Sc	45	3	He	297406.52	
Ge	72	1	No Gas	1131690.42	
Ge	72	2	H2	809680.83	
Ge	72	3	He	174628.65	
In	115	1	No Gas	7509054.66	
In	115	3	He	1733994.01	
Tb	159	1	No Gas	8506534.73	
Tb	159	3	He	3738557.57	
Ho	165	1	No Gas	8533929.78	
Ho	165	3	He	3694066.25	
Lu	175	1	No Gas	8252134.55	
Lu	175	3	He	3080079.55	
Bi	209	1	No Gas	5858226.38	
Bi	209	3	He	2429273.41	

ICPMS207-B Analytical Data

Sample Name Cal Blk
File Name 009CALB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 12:58:43
Sample Type CalBlk
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.000	ug/l	18624.17
Be	9	45	1	No Gas	0.000	ug/l	333.94
B	11	45	1	No Gas	0.000	ug/l	1597.42
Na	23	45	3	He	0.000	ug/l	95823.55
Mg	24	45	3	He	0.000	ug/l	1347.39
Al	27	45	1	No Gas	0.000	ug/l	14237.91
Si	28	45	2	H2	0.000	ug/l	11414.27
K	39	72	3	He	0.000	ug/l	130601.70
Ca	40	72	2	H2	0.000	ug/l	158314.87
Ti	47	72	1	No Gas	0.000	ug/l	378.72
V	51	72	1	No Gas	0.000	ug/l	-90283.62
V	51	72	3	He	0.000	ug/l	13095.89
Cr	52	72	1	No Gas	0.000	ug/l	66211.58
Cr	52	72	3	He	0.000	ug/l	1118.94
Mn	55	72	1	No Gas	0.000	ug/l	6375.43
Mn	55	72	3	He	0.000	ug/l	96.31
Fe	56	72	2	H2	0.000	ug/l	7399.34
Fe	56	72	3	He	0.000	ug/l	5944.24
Co	59	72	1	No Gas	0.000	ug/l	595.50
Ni	60	72	1	No Gas	0.000	ug/l	1703.39
Ni	60	72	3	He	0.000	ug/l	125.55
Cu	63	72	1	No Gas	0.000	ug/l	10671.51
Cu	63	72	3	He	0.000	ug/l	2719.71
Cu	65	72	1	No Gas	0.000	ug/l	3929.45
Zn	66	72	1	No Gas	0.000	ug/l	11104.57
Zn	66	72	3	He	0.000	ug/l	2696.94
As	75	72	1	No Gas	0.000	ug/l	15808.05
As	75	72	3	He	0.000	ug/l	443.67
Se	78	72	2	H2	0.000	ug/l	31.11
Br	79	72	1	No Gas		ug/l	10203.47
Br	79	72	2	H2		ug/l	5653.26
Se	82	72	1	No Gas	0.000	ug/l	702.75
Kr	84	72	1	No Gas		ug/l	21346.84
Sr	88	72	1	No Gas	0.000	ug/l	928.22
Sr	88	72	3	He	0.000	ug/l	424.46
Mo	95	115	1	No Gas	0.000	ug/l	24.44
Mo	95	115	3	He	0.000	ug/l	12.22
Mo	98	115	1	No Gas	0.000	ug/l	74.24
Ag	107	115	1	No Gas	0.000	ug/l	1298.58
Ag	109	115	1	No Gas	0.000	ug/l	1187.20
Cd	111	115	1	No Gas	0.000	ug/l	17.95

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.000	ug/l	5.78
Cd	114	115	1	No Gas	0.000	ug/l	-74.89
Cd	114	115	3	He	0.000	ug/l	14.92
Sn	118	115	1	No Gas	0.000	ug/l	775.15
Sn	118	115	3	He	0.000	ug/l	233.34
Sb	121	115	1	No Gas	0.000	ug/l	137.35
Sb	121	115	3	He	0.000	ug/l	53.34
Sb	123	115	1	No Gas	0.000	ug/l	108.68
Sb	123	115	3	He	0.000	ug/l	33.67
Ba	135	115	1	No Gas	0.000	ug/l	33.27
Ba	137	115	1	No Gas	0.000	ug/l	66.53
La	139	115	3	He	0.000	ug/l	13.33
Ce	140	115	3	He	0.000	ug/l	16.67
Hg	201	209	1	No Gas	0.000	ug/l	83.32
Hg	202	209	1	No Gas	0.000	ug/l	184.63
Hg	202	209	3	He	0.000	ug/l	99.65
Tl	203	209	3	He	0.000	ug/l	204.75
Tl	205	209	1	No Gas	0.000	ug/l	938.93
Tl	205	209	3	He	0.000	ug/l	464.20
[Pb]	206	209	1	No Gas	0.000	ug/l	1304.52
[Pb]	207	209	1	No Gas	0.000	ug/l	1145.61
Pb	208	209	1	No Gas	0.000	ug/l	5149.31
Th	232	209	3	He	0.000	ug/l	92.04
U	238	209	1	No Gas	0.000	ug/l	11.67

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4433810.26	100.0
Sc	45	2	H2	2339500.45	100.0
Sc	45	3	He	306879.26	100.0
Ge	72	1	No Gas	1158815.56	100.0
Ge	72	2	H2	824411.89	100.0
Ge	72	3	He	185953.58	100.0
In	115	1	No Gas	7258932.60	100.0
In	115	3	He	1737000.31	100.0
Tb	159	1	No Gas	9034958.70	100.0
Tb	159	3	He	3732043.45	100.0
Ho	165	1	No Gas	8742400.95	100.0
Ho	165	3	He	3678948.01	100.0
Lu	175	1	No Gas	8167939.42	100.0
Lu	175	3	He	3036867.36	100.0
Bi	209	1	No Gas	5341939.30	100.0
Bi	209	3	He	2343338.36	100.0

ICPMS207-B Analytical Data

Sample Name 0.025 ppb STD
File Name 010CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 13:05:49
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.166	ug/l	21014.23
Be	9	45	1	No Gas	0.020	ug/l	435.92
B	11	45	1	No Gas	-0.112	ug/l	1390.63
Na	23	45	3	He	6.418	ug/l	98590.22
Mg	24	45	3	He	6.344	ug/l	4352.01
Al	27	45	1	No Gas	0.044	ug/l	15791.70
Si	28	45	2	H2	-0.416	ug/l	10778.88
K	39	72	3	He	12.489	ug/l	133417.39
Ca	40	72	2	H2	7.245	ug/l	209261.46
Ti	47	72	1	No Gas	0.166	ug/l	707.56
V	51	72	1	No Gas	1.194	ug/l	-52113.80
V	51	72	3	He	0.102	ug/l	13145.94
Cr	52	72	1	No Gas	0.141	ug/l	68931.52
Cr	52	72	3	He	0.049	ug/l	1314.51
Mn	55	72	1	No Gas	0.040	ug/l	7523.70
Mn	55	72	3	He	0.027	ug/l	177.97
Fe	56	72	2	H2	0.711	ug/l	18333.26
Fe	56	72	3	He	0.674	ug/l	8586.16
Co	59	72	1	No Gas	0.022	ug/l	1151.10
Ni	60	72	1	No Gas	-0.035	ug/l	1480.48
Ni	60	72	3	He	0.034	ug/l	181.11
Cu	63	72	1	No Gas	0.034	ug/l	11025.24
Cu	63	72	3	He	0.056	ug/l	2903.04
Cu	65	72	1	No Gas	0.050	ug/l	4218.97
Zn	66	72	1	No Gas	0.009	ug/l	11011.36
Zn	66	72	3	He	0.084	ug/l	2710.28
As	75	72	1	No Gas	0.206	ug/l	16876.93
As	75	72	3	He	0.042	ug/l	475.00
Se	78	72	2	H2	0.018	ug/l	41.56
Br	79	72	1	No Gas		ug/l	8795.25
Br	79	72	2	H2		ug/l	4961.03
Se	82	72	1	No Gas	-0.052	ug/l	675.67
Kr	84	72	1	No Gas		ug/l	19827.73
Sr	88	72	1	No Gas	0.026	ug/l	1926.34
Sr	88	72	3	He	0.027	ug/l	537.80
Mo	95	115	1	No Gas	0.024	ug/l	194.45
Mo	95	115	3	He	0.019	ug/l	57.78
Mo	98	115	1	No Gas	0.023	ug/l	332.51
Ag	107	115	1	No Gas	0.008	ug/l	1497.35
Ag	109	115	1	No Gas	0.009	ug/l	1400.63
Cd	111	115	1	No Gas	0.019	ug/l	97.27

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.026	ug/l	40.56
Cd	114	115	1	No Gas	0.009	ug/l	1.91
Cd	114	115	3	He	-0.024	ug/l	-64.34
Sn	118	115	1	No Gas	5.296	ug/l	167877.17
Sn	118	115	3	He	5.686	ug/l	49512.84
Sb	121	115	1	No Gas	0.024	ug/l	564.40
Sb	121	115	3	He	0.027	ug/l	179.02
Sb	123	115	1	No Gas	0.026	ug/l	464.39
Sb	123	115	3	He	0.026	ug/l	128.01
Ba	135	115	1	No Gas	0.015	ug/l	89.82
Ba	137	115	1	No Gas	0.022	ug/l	202.94
La	139	115	3	He	0.023	ug/l	404.45
Ce	140	115	3	He	0.023	ug/l	420.01
Hg	201	209	1	No Gas	-0.008	ug/l	75.32
Hg	202	209	1	No Gas	-0.004	ug/l	184.30
Hg	202	209	3	He	-0.014	ug/l	74.65
Tl	203	209	3	He	0.020	ug/l	314.13
Tl	205	209	1	No Gas	0.014	ug/l	1453.42
Tl	205	209	3	He	0.016	ug/l	677.63
[Pb]	206	209	1	No Gas	0.006	ug/l	1507.88
[Pb]	207	209	1	No Gas	0.001	ug/l	1277.85
Pb	208	209	1	No Gas	0.004	ug/l	5875.00
Th	232	209	3	He	0.010	ug/l	254.10
U	238	209	1	No Gas	0.022	ug/l	869.52

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4633196.54	104.5
Sc	45	2	H2	2373209.25	101.4
Sc	45	3	He	298127.69	97.1
Ge	72	1	No Gas	1144250.49	98.7
Ge	72	2	H2	806199.40	97.8
Ge	72	3	He	180843.62	97.3
In	115	1	No Gas	7581020.09	104.4
In	115	3	He	1713872.88	98.7
Tb	159	1	No Gas	8803055.35	97.4
Tb	159	3	He	3759771.43	100.7
Ho	165	1	No Gas	8655729.80	99.0
Ho	165	3	He	3688017.26	100.2
Lu	175	1	No Gas	8204902.48	100.5
Lu	175	3	He	3074835.61	101.3
Bi	209	1	No Gas	5929217.06	111.0
Bi	209	3	He	2384377.42	101.8

ICPMS207-B Analytical Data

Sample Name 0.05 ppb STD
File Name 011CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 13:12:28
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.494	ug/l	24098.67
Be	9	45	1	No Gas	0.047	ug/l	549.90
B	11	45	1	No Gas	-0.051	ug/l	1544.70
Na	23	45	3	He	5.340	ug/l	103609.06
Mg	24	45	3	He	12.919	ug/l	7959.72
Al	27	45	1	No Gas	0.031	ug/l	15545.90
Si	28	45	2	H2	0.055	ug/l	11507.71
K	39	72	3	He	13.565	ug/l	138770.14
Ca	40	72	2	H2	14.210	ug/l	256699.51
Ti	47	72	1	No Gas	0.068	ug/l	493.84
V	51	72	1	No Gas	2.082	ug/l	-24474.44
V	51	72	3	He	0.225	ug/l	14141.30
Cr	52	72	1	No Gas	0.376	ug/l	72554.47
Cr	52	72	3	He	0.081	ug/l	1511.19
Mn	55	72	1	No Gas	0.081	ug/l	8538.89
Mn	55	72	3	He	0.052	ug/l	267.28
Fe	56	72	2	H2	1.430	ug/l	29002.74
Fe	56	72	3	He	1.234	ug/l	11315.77
Co	59	72	1	No Gas	0.056	ug/l	1992.86
Ni	60	72	1	No Gas	0.024	ug/l	1763.28
Ni	60	72	3	He	0.048	ug/l	212.23
Cu	63	72	1	No Gas	0.045	ug/l	10848.37
Cu	63	72	3	He	0.035	ug/l	2911.04
Cu	65	72	1	No Gas	0.083	ug/l	4309.71
Zn	66	72	1	No Gas	0.112	ug/l	11164.47
Zn	66	72	3	He	-0.039	ug/l	2682.49
As	75	72	1	No Gas	-0.246	ug/l	13599.63
As	75	72	3	He	0.079	ug/l	532.93
Se	78	72	2	H2	0.050	ug/l	60.00
Br	79	72	1	No Gas		ug/l	9211.33
Br	79	72	2	H2		ug/l	5034.24
Se	82	72	1	No Gas	0.381	ug/l	812.35
Kr	84	72	1	No Gas		ug/l	20850.47
Sr	88	72	1	No Gas	0.055	ug/l	2931.16
Sr	88	72	3	He	0.061	ug/l	723.36
Mo	95	115	1	No Gas	0.053	ug/l	393.34
Mo	95	115	3	He	0.063	ug/l	170.00
Mo	98	115	1	No Gas	0.062	ug/l	766.34
Ag	107	115	1	No Gas	0.019	ug/l	1706.79
Ag	109	115	1	No Gas	0.024	ug/l	1662.10
Cd	111	115	1	No Gas	0.049	ug/l	226.60

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.048	ug/l	75.44
Cd	114	115	1	No Gas	0.007	ug/l	-13.49
Cd	114	115	3	He	0.015	ug/l	66.26
Sn	118	115	1	No Gas	5.527	ug/l	174446.58
Sn	118	115	3	He	5.276	ug/l	48828.24
Sb	121	115	1	No Gas	0.050	ug/l	1025.81
Sb	121	115	3	He	0.051	ug/l	313.70
Sb	123	115	1	No Gas	0.051	ug/l	791.10
Sb	123	115	3	He	0.051	ug/l	238.36
Ba	135	115	1	No Gas	0.055	ug/l	232.88
Ba	137	115	1	No Gas	0.048	ug/l	359.29
La	139	115	3	He	0.050	ug/l	905.59
Ce	140	115	3	He	0.049	ug/l	924.48
Hg	201	209	1	No Gas	-0.011	ug/l	67.66
Hg	202	209	1	No Gas	-0.005	ug/l	179.63
Hg	202	209	3	He	-0.013	ug/l	81.65
Tl	203	209	3	He	0.044	ug/l	465.53
Tl	205	209	1	No Gas	0.039	ug/l	2205.76
Tl	205	209	3	He	0.040	ug/l	1039.80
[Pb]	206	209	1	No Gas	0.029	ug/l	1747.90
[Pb]	207	209	1	No Gas	0.014	ug/l	1396.75
Pb	208	209	1	No Gas	0.025	ug/l	6742.95
Th	232	209	3	He	0.028	ug/l	571.58
U	238	209	1	No Gas	0.048	ug/l	1869.43

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4642026.95	104.7
Sc	45	2	H2	2337474.60	99.9
Sc	45	3	He	318311.95	103.7
Ge	72	1	No Gas	1109657.79	95.8
Ge	72	2	H2	791345.31	96.0
Ge	72	3	He	188183.69	101.2
In	115	1	No Gas	7547886.60	104.0
In	115	3	He	1830003.12	105.4
Tb	159	1	No Gas	8848668.46	97.9
Tb	159	3	He	4009237.66	107.4
Ho	165	1	No Gas	8508512.17	97.3
Ho	165	3	He	3855214.01	104.8
Lu	175	1	No Gas	8274851.59	101.3
Lu	175	3	He	3196953.64	105.3
Bi	209	1	No Gas	5964429.38	111.7
Bi	209	3	He	2551376.30	108.9

ICPMS207-B Analytical Data

Sample Name 0.10 ppb STD
File Name 012CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 13:19:06
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.171	ug/l	31077.47
Be	9	45	1	No Gas	0.099	ug/l	787.20
B	11	45	1	No Gas	-0.017	ug/l	1665.43
Na	23	45	3	He	22.073	ug/l	114229.67
Mg	24	45	3	He	31.595	ug/l	16802.75
Al	27	45	1	No Gas	0.068	ug/l	16694.91
Si	28	45	2	H2	0.173	ug/l	11848.13
K	39	72	3	He	37.546	ug/l	147067.89
Ca	40	72	2	H2	30.777	ug/l	381215.60
Ti	47	72	1	No Gas	0.139	ug/l	647.33
V	51	72	1	No Gas	0.770	ug/l	-65872.47
V	51	72	3	He	0.486	ug/l	14791.92
Cr	52	72	1	No Gas	0.370	ug/l	74561.25
Cr	52	72	3	He	0.116	ug/l	1630.10
Mn	55	72	1	No Gas	0.139	ug/l	10599.52
Mn	55	72	3	He	0.133	ug/l	514.57
Fe	56	72	2	H2	3.113	ug/l	55115.02
Fe	56	72	3	He	3.165	ug/l	19049.88
Co	59	72	1	No Gas	0.118	ug/l	3649.90
Ni	60	72	1	No Gas	0.086	ug/l	2179.18
Ni	60	72	3	He	0.136	ug/l	361.12
Cu	63	72	1	No Gas	0.080	ug/l	11657.99
Cu	63	72	3	He	0.129	ug/l	3256.05
Cu	65	72	1	No Gas	0.116	ug/l	4653.28
Zn	66	72	1	No Gas	0.075	ug/l	11327.52
Zn	66	72	3	He	0.165	ug/l	2811.40
As	75	72	1	No Gas	-0.114	ug/l	14880.13
As	75	72	3	He	0.166	ug/l	607.40
Se	78	72	2	H2	0.115	ug/l	99.00
Br	79	72	1	No Gas		ug/l	9004.99
Br	79	72	2	H2		ug/l	4738.07
Se	82	72	1	No Gas	0.468	ug/l	861.29
Kr	84	72	1	No Gas		ug/l	20823.86
Sr	88	72	1	No Gas	0.116	ug/l	5363.74
Sr	88	72	3	He	0.125	ug/l	1007.82
Mo	95	115	1	No Gas	0.105	ug/l	775.58
Mo	95	115	3	He	0.122	ug/l	305.56
Mo	98	115	1	No Gas	0.107	ug/l	1300.98
Ag	107	115	1	No Gas	0.038	ug/l	2139.69
Ag	109	115	1	No Gas	0.044	ug/l	2090.33
Cd	111	115	1	No Gas	0.107	ug/l	488.55

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.118	ug/l	169.56
Cd	114	115	1	No Gas	0.084	ug/l	745.49
Cd	114	115	3	He	0.076	ug/l	268.28
Sn	118	115	1	No Gas	5.336	ug/l	174345.54
Sn	118	115	3	He	5.585	ug/l	49779.20
Sb	121	115	1	No Gas	0.107	ug/l	2103.04
Sb	121	115	3	He	0.119	ug/l	631.41
Sb	123	115	1	No Gas	0.107	ug/l	1603.92
Sb	123	115	3	He	0.118	ug/l	482.06
Ba	135	115	1	No Gas	0.113	ug/l	459.10
Ba	137	115	1	No Gas	0.112	ug/l	768.50
La	139	115	3	He	0.120	ug/l	2092.39
Ce	140	115	3	He	0.119	ug/l	2167.96
Hg	201	209	1	No Gas	-0.006	ug/l	83.65
Hg	202	209	1	No Gas	-0.004	ug/l	195.29
Hg	202	209	3	He	-0.008	ug/l	88.98
Tl	203	209	3	He	0.107	ug/l	803.68
Tl	205	209	1	No Gas	0.094	ug/l	4016.19
Tl	205	209	3	He	0.104	ug/l	1864.88
[Pb]	206	209	1	No Gas	0.078	ug/l	2346.89
[Pb]	207	209	1	No Gas	0.070	ug/l	1976.83
Pb	208	209	1	No Gas	0.074	ug/l	9142.41
Th	232	209	3	He	0.079	ug/l	1415.32
U	238	209	1	No Gas	0.102	ug/l	4138.83

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4789332.97	108.0
Sc	45	2	H2	2360892.64	100.9
Sc	45	3	He	304223.99	99.1
Ge	72	1	No Gas	1149874.94	99.2
Ge	72	2	H2	795739.91	96.5
Ge	72	3	He	181792.70	97.8
In	115	1	No Gas	7890496.97	108.7
In	115	3	He	1753986.40	101.0
Tb	159	1	No Gas	9306662.79	103.0
Tb	159	3	He	3825888.02	102.5
Ho	165	1	No Gas	8731297.19	99.9
Ho	165	3	He	3709266.19	100.8
Lu	175	1	No Gas	8505406.67	104.1
Lu	175	3	He	3060946.07	100.8
Bi	209	1	No Gas	6264980.28	117.3
Bi	209	3	He	2493630.63	106.4

ICPMS207-B Analytical Data

Sample Name 0.5 ppb STD
File Name 013CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 13:25:43
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	5.601	ug/l	72285.88
Be	9	45	1	No Gas	0.445	ug/l	2255.39
B	11	45	1	No Gas	0.282	ug/l	2404.50
Na	23	45	3	He	116.588	ug/l	197124.35
Mg	24	45	3	He	130.428	ug/l	65409.39
Al	27	45	1	No Gas	0.407	ug/l	23431.71
Si	28	45	2	H2	1.506	ug/l	14354.67
K	39	72	3	He	134.858	ug/l	196658.75
Ca	40	72	2	H2	124.652	ug/l	1073927.22
Ti	47	72	1	No Gas	0.490	ug/l	1364.78
V	51	72	1	No Gas	1.715	ug/l	-34076.99
V	51	72	3	He	1.086	ug/l	17195.68
Cr	52	72	1	No Gas	0.806	ug/l	86322.43
Cr	52	72	3	He	0.523	ug/l	3491.55
Mn	55	72	1	No Gas	0.497	ug/l	21926.36
Mn	55	72	3	He	0.501	ug/l	1676.76
Fe	56	72	2	H2	12.901	ug/l	205158.41
Fe	56	72	3	He	13.287	ug/l	61187.03
Co	59	72	1	No Gas	0.465	ug/l	12860.19
Ni	60	72	1	No Gas	0.396	ug/l	4022.60
Ni	60	72	3	He	0.522	ug/l	1035.60
Cu	63	72	1	No Gas	0.382	ug/l	16155.40
Cu	63	72	3	He	0.501	ug/l	4958.85
Cu	65	72	1	No Gas	0.455	ug/l	7053.21
Zn	66	72	1	No Gas	0.356	ug/l	12848.77
Zn	66	72	3	He	0.501	ug/l	3158.14
As	75	72	1	No Gas	0.242	ug/l	17355.65
As	75	72	3	He	0.561	ug/l	1016.55
Se	78	72	2	H2	0.488	ug/l	322.11
Br	79	72	1	No Gas		ug/l	8758.65
Br	79	72	2	H2		ug/l	4515.10
Se	82	72	1	No Gas	0.238	ug/l	793.95
Kr	84	72	1	No Gas		ug/l	20487.28
Sr	88	72	1	No Gas	0.455	ug/l	18525.40
Sr	88	72	3	He	0.503	ug/l	2783.63
Mo	95	115	1	No Gas	0.473	ug/l	3277.07
Mo	95	115	3	He	0.503	ug/l	1225.62
Mo	98	115	1	No Gas	0.468	ug/l	5221.76
Ag	107	115	1	No Gas	0.185	ug/l	4790.07
Ag	109	115	1	No Gas	0.197	ug/l	4752.72
Cd	111	115	1	No Gas	0.459	ug/l	1956.27

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.482	ug/l	673.35
Cd	114	115	1	No Gas	0.449	ug/l	4111.78
Cd	114	115	3	He	0.462	ug/l	1547.09
Sn	118	115	1	No Gas	5.590	ug/l	176455.29
Sn	118	115	3	He	5.687	ug/l	50686.94
Sb	121	115	1	No Gas	0.472	ug/l	8416.71
Sb	121	115	3	He	0.487	ug/l	2411.45
Sb	123	115	1	No Gas	0.470	ug/l	6393.44
Sb	123	115	3	He	0.481	ug/l	1865.98
Ba	135	115	1	No Gas	0.486	ug/l	1803.22
Ba	137	115	1	No Gas	0.481	ug/l	2974.43
La	139	115	3	He	0.491	ug/l	8516.01
Ce	140	115	3	He	0.486	ug/l	8773.94
Hg	201	209	1	No Gas	0.002	ug/l	100.65
Hg	202	209	1	No Gas	-0.001	ug/l	211.63
Hg	202	209	3	He	-0.004	ug/l	98.31
Tl	203	209	3	He	0.500	ug/l	2940.18
Tl	205	209	1	No Gas	0.431	ug/l	14434.58
Tl	205	209	3	He	0.483	ug/l	6843.85
[Pb]	206	209	1	No Gas	0.441	ug/l	6211.49
[Pb]	207	209	1	No Gas	0.401	ug/l	5017.64
Pb	208	209	1	No Gas	0.415	ug/l	23590.51
Th	232	209	3	He	0.391	ug/l	6583.64
U	238	209	1	No Gas	0.430	ug/l	17349.72

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4737947.51	106.9
Sc	45	2	H2	2354203.67	100.6
Sc	45	3	He	305238.30	99.5
Ge	72	1	No Gas	1158642.93	100.0
Ge	72	2	H2	792797.19	96.2
Ge	72	3	He	181189.89	97.4
In	115	1	No Gas	7605991.36	104.8
In	115	3	He	1754036.22	101.0
Tb	159	1	No Gas	9160983.73	101.4
Tb	159	3	He	3864379.71	103.5
Ho	165	1	No Gas	8948528.42	102.4
Ho	165	3	He	3696813.43	100.5
Lu	175	1	No Gas	8617646.61	105.5
Lu	175	3	He	3069442.12	101.1
Bi	209	1	No Gas	6271564.06	117.4
Bi	209	3	He	2485764.95	106.1

ICPMS207-B Analytical Data

Sample Name 1 ppb STD
File Name 014CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 13:32:21
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	12.016	ug/l	139876.43
Be	9	45	1	No Gas	0.946	ug/l	4644.46
B	11	45	1	No Gas	0.787	ug/l	3891.41
Na	23	45	3	He	281.822	ug/l	342410.62
Mg	24	45	3	He	299.358	ug/l	148791.33
Al	27	45	1	No Gas	0.858	ug/l	34507.50
Si	28	45	2	H2	5.233	ug/l	18829.42
K	39	72	3	He	279.767	ug/l	279550.78
Ca	40	72	2	H2	309.129	ug/l	2247220.76
Ti	47	72	1	No Gas	1.017	ug/l	2572.82
V	51	72	1	No Gas	3.664	ug/l	22028.11
V	51	72	3	He	1.528	ug/l	19581.99
Cr	52	72	1	No Gas	1.095	ug/l	99444.34
Cr	52	72	3	He	1.097	ug/l	6312.51
Mn	55	72	1	No Gas	0.991	ug/l	39631.68
Mn	55	72	3	He	1.127	ug/l	3767.40
Fe	56	72	2	H2	31.829	ug/l	457038.68
Fe	56	72	3	He	28.522	ug/l	128490.38
Co	59	72	1	No Gas	0.987	ug/l	28241.31
Ni	60	72	1	No Gas	0.902	ug/l	7433.87
Ni	60	72	3	He	1.039	ug/l	2001.26
Cu	63	72	1	No Gas	0.857	ug/l	24400.12
Cu	63	72	3	He	1.103	ug/l	7974.58
Cu	65	72	1	No Gas	0.918	ug/l	10886.44
Zn	66	72	1	No Gas	0.788	ug/l	15888.66
Zn	66	72	3	He	1.064	ug/l	3868.32
As	75	72	1	No Gas	-0.075	ug/l	16013.51
As	75	72	3	He	1.134	ug/l	1662.39
Se	78	72	2	H2	1.206	ug/l	692.57
Br	79	72	1	No Gas		ug/l	8532.29
Br	79	72	2	H2		ug/l	4758.04
Se	82	72	1	No Gas	0.973	ug/l	1133.60
Kr	84	72	1	No Gas		ug/l	21576.88
Sr	88	72	1	No Gas	0.977	ug/l	40914.35
Sr	88	72	3	He	1.122	ug/l	5869.02
Mo	95	115	1	No Gas	0.978	ug/l	7448.65
Mo	95	115	3	He	1.082	ug/l	2660.27
Mo	98	115	1	No Gas	0.966	ug/l	11834.69
Ag	107	115	1	No Gas	0.381	ug/l	9308.14
Ag	109	115	1	No Gas	0.384	ug/l	8899.05
Cd	111	115	1	No Gas	0.962	ug/l	4496.65

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	1.117	ug/l	1577.53
Cd	114	115	1	No Gas	0.940	ug/l	9564.31
Cd	114	115	3	He	1.057	ug/l	3571.54
Sn	118	115	1	No Gas	5.354	ug/l	186773.73
Sn	118	115	3	He	5.856	ug/l	52942.87
Sb	121	115	1	No Gas	0.946	ug/l	18472.63
Sb	121	115	3	He	1.079	ug/l	5352.23
Sb	123	115	1	No Gas	0.961	ug/l	14292.04
Sb	123	115	3	He	1.086	ug/l	4229.40
Ba	135	115	1	No Gas	0.944	ug/l	3766.40
Ba	137	115	1	No Gas	0.908	ug/l	6115.95
La	139	115	3	He	1.082	ug/l	18995.36
Ce	140	115	3	He	1.103	ug/l	20161.46
Hg	201	209	1	No Gas	0.004	ug/l	117.64
Hg	202	209	1	No Gas	0.010	ug/l	293.95
Hg	202	209	3	He	0.005	ug/l	118.31
Tl	203	209	3	He	1.083	ug/l	6230.64
Tl	205	209	1	No Gas	0.910	ug/l	31655.61
Tl	205	209	3	He	1.063	ug/l	14756.14
[Pb]	206	209	1	No Gas	0.902	ug/l	12032.18
[Pb]	207	209	1	No Gas	0.890	ug/l	10270.70
Pb	208	209	1	No Gas	0.885	ug/l	47032.67
Th	232	209	3	He	0.978	ug/l	16623.90
U	238	209	1	No Gas	0.896	ug/l	39073.13

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4980466.96	112.3
Sc	45	2	H2	2074480.12	88.7
Sc	45	3	He	306095.04	99.7
Ge	72	1	No Gas	1233994.02	106.5
Ge	72	2	H2	732830.69	88.9
Ge	72	3	He	186709.38	100.4
In	115	1	No Gas	8407281.09	115.8
In	115	3	He	1779822.61	102.5
Tb	159	1	No Gas	9757286.84	108.0
Tb	159	3	He	3831341.54	102.7
Ho	165	1	No Gas	9298149.07	106.4
Ho	165	3	He	3711800.70	100.9
Lu	175	1	No Gas	9016539.09	110.4
Lu	175	3	He	3158279.91	104.0
Bi	209	1	No Gas	6783961.00	127.0
Bi	209	3	He	2531785.72	108.0

ICPMS207-B Analytical Data

Sample Name 10 ppb STD
File Name 015CAL5.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 13:38:59
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	125.083	ug/l	1113818.24
Be	9	45	1	No Gas	10.008	ug/l	40185.75
B	11	45	1	No Gas	10.034	ug/l	25345.38
Na	23	45	3	He	2497.303	ug/l	2330378.42
Mg	24	45	3	He	2494.725	ug/l	1255873.89
Al	27	45	1	No Gas	10.019	ug/l	205630.70
Si	28	45	2	H2	39.904	ug/l	87081.27
K	39	72	3	He	2496.384	ug/l	1445920.99
Ca	40	72	2	H2	2494.036	ug/l	18717220.73
Ti	47	72	1	No Gas	9.998	ug/l	19288.71
V	51	72	1	No Gas	9.653	ug/l	195135.58
V	51	72	3	He	9.913	ug/l	54538.48
Cr	52	72	1	No Gas	9.971	ug/l	299927.35
Cr	52	72	3	He	9.989	ug/l	48073.04
Mn	55	72	1	No Gas	10.000	ug/l	300409.04
Mn	55	72	3	He	9.987	ug/l	32409.81
Fe	56	72	2	H2	259.416	ug/l	4016339.19
Fe	56	72	3	He	259.728	ug/l	1114147.49
Co	59	72	1	No Gas	10.003	ug/l	248876.12
Ni	60	72	1	No Gas	10.015	ug/l	56831.37
Ni	60	72	3	He	9.995	ug/l	18049.02
Cu	63	72	1	No Gas	10.020	ug/l	146166.88
Cu	63	72	3	He	9.989	ug/l	49870.85
Cu	65	72	1	No Gas	10.010	ug/l	68688.81
Zn	66	72	1	No Gas	10.028	ug/l	57093.36
Zn	66	72	3	He	9.993	ug/l	13510.78
As	75	72	1	No Gas	10.124	ug/l	75144.47
As	75	72	3	He	9.983	ug/l	11086.12
Se	78	72	2	H2	9.980	ug/l	6041.70
Br	79	72	1	No Gas		ug/l	9171.42
Br	79	72	2	H2		ug/l	4768.02
Se	82	72	1	No Gas	10.011	ug/l	4190.43
Kr	84	72	1	No Gas		ug/l	23499.29
Sr	88	72	1	No Gas	10.004	ug/l	364836.30
Sr	88	72	3	He	9.987	ug/l	48575.66
Mo	95	115	1	No Gas	10.003	ug/l	65604.12
Mo	95	115	3	He	9.991	ug/l	23995.78
Mo	98	115	1	No Gas	10.005	ug/l	105115.23
Ag	107	115	1	No Gas	4.003	ug/l	72161.37
Ag	109	115	1	No Gas	4.002	ug/l	69116.12
Cd	111	115	1	No Gas	10.006	ug/l	40194.19

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	9.989	ug/l	13783.67
Cd	114	115	1	No Gas	10.009	ug/l	88535.13
Cd	114	115	3	He	9.997	ug/l	33000.40
Sn	118	115	1	No Gas	9.217	ug/l	276093.96
Sn	118	115	3	He	9.160	ug/l	81097.36
Sb	121	115	1	No Gas	10.007	ug/l	167431.80
Sb	121	115	3	He	9.993	ug/l	48180.27
Sb	123	115	1	No Gas	10.005	ug/l	127709.99
Sb	123	115	3	He	9.992	ug/l	37891.44
Ba	135	115	1	No Gas	10.006	ug/l	34264.45
Ba	137	115	1	No Gas	10.010	ug/l	57515.24
La	139	115	3	He	9.992	ug/l	172045.37
Ce	140	115	3	He	9.990	ug/l	179017.63
Hg	201	209	1	No Gas	0.202	ug/l	507.24
Hg	202	209	1	No Gas	0.202	ug/l	1143.15
Hg	202	209	3	He	0.202	ug/l	514.91
Tl	203	209	3	He	9.992	ug/l	54575.23
Tl	205	209	1	No Gas	10.013	ug/l	276798.92
Tl	205	209	3	He	9.995	ug/l	131907.26
[Pb]	206	209	1	No Gas	10.013	ug/l	96034.71
[Pb]	207	209	1	No Gas	10.016	ug/l	82930.42
Pb	208	209	1	No Gas	10.016	ug/l	383092.89
Th	232	209	3	He	10.008	ug/l	166005.93
U	238	209	1	No Gas	10.014	ug/l	358887.43

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4388098.84	99.0
Sc	45	2	H2	2344127.81	100.2
Sc	45	3	He	312510.01	101.8
Ge	72	1	No Gas	1091326.89	94.2
Ge	72	2	H2	798112.70	96.8
Ge	72	3	He	185546.45	99.8
In	115	1	No Gas	7267325.66	100.1
In	115	3	He	1745528.84	100.5
Tb	159	1	No Gas	8429018.10	93.3
Tb	159	3	He	3841520.76	102.9
Ho	165	1	No Gas	8169575.85	93.4
Ho	165	3	He	3814319.65	103.7
Lu	175	1	No Gas	8101432.50	99.2
Lu	175	3	He	3189774.40	105.0
Bi	209	1	No Gas	5629111.07	105.4
Bi	209	3	He	2482049.07	105.9

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 016BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 13:45:37
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	-0.151	ug/l	17793.49
Be	9	45	1	No Gas	-0.010	ug/l	300.94
B	11	45	1	No Gas	-0.206	ug/l	1137.84
Na	23	45	3	He	-18.102	ug/l	81009.85
Mg	24	45	3	He	0.148	ug/l	1437.23
Al	27	45	1	No Gas	-0.147	ug/l	11770.21
Si	28	45	2	H2	-1.345	ug/l	9094.43
K	39	72	3	He	10.099	ug/l	132326.44
Ca	40	72	2	H2	-0.175	ug/l	154943.22
Ti	47	72	1	No Gas	-0.037	ug/l	300.31
V	51	72	1	No Gas	1.105	ug/l	-51117.38
V	51	72	3	He	0.684	ug/l	15539.39
Cr	52	72	1	No Gas	0.123	ug/l	69542.95
Cr	52	72	3	He	-0.006	ug/l	1061.16
Mn	55	72	1	No Gas	0.013	ug/l	6788.14
Mn	55	72	3	He	0.001	ug/l	97.31
Fe	56	72	2	H2	0.017	ug/l	7576.27
Fe	56	72	3	He	0.100	ug/l	6204.24
Co	59	72	1	No Gas	0.001	ug/l	618.79
Ni	60	72	1	No Gas	-0.082	ug/l	1234.27
Ni	60	72	3	He	0.006	ug/l	133.33
Cu	63	72	1	No Gas	-0.180	ug/l	8075.48
Cu	63	72	3	He	-0.086	ug/l	2249.39
Cu	65	72	1	No Gas	-0.106	ug/l	3200.97
Zn	66	72	1	No Gas	-0.275	ug/l	9762.80
Zn	66	72	3	He	-0.051	ug/l	2571.35
As	75	72	1	No Gas	-0.444	ug/l	12440.49
As	75	72	3	He	0.022	ug/l	454.53
Se	78	72	2	H2	-0.006	ug/l	27.33
Br	79	72	1	No Gas		ug/l	9387.78
Br	79	72	2	H2		ug/l	4937.73
Se	82	72	1	No Gas	0.051	ug/l	731.95
Kr	84	72	1	No Gas		ug/l	20707.17
Sr	88	72	1	No Gas	-0.003	ug/l	841.71
Sr	88	72	3	He	-0.004	ug/l	393.35
Mo	95	115	1	No Gas	0.005	ug/l	62.22
Mo	95	115	3	He	0.005	ug/l	25.56
Mo	98	115	1	No Gas	0.006	ug/l	141.39
Ag	107	115	1	No Gas	-0.005	ug/l	1247.22
Ag	109	115	1	No Gas	-0.001	ug/l	1221.21
Cd	111	115	1	No Gas	0.003	ug/l	31.75

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.000	ug/l	6.56
Cd	114	115	1	No Gas	0.004	ug/l	-40.78
Cd	114	115	3	He	0.000	ug/l	13.48
Sn	118	115	1	No Gas	0.009	ug/l	1091.22
Sn	118	115	3	He	0.004	ug/l	274.45
Sb	121	115	1	No Gas	0.021	ug/l	515.73
Sb	121	115	3	He	0.019	ug/l	145.35
Sb	123	115	1	No Gas	0.022	ug/l	409.05
Sb	123	115	3	He	0.019	ug/l	106.01
Ba	135	115	1	No Gas	0.000	ug/l	36.59
Ba	137	115	1	No Gas	-0.003	ug/l	46.57
La	139	115	3	He	-0.001	ug/l	3.33
Ce	140	115	3	He	0.000	ug/l	16.66
Hg	201	209	1	No Gas	-0.011	ug/l	71.99
Hg	202	209	1	No Gas	-0.011	ug/l	154.64
Hg	202	209	3	He	-0.018	ug/l	69.32
Tl	203	209	3	He	-0.018	ug/l	120.71
Tl	205	209	1	No Gas	-0.014	ug/l	653.35
Tl	205	209	3	He	-0.015	ug/l	291.46
[Pb]	206	209	1	No Gas	-0.047	ug/l	1002.27
[Pb]	207	209	1	No Gas	-0.048	ug/l	884.48
Pb	208	209	1	No Gas	-0.046	ug/l	4016.93
Th	232	209	3	He	0.021	ug/l	451.52
U	238	209	1	No Gas	0.001	ug/l	65.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4722724.23	106.5
Sc	45	2	H2	2398670.25	102.5
Sc	45	3	He	310941.35	101.3
Ge	72	1	No Gas	1184423.80	102.2
Ge	72	2	H2	813956.02	98.7
Ge	72	3	He	181009.23	97.3
In	115	1	No Gas	7735786.81	106.6
In	115	3	He	1763864.96	101.5
Tb	159	1	No Gas	9067234.15	100.4
Tb	159	3	He	3819318.87	102.3
Ho	165	1	No Gas	8730143.85	99.9
Ho	165	3	He	3747610.65	101.9
Lu	175	1	No Gas	8602850.98	105.3
Lu	175	3	He	3193007.37	105.1
Bi	209	1	No Gas	6218114.32	116.4
Bi	209	3	He	2479032.42	105.8

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 017BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 13:51:50
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	-0.168	ug/l	17618.56
Be	9	45	1	No Gas	-0.015	ug/l	283.28
B	11	45	1	No Gas	-0.289	ug/l	927.74
Na	23	45	3	He	-15.207	ug/l	80432.31
Mg	24	45	3	He	-0.011	ug/l	1307.47
Al	27	45	1	No Gas	-0.171	ug/l	11236.47
Si	28	45	2	H2	-0.764	ug/l	9397.50
K	39	72	3	He	8.847	ug/l	132675.28
Ca	40	72	2	H2	0.867	ug/l	152356.42
Ti	47	72	1	No Gas	-0.037	ug/l	293.63
V	51	72	1	No Gas	2.371	ug/l	-16280.33
V	51	72	3	He	0.544	ug/l	15080.01
Cr	52	72	1	No Gas	0.183	ug/l	68483.57
Cr	52	72	3	He	0.015	ug/l	1165.61
Mn	55	72	1	No Gas	0.005	ug/l	6332.17
Mn	55	72	3	He	0.004	ug/l	108.65
Fe	56	72	2	H2	0.033	ug/l	7411.03
Fe	56	72	3	He	-0.047	ug/l	5635.11
Co	59	72	1	No Gas	-0.001	ug/l	555.58
Ni	60	72	1	No Gas	-0.089	ug/l	1141.12
Ni	60	72	3	He	-0.014	ug/l	98.89
Cu	63	72	1	No Gas	-0.201	ug/l	7504.27
Cu	63	72	3	He	-0.113	ug/l	2140.07
Cu	65	72	1	No Gas	-0.114	ug/l	3039.54
Zn	66	72	1	No Gas	-0.233	ug/l	9616.55
Zn	66	72	3	He	-0.217	ug/l	2412.44
As	75	72	1	No Gas	-0.660	ug/l	11170.40
As	75	72	3	He	0.023	ug/l	459.13
Se	78	72	2	H2	-0.004	ug/l	25.78
Br	79	72	1	No Gas		ug/l	9294.56
Br	79	72	2	H2		ug/l	5067.53
Se	82	72	1	No Gas	-0.010	ug/l	676.74
Kr	84	72	1	No Gas		ug/l	21063.68
Sr	88	72	1	No Gas	-0.003	ug/l	765.18
Sr	88	72	3	He	-0.017	ug/l	335.57
Mo	95	115	1	No Gas	0.003	ug/l	44.44
Mo	95	115	3	He	-0.001	ug/l	8.89
Mo	98	115	1	No Gas	0.000	ug/l	81.25
Ag	107	115	1	No Gas	-0.006	ug/l	1239.89
Ag	109	115	1	No Gas	-0.004	ug/l	1159.18
Cd	111	115	1	No Gas	-0.011	ug/l	-27.10

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.001	ug/l	6.45
Cd	114	115	1	No Gas	-0.005	ug/l	-127.73
Cd	114	115	3	He	-0.001	ug/l	12.86
Sn	118	115	1	No Gas	0.005	ug/l	961.46
Sn	118	115	3	He	0.001	ug/l	235.56
Sb	121	115	1	No Gas	0.005	ug/l	229.02
Sb	121	115	3	He	0.004	ug/l	73.68
Sb	123	115	1	No Gas	0.005	ug/l	175.35
Sb	123	115	3	He	0.007	ug/l	60.34
Ba	135	115	1	No Gas	-0.003	ug/l	23.29
Ba	137	115	1	No Gas	-0.004	ug/l	46.57
La	139	115	3	He	0.000	ug/l	10.00
Ce	140	115	3	He	0.000	ug/l	8.89
Hg	201	209	1	No Gas	-0.017	ug/l	54.66
Hg	202	209	1	No Gas	-0.011	ug/l	148.30
Hg	202	209	3	He	-0.016	ug/l	68.99
Tl	203	209	3	He	-0.019	ug/l	108.71
Tl	205	209	1	No Gas	-0.017	ug/l	540.02
Tl	205	209	3	He	-0.017	ug/l	256.10
[Pb]	206	209	1	No Gas	-0.053	ug/l	907.81
[Pb]	207	209	1	No Gas	-0.046	ug/l	863.37
Pb	208	209	1	No Gas	-0.047	ug/l	3799.13
Th	232	209	3	He	0.006	ug/l	190.08
U	238	209	1	No Gas	0.000	ug/l	29.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4558414.75	102.8
Sc	45	2	H2	2568326.77	109.8
Sc	45	3	He	299229.42	97.5
Ge	72	1	No Gas	1121222.41	96.8
Ge	72	2	H2	855847.51	103.8
Ge	72	3	He	182377.85	98.1
In	115	1	No Gas	7526764.22	103.7
In	115	3	He	1720473.21	99.0
Tb	159	1	No Gas	8591312.26	95.1
Tb	159	3	He	3837973.18	102.8
Ho	165	1	No Gas	8470505.10	96.9
Ho	165	3	He	3748216.11	101.9
Lu	175	1	No Gas	8247788.43	101.0
Lu	175	3	He	3109487.97	102.4
Bi	209	1	No Gas	5883494.75	110.1
Bi	209	3	He	2362992.61	100.8

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 018BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 13:58:03
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	-0.229	ug/l	17338.81
Be	9	45	1	No Gas	-0.021	ug/l	260.62
B	11	45	1	No Gas	-0.230	ug/l	1089.81
Na	23	45	3	He	-16.722	ug/l	79418.12
Mg	24	45	3	He	-0.205	ug/l	1217.64
Al	27	45	1	No Gas	-0.159	ug/l	11657.89
Si	28	45	2	H2	-0.861	ug/l	9859.88
K	39	72	3	He	2.063	ug/l	128752.45
Ca	40	72	2	H2	-0.395	ug/l	150850.77
Ti	47	72	1	No Gas	-0.019	ug/l	337.01
V	51	72	1	No Gas	2.493	ug/l	-12404.71
V	51	72	3	He	0.547	ug/l	15047.75
Cr	52	72	1	No Gas	0.182	ug/l	69957.55
Cr	52	72	3	He	0.008	ug/l	1130.05
Mn	55	72	1	No Gas	0.001	ug/l	6348.85
Mn	55	72	3	He	0.004	ug/l	105.31
Fe	56	72	2	H2	0.000	ug/l	7185.66
Fe	56	72	3	He	-0.064	ug/l	5546.64
Co	59	72	1	No Gas	-0.001	ug/l	572.21
Ni	60	72	1	No Gas	-0.099	ug/l	1104.52
Ni	60	72	3	He	-0.011	ug/l	103.33
Cu	63	72	1	No Gas	-0.208	ug/l	7586.35
Cu	63	72	3	He	-0.097	ug/l	2210.40
Cu	65	72	1	No Gas	-0.111	ug/l	3136.27
Zn	66	72	1	No Gas	-0.201	ug/l	10019.09
Zn	66	72	3	He	-0.275	ug/l	2344.65
As	75	72	1	No Gas	0.172	ug/l	16595.06
As	75	72	3	He	0.011	ug/l	445.07
Se	78	72	2	H2	-0.010	ug/l	24.44
Br	79	72	1	No Gas		ug/l	9234.69
Br	79	72	2	H2		ug/l	5104.12
Se	82	72	1	No Gas	-0.303	ug/l	594.33
Kr	84	72	1	No Gas		ug/l	20110.86
Sr	88	72	1	No Gas	-0.002	ug/l	871.65
Sr	88	72	3	He	-0.003	ug/l	401.12
Mo	95	115	1	No Gas	0.001	ug/l	32.22
Mo	95	115	3	He	-0.002	ug/l	7.78
Mo	98	115	1	No Gas	0.000	ug/l	72.84
Ag	107	115	1	No Gas	-0.003	ug/l	1302.59
Ag	109	115	1	No Gas	-0.001	ug/l	1223.22
Cd	111	115	1	No Gas	0.006	ug/l	37.65

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.001	ug/l	6.44
Cd	114	115	1	No Gas	0.001	ug/l	-69.68
Cd	114	115	3	He	-0.001	ug/l	12.90
Sn	118	115	1	No Gas	0.000	ug/l	811.75
Sn	118	115	3	He	0.000	ug/l	230.00
Sb	121	115	1	No Gas	0.004	ug/l	210.02
Sb	121	115	3	He	0.001	ug/l	58.34
Sb	123	115	1	No Gas	0.004	ug/l	165.02
Sb	123	115	3	He	0.004	ug/l	46.67
Ba	135	115	1	No Gas	0.001	ug/l	36.59
Ba	137	115	1	No Gas	-0.001	ug/l	59.88
La	139	115	3	He	0.000	ug/l	6.67
Ce	140	115	3	He	0.000	ug/l	10.00
Hg	201	209	1	No Gas	-0.009	ug/l	73.32
Hg	202	209	1	No Gas	-0.007	ug/l	169.30
Hg	202	209	3	He	-0.007	ug/l	86.98
Tl	203	209	3	He	-0.017	ug/l	116.71
Tl	205	209	1	No Gas	-0.015	ug/l	598.91
Tl	205	209	3	He	-0.016	ug/l	274.78
[Pb]	206	209	1	No Gas	-0.058	ug/l	857.81
[Pb]	207	209	1	No Gas	-0.059	ug/l	755.58
Pb	208	209	1	No Gas	-0.056	ug/l	3462.42
Th	232	209	3	He	0.004	ug/l	162.07
U	238	209	1	No Gas	0.000	ug/l	22.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4712141.28	106.3
Sc	45	2	H2	2357583.83	100.8
Sc	45	3	He	300262.03	97.8
Ge	72	1	No Gas	1163031.93	100.4
Ge	72	2	H2	800870.70	97.1
Ge	72	3	He	181898.08	97.8
In	115	1	No Gas	7636758.20	105.2
In	115	3	He	1730402.13	99.6
Tb	159	1	No Gas	8943053.78	99.0
Tb	159	3	He	3735266.75	100.1
Ho	165	1	No Gas	8534634.13	97.6
Ho	165	3	He	3705135.34	100.7
Lu	175	1	No Gas	8230946.70	100.8
Lu	175	3	He	3093014.57	101.8
Bi	209	1	No Gas	5966607.67	111.7
Bi	209	3	He	2378801.49	101.5

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 019BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BD0D.b
Acq Time 2022-02-18 14:04:17
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	-0.272	ug/l	16837.36
Be	9	45	1	No Gas	-0.024	ug/l	244.62
B	11	45	1	No Gas	-0.269	ug/l	989.76
Na	23	45	3	He	-17.082	ug/l	78362.56
Mg	24	45	3	He	0.202	ug/l	1400.63
Al	27	45	1	No Gas	-0.205	ug/l	10637.16
Si	28	45	2	H2	-0.986	ug/l	9503.50
K	39	72	3	He	8.260	ug/l	126966.03
Ca	40	72	2	H2	0.310	ug/l	152698.73
Ti	47	72	1	No Gas	0.341	ug/l	1105.19
V	51	72	1	No Gas	1.177	ug/l	-52170.58
V	51	72	3	He	0.712	ug/l	15125.60
Cr	52	72	1	No Gas	0.189	ug/l	68175.65
Cr	52	72	3	He	0.022	ug/l	1150.05
Mn	55	72	1	No Gas	0.001	ug/l	6169.08
Mn	55	72	3	He	0.002	ug/l	97.65
Fe	56	72	2	H2	0.010	ug/l	7189.01
Fe	56	72	3	He	-0.030	ug/l	5473.21
Co	59	72	1	No Gas	-0.002	ug/l	528.97
Ni	60	72	1	No Gas	-0.093	ug/l	1107.86
Ni	60	72	3	He	0.002	ug/l	122.22
Cu	63	72	1	No Gas	-0.217	ug/l	7240.04
Cu	63	72	3	He	-0.102	ug/l	2103.73
Cu	65	72	1	No Gas	-0.109	ug/l	3046.88
Zn	66	72	1	No Gas	-0.102	ug/l	10175.57
Zn	66	72	3	He	-0.101	ug/l	2433.55
As	75	72	1	No Gas	-0.247	ug/l	13762.19
As	75	72	3	He	0.032	ug/l	450.07
Se	78	72	2	H2	-0.003	ug/l	27.55
Br	79	72	1	No Gas		ug/l	10792.67
Br	79	72	2	H2		ug/l	5609.98
Se	82	72	1	No Gas	0.239	ug/l	761.55
Kr	84	72	1	No Gas		ug/l	20797.05
Sr	88	72	1	No Gas	-0.002	ug/l	818.42
Sr	88	72	3	He	-0.012	ug/l	344.46
Mo	95	115	1	No Gas	0.001	ug/l	30.00
Mo	95	115	3	He	0.001	ug/l	15.55
Mo	98	115	1	No Gas	-0.002	ug/l	56.32
Ag	107	115	1	No Gas	-0.004	ug/l	1233.89
Ag	109	115	1	No Gas	-0.003	ug/l	1147.18
Cd	111	115	1	No Gas	0.002	ug/l	24.69

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	-0.001	ug/l	4.66
Cd	114	115	1	No Gas	-0.003	ug/l	-105.31
Cd	114	115	3	He	0.000	ug/l	13.96
Sn	118	115	1	No Gas	-0.001	ug/l	768.50
Sn	118	115	3	He	0.002	ug/l	244.45
Sb	121	115	1	No Gas	0.001	ug/l	153.02
Sb	121	115	3	He	-0.001	ug/l	45.67
Sb	123	115	1	No Gas	0.000	ug/l	116.34
Sb	123	115	3	He	0.001	ug/l	36.67
Ba	135	115	1	No Gas	-0.003	ug/l	23.29
Ba	137	115	1	No Gas	-0.006	ug/l	33.27
La	139	115	3	He	0.000	ug/l	5.55
Ce	140	115	3	He	0.000	ug/l	10.00
Hg	201	209	1	No Gas	-0.007	ug/l	77.65
Hg	202	209	1	No Gas	-0.008	ug/l	167.30
Hg	202	209	3	He	-0.011	ug/l	79.65
Tl	203	209	3	He	-0.020	ug/l	102.71
Tl	205	209	1	No Gas	-0.017	ug/l	560.01
Tl	205	209	3	He	-0.016	ug/l	270.78
[Pb]	206	209	1	No Gas	-0.059	ug/l	857.81
[Pb]	207	209	1	No Gas	-0.058	ug/l	774.47
Pb	208	209	1	No Gas	-0.059	ug/l	3404.64
Th	232	209	3	He	0.002	ug/l	119.38
U	238	209	1	No Gas	0.000	ug/l	18.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4640238.55	104.7
Sc	45	2	H2	2328480.84	99.5
Sc	45	3	He	297461.34	96.9
Ge	72	1	No Gas	1118554.63	96.5
Ge	72	2	H2	783595.99	95.0
Ge	72	3	He	174995.78	94.1
In	115	1	No Gas	7356284.21	101.3
In	115	3	He	1710390.26	98.5
Tb	159	1	No Gas	8746807.96	96.8
Tb	159	3	He	3700308.90	99.1
Ho	165	1	No Gas	8541797.49	97.7
Ho	165	3	He	3567732.48	97.0
Lu	175	1	No Gas	8114201.00	99.3
Lu	175	3	He	2975919.91	98.0
Bi	209	1	No Gas	6039859.84	113.1
Bi	209	3	He	2384793.38	101.8

ICPMS207-B Analytical Data

Sample Name Cal Blk
File Name 020CALB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 14:10:31
Sample Type CalBlk
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.000	ug/l	17239.98
Be	9	45	1	No Gas	0.000	ug/l	238.29
B	11	45	1	No Gas	0.000	ug/l	1075.14
Na	23	45	3	He	0.000	ug/l	77561.79
Mg	24	45	3	He	0.000	ug/l	1284.18
Al	27	45	1	No Gas	0.000	ug/l	10628.25
Si	28	45	2	H2	0.000	ug/l	10163.56
K	39	72	3	He	0.000	ug/l	124553.90
Ca	40	72	2	H2	0.000	ug/l	153538.96
Ti	47	72	1	No Gas	0.000	ug/l	268.61
V	51	72	1	No Gas	0.000	ug/l	-22964.23
V	51	72	3	He	0.000	ug/l	14935.45
Cr	52	72	1	No Gas	0.000	ug/l	68136.69
Cr	52	72	3	He	0.000	ug/l	1143.39
Mn	55	72	1	No Gas	0.000	ug/l	6055.95
Mn	55	72	3	He	0.000	ug/l	91.98
Fe	56	72	2	H2	0.000	ug/l	7339.24
Fe	56	72	3	He	0.000	ug/l	5568.34
Co	59	72	1	No Gas	0.000	ug/l	635.42
Ni	60	72	1	No Gas	0.000	ug/l	974.77
Ni	60	72	3	He	0.000	ug/l	105.55
Cu	63	72	1	No Gas	0.000	ug/l	7336.13
Cu	63	72	3	He	0.000	ug/l	2115.07
Cu	65	72	1	No Gas	0.000	ug/l	3068.23
Zn	66	72	1	No Gas	0.000	ug/l	10302.03
Zn	66	72	3	He	0.000	ug/l	2431.33
As	75	72	1	No Gas	0.000	ug/l	10694.07
As	75	72	3	He	0.000	ug/l	445.07
Se	78	72	2	H2	0.000	ug/l	28.44
Br	79	72	1	No Gas	0.000	ug/l	10319.93
Br	79	72	2	H2	0.000	ug/l	5769.73
Se	82	72	1	No Gas	0.000	ug/l	691.41
Kr	84	72	1	No Gas		ug/l	20554.07
Sr	88	72	1	No Gas	0.000	ug/l	948.17
Sr	88	72	3	He	0.000	ug/l	396.68
Mo	95	115	1	No Gas	0.000	ug/l	26.66
Mo	95	115	3	He	0.000	ug/l	8.89
Mo	98	115	1	No Gas	0.000	ug/l	54.59
Ag	107	115	1	No Gas	0.000	ug/l	1271.90
Ag	109	115	1	No Gas	0.000	ug/l	1198.53
Cd	111	115	1	No Gas	0.000	ug/l	-7.91

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.000	ug/l	4.67
Cd	114	115	1	No Gas	0.000	ug/l	-96.25
Cd	114	115	3	He	0.000	ug/l	11.33
Sn	118	115	1	No Gas	0.000	ug/l	761.85
Sn	118	115	3	He	0.000	ug/l	238.89
Sb	121	115	1	No Gas	0.000	ug/l	153.35
Sb	121	115	3	He	0.000	ug/l	38.00
Sb	123	115	1	No Gas	0.000	ug/l	119.68
Sb	123	115	3	He	0.000	ug/l	32.67
Ba	135	115	1	No Gas	0.000	ug/l	19.96
Ba	137	115	1	No Gas	0.000	ug/l	33.27
La	139	115	3	He	0.000	ug/l	8.89
Ce	140	115	3	He	0.000	ug/l	11.11
Hg	201	209	1	No Gas	0.000	ug/l	73.99
Hg	202	209	1	No Gas	0.000	ug/l	198.96
Hg	202	209	3	He	0.000	ug/l	84.98
Tl	203	209	3	He	0.000	ug/l	113.38
Tl	205	209	1	No Gas	0.000	ug/l	570.02
Tl	205	209	3	He	0.000	ug/l	276.11
[Pb]	206	209	1	No Gas	0.000	ug/l	827.81
[Pb]	207	209	1	No Gas	0.000	ug/l	721.14
Pb	208	209	1	No Gas	0.000	ug/l	3365.75
Th	232	209	3	He	0.000	ug/l	97.37
U	238	209	1	No Gas	0.000	ug/l	12.33

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4612030.28	100.0
Sc	45	2	H2	2375860.08	100.0
Sc	45	3	He	295242.14	100.0
Ge	72	1	No Gas	1119850.76	100.0
Ge	72	2	H2	797006.22	100.0
Ge	72	3	He	177587.89	100.0
In	115	1	No Gas	7623794.51	100.0
In	115	3	He	1724271.20	100.0
Tb	159	1	No Gas	8764477.40	100.0
Tb	159	3	He	3633206.31	100.0
Ho	165	1	No Gas	8312868.98	100.0
Ho	165	3	He	3567002.50	100.0
Lu	175	1	No Gas	7953142.92	100.0
Lu	175	3	He	3022010.39	100.0
Bi	209	1	No Gas	5867084.52	100.0
Bi	209	3	He	2423790.96	100.0

ICPMS207-B Analytical Data

Sample Name 0.025 ppb STD
File Name 021CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 14:17:08
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.326	ug/l	19275.90
Be	9	45	1	No Gas	0.022	ug/l	310.94
B	11	45	1	No Gas	-0.020	ug/l	1003.77
Na	23	45	3	He	6.950	ug/l	83055.19
Mg	24	45	3	He	7.247	ug/l	4431.88
Al	27	45	1	No Gas	0.175	ug/l	13322.64
Si	28	45	2	H2	0.386	ug/l	10550.64
K	39	72	3	He	5.622	ug/l	125600.88
Ca	40	72	2	H2	7.771	ug/l	203955.39
Ti	47	72	1	No Gas	0.108	ug/l	443.79
V	51	72	1	No Gas	3.447	ug/l	44074.41
V	51	72	3	He	0.119	ug/l	15189.02
Cr	52	72	1	No Gas	0.137	ug/l	68837.73
Cr	52	72	3	He	0.039	ug/l	1292.29
Mn	55	72	1	No Gas	0.034	ug/l	6744.87
Mn	55	72	3	He	0.034	ug/l	189.63
Fe	56	72	2	H2	0.803	ug/l	18111.06
Fe	56	72	3	He	0.740	ug/l	8250.64
Co	59	72	1	No Gas	0.033	ug/l	1304.15
Ni	60	72	1	No Gas	0.034	ug/l	1107.85
Ni	60	72	3	He	0.038	ug/l	163.34
Cu	63	72	1	No Gas	0.065	ug/l	7880.63
Cu	63	72	3	He	0.064	ug/l	2348.05
Cu	65	72	1	No Gas	0.078	ug/l	3408.44
Zn	66	72	1	No Gas	0.078	ug/l	10315.54
Zn	66	72	3	He	0.192	ug/l	2585.80
As	75	72	1	No Gas	-0.193	ug/l	9297.81
As	75	72	3	He	0.034	ug/l	472.13
Se	78	72	2	H2	0.023	ug/l	40.89
Br	79	72	1	No Gas	-0.133	ug/l	9078.23
Br	79	72	2	H2	-0.162	ug/l	5017.62
Se	82	72	1	No Gas	0.416	ug/l	790.49
Kr	84	72	1	No Gas		ug/l	20127.57
Sr	88	72	1	No Gas	0.029	ug/l	1813.20
Sr	88	72	3	He	0.019	ug/l	472.24
Mo	95	115	1	No Gas	0.027	ug/l	194.45
Mo	95	115	3	He	0.030	ug/l	76.66
Mo	98	115	1	No Gas	0.024	ug/l	290.77
Ag	107	115	1	No Gas	0.012	ug/l	1437.99
Ag	109	115	1	No Gas	0.011	ug/l	1349.94
Cd	111	115	1	No Gas	0.031	ug/l	109.72

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.027	ug/l	39.22
Cd	114	115	1	No Gas	-0.009	ug/l	-165.18
Cd	114	115	3	He	-0.009	ug/l	-15.15
Sn	118	115	1	No Gas	14.555	ug/l	167399.15
Sn	118	115	3	He	14.493	ug/l	47209.59
Sb	121	115	1	No Gas	0.026	ug/l	573.07
Sb	121	115	3	He	0.029	ug/l	170.02
Sb	123	115	1	No Gas	0.026	ug/l	439.05
Sb	123	115	3	He	0.028	ug/l	134.35
Ba	135	115	1	No Gas	0.040	ug/l	143.05
Ba	137	115	1	No Gas	0.041	ug/l	252.84
La	139	115	3	He	0.029	ug/l	460.01
Ce	140	115	3	He	0.026	ug/l	430.01
Hg	201	209	1	No Gas	0.002	ug/l	76.65
Hg	202	209	1	No Gas	-0.004	ug/l	178.63
Hg	202	209	3	He	0.004	ug/l	93.98
Tl	203	209	3	He	0.022	ug/l	226.76
Tl	205	209	1	No Gas	0.024	ug/l	1154.50
Tl	205	209	3	He	0.023	ug/l	558.24
[Pb]	206	209	1	No Gas	0.023	ug/l	1027.82
[Pb]	207	209	1	No Gas	0.025	ug/l	903.37
Pb	208	209	1	No Gas	0.020	ug/l	4053.60
Th	232	209	3	He	0.013	ug/l	306.80
U	238	209	1	No Gas	0.025	ug/l	818.20

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4491619.53	97.4
Sc	45	2	H2	2298550.99	96.7
Sc	45	3	He	295878.55	100.2
Ge	72	1	No Gas	1089257.33	97.3
Ge	72	2	H2	791572.85	99.3
Ge	72	3	He	175279.48	98.7
In	115	1	No Gas	7445114.34	97.7
In	115	3	He	1688421.97	97.9
Tb	159	1	No Gas	8439079.46	96.3
Tb	159	3	He	3707489.42	102.0
Ho	165	1	No Gas	8086499.60	97.3
Ho	165	3	He	3673319.93	103.0
Lu	175	1	No Gas	7813453.18	98.2
Lu	175	3	He	2985995.14	98.8
Bi	209	1	No Gas	5836573.15	99.5
Bi	209	3	He	2431799.90	100.3

ICPMS207-B Analytical Data

Sample Name 0.05 ppb STD
File Name 022CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 14:23:46
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.711	ug/l	22332.61
Be	9	45	1	No Gas	0.045	ug/l	393.59
B	11	45	1	No Gas	0.000	ug/l	1055.80
Na	23	45	3	He	15.193	ug/l	88142.78
Mg	24	45	3	He	14.794	ug/l	7603.56
Al	27	45	1	No Gas	0.374	ug/l	16883.36
Si	28	45	2	H2	0.512	ug/l	10874.98
K	39	72	3	He	14.616	ug/l	131461.44
Ca	40	72	2	H2	16.265	ug/l	256728.25
Ti	47	72	1	No Gas	0.100	ug/l	438.78
V	51	72	1	No Gas	2.418	ug/l	25466.73
V	51	72	3	He	0.287	ug/l	16025.48
Cr	52	72	1	No Gas	0.116	ug/l	69797.09
Cr	52	72	3	He	0.057	ug/l	1381.19
Mn	55	72	1	No Gas	0.067	ug/l	7733.40
Mn	55	72	3	He	0.063	ug/l	276.28
Fe	56	72	2	H2	1.694	ug/l	29730.07
Fe	56	72	3	He	1.495	ug/l	11195.55
Co	59	72	1	No Gas	0.064	ug/l	2009.50
Ni	60	72	1	No Gas	0.080	ug/l	1350.72
Ni	60	72	3	He	0.055	ug/l	193.34
Cu	63	72	1	No Gas	0.078	ug/l	8192.92
Cu	63	72	3	He	0.093	ug/l	2496.39
Cu	65	72	1	No Gas	0.074	ug/l	3455.80
Zn	66	72	1	No Gas	0.124	ug/l	10708.04
Zn	66	72	3	He	0.083	ug/l	2511.34
As	75	72	1	No Gas	0.479	ug/l	13223.11
As	75	72	3	He	0.078	ug/l	521.33
Se	78	72	2	H2	0.059	ug/l	59.89
Br	79	72	1	No Gas	-0.115	ug/l	9384.46
Br	79	72	2	H2	-0.143	ug/l	5030.90
Se	82	72	1	No Gas	0.211	ug/l	746.88
Kr	84	72	1	No Gas		ug/l	20663.94
Sr	88	72	1	No Gas	0.062	ug/l	2854.64
Sr	88	72	3	He	0.053	ug/l	624.47
Mo	95	115	1	No Gas	0.059	ug/l	398.90
Mo	95	115	3	He	0.067	ug/l	163.34
Mo	98	115	1	No Gas	0.060	ug/l	652.38
Ag	107	115	1	No Gas	0.026	ug/l	1651.43
Ag	109	115	1	No Gas	0.029	ug/l	1607.40
Cd	111	115	1	No Gas	0.059	ug/l	211.90

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.059	ug/l	78.89
Cd	114	115	1	No Gas	0.040	ug/l	237.83
Cd	114	115	3	He	0.017	ug/l	62.41
Sn	118	115	1	No Gas	14.164	ug/l	161984.38
Sn	118	115	3	He	14.958	ug/l	48785.92
Sb	121	115	1	No Gas	0.052	ug/l	978.80
Sb	121	115	3	He	0.057	ug/l	299.03
Sb	123	115	1	No Gas	0.052	ug/l	753.10
Sb	123	115	3	He	0.056	ug/l	235.36
Ba	135	115	1	No Gas	0.070	ug/l	236.20
Ba	137	115	1	No Gas	0.050	ug/l	302.74
La	139	115	3	He	0.054	ug/l	852.25
Ce	140	115	3	He	0.058	ug/l	952.26
Hg	201	209	1	No Gas	0.001	ug/l	76.98
Hg	202	209	1	No Gas	-0.003	ug/l	185.96
Hg	202	209	3	He	0.003	ug/l	88.98
Tl	203	209	3	He	0.058	ug/l	402.84
Tl	205	209	1	No Gas	0.051	ug/l	1860.14
Tl	205	209	3	He	0.052	ug/l	887.05
[Pb]	206	209	1	No Gas	0.043	ug/l	1213.40
[Pb]	207	209	1	No Gas	0.049	ug/l	1097.83
Pb	208	209	1	No Gas	0.044	ug/l	4929.28
Th	232	209	3	He	0.033	ug/l	618.93
U	238	209	1	No Gas	0.060	ug/l	1967.04

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4521253.81	98.0
Sc	45	2	H2	2317580.94	97.5
Sc	45	3	He	291831.36	98.8
Ge	72	1	No Gas	1109773.35	99.1
Ge	72	2	H2	780962.17	98.0
Ge	72	3	He	177496.41	99.9
In	115	1	No Gas	7406961.94	97.2
In	115	3	He	1690935.75	98.1
Tb	159	1	No Gas	8718321.56	99.5
Tb	159	3	He	3729493.06	102.7
Ho	165	1	No Gas	8378890.37	100.8
Ho	165	3	He	3611442.12	101.2
Lu	175	1	No Gas	8031725.87	101.0
Lu	175	3	He	2981112.52	98.6
Bi	209	1	No Gas	5914297.02	100.8
Bi	209	3	He	2339905.81	96.5

ICPMS207-B Analytical Data

Sample Name 0.10 ppb STD
File Name 023CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 14:30:23
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.537	ug/l	29309.21
Be	9	45	1	No Gas	0.119	ug/l	674.22
B	11	45	1	No Gas	0.075	ug/l	1245.89
Na	23	45	3	He	30.097	ug/l	101293.51
Mg	24	45	3	He	34.113	ug/l	16173.34
Al	27	45	1	No Gas	0.257	ug/l	15179.95
Si	28	45	2	H2	0.598	ug/l	11106.59
K	39	72	3	He	30.807	ug/l	142272.75
Ca	40	72	2	H2	34.094	ug/l	382162.98
Ti	47	72	1	No Gas	0.188	ug/l	595.61
V	51	72	1	No Gas	0.591	ug/l	-10850.29
V	51	72	3	He	0.356	ug/l	16653.95
Cr	52	72	1	No Gas	0.387	ug/l	75380.05
Cr	52	72	3	He	0.140	ug/l	1769.01
Mn	55	72	1	No Gas	0.154	ug/l	10046.91
Mn	55	72	3	He	0.133	ug/l	489.91
Fe	56	72	2	H2	3.471	ug/l	54641.15
Fe	56	72	3	He	3.222	ug/l	18094.37
Co	59	72	1	No Gas	0.142	ug/l	3709.79
Ni	60	72	1	No Gas	0.150	ug/l	1696.74
Ni	60	72	3	He	0.138	ug/l	332.23
Cu	63	72	1	No Gas	0.150	ug/l	9077.14
Cu	63	72	3	He	0.147	ug/l	2777.04
Cu	65	72	1	No Gas	0.140	ug/l	3832.72
Zn	66	72	1	No Gas	0.287	ug/l	11423.69
Zn	66	72	3	He	0.248	ug/l	2733.61
As	75	72	1	No Gas	0.655	ug/l	14370.38
As	75	72	3	He	0.142	ug/l	597.47
Se	78	72	2	H2	0.110	ug/l	89.89
Br	79	72	1	No Gas	-0.176	ug/l	8968.37
Br	79	72	2	H2	-0.203	ug/l	4884.50
Se	82	72	1	No Gas	0.074	ug/l	711.41
Kr	84	72	1	No Gas		ug/l	20387.43
Sr	88	72	1	No Gas	0.141	ug/l	5293.85
Sr	88	72	3	He	0.141	ug/l	1023.38
Mo	95	115	1	No Gas	0.124	ug/l	817.81
Mo	95	115	3	He	0.110	ug/l	268.89
Mo	98	115	1	No Gas	0.117	ug/l	1248.12
Ag	107	115	1	No Gas	0.053	ug/l	2130.36
Ag	109	115	1	No Gas	0.056	ug/l	2059.65
Cd	111	115	1	No Gas	0.132	ug/l	484.50

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.119	ug/l	159.44
Cd	114	115	1	No Gas	0.122	ug/l	916.02
Cd	114	115	3	He	0.080	ug/l	262.53
Sn	118	115	1	No Gas	14.442	ug/l	167067.28
Sn	118	115	3	He	14.833	ug/l	49712.32
Sb	121	115	1	No Gas	0.120	ug/l	2083.70
Sb	121	115	3	He	0.126	ug/l	635.75
Sb	123	115	1	No Gas	0.118	ug/l	1565.25
Sb	123	115	3	He	0.122	ug/l	485.39
Ba	135	115	1	No Gas	0.151	ug/l	492.37
Ba	137	115	1	No Gas	0.118	ug/l	678.67
La	139	115	3	He	0.124	ug/l	1982.38
Ce	140	115	3	He	0.125	ug/l	2102.39
Hg	201	209	1	No Gas	0.010	ug/l	95.65
Hg	202	209	1	No Gas	0.004	ug/l	218.96
Hg	202	209	3	He	0.004	ug/l	93.98
Tl	203	209	3	He	0.125	ug/l	769.00
Tl	205	209	1	No Gas	0.124	ug/l	3761.67
Tl	205	209	3	He	0.118	ug/l	1744.15
[Pb]	206	209	1	No Gas	0.118	ug/l	1897.93
[Pb]	207	209	1	No Gas	0.120	ug/l	1666.78
Pb	208	209	1	No Gas	0.119	ug/l	7649.81
Th	232	209	3	He	0.075	ug/l	1348.61
U	238	209	1	No Gas	0.122	ug/l	4074.16

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4629945.18	100.4
Sc	45	2	H2	2332626.70	98.2
Sc	45	3	He	297338.60	100.7
Ge	72	1	No Gas	1115126.60	99.6
Ge	72	2	H2	799677.50	100.3
Ge	72	3	He	181484.06	102.2
In	115	1	No Gas	7487300.24	98.2
In	115	3	He	1737268.71	100.8
Tb	159	1	No Gas	8652571.95	98.7
Tb	159	3	He	3824441.99	105.3
Ho	165	1	No Gas	8460727.20	101.8
Ho	165	3	He	3669421.35	102.9
Lu	175	1	No Gas	8430491.23	106.0
Lu	175	3	He	3061192.96	101.3
Bi	209	1	No Gas	5988047.44	102.1
Bi	209	3	He	2447913.31	101.0

ICPMS207-B Analytical Data

Sample Name 0.5 ppb STD
File Name 024CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 14:36:59
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	6.694	ug/l	69548.55
Be	9	45	1	No Gas	0.508	ug/l	2105.06
B	11	45	1	No Gas	0.521	ug/l	2239.07
Na	23	45	3	He	137.095	ug/l	185843.13
Mg	24	45	3	He	140.591	ug/l	63324.69
Al	27	45	1	No Gas	0.625	ug/l	21642.34
Si	28	45	2	H2	2.322	ug/l	14302.57
K	39	72	3	He	133.584	ug/l	193968.81
Ca	40	72	2	H2	135.744	ug/l	1044274.31
Ti	47	72	1	No Gas	0.573	ug/l	1276.35
V	51	72	1	No Gas	-3.591	ug/l	-93679.95
V	51	72	3	He	0.788	ug/l	18502.79
Cr	52	72	1	No Gas	1.016	ug/l	88364.00
Cr	52	72	3	He	0.517	ug/l	3413.76
Mn	55	72	1	No Gas	0.579	ug/l	21283.26
Mn	55	72	3	He	0.527	ug/l	1672.43
Fe	56	72	2	H2	14.601	ug/l	202788.44
Fe	56	72	3	He	13.994	ug/l	60128.34
Co	59	72	1	No Gas	0.555	ug/l	12750.30
Ni	60	72	1	No Gas	0.616	ug/l	3979.33
Ni	60	72	3	He	0.575	ug/l	1051.15
Cu	63	72	1	No Gas	0.594	ug/l	14454.27
Cu	63	72	3	He	0.599	ug/l	4715.16
Cu	65	72	1	No Gas	0.622	ug/l	6578.14
Zn	66	72	1	No Gas	0.647	ug/l	12981.86
Zn	66	72	3	He	0.612	ug/l	3130.36
As	75	72	1	No Gas	2.123	ug/l	22605.38
As	75	72	3	He	0.560	ug/l	1025.95
Se	78	72	2	H2	0.517	ug/l	311.11
Br	79	72	1	No Gas	-0.154	ug/l	9211.35
Br	79	72	2	H2	-0.215	ug/l	4748.04
Se	82	72	1	No Gas	0.759	ug/l	922.23
Kr	84	72	1	No Gas		ug/l	20364.13
Sr	88	72	1	No Gas	0.578	ug/l	18938.48
Sr	88	72	3	He	0.513	ug/l	2684.72
Mo	95	115	1	No Gas	0.499	ug/l	3265.95
Mo	95	115	3	He	0.480	ug/l	1145.61
Mo	98	115	1	No Gas	0.495	ug/l	5172.85
Ag	107	115	1	No Gas	0.206	ug/l	4735.37
Ag	109	115	1	No Gas	0.214	ug/l	4599.94
Cd	111	115	1	No Gas	0.507	ug/l	1918.11

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.516	ug/l	672.68
Cd	114	115	1	No Gas	0.494	ug/l	4057.67
Cd	114	115	3	He	0.478	ug/l	1503.69
Sn	118	115	1	No Gas	14.821	ug/l	174259.81
Sn	118	115	3	He	15.232	ug/l	50981.35
Sb	121	115	1	No Gas	0.498	ug/l	8331.32
Sb	121	115	3	He	0.508	ug/l	2444.13
Sb	123	115	1	No Gas	0.495	ug/l	6316.06
Sb	123	115	3	He	0.492	ug/l	1852.64
Ba	135	115	1	No Gas	0.504	ug/l	1623.55
Ba	137	115	1	No Gas	0.510	ug/l	2867.95
La	139	115	3	He	0.522	ug/l	8343.68
Ce	140	115	3	He	0.525	ug/l	8791.73
Hg	201	209	1	No Gas	0.012	ug/l	100.31
Hg	202	209	1	No Gas	0.009	ug/l	246.95
Hg	202	209	3	He	0.014	ug/l	116.65
Tl	203	209	3	He	0.496	ug/l	2759.40
Tl	205	209	1	No Gas	0.529	ug/l	14393.42
Tl	205	209	3	He	0.510	ug/l	6679.70
[Pb]	206	209	1	No Gas	0.489	ug/l	5319.99
[Pb]	207	209	1	No Gas	0.520	ug/l	4869.83
Pb	208	209	1	No Gas	0.505	ug/l	21809.42
Th	232	209	3	He	0.385	ug/l	6578.31
U	238	209	1	No Gas	0.502	ug/l	17082.42

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4634544.10	100.5
Sc	45	2	H2	2324105.98	97.8
Sc	45	3	He	300643.95	101.8
Ge	72	1	No Gas	1123618.42	100.3
Ge	72	2	H2	786184.47	98.6
Ge	72	3	He	183110.03	103.1
In	115	1	No Gas	7612781.58	99.9
In	115	3	He	1735343.92	100.6
Tb	159	1	No Gas	8997260.17	102.7
Tb	159	3	He	3858317.35	106.2
Ho	165	1	No Gas	8688578.79	104.5
Ho	165	3	He	3766665.49	105.6
Lu	175	1	No Gas	8516585.98	107.1
Lu	175	3	He	3119369.68	103.2
Bi	209	1	No Gas	6111533.89	104.2
Bi	209	3	He	2479088.66	102.3

ICPMS207-B Analytical Data

Sample Name 1 ppb STD
File Name 025CAL5.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 14:43:35
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	15.062	ug/l	137273.66
Be	9	45	1	No Gas	1.131	ug/l	4471.10
B	11	45	1	No Gas	1.111	ug/l	3613.89
Na	23	45	3	He	310.456	ug/l	323160.50
Mg	24	45	3	He	313.616	ug/l	140555.40
Al	27	45	1	No Gas	1.278	ug/l	33715.67
Si	28	45	2	H2	4.420	ug/l	18259.79
K	39	72	3	He	295.670	ug/l	272432.98
Ca	40	72	2	H2	311.411	ug/l	2247816.62
Ti	47	72	1	No Gas	1.247	ug/l	2546.13
V	51	72	1	No Gas	-0.539	ug/l	-34470.78
V	51	72	3	He	1.125	ug/l	19752.19
Cr	52	72	1	No Gas	1.231	ug/l	95704.72
Cr	52	72	3	He	1.213	ug/l	6396.99
Mn	55	72	1	No Gas	1.294	ug/l	41446.34
Mn	55	72	3	He	1.216	ug/l	3719.73
Fe	56	72	2	H2	32.499	ug/l	452074.05
Fe	56	72	3	He	31.782	ug/l	128736.96
Co	59	72	1	No Gas	1.276	ug/l	29487.98
Ni	60	72	1	No Gas	1.247	ug/l	7310.70
Ni	60	72	3	He	1.237	ug/l	2127.95
Cu	63	72	1	No Gas	1.247	ug/l	23006.59
Cu	63	72	3	He	1.284	ug/l	7587.46
Cu	65	72	1	No Gas	1.257	ug/l	10502.67
Zn	66	72	1	No Gas	1.192	ug/l	15748.82
Zn	66	72	3	He	1.172	ug/l	3687.16
As	75	72	1	No Gas	1.508	ug/l	19783.52
As	75	72	3	He	1.195	ug/l	1662.19
Se	78	72	2	H2	1.172	ug/l	684.79
Br	79	72	1	No Gas	-0.244	ug/l	8831.88
Br	79	72	2	H2	-0.259	ug/l	4658.21
Se	82	72	1	No Gas	0.982	ug/l	1025.05
Kr	84	72	1	No Gas		ug/l	20807.25
Sr	88	72	1	No Gas	1.254	ug/l	41334.40
Sr	88	72	3	He	1.159	ug/l	5534.44
Mo	95	115	1	No Gas	1.137	ug/l	7467.56
Mo	95	115	3	He	1.145	ug/l	2788.07
Mo	98	115	1	No Gas	1.138	ug/l	11928.68
Ag	107	115	1	No Gas	0.476	ug/l	9349.51
Ag	109	115	1	No Gas	0.473	ug/l	8804.29
Cd	111	115	1	No Gas	1.152	ug/l	4408.82

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	1.165	ug/l	1553.64
Cd	114	115	1	No Gas	1.117	ug/l	9377.07
Cd	114	115	3	He	1.120	ug/l	3602.49
Sn	118	115	1	No Gas	15.622	ug/l	185241.75
Sn	118	115	3	He	15.314	ug/l	52594.96
Sb	121	115	1	No Gas	1.117	ug/l	18662.23
Sb	121	115	3	He	1.083	ug/l	5303.20
Sb	123	115	1	No Gas	1.120	ug/l	14262.02
Sb	123	115	3	He	1.111	ug/l	4253.74
Ba	135	115	1	No Gas	1.098	ug/l	3543.45
Ba	137	115	1	No Gas	1.162	ug/l	6548.55
La	139	115	3	He	1.142	ug/l	18707.12
Ce	140	115	3	He	1.191	ug/l	20451.83
Hg	201	209	1	No Gas	0.027	ug/l	133.97
Hg	202	209	1	No Gas	0.022	ug/l	316.61
Hg	202	209	3	He	0.031	ug/l	153.64
Tl	203	209	3	He	1.138	ug/l	6164.58
Tl	205	209	1	No Gas	1.148	ug/l	31173.37
Tl	205	209	3	He	1.170	ug/l	14947.73
[Pb]	206	209	1	No Gas	1.161	ug/l	11669.64
[Pb]	207	209	1	No Gas	1.140	ug/l	9968.24
Pb	208	209	1	No Gas	1.132	ug/l	45427.05
Th	232	209	3	He	0.989	ug/l	16730.76
U	238	209	1	No Gas	1.139	ug/l	39505.01

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4727472.37	102.5
Sc	45	2	H2	2326536.19	97.9
Sc	45	3	He	302648.51	102.5
Ge	72	1	No Gas	1162679.94	103.8
Ge	72	2	H2	803508.33	100.8
Ge	72	3	He	182394.52	102.7
In	115	1	No Gas	7680333.49	100.7
In	115	3	He	1780980.31	103.3
Tb	159	1	No Gas	9072671.21	103.5
Tb	159	3	He	3877117.94	106.7
Ho	165	1	No Gas	8716726.84	104.9
Ho	165	3	He	3683025.73	103.3
Lu	175	1	No Gas	8574576.72	107.8
Lu	175	3	He	3165814.27	104.8
Bi	209	1	No Gas	6235597.07	106.3
Bi	209	3	He	2476181.33	102.2

ICPMS207-B Analytical Data

Sample Name 10 ppb STD
File Name 026CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 14:50:12
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	130.740	ug/l	1056476.00
Be	9	45	1	No Gas	10.318	ug/l	38827.90
B	11	45	1	No Gas	10.177	ug/l	24127.55
Na	23	45	3	He	2743.313	ug/l	2242873.56
Mg	24	45	3	He	2819.356	ug/l	1259078.29
Al	27	45	1	No Gas	10.573	ug/l	199613.84
Si	28	45	2	H2	40.104	ug/l	84158.69
K	39	72	3	He	2621.115	ug/l	1399767.41
Ca	40	72	2	H2	2720.175	ug/l	18209339.32
Ti	47	72	1	No Gas	10.936	ug/l	19649.49
V	51	72	1	No Gas	12.281	ug/l	224413.65
V	51	72	3	He	9.938	ug/l	53969.82
Cr	52	72	1	No Gas	10.985	ug/l	286692.01
Cr	52	72	3	He	10.595	ug/l	46502.56
Mn	55	72	1	No Gas	10.801	ug/l	292448.77
Mn	55	72	3	He	10.564	ug/l	31399.49
Fe	56	72	2	H2	290.742	ug/l	3937586.12
Fe	56	72	3	He	282.725	ug/l	1093046.55
Co	59	72	1	No Gas	11.107	ug/l	245283.30
Ni	60	72	1	No Gas	11.101	ug/l	55642.19
Ni	60	72	3	He	10.695	ug/l	17454.95
Cu	63	72	1	No Gas	11.217	ug/l	142515.20
Cu	63	72	3	He	11.100	ug/l	48668.82
Cu	65	72	1	No Gas	11.266	ug/l	67024.19
Zn	66	72	1	No Gas	10.954	ug/l	55830.80
Zn	66	72	3	He	11.044	ug/l	13628.65
As	75	72	1	No Gas	11.457	ug/l	75826.28
As	75	72	3	He	10.379	ug/l	10850.88
Se	78	72	2	H2	10.492	ug/l	5831.06
Br	79	72	1	No Gas	-0.201	ug/l	8948.42
Br	79	72	2	H2	-0.215	ug/l	4791.32
Se	82	72	1	No Gas	10.864	ug/l	4001.17
Kr	84	72	1	No Gas		ug/l	24309.25
Sr	88	72	1	No Gas	11.123	ug/l	349874.18
Sr	88	72	3	He	10.377	ug/l	45992.64
Mo	95	115	1	No Gas	9.938	ug/l	65120.80
Mo	95	115	3	He	10.074	ug/l	23987.98
Mo	98	115	1	No Gas	9.839	ug/l	102840.14
Ag	107	115	1	No Gas	4.107	ug/l	71031.00
Ag	109	115	1	No Gas	4.121	ug/l	67525.17
Cd	111	115	1	No Gas	10.189	ug/l	39082.64

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	10.353	ug/l	13499.95
Cd	114	115	1	No Gas	10.167	ug/l	86230.44
Cd	114	115	3	He	10.317	ug/l	32444.62
Sn	118	115	1	No Gas	22.997	ug/l	272567.29
Sn	118	115	3	He	23.747	ug/l	79851.34
Sb	121	115	1	No Gas	9.973	ug/l	165552.98
Sb	121	115	3	He	9.937	ug/l	47399.58
Sb	123	115	1	No Gas	9.895	ug/l	125161.08
Sb	123	115	3	He	10.065	ug/l	37526.69
Ba	135	115	1	No Gas	10.040	ug/l	32270.34
Ba	137	115	1	No Gas	10.052	ug/l	56416.34
La	139	115	3	He	10.269	ug/l	164900.44
Ce	140	115	3	He	10.448	ug/l	175797.57
Hg	201	209	1	No Gas	0.205	ug/l	497.91
Hg	202	209	1	No Gas	0.189	ug/l	1101.16
Hg	202	209	3	He	0.213	ug/l	525.57
Tl	203	209	3	He	10.440	ug/l	53809.72
Tl	205	209	1	No Gas	10.421	ug/l	276361.94
Tl	205	209	3	He	10.490	ug/l	127456.99
[Pb]	206	209	1	No Gas	10.213	ug/l	95197.38
[Pb]	207	209	1	No Gas	10.107	ug/l	81897.50
Pb	208	209	1	No Gas	10.279	ug/l	381080.05
Th	232	209	3	He	10.191	ug/l	165944.28
U	238	209	1	No Gas	10.186	ug/l	351180.27

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4721644.70	102.4
Sc	45	2	H2	2294868.81	96.6
Sc	45	3	He	304075.90	103.0
Ge	72	1	No Gas	1133930.99	101.3
Ge	72	2	H2	793477.20	99.6
Ge	72	3	He	181235.22	102.1
In	115	1	No Gas	7684037.48	100.8
In	115	3	He	1746619.11	101.3
Tb	159	1	No Gas	9018665.12	102.9
Tb	159	3	He	3867769.69	106.5
Ho	165	1	No Gas	8831434.14	106.2
Ho	165	3	He	3760910.78	105.4
Lu	175	1	No Gas	8466952.38	106.5
Lu	175	3	He	3089343.14	102.2
Bi	209	1	No Gas	6188000.27	105.5
Bi	209	3	He	2395250.20	98.8

ICPMS207-B Analytical Data

Sample Name 50 ppb STD
File Name 027CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 14:56:48
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	625.166	ug/l	4976645.46
Be	9	45	1	No Gas	50.326	ug/l	187964.94
B	11	45	1	No Gas	52.995	ug/l	120762.83
Na	23	45	3	He	12490.205	ug/l	10349873.25
Mg	24	45	3	He	12511.374	ug/l	5819081.88
Al	27	45	1	No Gas	52.316	ug/l	942424.50
Si	28	45	2	H2	217.078	ug/l	423050.44
K	39	72	3	He	12084.475	ug/l	6196706.36
Ca	40	72	2	H2	12345.127	ug/l	84088408.78
Ti	47	72	1	No Gas	51.459	ug/l	95173.09
V	51	72	1	No Gas	52.803	ug/l	1081519.23
V	51	72	3	He	49.790	ug/l	216227.11
Cr	52	72	1	No Gas	52.251	ug/l	1148386.89
Cr	52	72	3	He	51.356	ug/l	228320.69
Mn	55	72	1	No Gas	50.407	ug/l	1396569.20
Mn	55	72	3	He	50.746	ug/l	155492.68
Fe	56	72	2	H2	1285.539	ug/l	17804443.19
Fe	56	72	3	He	1303.031	ug/l	5184767.50
Co	59	72	1	No Gas	50.891	ug/l	1167136.22
Ni	60	72	1	No Gas	51.254	ug/l	263373.64
Ni	60	72	3	He	51.142	ug/l	85822.20
Cu	63	72	1	No Gas	51.312	ug/l	650296.79
Cu	63	72	3	He	51.381	ug/l	224718.85
Cu	65	72	1	No Gas	51.680	ug/l	308255.23
Zn	66	72	1	No Gas	51.667	ug/l	233508.26
Zn	66	72	3	He	49.859	ug/l	54582.05
As	75	72	1	No Gas	50.815	ug/l	311296.15
As	75	72	3	He	50.255	ug/l	52498.76
Se	78	72	2	H2	51.128	ug/l	28989.81
Br	79	72	1	No Gas	-0.152	ug/l	9690.77
Br	79	72	2	H2	-0.018	ug/l	5803.00
Se	82	72	1	No Gas	50.606	ug/l	16746.59
Kr	84	72	1	No Gas		ug/l	32075.48
Sr	88	72	1	No Gas	51.452	ug/l	1680646.81
Sr	88	72	3	He	50.056	ug/l	227611.50
Mo	95	115	1	No Gas	50.587	ug/l	328223.33
Mo	95	115	3	He	51.651	ug/l	121316.64
Mo	98	115	1	No Gas	50.349	ug/l	520374.05
Ag	107	115	1	No Gas	20.178	ug/l	340409.36
Ag	109	115	1	No Gas	20.268	ug/l	323931.40
Cd	111	115	1	No Gas	50.289	ug/l	191002.27

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	51.415	ug/l	66131.89
Cd	114	115	1	No Gas	50.132	ug/l	421190.04
Cd	114	115	3	He	51.595	ug/l	160044.87
Sn	118	115	1	No Gas	44.334	ug/l	519809.96
Sn	118	115	3	He	46.340	ug/l	153518.94
Sb	121	115	1	No Gas	52.619	ug/l	863934.37
Sb	121	115	3	He	52.691	ug/l	247834.34
Sb	123	115	1	No Gas	52.577	ug/l	657800.05
Sb	123	115	3	He	52.916	ug/l	194537.00
Ba	135	115	1	No Gas	49.745	ug/l	158231.51
Ba	137	115	1	No Gas	49.152	ug/l	273055.02
La	139	115	3	He	50.219	ug/l	795611.42
Ce	140	115	3	He	50.370	ug/l	836151.69
Hg	201	209	1	No Gas	0.993	ug/l	2007.76
Hg	202	209	1	No Gas	0.994	ug/l	4647.89
Hg	202	209	3	He	0.964	ug/l	2076.08
Tl	203	209	3	He	50.451	ug/l	259171.31
Tl	205	209	1	No Gas	52.243	ug/l	1313304.65
Tl	205	209	3	He	50.822	ug/l	615501.59
[Pb]	206	209	1	No Gas	51.467	ug/l	452359.45
[Pb]	207	209	1	No Gas	51.327	ug/l	392147.33
Pb	208	209	1	No Gas	51.459	ug/l	1798314.47
Th	232	209	3	He	50.417	ug/l	819132.75
U	238	209	1	No Gas	51.686	ug/l	1692492.84

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4721437.14	102.4
Sc	45	2	H2	2355354.82	99.1
Sc	45	3	He	316961.38	107.4
Ge	72	1	No Gas	1180212.46	105.4
Ge	72	2	H2	812650.87	102.0
Ge	72	3	He	187351.07	105.5
In	115	1	No Gas	7622961.51	100.0
In	115	3	He	1723294.12	99.9
Tb	159	1	No Gas	8901784.28	101.6
Tb	159	3	He	3855426.90	106.1
Ho	165	1	No Gas	8808081.42	106.0
Ho	165	3	He	3685656.80	103.3
Lu	175	1	No Gas	8631071.70	108.5
Lu	175	3	He	3137053.29	103.8
Bi	209	1	No Gas	5878849.66	100.2
Bi	209	3	He	2391908.87	98.7

ICPMS207-B Analytical Data

Sample Name 100 ppb STD
File Name 028CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 15:03:23
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1249.315	ug/l	10109469.39
Be	9	45	1	No Gas	99.804	ug/l	379690.56
B	11	45	1	No Gas	98.484	ug/l	227679.75
Na	23	45	3	He	24979.895	ug/l	21011755.38
Mg	24	45	3	He	24961.653	ug/l	11830775.94
Al	27	45	1	No Gas	98.781	ug/l	1803865.30
Si	28	45	2	H2	391.444	ug/l	761644.49
K	39	72	3	He	25195.145	ug/l	12942760.50
Ca	40	72	2	H2	25054.740	ug/l	174012513.05
Ti	47	72	1	No Gas	99.174	ug/l	184552.05
V	51	72	1	No Gas	98.404	ug/l	2057181.25
V	51	72	3	He	100.108	ug/l	424466.79
Cr	52	72	1	No Gas	98.771	ug/l	2125258.99
Cr	52	72	3	He	99.260	ug/l	445953.60
Mn	55	72	1	No Gas	99.713	ug/l	2777162.41
Mn	55	72	3	He	99.568	ug/l	309058.63
Fe	56	72	2	H2	2604.082	ug/l	36803159.36
Fe	56	72	3	He	2596.149	ug/l	10461672.66
Co	59	72	1	No Gas	99.441	ug/l	2297478.33
Ni	60	72	1	No Gas	99.260	ug/l	513402.36
Ni	60	72	3	He	99.357	ug/l	168842.09
Cu	63	72	1	No Gas	99.219	ug/l	1260595.59
Cu	63	72	3	He	99.196	ug/l	437503.24
Cu	65	72	1	No Gas	99.030	ug/l	592490.26
Zn	66	72	1	No Gas	99.068	ug/l	441451.33
Zn	66	72	3	He	99.964	ug/l	108259.58
As	75	72	1	No Gas	99.433	ug/l	603133.92
As	75	72	3	He	99.832	ug/l	105193.09
Se	78	72	2	H2	99.385	ug/l	57485.86
Br	79	72	1	No Gas	-0.067	ug/l	10423.17
Br	79	72	2	H2	0.110	ug/l	6511.90
Se	82	72	1	No Gas	99.609	ug/l	32511.77
Kr	84	72	1	No Gas		ug/l	42268.22
Sr	88	72	1	No Gas	99.159	ug/l	3263409.83
Sr	88	72	3	He	99.933	ug/l	460173.78
Mo	95	115	1	No Gas	99.711	ug/l	628007.69
Mo	95	115	3	He	99.166	ug/l	238003.30
Mo	98	115	1	No Gas	99.840	ug/l	1002610.22
Ag	107	115	1	No Gas	39.899	ug/l	652097.37
Ag	109	115	1	No Gas	39.853	ug/l	617869.64
Cd	111	115	1	No Gas	99.835	ug/l	368040.82

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	99.256	ug/l	130469.97
Cd	114	115	1	No Gas	99.916	ug/l	815311.36
Cd	114	115	3	He	99.170	ug/l	314382.55
Sn	118	115	1	No Gas	101.291	ug/l	1151690.56
Sn	118	115	3	He	100.213	ug/l	339010.98
Sb	121	115	1	No Gas	98.692	ug/l	1573205.68
Sb	121	115	3	He	98.660	ug/l	474241.68
Sb	123	115	1	No Gas	98.721	ug/l	1198579.69
Sb	123	115	3	He	98.534	ug/l	370160.26
Ba	135	115	1	No Gas	100.123	ug/l	309108.97
Ba	137	115	1	No Gas	100.417	ug/l	541105.47
La	139	115	3	He	99.862	ug/l	1616957.51
Ce	140	115	3	He	99.768	ug/l	1692442.42
Hg	201	209	1	No Gas	2.003	ug/l	3873.46
Hg	202	209	1	No Gas	2.004	ug/l	8934.54
Hg	202	209	3	He	2.017	ug/l	4135.49
Tl	203	209	3	He	99.729	ug/l	498258.15
Tl	205	209	1	No Gas	98.835	ug/l	2422310.09
Tl	205	209	3	He	99.538	ug/l	1172042.12
[Pb]	206	209	1	No Gas	99.244	ug/l	849729.79
[Pb]	207	209	1	No Gas	99.324	ug/l	739387.56
Pb	208	209	1	No Gas	99.241	ug/l	3378288.71
Th	232	209	3	He	99.773	ug/l	1576794.30
U	238	209	1	No Gas	99.137	ug/l	3164804.46

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4809968.37	104.3
Sc	45	2	H2	2376662.01	100.0
Sc	45	3	He	323042.11	109.4
Ge	72	1	No Gas	1188297.84	106.1
Ge	72	2	H2	829479.33	104.1
Ge	72	3	He	189776.68	106.9
In	115	1	No Gas	7397962.81	97.0
In	115	3	He	1761096.27	102.1
Tb	159	1	No Gas	8953222.18	102.2
Tb	159	3	He	3738691.32	102.9
Ho	165	1	No Gas	8497308.26	102.2
Ho	165	3	He	3775060.39	105.8
Lu	175	1	No Gas	8289073.57	104.2
Lu	175	3	He	3155914.45	104.4
Bi	209	1	No Gas	5730996.52	97.7
Bi	209	3	He	2326318.80	96.0

ICPMS207-B Analytical Data

Sample Name 1000 ppb STD
File Name 029CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 15:09:56
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas		ug/l	
Be	9	45	1	No Gas		ug/l	
B	11	45	1	No Gas		ug/l	
Na	23	45	3	He		ug/l	
Mg	24	45	3	He		ug/l	
Al	27	45	1	No Gas		ug/l	
Si	28	45	2	H2		ug/l	
K	39	72	3	He		ug/l	
Ca	40	72	2	H2		ug/l	
Ti	47	72	1	No Gas		ug/l	
V	51	72	1	No Gas		ug/l	
V	51	72	3	He		ug/l	
Cr	52	72	1	No Gas		ug/l	
Cr	52	72	3	He		ug/l	
Mn	55	72	1	No Gas		ug/l	
Mn	55	72	3	He		ug/l	
Fe	56	72	2	H2		ug/l	
Fe	56	72	3	He		ug/l	
Co	59	72	1	No Gas		ug/l	
Ni	60	72	1	No Gas		ug/l	
Ni	60	72	3	He		ug/l	
Cu	63	72	1	No Gas		ug/l	
Cu	63	72	3	He		ug/l	
Cu	65	72	1	No Gas		ug/l	
Zn	66	72	1	No Gas		ug/l	
Zn	66	72	3	He		ug/l	
As	75	72	1	No Gas		ug/l	
As	75	72	3	He		ug/l	
Se	78	72	2	H2		ug/l	
Br	79	72	1	No Gas		ug/l	
Br	79	72	2	H2		ug/l	
Se	82	72	1	No Gas		ug/l	
Kr	84	72	1	No Gas		ug/l	
Sr	88	72	1	No Gas		ug/l	
Sr	88	72	3	He		ug/l	
Mo	95	115	1	No Gas		ug/l	
Mo	95	115	3	He		ug/l	
Mo	98	115	1	No Gas		ug/l	
Ag	107	115	1	No Gas		ug/l	
Ag	109	115	1	No Gas		ug/l	
Cd	111	115	1	No Gas		ug/l	

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He		ug/l	
Cd	114	115	1	No Gas		ug/l	
Cd	114	115	3	He		ug/l	
Sn	118	115	1	No Gas		ug/l	
Sn	118	115	3	He		ug/l	
Sb	121	115	1	No Gas		ug/l	
Sb	121	115	3	He		ug/l	
Sb	123	115	1	No Gas		ug/l	
Sb	123	115	3	He		ug/l	
Ba	135	115	1	No Gas		ug/l	
Ba	137	115	1	No Gas		ug/l	
La	139	115	3	He		ug/l	
Ce	140	115	3	He		ug/l	
Hg	201	209	1	No Gas		ug/l	
Hg	202	209	1	No Gas		ug/l	
Hg	202	209	3	He		ug/l	
Tl	203	209	3	He		ug/l	
Tl	205	209	1	No Gas		ug/l	
Tl	205	209	3	He		ug/l	
[Pb]	206	209	1	No Gas		ug/l	
[Pb]	207	209	1	No Gas		ug/l	
Pb	208	209	1	No Gas		ug/l	
Th	232	209	3	He		ug/l	
U	238	209	1	No Gas		ug/l	

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas		
Sc	45	2	H2		
Sc	45	3	He		
Ge	72	1	No Gas		
Ge	72	2	H2		
Ge	72	3	He		
In	115	1	No Gas		
In	115	3	He		
Tb	159	1	No Gas		
Tb	159	3	He		
Ho	165	1	No Gas		
Ho	165	3	He		
Lu	175	1	No Gas		
Lu	175	3	He		
Bi	209	1	No Gas		
Bi	209	3	He		

ICPMS207-B Analytical Data

Sample Name 100 ppb Br STD
File Name 030CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 15:16:24
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.970	ug/l	33152.58
Be	9	45	1	No Gas	0.039	ug/l	386.93
B	11	45	1	No Gas	4.553	ug/l	11345.49
Na	23	45	3	He	-10.379	ug/l	75025.65
Mg	24	45	3	He	0.043	ug/l	1403.96
Al	27	45	1	No Gas	0.044	ug/l	11586.77
Si	28	45	2	H2	0.048	ug/l	10362.42
K	39	72	3	He	523.248	ug/l	393214.40
Ca	40	72	2	H2	2.749	ug/l	176876.02
Ti	47	72	1	No Gas	0.029	ug/l	342.02
V	51	72	1	No Gas	0.687	ug/l	-10560.46
V	51	72	3	He	-1.272	ug/l	10608.33
Cr	52	72	1	No Gas	-0.497	ug/l	62538.85
Cr	52	72	3	He	0.007	ug/l	1236.73
Mn	55	72	1	No Gas	0.136	ug/l	10296.53
Mn	55	72	3	He	0.026	ug/l	176.64
Fe	56	72	2	H2	0.243	ug/l	10950.12
Fe	56	72	3	He	0.425	ug/l	7549.55
Co	59	72	1	No Gas	0.015	ug/l	1031.33
Ni	60	72	1	No Gas	0.084	ug/l	1490.46
Ni	60	72	3	He	0.013	ug/l	133.33
Cu	63	72	1	No Gas	0.011	ug/l	7983.39
Cu	63	72	3	He	0.024	ug/l	2330.06
Cu	65	72	1	No Gas	0.020	ug/l	3398.43
Zn	66	72	1	No Gas	-0.078	ug/l	10685.11
Zn	66	72	3	He	0.063	ug/l	2623.58
As	75	72	1	No Gas	0.850	ug/l	16532.22
As	75	72	3	He	-0.018	ug/l	449.87
Se	78	72	2	H2	0.131	ug/l	104.45
Br	79	72	1	No Gas	100.000	ug/l	800800.15
Br	79	72	2	H2	100.000	ug/l	463200.05
Se	82	72	1	No Gas	1.703	ug/l	1294.14
Kr	84	72	1	No Gas		ug/l	21959.99
Sr	88	72	1	No Gas	0.016	ug/l	1563.68
Sr	88	72	3	He	0.003	ug/l	431.13
Mo	95	115	1	No Gas	0.022	ug/l	165.56
Mo	95	115	3	He	0.018	ug/l	52.22
Mo	98	115	1	No Gas	0.017	ug/l	232.02
Ag	107	115	1	No Gas	0.030	ug/l	1767.49
Ag	109	115	1	No Gas	0.033	ug/l	1707.46
Cd	111	115	1	No Gas	0.107	ug/l	399.48

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.071	ug/l	99.00
Cd	114	115	1	No Gas	0.086	ug/l	622.21
Cd	114	115	3	He	0.032	ug/l	114.17
Sn	118	115	1	No Gas	14.474	ug/l	168437.77
Sn	118	115	3	He	14.398	ug/l	49527.32
Sb	121	115	1	No Gas	0.065	ug/l	1212.84
Sb	121	115	3	He	0.068	ug/l	371.04
Sb	123	115	1	No Gas	0.068	ug/l	959.13
Sb	123	115	3	He	0.072	ug/l	309.37
Ba	135	115	1	No Gas	0.012	ug/l	59.88
Ba	137	115	1	No Gas	0.015	ug/l	116.43
La	139	115	3	He	0.000	ug/l	13.34
Ce	140	115	3	He	0.000	ug/l	17.78
Hg	201	209	1	No Gas	0.000	ug/l	74.99
Hg	202	209	1	No Gas	-0.001	ug/l	194.96
Hg	202	209	3	He	0.006	ug/l	96.31
Tl	203	209	3	He	0.110	ug/l	672.95
Tl	205	209	1	No Gas	0.139	ug/l	4117.34
Tl	205	209	3	He	0.113	ug/l	1626.09
[Pb]	206	209	1	No Gas	0.030	ug/l	1105.61
[Pb]	207	209	1	No Gas	0.029	ug/l	957.82
Pb	208	209	1	No Gas	0.026	ug/l	4331.41
Th	232	209	3	He	0.223	ug/l	3677.34
U	238	209	1	No Gas	0.048	ug/l	1626.12

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4727811.79	102.5
Sc	45	2	H2	2401944.66	101.1
Sc	45	3	He	318192.07	107.8
Ge	72	1	No Gas	1206306.43	107.7
Ge	72	2	H2	820325.92	102.9
Ge	72	3	He	186964.95	105.3
In	115	1	No Gas	7587797.23	99.5
In	115	3	He	1783112.87	103.4
Tb	159	1	No Gas	8870655.71	101.2
Tb	159	3	He	3811530.98	104.9
Ho	165	1	No Gas	8532703.39	102.6
Ho	165	3	He	3674130.59	103.0
Lu	175	1	No Gas	8177170.63	102.8
Lu	175	3	He	3021921.89	100.0
Bi	209	1	No Gas	5948700.21	101.4
Bi	209	3	He	2373401.69	97.9

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 031BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 15:22:49
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.750	ug/l	23121.44
Be	9	45	1	No Gas	0.009	ug/l	271.28
B	11	45	1	No Gas	2.423	ug/l	6438.63
Na	23	45	3	He	-12.898	ug/l	70179.14
Mg	24	45	3	He	-0.266	ug/l	1210.99
Al	27	45	1	No Gas	-0.029	ug/l	10165.71
Si	28	45	2	H2	-0.058	ug/l	9935.29
K	39	72	3	He	11.188	ug/l	132175.23
Ca	40	72	2	H2	0.854	ug/l	162402.93
Ti	47	72	1	No Gas	0.019	ug/l	308.65
V	51	72	1	No Gas	-0.535	ug/l	-36942.73
V	51	72	3	He	-1.308	ug/l	10117.97
Cr	52	72	1	No Gas	-0.551	ug/l	57992.58
Cr	52	72	3	He	0.007	ug/l	1192.28
Mn	55	72	1	No Gas	0.088	ug/l	8479.01
Mn	55	72	3	He	0.014	ug/l	134.64
Fe	56	72	2	H2	0.054	ug/l	8235.62
Fe	56	72	3	He	0.179	ug/l	6351.12
Co	59	72	1	No Gas	-0.001	ug/l	622.12
Ni	60	72	1	No Gas	0.009	ug/l	1028.01
Ni	60	72	3	He	-0.002	ug/l	104.45
Cu	63	72	1	No Gas	-0.037	ug/l	6981.81
Cu	63	72	3	He	-0.017	ug/l	2078.40
Cu	65	72	1	No Gas	-0.016	ug/l	3020.87
Zn	66	72	1	No Gas	-0.008	ug/l	10408.85
Zn	66	72	3	He	-0.125	ug/l	2346.87
As	75	72	1	No Gas	0.223	ug/l	11989.13
As	75	72	3	He	-0.079	ug/l	373.60
Se	78	72	2	H2	0.030	ug/l	46.11
Br	79	72	1	No Gas	0.847	ug/l	16856.52
Br	79	72	2	H2	0.593	ug/l	8572.28
Se	82	72	1	No Gas	0.375	ug/l	818.09
Kr	84	72	1	No Gas		ug/l	21460.18
Sr	88	72	1	No Gas	0.005	ug/l	1121.19
Sr	88	72	3	He	-0.002	ug/l	395.57
Mo	95	115	1	No Gas	0.009	ug/l	82.22
Mo	95	115	3	He	0.008	ug/l	27.78
Mo	98	115	1	No Gas	0.009	ug/l	139.80
Ag	107	115	1	No Gas	0.005	ug/l	1309.92
Ag	109	115	1	No Gas	0.002	ug/l	1201.20
Cd	111	115	1	No Gas	0.034	ug/l	118.27

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.028	ug/l	40.45
Cd	114	115	1	No Gas	0.035	ug/l	198.04
Cd	114	115	3	He	0.030	ug/l	105.43
Sn	118	115	1	No Gas	0.023	ug/l	1004.71
Sn	118	115	3	He	0.031	ug/l	342.23
Sb	121	115	1	No Gas	0.033	ug/l	673.75
Sb	121	115	3	He	0.035	ug/l	203.69
Sb	123	115	1	No Gas	0.032	ug/l	511.06
Sb	123	115	3	He	0.036	ug/l	164.02
Ba	135	115	1	No Gas	0.011	ug/l	53.23
Ba	137	115	1	No Gas	0.003	ug/l	49.90
La	139	115	3	He	0.000	ug/l	11.11
Ce	140	115	3	He	0.000	ug/l	13.33
Hg	201	209	1	No Gas	0.008	ug/l	86.65
Hg	202	209	1	No Gas	0.003	ug/l	211.96
Hg	202	209	3	He	0.009	ug/l	101.65
Tl	203	209	3	He	0.056	ug/l	396.17
Tl	205	209	1	No Gas	0.058	ug/l	1991.27
Tl	205	209	3	He	0.050	ug/l	880.38
[Pb]	206	209	1	No Gas	0.005	ug/l	861.15
[Pb]	207	209	1	No Gas	0.004	ug/l	732.25
Pb	208	209	1	No Gas	0.001	ug/l	3366.86
Th	232	209	3	He	0.055	ug/l	991.77
U	238	209	1	No Gas	0.012	ug/l	409.26

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4659681.64	101.0
Sc	45	2	H2	2347757.97	98.8
Sc	45	3	He	306156.28	103.7
Ge	72	1	No Gas	1140981.49	101.9
Ge	72	2	H2	812929.99	102.0
Ge	72	3	He	180719.23	101.8
In	115	1	No Gas	7460050.81	97.9
In	115	3	He	1719009.21	99.7
Tb	159	1	No Gas	8368247.38	95.5
Tb	159	3	He	3601584.14	99.1
Ho	165	1	No Gas	8265472.16	99.4
Ho	165	3	He	3552310.29	99.6
Lu	175	1	No Gas	8091079.28	101.7
Lu	175	3	He	3046402.73	100.8
Bi	209	1	No Gas	5833284.21	99.4
Bi	209	3	He	2391407.02	98.7

ICPMS207-B Analytical Data

Sample Name QCS
File Name 032_QC1.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 15:29:03
Sample Type QC1
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	44.959	ug/l	359245.05
Be	9	45	1	No Gas	21.493	ug/l	77260.48
B	11	45	1	No Gas	48.652	ug/l	106533.26
Na	23	45	3	He	2554.956	ug/l	2050965.46
Mg	24	45	3	He	2561.655	ug/l	1120330.69
Al	27	45	1	No Gas	251.285	ug/l	4308364.38
Si	28	45	2	H2	494.868	ug/l	947802.87
K	39	72	3	He	2422.880	ug/l	1289500.51
Ca	40	72	2	H2	2601.117	ug/l	17674752.88
Ti	47	72	1	No Gas	50.981	ug/l	88560.64
V	51	72	1	No Gas	53.022	ug/l	1022679.15
V	51	72	3	He	47.983	ug/l	200044.63
Cr	52	72	1	No Gas	51.039	ug/l	1056212.42
Cr	52	72	3	He	49.378	ug/l	210158.16
Mn	55	72	1	No Gas	261.241	ug/l	6772707.16
Mn	55	72	3	He	250.023	ug/l	733004.75
Fe	56	72	2	H2	262.831	ug/l	3613064.42
Fe	56	72	3	He	250.019	ug/l	956868.23
Co	59	72	1	No Gas	52.504	ug/l	1131023.54
Ni	60	72	1	No Gas	52.862	ug/l	255318.81
Ni	60	72	3	He	51.186	ug/l	82229.00
Cu	63	72	1	No Gas	53.747	ug/l	639905.91
Cu	63	72	3	He	52.279	ug/l	218835.91
Cu	65	72	1	No Gas	53.085	ug/l	297532.41
Zn	66	72	1	No Gas	53.339	ug/l	226273.34
Zn	66	72	3	He	51.888	ug/l	54266.75
As	75	72	1	No Gas	50.157	ug/l	288716.67
As	75	72	3	He	49.013	ug/l	49017.39
Se	78	72	2	H2	50.990	ug/l	28651.37
Br	79	72	1	No Gas	0.016	ug/l	10319.95
Br	79	72	2	H2	0.096	ug/l	6248.98
Se	82	72	1	No Gas	50.753	ug/l	15776.35
Kr	84	72	1	No Gas		ug/l	31138.69
Sr	88	72	1	No Gas	53.339	ug/l	1636619.47
Sr	88	72	3	He	49.406	ug/l	215123.69
Mo	95	115	1	No Gas	46.574	ug/l	293940.44
Mo	95	115	3	He	49.368	ug/l	113775.83
Mo	98	115	1	No Gas	48.133	ug/l	484417.65
Ag	107	115	1	No Gas	24.569	ug/l	403151.04
Ag	109	115	1	No Gas	24.700	ug/l	384219.18
Cd	111	115	1	No Gas	24.036	ug/l	88872.31

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	24.729	ug/l	31213.25
Cd	114	115	1	No Gas	24.207	ug/l	197972.41
Cd	114	115	3	He	24.496	ug/l	74564.23
Sn	118	115	1	No Gas	42.762	ug/l	488297.68
Sn	118	115	3	He	45.281	ug/l	147226.76
Sb	121	115	1	No Gas	50.264	ug/l	803297.09
Sb	121	115	3	He	49.310	ug/l	227589.01
Sb	123	115	1	No Gas	50.137	ug/l	610671.02
Sb	123	115	3	He	49.671	ug/l	179178.12
Ba	135	115	1	No Gas	48.985	ug/l	151714.56
Ba	137	115	1	No Gas	48.038	ug/l	259663.52
La	139	115	3	He	50.261	ug/l	781347.94
Ce	140	115	3	He	50.946	ug/l	829917.04
Hg	201	209	1	No Gas	0.996	ug/l	1914.09
Hg	202	209	1	No Gas	0.975	ug/l	4337.51
Hg	202	209	3	He	0.951	ug/l	1973.43
Tl	203	209	3	He	47.408	ug/l	234597.87
Tl	205	209	1	No Gas	50.273	ug/l	1201397.49
Tl	205	209	3	He	48.333	ug/l	563633.10
[Pb]	206	209	1	No Gas	49.634	ug/l	414708.96
[Pb]	207	209	1	No Gas	49.470	ug/l	359374.77
Pb	208	209	1	No Gas	50.438	ug/l	1675868.99
Th	232	209	3	He	46.687	ug/l	730442.71
U	238	209	1	No Gas	51.812	ug/l	1612574.97

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4523735.98	98.1
Sc	45	2	H2	2346231.59	98.8
Sc	45	3	He	297761.57	100.9
Ge	72	1	No Gas	1108317.80	99.0
Ge	72	2	H2	805547.32	101.1
Ge	72	3	He	179279.17	101.0
In	115	1	No Gas	7414621.31	97.3
In	115	3	He	1690938.47	98.1
Tb	159	1	No Gas	8350953.78	95.3
Tb	159	3	He	3580387.11	98.5
Ho	165	1	No Gas	8236470.35	99.1
Ho	165	3	He	3474246.57	97.4
Lu	175	1	No Gas	8047662.12	101.2
Lu	175	3	He	2890727.06	95.7
Bi	209	1	No Gas	5585611.12	95.2
Bi	209	3	He	2303631.99	95.0

ICPMS207-B Analytical Data

Sample Name CCV
File Name 033_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 15:35:18
Sample Type CCV
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	531.398	ug/l	3832741.47
Be	9	45	1	No Gas	44.640	ug/l	151224.38
B	11	45	1	No Gas	49.416	ug/l	102160.20
Na	23	45	3	He	12097.326	ug/l	9582688.05
Mg	24	45	3	He	12345.742	ug/l	5488579.96
Al	27	45	1	No Gas	52.522	ug/l	857572.54
Si	28	45	2	H2	216.926	ug/l	413791.45
K	39	72	3	He	11704.974	ug/l	5853542.76
Ca	40	72	2	H2	12575.848	ug/l	84828485.50
Ti	47	72	1	No Gas	51.114	ug/l	88925.79
V	51	72	1	No Gas	54.271	ug/l	1048068.63
V	51	72	3	He	47.308	ug/l	201095.98
Cr	52	72	1	No Gas	52.422	ug/l	1084339.41
Cr	52	72	3	He	49.871	ug/l	216164.97
Mn	55	72	1	No Gas	51.448	ug/l	1340217.61
Mn	55	72	3	He	49.532	ug/l	148029.86
Fe	56	72	2	H2	1330.405	ug/l	18249581.02
Fe	56	72	3	He	1253.830	ug/l	4865296.01
Co	59	72	1	No Gas	51.570	ug/l	1112370.26
Ni	60	72	1	No Gas	51.461	ug/l	248900.47
Ni	60	72	3	He	50.528	ug/l	82697.45
Cu	63	72	1	No Gas	51.495	ug/l	614086.88
Cu	63	72	3	He	50.821	ug/l	216763.28
Cu	65	72	1	No Gas	52.237	ug/l	293162.52
Zn	66	72	1	No Gas	52.749	ug/l	224183.22
Zn	66	72	3	He	49.815	ug/l	53181.50
As	75	72	1	No Gas	50.827	ug/l	292895.17
As	75	72	3	He	49.485	ug/l	50408.88
Se	78	72	2	H2	51.448	ug/l	28893.84
Br	79	72	1	No Gas	0.108	ug/l	11005.73
Br	79	72	2	H2	0.162	ug/l	6555.16
Se	82	72	1	No Gas	51.106	ug/l	15905.06
Kr	84	72	1	No Gas		ug/l	30721.76
Sr	88	72	1	No Gas	52.402	ug/l	1610478.66
Sr	88	72	3	He	49.345	ug/l	218876.62
Mo	95	115	1	No Gas	52.115	ug/l	306906.33
Mo	95	115	3	He	51.113	ug/l	115729.25
Mo	98	115	1	No Gas	53.300	ug/l	500635.29
Ag	107	115	1	No Gas	20.711	ug/l	317386.00
Ag	109	115	1	No Gas	20.737	ug/l	301104.12
Cd	111	115	1	No Gas	51.903	ug/l	179003.58

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	51.170	ug/l	63456.00
Cd	114	115	1	No Gas	51.993	ug/l	396825.31
Cd	114	115	3	He	50.854	ug/l	152088.65
Sn	118	115	1	No Gas	45.118	ug/l	480086.23
Sn	118	115	3	He	45.639	ug/l	145785.10
Sb	121	115	1	No Gas	54.056	ug/l	806137.54
Sb	121	115	3	He	51.189	ug/l	232134.42
Sb	123	115	1	No Gas	54.188	ug/l	615763.44
Sb	123	115	3	He	51.984	ug/l	184241.72
Ba	135	115	1	No Gas	50.541	ug/l	145986.49
Ba	137	115	1	No Gas	50.375	ug/l	254079.17
La	139	115	3	He	49.830	ug/l	761227.49
Ce	140	115	3	He	49.981	ug/l	799773.50
Hg	201	209	1	No Gas	0.967	ug/l	1809.76
Hg	202	209	1	No Gas	0.967	ug/l	4176.16
Hg	202	209	3	He	0.995	ug/l	1944.76
Tl	203	209	3	He	51.019	ug/l	238141.46
Tl	205	209	1	No Gas	51.490	ug/l	1195863.89
Tl	205	209	3	He	51.894	ug/l	570923.29
[Pb]	206	209	1	No Gas	51.448	ug/l	417681.92
[Pb]	207	209	1	No Gas	50.863	ug/l	358807.56
Pb	208	209	1	No Gas	51.416	ug/l	1659552.55
Th	232	209	3	He	50.965	ug/l	752279.33
U	238	209	1	No Gas	49.571	ug/l	1499307.44

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4274982.54	92.7
Sc	45	2	H2	2305287.25	97.0
Sc	45	3	He	302966.19	102.6
Ge	72	1	No Gas	1109995.93	99.1
Ge	72	2	H2	804891.81	101.0
Ge	72	3	He	182660.92	102.9
In	115	1	No Gas	6908380.73	90.6
In	115	3	He	1661479.52	96.4
Tb	159	1	No Gas	8026056.24	91.6
Tb	159	3	He	3651536.83	100.5
Ho	165	1	No Gas	7904401.36	95.1
Ho	165	3	He	3549864.01	99.5
Lu	175	1	No Gas	7577642.43	95.3
Lu	175	3	He	2968656.26	98.2
Bi	209	1	No Gas	5433564.87	92.6
Bi	209	3	He	2173522.33	89.7

ICPMS207-B Analytical Data

Sample Name CCB
File Name 034_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 15:41:32
Sample Type CCB
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.834	ug/l	22025.38
Be	9	45	1	No Gas	-0.010	ug/l	186.63
B	11	45	1	No Gas	1.400	ug/l	3873.39
Na	23	45	3	He	-7.981	ug/l	69549.72
Mg	24	45	3	He	0.016	ug/l	1257.56
Al	27	45	1	No Gas	0.002	ug/l	9912.21
Si	28	45	2	H2	-0.091	ug/l	9725.07
K	39	72	3	He	-0.503	ug/l	124248.49
Ca	40	72	2	H2	0.241	ug/l	153266.19
Ti	47	72	1	No Gas	-0.002	ug/l	255.26
V	51	72	1	No Gas	-0.216	ug/l	-25789.49
V	51	72	3	He	-1.203	ug/l	10337.02
Cr	52	72	1	No Gas	-0.350	ug/l	58724.69
Cr	52	72	3	He	0.009	ug/l	1181.17
Mn	55	72	1	No Gas	0.069	ug/l	7540.34
Mn	55	72	3	He	0.012	ug/l	125.64
Fe	56	72	2	H2	0.086	ug/l	8395.86
Fe	56	72	3	He	0.247	ug/l	6496.33
Co	59	72	1	No Gas	0.001	ug/l	622.12
Ni	60	72	1	No Gas	-0.038	ug/l	755.19
Ni	60	72	3	He	-0.019	ug/l	75.56
Cu	63	72	1	No Gas	-0.053	ug/l	6426.00
Cu	63	72	3	He	-0.057	ug/l	1878.75
Cu	65	72	1	No Gas	-0.032	ug/l	2769.38
Zn	66	72	1	No Gas	0.069	ug/l	10135.80
Zn	66	72	3	He	-0.084	ug/l	2346.87
As	75	72	1	No Gas	0.432	ug/l	12596.49
As	75	72	3	He	-0.086	ug/l	360.40
Se	78	72	2	H2	0.017	ug/l	37.67
Br	79	72	1	No Gas	0.104	ug/l	10612.88
Br	79	72	2	H2	-0.005	ug/l	5679.89
Se	82	72	1	No Gas	-0.412	ug/l	542.47
Kr	84	72	1	No Gas		ug/l	19907.61
Sr	88	72	1	No Gas	0.002	ug/l	958.15
Sr	88	72	3	He	0.001	ug/l	402.24
Mo	95	115	1	No Gas	0.043	ug/l	281.12
Mo	95	115	3	He	0.032	ug/l	82.22
Mo	98	115	1	No Gas	0.039	ug/l	420.01
Ag	107	115	1	No Gas	0.005	ug/l	1232.55
Ag	109	115	1	No Gas	0.010	ug/l	1237.22
Cd	111	115	1	No Gas	0.022	ug/l	66.03

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.014	ug/l	21.78
Cd	114	115	1	No Gas	0.016	ug/l	31.47
Cd	114	115	3	He	0.014	ug/l	52.61
Sn	118	115	1	No Gas	0.039	ug/l	1114.50
Sn	118	115	3	He	0.020	ug/l	294.45
Sb	121	115	1	No Gas	0.139	ug/l	2217.40
Sb	121	115	3	He	0.108	ug/l	526.40
Sb	123	115	1	No Gas	0.139	ug/l	1699.61
Sb	123	115	3	He	0.107	ug/l	410.05
Ba	135	115	1	No Gas	0.022	ug/l	83.18
Ba	137	115	1	No Gas	0.003	ug/l	43.25
La	139	115	3	He	0.001	ug/l	16.66
Ce	140	115	3	He	0.001	ug/l	22.22
Hg	201	209	1	No Gas	0.015	ug/l	96.65
Hg	202	209	1	No Gas	0.009	ug/l	223.63
Hg	202	209	3	He	0.011	ug/l	101.98
Tl	203	209	3	He	0.122	ug/l	710.31
Tl	205	209	1	No Gas	0.105	ug/l	2989.25
Tl	205	209	3	He	0.129	ug/l	1759.49
[Pb]	206	209	1	No Gas	-0.007	ug/l	710.03
[Pb]	207	209	1	No Gas	-0.002	ug/l	657.80
Pb	208	209	1	No Gas	-0.004	ug/l	2989.05
Th	232	209	3	He	0.047	ug/l	823.03
U	238	209	1	No Gas	0.007	ug/l	232.29

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4283170.75	92.9
Sc	45	2	H2	2312492.84	97.3
Sc	45	3	He	287413.28	97.3
Ge	72	1	No Gas	1073562.02	95.9
Ge	72	2	H2	787263.20	98.8
Ge	72	3	He	177471.48	99.9
In	115	1	No Gas	6945713.86	91.1
In	115	3	He	1663604.64	96.5
Tb	159	1	No Gas	8325839.14	95.0
Tb	159	3	He	3586540.95	98.7
Ho	165	1	No Gas	7944872.09	95.6
Ho	165	3	He	3477793.37	97.5
Lu	175	1	No Gas	7536903.15	94.8
Lu	175	3	He	2886916.95	95.5
Bi	209	1	No Gas	5466433.89	93.2
Bi	209	3	He	2297632.72	94.8

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 035BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 15:47:47
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.509	ug/l	19870.89
Be	9	45	1	No Gas	-0.018	ug/l	160.64
B	11	45	1	No Gas	0.885	ug/l	2838.74
Na	23	45	3	He	-9.641	ug/l	67971.42
Mg	24	45	3	He	-0.063	ug/l	1217.64
Al	27	45	1	No Gas	-0.011	ug/l	9783.23
Si	28	45	2	H2	-0.258	ug/l	9329.99
K	39	72	3	He	2.201	ug/l	120741.18
Ca	40	72	2	H2	0.340	ug/l	154430.48
Ti	47	72	1	No Gas	-0.041	ug/l	190.19
V	51	72	1	No Gas	0.650	ug/l	-9364.82
V	51	72	3	He	-1.244	ug/l	9792.21
Cr	52	72	1	No Gas	-0.557	ug/l	55047.51
Cr	52	72	3	He	0.012	ug/l	1146.72
Mn	55	72	1	No Gas	0.057	ug/l	7250.76
Mn	55	72	3	He	0.012	ug/l	121.98
Fe	56	72	2	H2	0.053	ug/l	7981.88
Fe	56	72	3	He	0.213	ug/l	6122.45
Co	59	72	1	No Gas	-0.002	ug/l	578.86
Ni	60	72	1	No Gas	-0.037	ug/l	765.17
Ni	60	72	3	He	-0.007	ug/l	91.11
Cu	63	72	1	No Gas	-0.068	ug/l	6275.88
Cu	63	72	3	He	-0.034	ug/l	1898.41
Cu	65	72	1	No Gas	-0.039	ug/l	2744.03
Zn	66	72	1	No Gas	-0.032	ug/l	9779.79
Zn	66	72	3	He	-0.028	ug/l	2309.09
As	75	72	1	No Gas	0.297	ug/l	11920.05
As	75	72	3	He	-0.080	ug/l	352.20
Se	78	72	2	H2	0.010	ug/l	33.67
Br	79	72	1	No Gas	0.085	ug/l	10519.69
Br	79	72	2	H2	-0.044	ug/l	5523.47
Se	82	72	1	No Gas	-0.340	ug/l	565.27
Kr	84	72	1	No Gas		ug/l	19741.04
Sr	88	72	1	No Gas	0.004	ug/l	1028.03
Sr	88	72	3	He	0.004	ug/l	397.79
Mo	95	115	1	No Gas	0.013	ug/l	102.22
Mo	95	115	3	He	0.010	ug/l	30.00
Mo	98	115	1	No Gas	0.009	ug/l	139.17
Ag	107	115	1	No Gas	0.006	ug/l	1284.58
Ag	109	115	1	No Gas	0.004	ug/l	1175.19
Cd	111	115	1	No Gas	0.017	ug/l	53.27

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.008	ug/l	14.78
Cd	114	115	1	No Gas	0.014	ug/l	17.05
Cd	114	115	3	He	0.008	ug/l	35.26
Sn	118	115	1	No Gas	0.017	ug/l	894.92
Sn	118	115	3	He	0.019	ug/l	286.67
Sb	121	115	1	No Gas	0.043	ug/l	796.77
Sb	121	115	3	He	0.044	ug/l	235.03
Sb	123	115	1	No Gas	0.044	ug/l	627.08
Sb	123	115	3	He	0.042	ug/l	178.35
Ba	135	115	1	No Gas	0.002	ug/l	23.29
Ba	137	115	1	No Gas	0.007	ug/l	69.86
La	139	115	3	He	0.000	ug/l	7.78
Ce	140	115	3	He	0.000	ug/l	12.22
Hg	201	209	1	No Gas	0.009	ug/l	87.65
Hg	202	209	1	No Gas	0.001	ug/l	191.30
Hg	202	209	3	He	0.005	ug/l	93.65
Tl	203	209	3	He	0.050	ug/l	363.49
Tl	205	209	1	No Gas	0.037	ug/l	1427.87
Tl	205	209	3	He	0.048	ug/l	837.03
[Pb]	206	209	1	No Gas	-0.016	ug/l	650.02
[Pb]	207	209	1	No Gas	-0.012	ug/l	597.80
Pb	208	209	1	No Gas	-0.019	ug/l	2555.67
Th	232	209	3	He	0.018	ug/l	388.83
U	238	209	1	No Gas	0.003	ug/l	104.65

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4321612.98	93.7
Sc	45	2	H2	2292249.49	96.5
Sc	45	3	He	285949.90	96.9
Ge	72	1	No Gas	1077339.85	96.2
Ge	72	2	H2	790180.55	99.1
Ge	72	3	He	170679.39	96.1
In	115	1	No Gas	7114087.09	93.3
In	115	3	He	1642793.43	95.3
Tb	159	1	No Gas	8413697.88	96.0
Tb	159	3	He	3503406.18	96.4
Ho	165	1	No Gas	8201550.90	98.7
Ho	165	3	He	3517163.92	98.6
Lu	175	1	No Gas	7750836.97	97.5
Lu	175	3	He	2863562.42	94.8
Bi	209	1	No Gas	5563687.28	94.8
Bi	209	3	He	2354377.76	97.1

ICPMS207-B Analytical Data

Sample Name LRB
File Name 036MBLK.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BD0D.b
Acq Time 2022-02-18 15:54:03
Sample Type MBLK
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.421	ug/l	19295.25
Be	9	45	1	No Gas	-0.019	ug/l	159.30
B	11	45	1	No Gas	0.742	ug/l	2551.91
Na	23	45	3	He	-3.809	ug/l	70084.33
Mg	24	45	3	He	0.318	ug/l	1337.42
Al	27	45	1	No Gas	0.164	ug/l	12695.44
Si	28	45	2	H2	-0.179	ug/l	11643.91
K	39	72	3	He	3.565	ug/l	120527.81
Ca	40	72	2	H2	-2.555	ug/l	154970.07
Ti	47	72	1	No Gas	-0.023	ug/l	215.22
V	51	72	1	No Gas	-2.357	ug/l	-65738.89
V	51	72	3	He	-1.292	ug/l	9550.94
Cr	52	72	1	No Gas	-0.415	ug/l	56549.95
Cr	52	72	3	He	0.017	ug/l	1157.83
Mn	55	72	1	No Gas	0.064	ug/l	7297.37
Mn	55	72	3	He	0.009	ug/l	112.98
Fe	56	72	2	H2	-0.004	ug/l	8282.35
Fe	56	72	3	He	0.140	ug/l	5822.03
Co	59	72	1	No Gas	-0.002	ug/l	552.25
Ni	60	72	1	No Gas	-0.039	ug/l	741.89
Ni	60	72	3	He	-0.009	ug/l	87.78
Cu	63	72	1	No Gas	-0.047	ug/l	6381.96
Cu	63	72	3	He	-0.007	ug/l	1990.41
Cu	65	72	1	No Gas	0.004	ug/l	2912.13
Zn	66	72	1	No Gas	0.151	ug/l	10288.96
Zn	66	72	3	He	0.088	ug/l	2404.66
As	75	72	1	No Gas	0.852	ug/l	14567.91
As	75	72	3	He	-0.092	ug/l	338.87
Se	78	72	2	H2	-0.007	ug/l	27.67
Br	79	72	1	No Gas	-0.143	ug/l	8725.42
Br	79	72	2	H2	-0.252	ug/l	5280.51
Se	82	72	1	No Gas	-0.156	ug/l	606.87
Kr	84	72	1	No Gas		ug/l	19437.86
Sr	88	72	1	No Gas	3.029	ug/l	88517.01
Sr	88	72	3	He	0.000	ug/l	381.12
Mo	95	115	1	No Gas	0.003	ug/l	45.56
Mo	95	115	3	He	0.003	ug/l	14.45
Mo	98	115	1	No Gas	0.005	ug/l	96.80
Ag	107	115	1	No Gas	-0.065	ug/l	161.40
Ag	109	115	1	No Gas	-0.065	ug/l	144.73
Cd	111	115	1	No Gas	0.008	ug/l	22.18

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.008	ug/l	14.11
Cd	114	115	1	No Gas	0.016	ug/l	34.62
Cd	114	115	3	He	0.008	ug/l	34.25
Sn	118	115	1	No Gas	0.019	ug/l	924.87
Sn	118	115	3	He	0.019	ug/l	278.90
Sb	121	115	1	No Gas	0.029	ug/l	582.74
Sb	121	115	3	He	0.030	ug/l	164.35
Sb	123	115	1	No Gas	0.028	ug/l	437.38
Sb	123	115	3	He	0.033	ug/l	143.02
Ba	135	115	1	No Gas	0.005	ug/l	33.27
Ba	137	115	1	No Gas	0.002	ug/l	43.25
La	139	115	3	He	0.000	ug/l	11.11
Ce	140	115	3	He	0.000	ug/l	7.78
Hg	201	209	1	No Gas	0.007	ug/l	87.32
Hg	202	209	1	No Gas	0.000	ug/l	194.63
Hg	202	209	3	He	0.009	ug/l	95.65
Tl	203	209	3	He	0.030	ug/l	246.10
Tl	205	209	1	No Gas	0.023	ug/l	1117.83
Tl	205	209	3	He	0.023	ug/l	512.88
[Pb]	206	209	1	No Gas	-0.027	ug/l	576.68
[Pb]	207	209	1	No Gas	-0.023	ug/l	532.24
Pb	208	209	1	No Gas	-0.025	ug/l	2459.00
Th	232	209	3	He	0.012	ug/l	270.11
U	238	209	1	No Gas	0.002	ug/l	80.65

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4333749.49	94.0
Sc	45	2	H2	2932947.09	123.4
Sc	45	3	He	277481.84	94.0
Ge	72	1	No Gas	1055227.41	94.2
Ge	72	2	H2	944070.97	118.5
Ge	72	3	He	169591.12	95.5
In	115	1	No Gas	7124502.03	93.5
In	115	3	He	1599532.04	92.8
Tb	159	1	No Gas	8299173.15	94.7
Tb	159	3	He	3531055.91	97.2
Ho	165	1	No Gas	8035895.61	96.7
Ho	165	3	He	3409358.98	95.6
Lu	175	1	No Gas	7637128.79	96.0
Lu	175	3	He	2850145.41	94.3
Bi	209	1	No Gas	5767642.12	98.3
Bi	209	3	He	2233728.60	92.2

ICPMS207-B Analytical Data

Sample Name LFB
File Name 037_LFB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 16:00:18
Sample Type LFB
Total Dilution 1.0300
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	2056.906	ug/l	14335728.96
Be	9	45	1	No Gas	42.612	ug/l	139878.69
B	11	45	1	No Gas	45.328	ug/l	90837.84
Na	23	45	3	He	50029.633	ug/l	36963051.67
Mg	24	45	3	He	50892.169	ug/l	21227120.06
Al	27	45	1	No Gas	48.701	ug/l	771739.77
Si	28	45	2	H2	198.897	ug/l	360540.13
K	39	72	3	He	46326.954	ug/l	21623072.18
Ca	40	72	2	H2	49171.039	ug/l	315822948.49
Ti	47	72	1	No Gas	56.096	ug/l	92012.09
V	51	72	1	No Gas	55.765	ug/l	1014583.55
V	51	72	3	He	49.040	ug/l	197628.69
Cr	52	72	1	No Gas	51.375	ug/l	1006494.26
Cr	52	72	3	He	48.826	ug/l	200833.28
Mn	55	72	1	No Gas	50.396	ug/l	1238995.15
Mn	55	72	3	He	48.216	ug/l	136649.16
Fe	56	72	2	H2	5006.827	ug/l	65462324.19
Fe	56	72	3	He	4934.167	ug/l	18142324.19
Co	59	72	1	No Gas	50.729	ug/l	1031729.89
Ni	60	72	1	No Gas	50.982	ug/l	232587.33
Ni	60	72	3	He	47.934	ug/l	74399.99
Cu	63	72	1	No Gas	49.674	ug/l	559631.25
Cu	63	72	3	He	49.131	ug/l	198881.14
Cu	65	72	1	No Gas	49.820	ug/l	263947.19
Zn	66	72	1	No Gas	52.045	ug/l	209100.52
Zn	66	72	3	He	48.666	ug/l	49391.37
As	75	72	1	No Gas	50.978	ug/l	277393.63
As	75	72	3	He	49.321	ug/l	47666.95
Se	78	72	2	H2	49.950	ug/l	26747.86
Br	79	72	1	No Gas	0.717	ug/l	14868.22
Br	79	72	2	H2	0.467	ug/l	7723.45
Se	82	72	1	No Gas	50.874	ug/l	14954.71
Kr	84	72	1	No Gas		ug/l	29821.79
Sr	88	72	1	No Gas	51.335	ug/l	1488262.72
Sr	88	72	3	He	48.954	ug/l	205959.93
Mo	95	115	1	No Gas	51.300	ug/l	289553.25
Mo	95	115	3	He	51.046	ug/l	108531.11
Mo	98	115	1	No Gas	50.644	ug/l	455940.77
Ag	107	115	1	No Gas	20.561	ug/l	301963.34
Ag	109	115	1	No Gas	20.778	ug/l	289179.07
Cd	111	115	1	No Gas	50.091	ug/l	165576.01

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	50.464	ug/l	58749.67
Cd	114	115	1	No Gas	50.087	ug/l	366367.32
Cd	114	115	3	He	50.154	ug/l	140823.54
Sn	118	115	1	No Gas	44.614	ug/l	455036.49
Sn	118	115	3	He	44.421	ug/l	133193.93
Sb	121	115	1	No Gas	52.675	ug/l	752790.98
Sb	121	115	3	He	51.257	ug/l	218248.46
Sb	123	115	1	No Gas	52.564	ug/l	572401.36
Sb	123	115	3	He	51.461	ug/l	171238.73
Ba	135	115	1	No Gas	49.863	ug/l	138026.77
Ba	137	115	1	No Gas	49.657	ug/l	240057.76
La	139	115	3	He	0.004	ug/l	60.00
Ce	140	115	3	He	52.132	ug/l	783394.40
Hg	201	209	1	No Gas	1.041	ug/l	1867.76
Hg	202	209	1	No Gas	0.998	ug/l	4142.82
Hg	202	209	3	He	1.039	ug/l	1941.42
Tl	203	209	3	He	50.576	ug/l	225910.75
Tl	205	209	1	No Gas	50.823	ug/l	1132888.31
Tl	205	209	3	He	50.944	ug/l	536451.74
[Pb]	206	209	1	No Gas	49.445	ug/l	385707.81
[Pb]	207	209	1	No Gas	50.192	ug/l	340074.53
Pb	208	209	1	No Gas	50.129	ug/l	1555244.44
Th	232	209	3	He	51.053	ug/l	721142.85
U	238	209	1	No Gas	51.238	ug/l	1488303.48

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4262507.75	92.4
Sc	45	2	H2	2249891.51	94.7
Sc	45	3	He	292896.01	99.2
Ge	72	1	No Gas	1078881.76	96.3
Ge	72	2	H2	790428.88	99.2
Ge	72	3	He	178406.77	100.5
In	115	1	No Gas	6821473.91	89.5
In	115	3	He	1606812.36	93.2
Tb	159	1	No Gas	8120255.54	92.6
Tb	159	3	He	3644172.82	100.3
Ho	165	1	No Gas	7868955.40	94.7
Ho	165	3	He	3529803.53	99.0
Lu	175	1	No Gas	7591640.96	95.5
Lu	175	3	He	2935227.52	97.1
Bi	209	1	No Gas	5374288.28	91.6
Bi	209	3	He	2141973.48	88.4

ICPMS207-B Analytical Data

Sample Name ICSA
File Name 038ICSA.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 16:06:35
Sample Type ICSA
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.717	ug/l	30210.69
Be	9	45	1	No Gas	-0.031	ug/l	121.98
B	11	45	1	No Gas	0.911	ug/l	3051.54
Na	23	45	3	He	99852.677	ug/l	76980377.19
Mg	24	45	3	He	39701.485	ug/l	17299370.66
Al	27	45	1	No Gas	38794.243	ug/l	668046927.82
Si	28	45	2	H2	2.957	ug/l	15367.39
K	39	72	3	He	37650.687	ug/l	18383252.51
Ca	40	72	2	H2	119714.747	ug/l	795282220.87
Ti	47	72	1	No Gas	817.825	ug/l	1437241.60
V	51	72	1	No Gas	1.765	ug/l	12502.20
V	51	72	3	He	-3.028	ug/l	3438.21
Cr	52	72	1	No Gas	0.394	ug/l	76146.14
Cr	52	72	3	He	1.763	ug/l	8700.40
Mn	55	72	1	No Gas	0.382	ug/l	16130.28
Mn	55	72	3	He	0.263	ug/l	871.52
Fe	56	72	2	H2	103499.378	ug/l	1400051709.06
Fe	56	72	3	He	99856.337	ug/l	383570710.53
Co	59	72	1	No Gas	0.176	ug/l	4478.49
Ni	60	72	1	No Gas	0.923	ug/l	5480.18
Ni	60	72	3	He	0.097	ug/l	264.45
Cu	63	72	1	No Gas	1.150	ug/l	21091.64
Cu	63	72	3	He	0.038	ug/l	2314.06
Cu	65	72	1	No Gas	0.682	ug/l	6917.76
Zn	66	72	1	No Gas	0.692	ug/l	13180.68
Zn	66	72	3	He	0.158	ug/l	2636.92
As	75	72	1	No Gas	-0.007	ug/l	10680.99
As	75	72	3	He	-0.103	ug/l	350.13
Se	78	72	2	H2	0.106	ug/l	87.11
Br	79	72	1	No Gas	0.203	ug/l	11861.39
Br	79	72	2	H2	-0.034	ug/l	5596.68
Se	82	72	1	No Gas	0.047	ug/l	707.95
Kr	84	72	1	No Gas		ug/l	21613.26
Sr	88	72	1	No Gas	1.045	ug/l	33486.12
Sr	88	72	3	He	0.983	ug/l	4717.48
Mo	95	115	1	No Gas	827.943	ug/l	5133665.30
Mo	95	115	3	He	810.428	ug/l	1886833.72
Mo	98	115	1	No Gas	809.258	ug/l	8000124.75
Ag	107	115	1	No Gas	0.009	ug/l	1363.28
Ag	109	115	1	No Gas	0.010	ug/l	1298.58
Cd	111	115	1	No Gas	0.098	ug/l	346.37

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.245	ug/l	317.34
Cd	114	115	1	No Gas	0.091	ug/l	635.09
Cd	114	115	3	He	0.149	ug/l	470.50
Sn	118	115	1	No Gas	13.988	ug/l	157247.55
Sn	118	115	3	He	14.313	ug/l	47174.68
Sb	121	115	1	No Gas	0.156	ug/l	2596.17
Sb	121	115	3	He	0.127	ug/l	629.08
Sb	123	115	1	No Gas	0.154	ug/l	1953.67
Sb	123	115	3	He	0.123	ug/l	480.06
Ba	135	115	1	No Gas	0.163	ug/l	515.66
Ba	137	115	1	No Gas	0.176	ug/l	964.80
La	139	115	3	He	0.006	ug/l	96.67
Ce	140	115	3	He	0.009	ug/l	164.45
Hg	201	209	1	No Gas	0.004	ug/l	79.65
Hg	202	209	1	No Gas	0.004	ug/l	211.29
Hg	202	209	3	He	0.010	ug/l	101.65
Tl	203	209	3	He	0.042	ug/l	316.80
Tl	205	209	1	No Gas	0.039	ug/l	1490.09
Tl	205	209	3	He	0.041	ug/l	750.32
[Pb]	206	209	1	No Gas	0.017	ug/l	943.37
[Pb]	207	209	1	No Gas	0.017	ug/l	821.14
Pb	208	209	1	No Gas	0.016	ug/l	3778.02
Th	232	209	3	He	0.079	ug/l	1342.61
U	238	209	1	No Gas	0.024	ug/l	784.20

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4555285.69	98.8
Sc	45	2	H2	2305043.78	97.0
Sc	45	3	He	297005.76	100.6
Ge	72	1	No Gas	1124099.28	100.4
Ge	72	2	H2	794003.82	99.6
Ge	72	3	He	180999.45	101.9
In	115	1	No Gas	7277321.17	95.5
In	115	3	He	1708833.52	99.1
Tb	159	1	No Gas	8958611.42	102.2
Tb	159	3	He	3834328.46	105.5
Ho	165	1	No Gas	8470183.11	101.9
Ho	165	3	He	3768009.57	105.6
Lu	175	1	No Gas	8306688.84	104.4
Lu	175	3	He	3159403.64	104.5
Bi	209	1	No Gas	5674696.79	96.7
Bi	209	3	He	2319484.43	95.7

ICPMS207-B Analytical Data

Sample Name ICSAB
File Name 039ICSB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 16:12:52
Sample Type ICSAB
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.146	ug/l	25868.96
Be	9	45	1	No Gas	-0.038	ug/l	97.98
B	11	45	1	No Gas	0.568	ug/l	2307.11
Na	23	45	3	He	98438.989	ug/l	73875907.23
Mg	24	45	3	He	40446.294	ug/l	17156007.59
Al	27	45	1	No Gas	37507.924	ug/l	646688221.47
Si	28	45	2	H2	2.618	ug/l	14416.74
K	39	72	3	He	37650.128	ug/l	18047430.70
Ca	40	72	2	H2	121841.375	ug/l	784095114.16
Ti	47	72	1	No Gas	806.558	ug/l	1397458.88
V	51	72	1	No Gas	24.712	ug/l	464591.70
V	51	72	3	He	15.842	ug/l	75465.33
Cr	52	72	1	No Gas	20.191	ug/l	458700.12
Cr	52	72	3	He	20.757	ug/l	88213.42
Mn	55	72	1	No Gas	20.128	ug/l	527581.71
Mn	55	72	3	He	19.105	ug/l	55593.94
Fe	56	72	2	H2	104754.159	ug/l	1372602300.62
Fe	56	72	3	He	99371.810	ug/l	374710053.52
Co	59	72	1	No Gas	20.106	ug/l	433525.21
Ni	60	72	1	No Gas	20.923	ug/l	101708.93
Ni	60	72	3	He	19.590	ug/l	31251.23
Cu	63	72	1	No Gas	20.865	ug/l	252990.41
Cu	63	72	3	He	19.282	ug/l	81322.12
Cu	65	72	1	No Gas	20.803	ug/l	118469.18
Zn	66	72	1	No Gas	10.617	ug/l	53225.94
Zn	66	72	3	He	9.680	ug/l	12010.57
As	75	72	1	No Gas	9.965	ug/l	65886.77
As	75	72	3	He	9.521	ug/l	9794.89
Se	78	72	2	H2	10.168	ug/l	5478.81
Br	79	72	1	No Gas	0.143	ug/l	11258.79
Br	79	72	2	H2	-0.026	ug/l	5456.89
Se	82	72	1	No Gas	9.656	ug/l	3555.01
Kr	84	72	1	No Gas		ug/l	20813.80
Sr	88	72	1	No Gas	1.080	ug/l	34072.93
Sr	88	72	3	He	0.969	ug/l	4570.77
Mo	95	115	1	No Gas	829.161	ug/l	5105316.56
Mo	95	115	3	He	813.079	ug/l	1847956.81
Mo	98	115	1	No Gas	828.705	ug/l	8137931.83
Ag	107	115	1	No Gas	4.466	ug/l	72491.53
Ag	109	115	1	No Gas	4.573	ug/l	70326.81
Cd	111	115	1	No Gas	9.749	ug/l	35150.56

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	9.894	ug/l	12318.77
Cd	114	115	1	No Gas	9.831	ug/l	78379.24
Cd	114	115	3	He	9.716	ug/l	29178.49
Sn	118	115	1	No Gas	14.784	ug/l	164978.25
Sn	118	115	3	He	14.456	ug/l	46503.51
Sb	121	115	1	No Gas	0.083	ug/l	1437.89
Sb	121	115	3	He	0.077	ug/l	386.38
Sb	123	115	1	No Gas	0.085	ug/l	1118.83
Sb	123	115	3	He	0.079	ug/l	311.70
Ba	135	115	1	No Gas	0.175	ug/l	545.59
Ba	137	115	1	No Gas	0.178	ug/l	971.44
La	139	115	3	He	0.005	ug/l	86.67
Ce	140	115	3	He	0.009	ug/l	153.34
Hg	201	209	1	No Gas	0.008	ug/l	84.98
Hg	202	209	1	No Gas	0.002	ug/l	196.29
Hg	202	209	3	He	0.009	ug/l	98.98
Tl	203	209	3	He	0.013	ug/l	172.07
Tl	205	209	1	No Gas	0.012	ug/l	822.25
Tl	205	209	3	He	0.012	ug/l	402.83
[Pb]	206	209	1	No Gas	0.022	ug/l	968.93
[Pb]	207	209	1	No Gas	0.020	ug/l	828.92
Pb	208	209	1	No Gas	0.017	ug/l	3771.35
Th	232	209	3	He	0.034	ug/l	624.27
U	238	209	1	No Gas	0.023	ug/l	722.88

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4563316.61	98.9
Sc	45	2	H2	2255020.39	94.9
Sc	45	3	He	289100.30	97.9
Ge	72	1	No Gas	1108602.91	99.0
Ge	72	2	H2	769205.18	96.5
Ge	72	3	He	177673.98	100.0
In	115	1	No Gas	7223067.30	94.7
In	115	3	He	1667800.69	96.7
Tb	159	1	No Gas	9197164.55	104.9
Tb	159	3	He	3865470.44	106.4
Ho	165	1	No Gas	8782803.85	105.7
Ho	165	3	He	3794899.32	106.4
Lu	175	1	No Gas	8415048.71	105.8
Lu	175	3	He	3148201.03	104.2
Bi	209	1	No Gas	5580559.15	95.1
Bi	209	3	He	2324390.83	95.9

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 040BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BD0D.b
Acq Time 2022-02-18 16:19:08
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.234	ug/l	27127.68
Be	9	45	1	No Gas	-0.038	ug/l	101.31
B	11	45	1	No Gas	0.290	ug/l	1734.13
Na	23	45	3	He	-1.661	ug/l	77059.15
Mg	24	45	3	He	-0.356	ug/l	1141.12
Al	27	45	1	No Gas	0.615	ug/l	21481.62
Si	28	45	2	H2	-0.691	ug/l	8689.35
K	39	72	3	He	1.511	ug/l	129956.94
Ca	40	72	2	H2	1.640	ug/l	165663.24
Ti	47	72	1	No Gas	0.097	ug/l	442.12
V	51	72	1	No Gas	1.027	ug/l	-2096.12
V	51	72	3	He	-2.983	ug/l	3678.26
Cr	52	72	1	No Gas	-2.024	ug/l	28747.98
Cr	52	72	3	He	-0.053	ug/l	955.59
Mn	55	72	1	No Gas	0.107	ug/l	8935.01
Mn	55	72	3	He	-0.002	ug/l	90.65
Fe	56	72	2	H2	1.651	ug/l	29970.63
Fe	56	72	3	He	1.252	ug/l	10672.96
Co	59	72	1	No Gas	-0.005	ug/l	528.96
Ni	60	72	1	No Gas	0.042	ug/l	1191.03
Ni	60	72	3	He	-0.024	ug/l	70.00
Cu	63	72	1	No Gas	-0.052	ug/l	6775.63
Cu	63	72	3	He	-0.080	ug/l	1853.75
Cu	65	72	1	No Gas	-0.043	ug/l	2852.10
Zn	66	72	1	No Gas	-0.064	ug/l	10123.18
Zn	66	72	3	He	-0.082	ug/l	2438.00
As	75	72	1	No Gas	0.874	ug/l	15739.88
As	75	72	3	He	-0.196	ug/l	262.27
Se	78	72	2	H2	-0.012	ug/l	21.89
Br	79	72	1	No Gas	-0.119	ug/l	9517.65
Br	79	72	2	H2	-0.160	ug/l	5097.46
Se	82	72	1	No Gas	-0.087	ug/l	669.67
Kr	84	72	1	No Gas		ug/l	20943.77
Sr	88	72	1	No Gas	-0.001	ug/l	921.56
Sr	88	72	3	He	-0.003	ug/l	396.68
Mo	95	115	1	No Gas	0.355	ug/l	2382.44
Mo	95	115	3	He	0.232	ug/l	567.79
Mo	98	115	1	No Gas	0.356	ug/l	3821.79
Ag	107	115	1	No Gas	-0.005	ug/l	1214.55
Ag	109	115	1	No Gas	-0.006	ug/l	1132.50
Cd	111	115	1	No Gas	0.017	ug/l	57.14

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.007	ug/l	13.56
Cd	114	115	1	No Gas	0.012	ug/l	3.98
Cd	114	115	3	He	0.006	ug/l	31.33
Sn	118	115	1	No Gas	0.009	ug/l	891.60
Sn	118	115	3	He	0.002	ug/l	251.12
Sb	121	115	1	No Gas	0.020	ug/l	500.73
Sb	121	115	3	He	0.021	ug/l	142.02
Sb	123	115	1	No Gas	0.022	ug/l	403.05
Sb	123	115	3	He	0.026	ug/l	132.01
Ba	135	115	1	No Gas	0.003	ug/l	29.94
Ba	137	115	1	No Gas	0.002	ug/l	46.57
La	139	115	3	He	0.000	ug/l	14.45
Ce	140	115	3	He	0.000	ug/l	18.89
Hg	201	209	1	No Gas	-0.002	ug/l	70.99
Hg	202	209	1	No Gas	-0.006	ug/l	177.30
Hg	202	209	3	He	-0.001	ug/l	81.32
Tl	203	209	3	He	0.007	ug/l	150.73
Tl	205	209	1	No Gas	0.007	ug/l	756.69
Tl	205	209	3	He	0.009	ug/l	381.49
[Pb]	206	209	1	No Gas	-0.025	ug/l	623.35
[Pb]	207	209	1	No Gas	-0.024	ug/l	548.90
Pb	208	209	1	No Gas	-0.026	ug/l	2520.11
Th	232	209	3	He	0.006	ug/l	197.41
U	238	209	1	No Gas	0.001	ug/l	37.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4661792.63	101.1
Sc	45	2	H2	2335319.78	98.3
Sc	45	3	He	298218.99	101.0
Ge	72	1	No Gas	1129734.74	100.9
Ge	72	2	H2	802815.41	100.7
Ge	72	3	He	184191.62	103.7
In	115	1	No Gas	7807847.71	102.4
In	115	3	He	1771373.18	102.7
Tb	159	1	No Gas	9001167.94	102.7
Tb	159	3	He	3902757.51	107.4
Ho	165	1	No Gas	8708998.90	104.8
Ho	165	3	He	3749059.89	105.1
Lu	175	1	No Gas	8280367.57	104.1
Lu	175	3	He	3137497.34	103.8
Bi	209	1	No Gas	5988364.23	102.1
Bi	209	3	He	2398248.79	98.9

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 041BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BD0D.b
Acq Time 2022-02-18 16:25:22
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.292	ug/l	27210.51
Be	9	45	1	No Gas	-0.037	ug/l	104.65
B	11	45	1	No Gas	0.222	ug/l	1565.38
Na	23	45	3	He	-5.560	ug/l	71003.06
Mg	24	45	3	He	-0.548	ug/l	1014.69
Al	27	45	1	No Gas	0.230	ug/l	14761.85
Si	28	45	2	H2	-0.704	ug/l	8338.34
K	39	72	3	He	8.006	ug/l	123730.24
Ca	40	72	2	H2	0.856	ug/l	154707.45
Ti	47	72	1	No Gas	0.031	ug/l	342.01
V	51	72	1	No Gas	1.042	ug/l	-2229.02
V	51	72	3	He	-2.861	ug/l	3869.42
Cr	52	72	1	No Gas	-2.092	ug/l	28694.62
Cr	52	72	3	He	-0.029	ug/l	983.37
Mn	55	72	1	No Gas	0.079	ug/l	8572.20
Mn	55	72	3	He	0.009	ug/l	112.65
Fe	56	72	2	H2	0.735	ug/l	16818.18
Fe	56	72	3	He	0.593	ug/l	7519.49
Co	59	72	1	No Gas	-0.009	ug/l	459.10
Ni	60	72	1	No Gas	-0.016	ug/l	948.16
Ni	60	72	3	He	-0.018	ug/l	74.44
Cu	63	72	1	No Gas	-0.110	ug/l	6363.95
Cu	63	72	3	He	-0.059	ug/l	1802.42
Cu	65	72	1	No Gas	-0.091	ug/l	2702.68
Zn	66	72	1	No Gas	-0.170	ug/l	10139.76
Zn	66	72	3	He	-0.062	ug/l	2283.53
As	75	72	1	No Gas	-0.153	ug/l	10368.29
As	75	72	3	He	-0.185	ug/l	253.60
Se	78	72	2	H2	-0.007	ug/l	23.67
Br	79	72	1	No Gas	-0.173	ug/l	9557.55
Br	79	72	2	H2	-0.153	ug/l	4944.39
Se	82	72	1	No Gas	-0.365	ug/l	613.41
Kr	84	72	1	No Gas		ug/l	20094.20
Sr	88	72	1	No Gas	-0.005	ug/l	845.04
Sr	88	72	3	He	-0.008	ug/l	350.01
Mo	95	115	1	No Gas	0.087	ug/l	590.02
Mo	95	115	3	He	0.083	ug/l	203.34
Mo	98	115	1	No Gas	0.087	ug/l	943.02
Ag	107	115	1	No Gas	-0.001	ug/l	1234.55
Ag	109	115	1	No Gas	0.000	ug/l	1191.20
Cd	111	115	1	No Gas	0.007	ug/l	19.45

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.005	ug/l	11.11
Cd	114	115	1	No Gas	0.008	ug/l	-25.30
Cd	114	115	3	He	0.003	ug/l	21.50
Sn	118	115	1	No Gas	0.003	ug/l	791.79
Sn	118	115	3	He	-0.004	ug/l	224.45
Sb	121	115	1	No Gas	0.013	ug/l	363.04
Sb	121	115	3	He	0.017	ug/l	119.35
Sb	123	115	1	No Gas	0.015	ug/l	305.70
Sb	123	115	3	He	0.014	ug/l	83.34
Ba	135	115	1	No Gas	-0.001	ug/l	16.63
Ba	137	115	1	No Gas	-0.001	ug/l	29.94
La	139	115	3	He	0.000	ug/l	5.56
Ce	140	115	3	He	0.000	ug/l	16.67
Hg	201	209	1	No Gas	0.004	ug/l	85.65
Hg	202	209	1	No Gas	-0.008	ug/l	167.30
Hg	202	209	3	He	-0.006	ug/l	71.32
Tl	203	209	3	He	0.005	ug/l	138.72
Tl	205	209	1	No Gas	0.003	ug/l	680.03
Tl	205	209	3	He	0.002	ug/l	301.46
[Pb]	206	209	1	No Gas	-0.035	ug/l	542.24
[Pb]	207	209	1	No Gas	-0.022	ug/l	572.24
Pb	208	209	1	No Gas	-0.029	ug/l	2452.33
Th	232	209	3	He	0.005	ug/l	178.07
U	238	209	1	No Gas	0.001	ug/l	40.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4636679.83	100.5
Sc	45	2	H2	2247758.32	94.6
Sc	45	3	He	286016.58	96.9
Ge	72	1	No Gas	1183845.87	105.7
Ge	72	2	H2	774390.82	97.2
Ge	72	3	He	171151.78	96.4
In	115	1	No Gas	7542796.28	98.9
In	115	3	He	1717294.36	99.6
Tb	159	1	No Gas	9273512.14	105.8
Tb	159	3	He	3719961.34	102.4
Ho	165	1	No Gas	8887079.68	106.9
Ho	165	3	He	3658713.98	102.6
Lu	175	1	No Gas	8423116.99	105.9
Lu	175	3	He	3010971.33	99.6
Bi	209	1	No Gas	6103374.48	104.0
Bi	209	3	He	2417521.08	99.7

ICPMS207-B Analytical Data

Sample Name CCV
File Name 042_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BD0D.b
Acq Time 2022-02-18 16:31:36
Sample Type CCV
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	521.142	ug/l	3818831.82
Be	9	45	1	No Gas	42.638	ug/l	146638.39
B	11	45	1	No Gas	46.388	ug/l	97401.25
Na	23	45	3	He	12625.070	ug/l	9316740.56
Mg	24	45	3	He	12746.551	ug/l	5279856.05
Al	27	45	1	No Gas	49.884	ug/l	826596.29
Si	28	45	2	H2	211.097	ug/l	387133.16
K	39	72	3	He	11903.560	ug/l	5652470.68
Ca	40	72	2	H2	12060.135	ug/l	79465503.54
Ti	47	72	1	No Gas	50.340	ug/l	87129.22
V	51	72	1	No Gas	54.035	ug/l	1038635.97
V	51	72	3	He	48.084	ug/l	193911.02
Cr	52	72	1	No Gas	49.133	ug/l	1014433.83
Cr	52	72	3	He	49.418	ug/l	203432.73
Mn	55	72	1	No Gas	51.372	ug/l	1333534.56
Mn	55	72	3	He	49.350	ug/l	140024.41
Fe	56	72	2	H2	1302.272	ug/l	17441785.55
Fe	56	72	3	He	1266.256	ug/l	4665437.83
Co	59	72	1	No Gas	50.874	ug/l	1092653.65
Ni	60	72	1	No Gas	50.790	ug/l	244460.79
Ni	60	72	3	He	51.054	ug/l	79334.20
Cu	63	72	1	No Gas	50.673	ug/l	601133.90
Cu	63	72	3	He	51.592	ug/l	208943.48
Cu	65	72	1	No Gas	50.849	ug/l	284006.75
Zn	66	72	1	No Gas	51.865	ug/l	219322.95
Zn	66	72	3	He	50.900	ug/l	51541.22
As	75	72	1	No Gas	49.694	ug/l	285232.90
As	75	72	3	He	48.964	ug/l	47372.68
Se	78	72	2	H2	50.585	ug/l	27747.18
Br	79	72	1	No Gas	-0.124	ug/l	9274.59
Br	79	72	2	H2	-0.089	ug/l	5300.46
Se	82	72	1	No Gas	51.840	ug/l	16038.22
Kr	84	72	1	No Gas		ug/l	30418.49
Sr	88	72	1	No Gas	51.988	ug/l	1589447.28
Sr	88	72	3	He	49.400	ug/l	208122.06
Mo	95	115	1	No Gas	48.438	ug/l	299901.91
Mo	95	115	3	He	52.222	ug/l	115059.22
Mo	98	115	1	No Gas	51.215	ug/l	504750.13
Ag	107	115	1	No Gas	20.014	ug/l	322276.92
Ag	109	115	1	No Gas	20.231	ug/l	308469.44
Cd	111	115	1	No Gas	50.286	ug/l	182069.04

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	51.400	ug/l	62028.25
Cd	114	115	1	No Gas	50.164	ug/l	401827.13
Cd	114	115	3	He	51.507	ug/l	149906.18
Sn	118	115	1	No Gas	44.743	ug/l	499445.70
Sn	118	115	3	He	45.098	ug/l	140164.01
Sb	121	115	1	No Gas	53.002	ug/l	829433.58
Sb	121	115	3	He	51.633	ug/l	227875.08
Sb	123	115	1	No Gas	52.497	ug/l	625977.32
Sb	123	115	3	He	52.010	ug/l	179392.75
Ba	135	115	1	No Gas	50.677	ug/l	153756.65
Ba	137	115	1	No Gas	50.708	ug/l	268300.21
La	139	115	3	He	50.251	ug/l	746883.39
Ce	140	115	3	He	51.135	ug/l	796243.44
Hg	201	209	1	No Gas	0.959	ug/l	1950.42
Hg	202	209	1	No Gas	0.936	ug/l	4405.52
Hg	202	209	3	He	0.953	ug/l	2002.75
Tl	203	209	3	He	49.423	ug/l	247669.70
Tl	205	209	1	No Gas	51.225	ug/l	1294898.24
Tl	205	209	3	He	49.257	ug/l	581680.52
[Pb]	206	209	1	No Gas	50.602	ug/l	446692.28
[Pb]	207	209	1	No Gas	49.726	ug/l	381920.55
Pb	208	209	1	No Gas	50.717	ug/l	1781912.44
Th	232	209	3	He	49.818	ug/l	789381.58
U	238	209	1	No Gas	49.938	ug/l	1644671.48

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4353433.38	94.4
Sc	45	2	H2	2214902.32	93.2
Sc	45	3	He	282355.85	95.6
Ge	72	1	No Gas	1111486.09	99.3
Ge	72	2	H2	786176.31	98.6
Ge	72	3	He	173454.76	97.7
In	115	1	No Gas	7309124.51	95.9
In	115	3	He	1616864.82	93.8
Tb	159	1	No Gas	8834794.74	100.8
Tb	159	3	He	3694408.63	101.7
Ho	165	1	No Gas	8338299.99	100.3
Ho	165	3	He	3604893.13	101.1
Lu	175	1	No Gas	8182208.53	102.9
Lu	175	3	He	2990547.03	99.0
Bi	209	1	No Gas	5943483.24	101.3
Bi	209	3	He	2333310.21	96.3

ICPMS207-B Analytical Data

Sample Name CCB
File Name 043_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BD0D.b
Acq Time 2022-02-18 16:37:50
Sample Type CCB
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.677	ug/l	28143.18
Be	9	45	1	No Gas	-0.029	ug/l	123.31
B	11	45	1	No Gas	0.415	ug/l	1852.19
Na	23	45	3	He	-3.609	ug/l	68498.16
Mg	24	45	3	He	-0.249	ug/l	1077.91
Al	27	45	1	No Gas	0.136	ug/l	12088.26
Si	28	45	2	H2	-0.492	ug/l	8592.60
K	39	72	3	He	-4.554	ug/l	115547.97
Ca	40	72	2	H2	-0.006	ug/l	146421.87
Ti	47	72	1	No Gas	0.008	ug/l	271.95
V	51	72	1	No Gas	1.169	ug/l	503.33
V	51	72	3	He	-2.456	ug/l	5249.86
Cr	52	72	1	No Gas	-1.567	ug/l	35962.99
Cr	52	72	3	He	-0.011	ug/l	1037.82
Mn	55	72	1	No Gas	0.122	ug/l	8871.75
Mn	55	72	3	He	0.001	ug/l	89.32
Fe	56	72	2	H2	0.398	ug/l	12152.27
Fe	56	72	3	He	0.425	ug/l	6770.05
Co	59	72	1	No Gas	-0.009	ug/l	422.50
Ni	60	72	1	No Gas	-0.031	ug/l	788.46
Ni	60	72	3	He	-0.005	ug/l	92.22
Cu	63	72	1	No Gas	-0.102	ug/l	5875.55
Cu	63	72	3	He	-0.078	ug/l	1692.10
Cu	65	72	1	No Gas	-0.069	ug/l	2571.93
Zn	66	72	1	No Gas	-0.062	ug/l	9643.73
Zn	66	72	3	He	-0.084	ug/l	2215.74
As	75	72	1	No Gas	0.063	ug/l	10586.09
As	75	72	3	He	-0.183	ug/l	250.40
Se	78	72	2	H2	-0.005	ug/l	24.44
Br	79	72	1	No Gas	-0.038	ug/l	9637.53
Br	79	72	2	H2	-0.089	ug/l	5127.43
Se	82	72	1	No Gas	-0.408	ug/l	544.86
Kr	84	72	1	No Gas		ug/l	19797.70
Sr	88	72	1	No Gas	-0.002	ug/l	841.71
Sr	88	72	3	He	-0.009	ug/l	338.90
Mo	95	115	1	No Gas	0.055	ug/l	367.79
Mo	95	115	3	He	0.055	ug/l	128.89
Mo	98	115	1	No Gas	0.056	ug/l	619.53
Ag	107	115	1	No Gas	0.003	ug/l	1284.58
Ag	109	115	1	No Gas	0.003	ug/l	1205.21
Cd	111	115	1	No Gas	0.015	ug/l	46.91

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.010	ug/l	16.67
Cd	114	115	1	No Gas	0.007	ug/l	-35.40
Cd	114	115	3	He	0.007	ug/l	31.76
Sn	118	115	1	No Gas	0.042	ug/l	1214.32
Sn	118	115	3	He	0.030	ug/l	313.34
Sb	121	115	1	No Gas	0.113	ug/l	1946.00
Sb	121	115	3	He	0.090	ug/l	428.38
Sb	123	115	1	No Gas	0.113	ug/l	1477.23
Sb	123	115	3	He	0.090	ug/l	337.70
Ba	135	115	1	No Gas	0.006	ug/l	36.59
Ba	137	115	1	No Gas	0.004	ug/l	53.23
La	139	115	3	He	0.001	ug/l	18.89
Ce	140	115	3	He	0.001	ug/l	21.11
Hg	201	209	1	No Gas	0.003	ug/l	85.98
Hg	202	209	1	No Gas	-0.003	ug/l	201.63
Hg	202	209	3	He	0.006	ug/l	94.31
Tl	203	209	3	He	0.100	ug/l	608.92
Tl	205	209	1	No Gas	0.068	ug/l	2451.36
Tl	205	209	3	He	0.098	ug/l	1415.31
[Pb]	206	209	1	No Gas	-0.027	ug/l	633.35
[Pb]	207	209	1	No Gas	-0.028	ug/l	550.02
Pb	208	209	1	No Gas	-0.031	ug/l	2454.55
Th	232	209	3	He	0.032	ug/l	602.26
U	238	209	1	No Gas	0.004	ug/l	152.64

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4285757.71	92.9
Sc	45	2	H2	2214032.92	93.2
Sc	45	3	He	270407.78	91.6
Ge	72	1	No Gas	1075209.06	96.0
Ge	72	2	H2	760100.10	95.4
Ge	72	3	He	167646.18	94.4
In	115	1	No Gas	7391927.38	97.0
In	115	3	He	1605889.65	93.1
Tb	159	1	No Gas	8841409.95	100.9
Tb	159	3	He	3580805.39	98.6
Ho	165	1	No Gas	8452014.32	101.7
Ho	165	3	He	3622359.34	101.6
Lu	175	1	No Gas	8077050.31	101.6
Lu	175	3	He	2998089.08	99.2
Bi	209	1	No Gas	6317101.26	107.7
Bi	209	3	He	2322443.77	95.8

ICPMS207-B Analytical Data

Sample Name MB-163745
File Name 044ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 16:44:05
Sample Type AIRRef
Total Dilution 1.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.955	ug/l	22693.93
Be	9	45	1	No Gas	-0.029	ug/l	121.64
B	11	45	1	No Gas	0.847	ug/l	2712.01
Na	23	45	3	He	3.785	ug/l	69820.96
Mg	24	45	3	He	2.116	ug/l	1909.68
Al	27	45	1	No Gas	2.828	ug/l	55084.57
Si	28	45	2	H2	16.309	ug/l	35971.79
K	39	72	3	He	-0.036	ug/l	110335.19
Ca	40	72	2	H2	14.928	ug/l	230906.99
Ti	47	72	1	No Gas	0.279	ug/l	672.36
V	51	72	1	No Gas	0.934	ug/l	-3543.02
V	51	72	3	He	-2.733	ug/l	3988.35
Cr	52	72	1	No Gas	-1.606	ug/l	32534.97
Cr	52	72	3	He	0.006	ug/l	1034.49
Mn	55	72	1	No Gas	0.871	ug/l	25604.96
Mn	55	72	3	He	0.092	ug/l	318.94
Fe	56	72	2	H2	1.426	ug/l	24353.07
Fe	56	72	3	He	1.553	ug/l	10117.03
Co	59	72	1	No Gas	0.143	ug/l	3330.46
Ni	60	72	1	No Gas	-0.017	ug/l	791.79
Ni	60	72	3	He	0.033	ug/l	140.00
Cu	63	72	1	No Gas	3.578	ug/l	44247.25
Cu	63	72	3	He	4.916	ug/l	19756.70
Cu	65	72	1	No Gas	3.674	ug/l	20983.06
Zn	66	72	1	No Gas	3.633	ug/l	22312.50
Zn	66	72	3	He	3.606	ug/l	5314.34
As	75	72	1	No Gas	0.262	ug/l	10790.76
As	75	72	3	He	-0.226	ug/l	197.87
Se	78	72	2	H2	0.006	ug/l	28.78
Br	79	72	1	No Gas	0.252	ug/l	10799.35
Br	79	72	2	H2	0.094	ug/l	5649.91
Se	82	72	1	No Gas	0.341	ug/l	704.35
Kr	84	72	1	No Gas		ug/l	19747.70
Sr	88	72	1	No Gas	0.044	ug/l	2046.11
Sr	88	72	3	He	0.035	ug/l	483.35
Mo	95	115	1	No Gas	0.100	ug/l	631.13
Mo	95	115	3	He	0.114	ug/l	247.78
Mo	98	115	1	No Gas	0.104	ug/l	1056.23
Ag	107	115	1	No Gas	-0.063	ug/l	192.75
Ag	109	115	1	No Gas	-0.063	ug/l	177.40
Cd	111	115	1	No Gas	0.018	ug/l	57.34

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.021	ug/l	28.67
Cd	114	115	1	No Gas	0.027	ug/l	123.91
Cd	114	115	3	He	0.017	ug/l	57.46
Sn	118	115	1	No Gas	0.200	ug/l	2887.91
Sn	118	115	3	He	0.193	ug/l	785.58
Sb	121	115	1	No Gas	0.050	ug/l	906.45
Sb	121	115	3	He	0.047	ug/l	233.36
Sb	123	115	1	No Gas	0.048	ug/l	666.42
Sb	123	115	3	He	0.046	ug/l	181.02
Ba	135	115	1	No Gas	0.085	ug/l	269.47
Ba	137	115	1	No Gas	0.069	ug/l	385.91
La	139	115	3	He	0.002	ug/l	35.56
Ce	140	115	3	He	0.003	ug/l	57.78
Hg	201	209	1	No Gas	0.038	ug/l	148.30
Hg	202	209	1	No Gas	0.033	ug/l	349.60
Hg	202	209	3	He	0.085	ug/l	242.29
Tl	203	209	3	He	0.045	ug/l	320.13
Tl	205	209	1	No Gas	0.048	ug/l	1800.13
Tl	205	209	3	He	0.052	ug/l	844.37
[Pb]	206	209	1	No Gas	0.027	ug/l	1070.05
[Pb]	207	209	1	No Gas	0.027	ug/l	937.82
Pb	208	209	1	No Gas	0.024	ug/l	4242.52
Th	232	209	3	He	0.078	ug/l	1271.24
U	238	209	1	No Gas	0.004	ug/l	129.31

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4248256.25	92.1
Sc	45	2	H2	2061604.47	86.8
Sc	45	3	He	256209.39	86.8
Ge	72	1	No Gas	993105.90	88.7
Ge	72	2	H2	727195.43	91.2
Ge	72	3	He	157350.53	88.6
In	115	1	No Gas	7091219.15	93.0
In	115	3	He	1541816.37	89.4
Tb	159	1	No Gas	8552272.34	97.6
Tb	159	3	He	3482684.93	95.9
Ho	165	1	No Gas	8290927.20	99.7
Ho	165	3	He	3429013.58	96.1
Lu	175	1	No Gas	8140884.92	102.4
Lu	175	3	He	2758269.19	91.3
Bi	209	1	No Gas	5914572.29	100.8
Bi	209	3	He	2236108.61	92.3

ICPMS207-B Analytical Data

Sample Name LCS4-163745
File Name 045LCS4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 16:50:19
Sample Type LCS4
Total Dilution 1.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	79.145	ug/l	535997.85
Be	9	45	1	No Gas	39.082	ug/l	121407.47
B	11	45	1	No Gas	85.033	ug/l	160459.92
Na	23	45	3	He	5314.065	ug/l	3503282.97
Mg	24	45	3	He	5220.552	ug/l	1911564.12
Al	27	45	1	No Gas	472.801	ug/l	7006864.89
Si	28	45	2	H2	968.771	ug/l	1576320.33
K	39	72	3	He	4416.498	ug/l	1995932.10
Ca	40	72	2	H2	4856.674	ug/l	29767478.30
Ti	47	72	1	No Gas	94.744	ug/l	150862.49
V	51	72	1	No Gas	104.778	ug/l	1876231.99
V	51	72	3	He	94.419	ug/l	336724.60
Cr	52	72	1	No Gas	97.344	ug/l	1793664.92
Cr	52	72	3	He	98.049	ug/l	369642.42
Mn	55	72	1	No Gas	493.668	ug/l	11742739.20
Mn	55	72	3	He	482.218	ug/l	1255836.36
Fe	56	72	2	H2	516.504	ug/l	6425040.80
Fe	56	72	3	He	487.706	ug/l	1653318.82
Co	59	72	1	No Gas	100.931	ug/l	1994199.92
Ni	60	72	1	No Gas	99.597	ug/l	440606.19
Ni	60	72	3	He	100.174	ug/l	142801.22
Cu	63	72	1	No Gas	106.518	ug/l	1157825.75
Cu	63	72	3	He	107.303	ug/l	397035.71
Cu	65	72	1	No Gas	106.582	ug/l	545348.98
Zn	66	72	1	No Gas	106.526	ug/l	405579.78
Zn	66	72	3	He	98.165	ug/l	89241.83
As	75	72	1	No Gas	99.669	ug/l	517375.05
As	75	72	3	He	95.054	ug/l	84074.87
Se	78	72	2	H2	100.028	ug/l	50877.87
Br	79	72	1	No Gas	0.098	ug/l	10026.94
Br	79	72	2	H2	0.289	ug/l	6448.71
Se	82	72	1	No Gas	101.582	ug/l	28369.98
Kr	84	72	1	No Gas		ug/l	38575.29
Sr	88	72	1	No Gas	106.734	ug/l	3005633.47
Sr	88	72	3	He	95.627	ug/l	369487.95
Mo	95	115	1	No Gas	92.776	ug/l	563014.49
Mo	95	115	3	He	99.405	ug/l	201404.43
Mo	98	115	1	No Gas	92.805	ug/l	898244.84
Ag	107	115	1	No Gas	9.241	ug/l	146586.45
Ag	109	115	1	No Gas	9.431	ug/l	141727.97
Cd	111	115	1	No Gas	47.324	ug/l	168193.50

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	50.999	ug/l	56593.95
Cd	114	115	1	No Gas	47.841	ug/l	376231.08
Cd	114	115	3	He	50.835	ug/l	136049.54
Sn	118	115	1	No Gas	86.655	ug/l	949359.31
Sn	118	115	3	He	88.167	ug/l	251842.72
Sb	121	115	1	No Gas	98.713	ug/l	1516828.51
Sb	121	115	3	He	101.004	ug/l	409866.05
Sb	123	115	1	No Gas	103.412	ug/l	1210693.16
Sb	123	115	3	He	102.495	ug/l	325075.75
Ba	135	115	1	No Gas	90.866	ug/l	270431.07
Ba	137	115	1	No Gas	88.969	ug/l	462339.02
La	139	115	3	He	106.028	ug/l	1449135.45
Ce	140	115	3	He	107.118	ug/l	1533974.94
Hg	201	209	1	No Gas	0.057	ug/l	186.30
Hg	202	209	1	No Gas	0.050	ug/l	428.59
Hg	202	209	3	He	0.088	ug/l	246.29
Tl	203	209	3	He	101.279	ug/l	481283.82
Tl	205	209	1	No Gas	97.827	ug/l	2488266.53
Tl	205	209	3	He	99.116	ug/l	1110357.11
[Pb]	206	209	1	No Gas	100.313	ug/l	890836.07
[Pb]	207	209	1	No Gas	96.320	ug/l	744347.15
Pb	208	209	1	No Gas	99.105	ug/l	3501990.05
Th	232	209	3	He	100.246	ug/l	1506893.30
U	238	209	1	No Gas	100.372	ug/l	3325090.16

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3916715.99	84.9
Sc	45	2	H2	2003511.71	84.3
Sc	45	3	He	249519.41	84.5
Ge	72	1	No Gas	1017583.88	90.9
Ge	72	2	H2	729526.79	91.5
Ge	72	3	He	159290.39	89.7
In	115	1	No Gas	7119019.31	93.4
In	115	3	He	1486771.15	86.2
Tb	159	1	No Gas	8528096.24	97.3
Tb	159	3	He	3413145.32	93.9
Ho	165	1	No Gas	8444416.83	101.6
Ho	165	3	He	3418841.19	95.8
Lu	175	1	No Gas	8250684.66	103.7
Lu	175	3	He	2809657.48	93.0
Bi	209	1	No Gas	5952621.52	101.5
Bi	209	3	He	2212706.64	91.3

ICPMS207-B Analytical Data

Sample Name B22020962-001A
File Name 046SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 16:56:33
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.117	ug/l	27718.24
Be	9	45	1	No Gas	-0.036	ug/l	112.65
B	11	45	1	No Gas	39.165	ug/l	93680.88
Na	23	45	3	He	36500.949	ug/l	29899742.33
Mg	24	45	3	He	17230.291	ug/l	7963054.62
Al	27	45	1	No Gas	4.108	ug/l	87865.97
Si	28	45	2	H2	26304.851	ug/l	51887249.71
K	39	72	3	He	3103.951	ug/l	1713599.66
Ca	40	72	2	H2	16307.203	ug/l	114304359.50
Ti	47	72	1	No Gas	1.903	ug/l	3737.60
V	51	72	1	No Gas	10.462	ug/l	192860.44
V	51	72	3	He	4.693	ug/l	35155.34
Cr	52	72	1	No Gas	-0.281	ug/l	65027.77
Cr	52	72	3	He	0.785	ug/l	4744.13
Mn	55	72	1	No Gas	7.278	ug/l	204101.87
Mn	55	72	3	He	6.913	ug/l	21577.14
Fe	56	72	2	H2	1.409	ug/l	27778.00
Fe	56	72	3	He	1.637	ug/l	12529.14
Co	59	72	1	No Gas	0.037	ug/l	1503.76
Ni	60	72	1	No Gas	0.749	ug/l	4791.30
Ni	60	72	3	He	0.713	ug/l	1324.51
Cu	63	72	1	No Gas	0.656	ug/l	15715.41
Cu	63	72	3	He	0.320	ug/l	3669.73
Cu	65	72	1	No Gas	0.544	ug/l	6351.94
Zn	66	72	1	No Gas	0.211	ug/l	11585.98
Zn	66	72	3	He	-0.065	ug/l	2532.46
As	75	72	1	No Gas	0.069	ug/l	11489.71
As	75	72	3	He	-0.233	ug/l	231.53
Se	78	72	2	H2	0.234	ug/l	166.22
Br	79	72	1	No Gas	20.357	ug/l	166826.78
Br	79	72	2	H2	18.940	ug/l	94416.11
Se	82	72	1	No Gas	0.605	ug/l	905.30
Kr	84	72	1	No Gas		ug/l	56224.47
Sr	88	72	1	No Gas	178.685	ug/l	5751115.42
Sr	88	72	3	He	162.589	ug/l	749334.57
Mo	95	115	1	No Gas	0.359	ug/l	2440.23
Mo	95	115	3	He	0.376	ug/l	924.48
Mo	98	115	1	No Gas	0.355	ug/l	3867.84
Ag	107	115	1	No Gas	-0.061	ug/l	252.77
Ag	109	115	1	No Gas	-0.061	ug/l	238.76
Cd	111	115	1	No Gas	0.030	ug/l	111.67

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.019	ug/l	29.67
Cd	114	115	1	No Gas	0.037	ug/l	224.99
Cd	114	115	3	He	0.020	ug/l	76.36
Sn	118	115	1	No Gas	-0.030	ug/l	425.83
Sn	118	115	3	He	-0.035	ug/l	126.67
Sb	121	115	1	No Gas	0.281	ug/l	4936.04
Sb	121	115	3	He	0.253	ug/l	1273.19
Sb	123	115	1	No Gas	0.277	ug/l	3714.53
Sb	123	115	3	He	0.260	ug/l	1024.48
Ba	135	115	1	No Gas	4.150	ug/l	13709.67
Ba	137	115	1	No Gas	4.172	ug/l	24063.40
La	139	115	3	He	0.003	ug/l	62.22
Ce	140	115	3	He	0.005	ug/l	105.56
Hg	201	209	1	No Gas	0.034	ug/l	147.30
Hg	202	209	1	No Gas	0.029	ug/l	345.94
Hg	202	209	3	He	0.043	ug/l	179.63
Tl	203	209	3	He	0.134	ug/l	831.69
Tl	205	209	1	No Gas	0.121	ug/l	3807.25
Tl	205	209	3	He	0.132	ug/l	1937.59
[Pb]	206	209	1	No Gas	0.003	ug/l	902.26
[Pb]	207	209	1	No Gas	0.000	ug/l	757.81
Pb	208	209	1	No Gas	0.000	ug/l	3560.22
Th	232	209	3	He	0.034	ug/l	672.29
U	238	209	1	No Gas	0.014	ug/l	497.58

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4930120.56	106.9
Sc	45	2	H2	2441836.11	102.8
Sc	45	3	He	315019.17	106.7
Ge	72	1	No Gas	1162279.87	103.8
Ge	72	2	H2	836728.17	105.0
Ge	72	3	He	190090.99	107.0
In	115	1	No Gas	7890004.61	103.5
In	115	3	He	1785892.75	103.6
Tb	159	1	No Gas	9253308.29	105.6
Tb	159	3	He	4000273.20	110.1
Ho	165	1	No Gas	9086250.41	109.3
Ho	165	3	He	3940058.96	110.5
Lu	175	1	No Gas	8526492.86	107.2
Lu	175	3	He	3227974.97	106.8
Bi	209	1	No Gas	6189230.66	105.5
Bi	209	3	He	2488956.65	102.7

ICPMS207-B Analytical Data

Sample Name B22020962-001ADIL
File Name 047ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BD\DoD.b
Acq Time 2022-02-18 17:02:46
Sample Type AIRRef
Total Dilution 5.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	9.477	ug/l	28789.96
Be	9	45	1	No Gas	-0.146	ug/l	118.31
B	11	45	1	No Gas	38.864	ug/l	16447.61
Na	23	45	3	He	37333.127	ug/l	5027347.04
Mg	24	45	3	He	17196.355	ug/l	1293606.17
Al	27	45	1	No Gas	7.346	ug/l	32663.74
Si	28	45	2	H2	25601.850	ug/l	8826385.43
K	39	72	3	He	2814.562	ug/l	359342.38
Ca	40	72	2	H2	16063.899	ug/l	19644133.23
Ti	47	72	1	No Gas	2.070	ug/l	934.31
V	51	72	1	No Gas	20.229	ug/l	54196.37
V	51	72	3	He	4.474	ug/l	16806.35
Cr	52	72	1	No Gas	-1.785	ug/l	57501.51
Cr	52	72	3	He	0.864	ug/l	1712.33
Mn	55	72	1	No Gas	7.866	ug/l	44422.88
Mn	55	72	3	He	6.877	ug/l	3741.74
Fe	56	72	2	H2	3.777	ug/l	16012.33
Fe	56	72	3	He	3.056	ug/l	7214.21
Co	59	72	1	No Gas	0.017	ug/l	668.69
Ni	60	72	1	No Gas	0.347	ug/l	1234.28
Ni	60	72	3	He	0.737	ug/l	311.12
Cu	63	72	1	No Gas	1.667	ug/l	10628.80
Cu	63	72	3	He	1.180	ug/l	2824.04
Cu	65	72	1	No Gas	1.444	ug/l	4408.44
Zn	66	72	1	No Gas	0.909	ug/l	10381.89
Zn	66	72	3	He	0.677	ug/l	2349.09
As	75	72	1	No Gas	1.699	ug/l	11832.92
As	75	72	3	He	-0.563	ug/l	306.27
Se	78	72	2	H2	0.208	ug/l	47.00
Br	79	72	1	No Gas	28.783	ug/l	49676.77
Br	79	72	2	H2	25.017	ug/l	25498.57
Se	82	72	1	No Gas	0.837	ug/l	697.02
Kr	84	72	1	No Gas		ug/l	25535.40
Sr	88	72	1	No Gas	180.868	ug/l	1055352.66
Sr	88	72	3	He	159.031	ug/l	125763.26
Mo	95	115	1	No Gas	0.400	ug/l	524.46
Mo	95	115	3	He	0.429	ug/l	193.34
Mo	98	115	1	No Gas	0.417	ug/l	883.02
Ag	107	115	1	No Gas	-0.328	ug/l	160.07
Ag	109	115	1	No Gas	-0.326	ug/l	152.06
Cd	111	115	1	No Gas	0.109	ug/l	71.38

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.067	ug/l	20.11
Cd	114	115	1	No Gas	0.138	ug/l	129.68
Cd	114	115	3	He	0.063	ug/l	46.02
Sn	118	115	1	No Gas	0.115	ug/l	988.08
Sn	118	115	3	He	0.086	ug/l	271.12
Sb	121	115	1	No Gas	0.507	ug/l	1748.62
Sb	121	115	3	He	0.467	ug/l	438.05
Sb	123	115	1	No Gas	0.521	ug/l	1367.21
Sb	123	115	3	He	0.461	ug/l	340.71
Ba	135	115	1	No Gas	4.518	ug/l	2781.45
Ba	137	115	1	No Gas	4.341	ug/l	4664.89
La	139	115	3	He	0.004	ug/l	21.11
Ce	140	115	3	He	0.008	ug/l	34.44
Hg	201	209	1	No Gas	0.064	ug/l	104.65
Hg	202	209	1	No Gas	0.048	ug/l	255.62
Hg	202	209	3	He	0.099	ug/l	122.64
Tl	203	209	3	He	0.173	ug/l	285.45
Tl	205	209	1	No Gas	0.126	ug/l	1271.18
Tl	205	209	3	He	0.167	ug/l	666.29
[Pb]	206	209	1	No Gas	-0.125	ug/l	644.47
[Pb]	207	209	1	No Gas	-0.123	ug/l	564.46
Pb	208	209	1	No Gas	-0.135	ug/l	2567.90
Th	232	209	3	He	0.113	ug/l	456.86
U	238	209	1	No Gas	0.022	ug/l	166.64

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4156722.60	90.1
Sc	45	2	H2	2131990.83	89.7
Sc	45	3	He	256169.90	86.8
Ge	72	1	No Gas	1052941.73	94.0
Ge	72	2	H2	725734.52	91.1
Ge	72	3	He	162677.58	91.6
In	115	1	No Gas	7314221.79	95.9
In	115	3	He	1582002.05	91.7
Tb	159	1	No Gas	8959844.32	102.2
Tb	159	3	He	3620899.60	99.7
Ho	165	1	No Gas	8722839.51	104.9
Ho	165	3	He	3557211.41	99.7
Lu	175	1	No Gas	8411947.48	105.8
Lu	175	3	He	2959733.17	97.9
Bi	209	1	No Gas	6208571.41	105.8
Bi	209	3	He	2353564.97	97.1

ICPMS207-B Analytical Data

Sample Name B22020962-001AMS
File Name 048MS.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 17:09:00
Sample Type MS
Total Dilution 1.0300
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1934.836	ug/l	13890469.20
Be	9	45	1	No Gas	40.775	ug/l	137834.56
B	11	45	1	No Gas	81.447	ug/l	167280.84
Na	23	45	3	He	84590.493	ug/l	59725594.11
Mg	24	45	3	He	65455.349	ug/l	26111619.10
Al	27	45	1	No Gas	50.404	ug/l	821958.64
Si	28	45	2	H2	26433.588	ug/l	45713377.97
K	39	72	3	He	46584.897	ug/l	21401646.63
Ca	40	72	2	H2	63091.442	ug/l	392935581.74
Ti	47	72	1	No Gas	53.312	ug/l	90245.75
V	51	72	1	No Gas	51.375	ug/l	965980.74
V	51	72	3	He	55.958	ug/l	219899.91
Cr	52	72	1	No Gas	49.773	ug/l	1007912.85
Cr	52	72	3	He	48.022	ug/l	194430.89
Mn	55	72	1	No Gas	54.878	ug/l	1390783.19
Mn	55	72	3	He	52.975	ug/l	147765.04
Fe	56	72	2	H2	4992.680	ug/l	63300952.47
Fe	56	72	3	He	4760.704	ug/l	17229900.33
Co	59	72	1	No Gas	48.446	ug/l	1017936.96
Ni	60	72	1	No Gas	47.237	ug/l	222733.91
Ni	60	72	3	He	48.197	ug/l	73636.32
Cu	63	72	1	No Gas	48.736	ug/l	566822.30
Cu	63	72	3	He	48.772	ug/l	194339.12
Cu	65	72	1	No Gas	48.958	ug/l	267782.98
Zn	66	72	1	No Gas	52.946	ug/l	219375.03
Zn	66	72	3	He	50.136	ug/l	50014.63
As	75	72	1	No Gas	50.126	ug/l	281665.96
As	75	72	3	He	47.935	ug/l	45612.43
Se	78	72	2	H2	50.583	ug/l	26266.10
Br	79	72	1	No Gas	22.719	ug/l	171866.26
Br	79	72	2	H2	20.471	ug/l	90498.32
Se	82	72	1	No Gas	49.942	ug/l	15166.71
Kr	84	72	1	No Gas		ug/l	63881.36
Sr	88	72	1	No Gas	230.488	ug/l	6898580.20
Sr	88	72	3	He	205.153	ug/l	848365.62
Mo	95	115	1	No Gas	47.335	ug/l	298800.98
Mo	95	115	3	He	50.173	ug/l	108772.20
Mo	98	115	1	No Gas	47.117	ug/l	474540.20
Ag	107	115	1	No Gas	19.225	ug/l	315984.03
Ag	109	115	1	No Gas	19.304	ug/l	300536.33
Cd	111	115	1	No Gas	47.957	ug/l	177325.36

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	50.320	ug/l	59748.72
Cd	114	115	1	No Gas	48.288	ug/l	395080.05
Cd	114	115	3	He	50.224	ug/l	143819.30
Sn	118	115	1	No Gas	43.437	ug/l	495771.85
Sn	118	115	3	He	43.662	ug/l	133561.85
Sb	121	115	1	No Gas	51.120	ug/l	817314.52
Sb	121	115	3	He	51.032	ug/l	221587.41
Sb	123	115	1	No Gas	51.473	ug/l	627101.79
Sb	123	115	3	He	52.043	ug/l	176614.27
Ba	135	115	1	No Gas	53.893	ug/l	166951.16
Ba	137	115	1	No Gas	53.336	ug/l	288353.17
La	139	115	3	He	0.005	ug/l	85.56
Ce	140	115	3	He	53.228	ug/l	815649.73
Hg	201	209	1	No Gas	1.014	ug/l	2150.41
Hg	202	209	1	No Gas	0.998	ug/l	4889.26
Hg	202	209	3	He	1.000	ug/l	2123.42
Tl	203	209	3	He	48.640	ug/l	246578.25
Tl	205	209	1	No Gas	49.958	ug/l	1315340.30
Tl	205	209	3	He	49.203	ug/l	588021.71
[Pb]	206	209	1	No Gas	49.666	ug/l	457532.47
[Pb]	207	209	1	No Gas	48.887	ug/l	391459.44
Pb	208	209	1	No Gas	49.654	ug/l	1818542.37
Th	232	209	3	He	50.648	ug/l	812012.04
U	238	209	1	No Gas	51.202	ug/l	1756267.31

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4386587.56	95.1
Sc	45	2	H2	2204838.53	92.8
Sc	45	3	He	280136.81	94.9
Ge	72	1	No Gas	1113446.18	99.4
Ge	72	2	H2	766547.92	96.2
Ge	72	3	He	175610.25	98.9
In	115	1	No Gas	7628469.57	100.1
In	115	3	He	1638482.16	95.0
Tb	159	1	No Gas	9559086.56	109.1
Tb	159	3	He	4033282.44	111.0
Ho	165	1	No Gas	9252217.83	111.3
Ho	165	3	He	3890756.95	109.1
Lu	175	1	No Gas	9205887.23	115.8
Lu	175	3	He	3193651.30	105.7
Bi	209	1	No Gas	6343556.04	108.1
Bi	209	3	He	2430665.64	100.3

ICPMS207-B Analytical Data

Sample Name B22020962-001AMSD
File Name 049MSD.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 17:15:15
Sample Type MSD
Total Dilution 1.0300
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	2001.941	ug/l	14620879.68
Be	9	45	1	No Gas	41.698	ug/l	143119.03
B	11	45	1	No Gas	84.069	ug/l	175461.35
Na	23	45	3	He	86320.145	ug/l	61555494.08
Mg	24	45	3	He	64856.076	ug/l	26134461.96
Al	27	45	1	No Gas	49.198	ug/l	815211.67
Si	28	45	2	H2	25892.350	ug/l	44900329.43
K	39	72	3	He	46992.245	ug/l	21559578.71
Ca	40	72	2	H2	63180.153	ug/l	393223506.32
Ti	47	72	1	No Gas	55.744	ug/l	94069.71
V	51	72	1	No Gas	60.085	ug/l	1133842.01
V	51	72	3	He	55.901	ug/l	219423.14
Cr	52	72	1	No Gas	50.024	ug/l	1006881.41
Cr	52	72	3	He	48.176	ug/l	194836.27
Mn	55	72	1	No Gas	55.446	ug/l	1399629.24
Mn	55	72	3	He	53.806	ug/l	149903.52
Fe	56	72	2	H2	5097.869	ug/l	64595597.49
Fe	56	72	3	He	4781.944	ug/l	17289070.96
Co	59	72	1	No Gas	49.119	ug/l	1027078.01
Ni	60	72	1	No Gas	49.856	ug/l	233453.57
Ni	60	72	3	He	48.458	ug/l	73950.61
Cu	63	72	1	No Gas	49.489	ug/l	572322.45
Cu	63	72	3	He	48.960	ug/l	194844.59
Cu	65	72	1	No Gas	50.674	ug/l	275846.44
Zn	66	72	1	No Gas	51.444	ug/l	212555.24
Zn	66	72	3	He	49.482	ug/l	49327.88
As	75	72	1	No Gas	54.019	ug/l	301412.92
As	75	72	3	He	48.728	ug/l	46305.67
Se	78	72	2	H2	51.184	ug/l	26561.41
Br	79	72	1	No Gas	23.082	ug/l	174492.03
Br	79	72	2	H2	21.439	ug/l	94466.08
Se	82	72	1	No Gas	53.638	ug/l	16150.43
Kr	84	72	1	No Gas		ug/l	62721.98
Sr	88	72	1	No Gas	225.323	ug/l	6712961.18
Sr	88	72	3	He	204.840	ug/l	845894.49
Mo	95	115	1	No Gas	48.553	ug/l	299747.69
Mo	95	115	3	He	52.150	ug/l	111143.53
Mo	98	115	1	No Gas	49.313	ug/l	484988.80
Ag	107	115	1	No Gas	20.087	ug/l	322039.20
Ag	109	115	1	No Gas	20.244	ug/l	307571.67
Cd	111	115	1	No Gas	49.881	ug/l	180126.92

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	51.479	ug/l	60085.13
Cd	114	115	1	No Gas	49.867	ug/l	398232.15
Cd	114	115	3	He	51.606	ug/l	145251.81
Sn	118	115	1	No Gas	43.369	ug/l	483982.02
Sn	118	115	3	He	45.654	ug/l	137199.79
Sb	121	115	1	No Gas	53.211	ug/l	831104.82
Sb	121	115	3	He	52.486	ug/l	223999.65
Sb	123	115	1	No Gas	52.979	ug/l	630481.10
Sb	123	115	3	He	53.146	ug/l	177273.88
Ba	135	115	1	No Gas	55.671	ug/l	168295.88
Ba	137	115	1	No Gas	54.556	ug/l	288349.82
La	139	115	3	He	0.005	ug/l	74.44
Ce	140	115	3	He	54.132	ug/l	815217.86
Hg	201	209	1	No Gas	1.031	ug/l	2172.08
Hg	202	209	1	No Gas	1.014	ug/l	4939.93
Hg	202	209	3	He	1.042	ug/l	2144.75
Tl	203	209	3	He	50.831	ug/l	250185.53
Tl	205	209	1	No Gas	50.573	ug/l	1323107.20
Tl	205	209	3	He	50.909	ug/l	590621.83
[Pb]	206	209	1	No Gas	50.446	ug/l	461406.69
[Pb]	207	209	1	No Gas	49.693	ug/l	395788.28
Pb	208	209	1	No Gas	49.999	ug/l	1819766.23
Th	232	209	3	He	52.086	ug/l	810749.36
U	238	209	1	No Gas	51.740	ug/l	1764322.60

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4516705.66	97.9
Sc	45	2	H2	2211222.58	93.1
Sc	45	3	He	282921.51	95.8
Ge	72	1	No Gas	1115720.94	99.6
Ge	72	2	H2	766022.66	96.1
Ge	72	3	He	175420.71	98.8
In	115	1	No Gas	7545193.63	99.0
In	115	3	He	1610742.28	93.4
Tb	159	1	No Gas	9397394.98	107.2
Tb	159	3	He	3867941.97	106.5
Ho	165	1	No Gas	9120485.69	109.7
Ho	165	3	He	3764254.51	105.5
Lu	175	1	No Gas	9063734.98	114.0
Lu	175	3	He	3142819.95	104.0
Bi	209	1	No Gas	6351526.83	108.3
Bi	209	3	He	2360057.69	97.4

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 050BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 17:21:29
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	4.646	ug/l	48743.22
Be	9	45	1	No Gas	-0.037	ug/l	95.31
B	11	45	1	No Gas	0.899	ug/l	2803.39
Na	23	45	3	He	11.000	ug/l	76174.80
Mg	24	45	3	He	1.274	ug/l	1626.87
Al	27	45	1	No Gas	-0.028	ug/l	9281.80
Si	28	45	2	H2	1.687	ug/l	12064.38
K	39	72	3	He	-10.332	ug/l	111949.95
Ca	40	72	2	H2	-0.764	ug/l	141222.44
Ti	47	72	1	No Gas	0.076	ug/l	403.75
V	51	72	1	No Gas	2.273	ug/l	21801.40
V	51	72	3	He	1.456	ug/l	19178.18
Cr	52	72	1	No Gas	0.140	ug/l	71207.74
Cr	52	72	3	He	-0.001	ug/l	1064.49
Mn	55	72	1	No Gas	0.151	ug/l	10053.51
Mn	55	72	3	He	0.009	ug/l	110.65
Fe	56	72	2	H2	0.313	ug/l	11021.91
Fe	56	72	3	He	0.412	ug/l	6664.91
Co	59	72	1	No Gas	-0.005	ug/l	532.29
Ni	60	72	1	No Gas	-0.063	ug/l	672.02
Ni	60	72	3	He	-0.016	ug/l	74.44
Cu	63	72	1	No Gas	-0.103	ug/l	6138.43
Cu	63	72	3	He	-0.120	ug/l	1516.44
Cu	65	72	1	No Gas	-0.120	ug/l	2407.83
Zn	66	72	1	No Gas	0.090	ug/l	10740.83
Zn	66	72	3	He	-0.222	ug/l	2070.16
As	75	72	1	No Gas	1.541	ug/l	19395.16
As	75	72	3	He	-0.009	ug/l	408.00
Se	78	72	2	H2	0.018	ug/l	36.78
Br	79	72	1	No Gas	0.503	ug/l	14115.61
Br	79	72	2	H2	0.373	ug/l	7067.72
Se	82	72	1	No Gas	0.059	ug/l	713.81
Kr	84	72	1	No Gas		ug/l	20147.54
Sr	88	72	1	No Gas	-0.002	ug/l	898.26
Sr	88	72	3	He	0.000	ug/l	371.12
Mo	95	115	1	No Gas	0.074	ug/l	516.68
Mo	95	115	3	He	0.060	ug/l	141.11
Mo	98	115	1	No Gas	0.069	ug/l	782.25
Ag	107	115	1	No Gas	-0.004	ug/l	1215.88
Ag	109	115	1	No Gas	-0.002	ug/l	1171.19
Cd	111	115	1	No Gas	0.002	ug/l	-1.12

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.014	ug/l	20.78
Cd	114	115	1	No Gas	0.003	ug/l	-70.65
Cd	114	115	3	He	0.014	ug/l	51.77
Sn	118	115	1	No Gas	0.091	ug/l	1853.12
Sn	118	115	3	He	0.077	ug/l	461.12
Sb	121	115	1	No Gas	0.187	ug/l	3269.06
Sb	121	115	3	He	0.149	ug/l	691.09
Sb	123	115	1	No Gas	0.189	ug/l	2527.16
Sb	123	115	3	He	0.150	ug/l	545.40
Ba	135	115	1	No Gas	0.004	ug/l	33.27
Ba	137	115	1	No Gas	0.006	ug/l	69.86
La	139	115	3	He	0.000	ug/l	7.78
Ce	140	115	3	He	0.000	ug/l	13.33
Hg	201	209	1	No Gas	0.001	ug/l	81.32
Hg	202	209	1	No Gas	-0.004	ug/l	197.63
Hg	202	209	3	He	0.005	ug/l	97.65
Tl	203	209	3	He	0.051	ug/l	388.16
Tl	205	209	1	No Gas	0.043	ug/l	1783.46
Tl	205	209	3	He	0.050	ug/l	913.07
[Pb]	206	209	1	No Gas	-0.037	ug/l	547.79
[Pb]	207	209	1	No Gas	-0.035	ug/l	486.68
Pb	208	209	1	No Gas	-0.035	ug/l	2332.32
Th	232	209	3	He	0.043	ug/l	824.36
U	238	209	1	No Gas	0.005	ug/l	191.96

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4224218.08	91.6
Sc	45	2	H2	2138767.58	90.0
Sc	45	3	He	261563.50	88.6
Ge	72	1	No Gas	1127327.21	100.7
Ge	72	2	H2	758120.95	95.1
Ge	72	3	He	166223.92	93.6
In	115	1	No Gas	7712715.43	101.2
In	115	3	He	1610437.35	93.4
Tb	159	1	No Gas	9439282.07	107.7
Tb	159	3	He	3757831.92	103.4
Ho	165	1	No Gas	9065890.68	109.1
Ho	165	3	He	3672852.31	103.0
Lu	175	1	No Gas	8775194.89	110.3
Lu	175	3	He	3014705.88	99.8
Bi	209	1	No Gas	6327403.31	107.8
Bi	209	3	He	2473955.24	102.1

ICPMS207-B Analytical Data

Sample Name B22020962-001B
File Name 051SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 17:27:43
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	4.456	ug/l	43043.09
Be	9	45	1	No Gas	-0.029	ug/l	108.65
B	11	45	1	No Gas	35.358	ug/l	65758.79
Na	23	45	3	He	37273.383	ug/l	21564520.24
Mg	24	45	3	He	17063.669	ug/l	5568870.79
Al	27	45	1	No Gas	73.373	ug/l	1070863.53
Si	28	45	2	H2	21983.662	ug/l	34657058.03
K	39	72	3	He	2819.522	ug/l	1208853.76
Ca	40	72	2	H2	15833.487	ug/l	89273877.40
Ti	47	72	1	No Gas	6.842	ug/l	10693.00
V	51	72	1	No Gas	5.786	ug/l	79240.98
V	51	72	3	He	10.561	ug/l	45569.61
Cr	52	72	1	No Gas	2.280	ug/l	98554.17
Cr	52	72	3	He	1.138	ug/l	4876.40
Mn	55	72	1	No Gas	12.797	ug/l	297949.47
Mn	55	72	3	He	11.696	ug/l	28080.19
Fe	56	72	2	H2	71.145	ug/l	821970.30
Fe	56	72	3	He	67.512	ug/l	214402.16
Co	59	72	1	No Gas	0.227	ug/l	4864.52
Ni	60	72	1	No Gas	0.777	ug/l	4152.36
Ni	60	72	3	He	0.804	ug/l	1141.16
Cu	63	72	1	No Gas	3.031	ug/l	37840.28
Cu	63	72	3	He	4.336	ug/l	16425.94
Cu	65	72	1	No Gas	2.820	ug/l	16463.95
Zn	66	72	1	No Gas	4.142	ug/l	23774.04
Zn	66	72	3	He	4.186	ug/l	5418.81
As	75	72	1	No Gas	2.423	ug/l	21238.27
As	75	72	3	He	0.210	ug/l	537.33
Se	78	72	2	H2	0.312	ug/l	170.56
Br	79	72	1	No Gas	3.122	ug/l	29161.70
Br	79	72	2	H2	3.027	ug/l	16233.60
Se	82	72	1	No Gas	0.398	ug/l	708.08
Kr	84	72	1	No Gas		ug/l	50445.00
Sr	88	72	1	No Gas	184.133	ug/l	4986339.01
Sr	88	72	3	He	162.921	ug/l	578695.81
Mo	95	115	1	No Gas	0.377	ug/l	2265.76
Mo	95	115	3	He	0.450	ug/l	860.04
Mo	98	115	1	No Gas	0.385	ug/l	3705.10
Ag	107	115	1	No Gas	-0.058	ug/l	272.11
Ag	109	115	1	No Gas	-0.058	ug/l	242.10
Cd	111	115	1	No Gas	0.034	ug/l	111.20

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.035	ug/l	39.89
Cd	114	115	1	No Gas	0.039	ug/l	214.96
Cd	114	115	3	He	0.036	ug/l	99.87
Sn	118	115	1	No Gas	0.298	ug/l	3889.51
Sn	118	115	3	He	0.306	ug/l	1008.93
Sb	121	115	1	No Gas	0.289	ug/l	4492.51
Sb	121	115	3	He	0.323	ug/l	1254.19
Sb	123	115	1	No Gas	0.303	ug/l	3586.16
Sb	123	115	3	He	0.317	ug/l	965.80
Ba	135	115	1	No Gas	4.388	ug/l	12817.32
Ba	137	115	1	No Gas	4.316	ug/l	22023.98
La	139	115	3	He	0.022	ug/l	287.78
Ce	140	115	3	He	0.055	ug/l	738.91
Hg	201	209	1	No Gas	0.033	ug/l	137.97
Hg	202	209	1	No Gas	0.031	ug/l	333.94
Hg	202	209	3	He	0.071	ug/l	210.96
Tl	203	209	3	He	0.032	ug/l	250.10
Tl	205	209	1	No Gas	0.031	ug/l	1338.97
Tl	205	209	3	He	0.034	ug/l	626.27
[Pb]	206	209	1	No Gas	0.038	ug/l	1152.28
[Pb]	207	209	1	No Gas	0.040	ug/l	1016.71
Pb	208	209	1	No Gas	0.035	ug/l	4571.45
Th	232	209	3	He	0.120	ug/l	1858.88
U	238	209	1	No Gas	0.017	ug/l	557.23

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3828576.31	83.0
Sc	45	2	H2	1951377.02	82.1
Sc	45	3	He	222630.35	75.4
Ge	72	1	No Gas	978404.93	87.4
Ge	72	2	H2	673277.60	84.5
Ge	72	3	He	146440.55	82.5
In	115	1	No Gas	6977618.89	91.5
In	115	3	He	1390212.94	80.6
Tb	159	1	No Gas	8467009.68	96.6
Tb	159	3	He	3509017.28	96.6
Ho	165	1	No Gas	8315334.62	100.0
Ho	165	3	He	3410926.15	95.6
Lu	175	1	No Gas	8130102.78	102.2
Lu	175	3	He	2705116.90	89.5
Bi	209	1	No Gas	5835812.56	99.5
Bi	209	3	He	2177827.12	89.9

ICPMS207-B Analytical Data

Sample Name B22020962-001BDIL
File Name 052SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 17:33:56
Sample Type Sample
Total Dilution 5.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	16.738	ug/l	37087.77
Be	9	45	1	No Gas	-0.209	ug/l	73.65
B	11	45	1	No Gas	34.580	ug/l	14032.17
Na	23	45	3	He	37846.296	ug/l	4515918.93
Mg	24	45	3	He	16974.242	ug/l	1131523.04
Al	27	45	1	No Gas	79.066	ug/l	245582.36
Si	28	45	2	H2	22014.424	ug/l	7207008.72
K	39	72	3	He	2683.909	ug/l	319175.64
Ca	40	72	2	H2	16272.156	ug/l	19218470.92
Ti	47	72	1	No Gas	6.768	ug/l	2414.30
V	51	72	1	No Gas	-0.223	ug/l	-22271.52
V	51	72	3	He	16.372	ug/l	23046.02
Cr	52	72	1	No Gas	0.982	ug/l	66018.60
Cr	52	72	3	He	1.423	ug/l	1963.48
Mn	55	72	1	No Gas	14.110	ug/l	73304.48
Mn	55	72	3	He	12.014	ug/l	5938.02
Fe	56	72	2	H2	72.515	ug/l	179599.66
Fe	56	72	3	He	68.304	ug/l	47913.51
Co	59	72	1	No Gas	0.189	ug/l	1337.42
Ni	60	72	1	No Gas	0.511	ug/l	1347.40
Ni	60	72	3	He	0.994	ug/l	354.45
Cu	63	72	1	No Gas	4.282	ug/l	16119.40
Cu	63	72	3	He	5.288	ug/l	5422.59
Cu	65	72	1	No Gas	4.290	ug/l	7245.39
Zn	66	72	1	No Gas	11.604	ug/l	18186.60
Zn	66	72	3	He	13.112	ug/l	4220.64
As	75	72	1	No Gas	3.023	ug/l	12767.70
As	75	72	3	He	-0.100	ug/l	357.40
Se	78	72	2	H2	0.287	ug/l	53.00
Br	79	72	1	No Gas	2.794	ug/l	13233.12
Br	79	72	2	H2	2.796	ug/l	7264.15
Se	82	72	1	No Gas	-0.693	ug/l	591.28
Kr	84	72	1	No Gas		ug/l	24915.60
Sr	88	72	1	No Gas	181.653	ug/l	1034673.69
Sr	88	72	3	He	166.087	ug/l	120439.07
Mo	95	115	1	No Gas	0.430	ug/l	572.24
Mo	95	115	3	He	0.497	ug/l	206.67
Mo	98	115	1	No Gas	0.455	ug/l	973.51
Ag	107	115	1	No Gas	-0.327	ug/l	164.73
Ag	109	115	1	No Gas	-0.321	ug/l	169.40
Cd	111	115	1	No Gas	0.151	ug/l	104.11

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.148	ug/l	36.56
Cd	114	115	1	No Gas	0.198	ug/l	232.15
Cd	114	115	3	He	0.135	ug/l	81.01
Sn	118	115	1	No Gas	0.438	ug/l	1746.65
Sn	118	115	3	He	0.461	ug/l	464.45
Sb	121	115	1	No Gas	0.397	ug/l	1425.55
Sb	121	115	3	He	0.445	ug/l	390.04
Sb	123	115	1	No Gas	0.414	ug/l	1131.16
Sb	123	115	3	He	0.427	ug/l	296.36
Ba	135	115	1	No Gas	4.587	ug/l	2874.61
Ba	137	115	1	No Gas	4.989	ug/l	5453.61
La	139	115	3	He	0.026	ug/l	78.89
Ce	140	115	3	He	0.064	ug/l	190.00
Hg	201	209	1	No Gas	0.125	ug/l	131.64
Hg	202	209	1	No Gas	0.104	ug/l	314.27
Hg	202	209	3	He	0.128	ug/l	131.31
Tl	203	209	3	He	0.066	ug/l	172.07
Tl	205	209	1	No Gas	0.050	ug/l	882.26
Tl	205	209	3	He	0.069	ug/l	421.51
[Pb]	206	209	1	No Gas	0.041	ug/l	970.04
[Pb]	207	209	1	No Gas	0.033	ug/l	831.14
Pb	208	209	1	No Gas	0.022	ug/l	3791.35
Th	232	209	3	He	0.078	ug/l	335.47
U	238	209	1	No Gas	0.017	ug/l	133.64

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3955373.16	85.8
Sc	45	2	H2	2024104.28	85.2
Sc	45	3	He	227023.96	76.9
Ge	72	1	No Gas	1028231.41	91.8
Ge	72	2	H2	701024.33	88.0
Ge	72	3	He	149159.61	84.0
In	115	1	No Gas	7441093.60	97.6
In	115	3	He	1472948.83	85.4
Tb	159	1	No Gas	8939516.49	102.0
Tb	159	3	He	3587812.09	98.8
Ho	165	1	No Gas	8595212.51	103.4
Ho	165	3	He	3412044.61	95.7
Lu	175	1	No Gas	8439777.71	106.1
Lu	175	3	He	2799628.25	92.6
Bi	209	1	No Gas	6320500.43	107.7
Bi	209	3	He	2294529.04	94.7

ICPMS207-B Analytical Data

Sample Name B22020962-001BPDS1
File Name 053ARef.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 17:40:09
Sample Type AIRRef
Total Dilution 1.0300
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1427.711	ug/l	8199843.83
Be	9	45	1	No Gas	31.711	ug/l	85778.43
B	11	45	1	No Gas	67.045	ug/l	110302.11
Na	23	45	3	He	82698.415	ug/l	45908385.43
Mg	24	45	3	He	61948.121	ug/l	19434031.81
Al	27	45	1	No Gas	115.012	ug/l	1489663.40
Si	28	45	2	H2	23417.294	ug/l	34419079.17
K	39	72	3	He	44935.996	ug/l	16987966.28
Ca	40	72	2	H2	61386.238	ug/l	335543948.80
Ti	47	72	1	No Gas	54.442	ug/l	79965.38
V	51	72	1	No Gas	44.636	ug/l	724335.07
V	51	72	3	He	57.588	ug/l	185776.77
Cr	52	72	1	No Gas	47.897	ug/l	843109.44
Cr	52	72	3	He	48.825	ug/l	162713.30
Mn	55	72	1	No Gas	59.256	ug/l	1302980.31
Mn	55	72	3	He	57.711	ug/l	132422.55
Fe	56	72	2	H2	5081.950	ug/l	56557903.83
Fe	56	72	3	He	4820.264	ug/l	14358488.09
Co	59	72	1	No Gas	45.988	ug/l	837886.95
Ni	60	72	1	No Gas	46.105	ug/l	188383.03
Ni	60	72	3	He	48.883	ug/l	61465.06
Cu	63	72	1	No Gas	49.525	ug/l	499161.70
Cu	63	72	3	He	52.914	ug/l	173344.38
Cu	65	72	1	No Gas	49.987	ug/l	236994.11
Zn	66	72	1	No Gas	53.579	ug/l	192437.19
Zn	66	72	3	He	52.004	ug/l	42610.42
As	75	72	1	No Gas	50.613	ug/l	246627.95
As	75	72	3	He	48.941	ug/l	38304.48
Se	78	72	2	H2	50.387	ug/l	22964.31
Br	79	72	1	No Gas	4.022	ug/l	33739.30
Br	79	72	2	H2	3.704	ug/l	18362.15
Se	82	72	1	No Gas	49.552	ug/l	13058.99
Kr	84	72	1	No Gas		ug/l	54919.74
Sr	88	72	1	No Gas	222.968	ug/l	5781030.95
Sr	88	72	3	He	210.669	ug/l	716851.92
Mo	95	115	1	No Gas	48.999	ug/l	269578.76
Mo	95	115	3	He	51.004	ug/l	93780.19
Mo	98	115	1	No Gas	48.301	ug/l	423496.89
Ag	107	115	1	No Gas	19.128	ug/l	273794.60
Ag	109	115	1	No Gas	19.544	ug/l	265184.76
Cd	111	115	1	No Gas	47.385	ug/l	152632.47

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	50.800	ug/l	51158.10
Cd	114	115	1	No Gas	47.372	ug/l	337684.34
Cd	114	115	3	He	51.141	ug/l	124214.74
Sn	118	115	1	No Gas	42.936	ug/l	426673.98
Sn	118	115	3	He	45.561	ug/l	118207.09
Sb	121	115	1	No Gas	50.550	ug/l	704053.46
Sb	121	115	3	He	51.393	ug/l	189272.34
Sb	123	115	1	No Gas	50.474	ug/l	535683.40
Sb	123	115	3	He	51.467	ug/l	148157.76
Ba	135	115	1	No Gas	53.374	ug/l	143997.41
Ba	137	115	1	No Gas	52.305	ug/l	246509.53
La	139	115	3	He	0.031	ug/l	397.79
Ce	140	115	3	He	53.848	ug/l	699877.67
Hg	201	209	1	No Gas	1.032	ug/l	1952.76
Hg	202	209	1	No Gas	1.000	ug/l	4380.52
Hg	202	209	3	He	1.070	ug/l	2029.08
Tl	203	209	3	He	49.004	ug/l	222327.15
Tl	205	209	1	No Gas	49.505	ug/l	1164389.92
Tl	205	209	3	He	49.233	ug/l	526641.63
[Pb]	206	209	1	No Gas	49.118	ug/l	404201.83
[Pb]	207	209	1	No Gas	48.583	ug/l	347484.41
Pb	208	209	1	No Gas	49.064	ug/l	1605394.92
Th	232	209	3	He	50.281	ug/l	721506.00
U	238	209	1	No Gas	51.018	ug/l	1563920.46

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3509455.14	76.1
Sc	45	2	H2	1873840.49	78.9
Sc	45	3	He	220204.83	74.6
Ge	72	1	No Gas	964694.22	86.1
Ge	72	2	H2	672738.76	84.4
Ge	72	3	He	144559.43	81.4
In	115	1	No Gas	6647376.18	87.2
In	115	3	He	1389907.87	80.6
Tb	159	1	No Gas	8139282.90	92.9
Tb	159	3	He	3314927.21	91.2
Ho	165	1	No Gas	7944546.30	95.6
Ho	165	3	He	3282261.78	92.0
Lu	175	1	No Gas	7924510.38	99.6
Lu	175	3	He	2768714.60	91.6
Bi	209	1	No Gas	5664793.22	96.6
Bi	209	3	He	2176946.44	89.8

ICPMS207-B Analytical Data

Sample Name B22020962-001BMS4
File Name 054MS4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 17:46:23
Sample Type MS4
Total Dilution 1.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	71.440	ug/l	465982.01
Be	9	45	1	No Gas	35.204	ug/l	104968.81
B	11	45	1	No Gas	109.768	ug/l	198567.21
Na	23	45	3	He	41337.055	ug/l	24520719.91
Mg	24	45	3	He	22198.164	ug/l	7433612.91
Al	27	45	1	No Gas	542.678	ug/l	7714622.39
Si	28	45	2	H2	24382.824	ug/l	37636852.87
K	39	72	3	He	6941.891	ug/l	2911362.70
Ca	40	72	2	H2	19913.081	ug/l	116285607.34
Ti	47	72	1	No Gas	98.349	ug/l	154813.52
V	51	72	1	No Gas	105.043	ug/l	1860952.32
V	51	72	3	He	104.843	ug/l	352636.69
Cr	52	72	1	No Gas	95.050	ug/l	1730993.10
Cr	52	72	3	He	98.723	ug/l	352609.25
Mn	55	72	1	No Gas	500.951	ug/l	11771973.55
Mn	55	72	3	He	480.676	ug/l	1185397.33
Fe	56	72	2	H2	581.598	ug/l	6915524.29
Fe	56	72	3	He	552.249	ug/l	1772260.42
Co	59	72	1	No Gas	93.454	ug/l	1826245.46
Ni	60	72	1	No Gas	93.725	ug/l	410257.01
Ni	60	72	3	He	99.161	ug/l	133972.95
Cu	63	72	1	No Gas	101.640	ug/l	1091763.03
Cu	63	72	3	He	105.869	ug/l	370998.86
Cu	65	72	1	No Gas	101.913	ug/l	515539.45
Zn	66	72	1	No Gas	104.623	ug/l	393715.81
Zn	66	72	3	He	100.626	ug/l	86610.07
As	75	72	1	No Gas	102.078	ug/l	523162.49
As	75	72	3	He	95.784	ug/l	80238.67
Se	78	72	2	H2	101.048	ug/l	49138.87
Br	79	72	1	No Gas	3.055	ug/l	29528.35
Br	79	72	2	H2	3.173	ug/l	17386.05
Se	82	72	1	No Gas	103.204	ug/l	28478.94
Kr	84	72	1	No Gas		ug/l	67942.31
Sr	88	72	1	No Gas	284.747	ug/l	7924376.71
Sr	88	72	3	He	263.538	ug/l	964019.39
Mo	95	115	1	No Gas	93.110	ug/l	554259.15
Mo	95	115	3	He	102.858	ug/l	198457.26
Mo	98	115	1	No Gas	93.806	ug/l	889625.64
Ag	107	115	1	No Gas	9.240	ug/l	143707.99
Ag	109	115	1	No Gas	9.387	ug/l	138284.64
Cd	111	115	1	No Gas	48.040	ug/l	167382.38

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.605	ug/l	55581.66
Cd	114	115	1	No Gas	48.272	ug/l	372146.26
Cd	114	115	3	He	52.172	ug/l	132942.22
Sn	118	115	1	No Gas	86.766	ug/l	932688.10
Sn	118	115	3	He	91.252	ug/l	248172.35
Sb	121	115	1	No Gas	100.685	ug/l	1516071.01
Sb	121	115	3	He	104.356	ug/l	403205.42
Sb	123	115	1	No Gas	105.161	ug/l	1207098.89
Sb	123	115	3	He	106.036	ug/l	320185.10
Ba	135	115	1	No Gas	96.480	ug/l	281534.37
Ba	137	115	1	No Gas	97.798	ug/l	497984.42
La	139	115	3	He	109.694	ug/l	1427496.94
Ce	140	115	3	He	112.139	ug/l	1529066.35
Hg	201	209	1	No Gas	0.049	ug/l	169.97
Hg	202	209	1	No Gas	0.053	ug/l	436.59
Hg	202	209	3	He	0.096	ug/l	267.95
Tl	203	209	3	He	99.285	ug/l	483701.98
Tl	205	209	1	No Gas	103.233	ug/l	2598242.39
Tl	205	209	3	He	98.950	ug/l	1136588.83
[Pb]	206	209	1	No Gas	100.621	ug/l	884780.87
[Pb]	207	209	1	No Gas	102.043	ug/l	779749.89
Pb	208	209	1	No Gas	102.007	ug/l	3566692.68
Th	232	209	3	He	101.471	ug/l	1564058.87
U	238	209	1	No Gas	103.935	ug/l	3407651.65

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3761376.82	81.6
Sc	45	2	H2	1910763.26	80.4
Sc	45	3	He	228193.93	77.3
Ge	72	1	No Gas	1005629.48	89.8
Ge	72	2	H2	697280.58	87.5
Ge	72	3	He	150909.57	85.0
In	115	1	No Gas	6988011.77	91.7
In	115	3	He	1415500.48	82.1
Tb	159	1	No Gas	8845478.71	100.9
Tb	159	3	He	3541091.30	97.5
Ho	165	1	No Gas	8468236.69	101.9
Ho	165	3	He	3418323.07	95.8
Lu	175	1	No Gas	8237119.07	103.6
Lu	175	3	He	2824715.76	93.5
Bi	209	1	No Gas	5881851.56	100.3
Bi	209	3	He	2268557.18	93.6

ICPMS207-B Analytical Data

Sample Name CCV
File Name 055_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 17:52:38
Sample Type CCV
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	467.498	ug/l	3280461.59
Be	9	45	1	No Gas	39.627	ug/l	130446.26
B	11	45	1	No Gas	43.749	ug/l	87935.77
Na	23	45	3	He	12565.360	ug/l	8645288.21
Mg	24	45	3	He	12172.934	ug/l	4701918.37
Al	27	45	1	No Gas	48.217	ug/l	765899.08
Si	28	45	2	H2	301.592	ug/l	532231.46
K	39	72	3	He	10675.257	ug/l	4967961.42
Ca	40	72	2	H2	11358.639	ug/l	73557781.02
Ti	47	72	1	No Gas	47.737	ug/l	83101.84
V	51	72	1	No Gas	47.152	ug/l	908843.80
V	51	72	3	He	48.711	ug/l	191864.57
Cr	52	72	1	No Gas	48.578	ug/l	1010493.98
Cr	52	72	3	He	47.771	ug/l	192345.32
Mn	55	72	1	No Gas	48.887	ug/l	1274983.05
Mn	55	72	3	He	46.629	ug/l	129359.12
Fe	56	72	2	H2	1279.471	ug/l	16842480.43
Fe	56	72	3	He	1232.857	ug/l	4442485.35
Co	59	72	1	No Gas	50.736	ug/l	1095421.67
Ni	60	72	1	No Gas	50.581	ug/l	244920.63
Ni	60	72	3	He	49.828	ug/l	75721.21
Cu	63	72	1	No Gas	49.564	ug/l	591880.30
Cu	63	72	3	He	50.452	ug/l	199800.60
Cu	65	72	1	No Gas	49.952	ug/l	280695.78
Zn	66	72	1	No Gas	51.444	ug/l	218953.98
Zn	66	72	3	He	48.729	ug/l	48339.26
As	75	72	1	No Gas	51.409	ug/l	296392.53
As	75	72	3	He	47.871	ug/l	45287.40
Se	78	72	2	H2	50.243	ug/l	27080.14
Br	79	72	1	No Gas	0.067	ug/l	10706.11
Br	79	72	2	H2	0.040	ug/l	5766.44
Se	82	72	1	No Gas	52.664	ug/l	16376.01
Kr	84	72	1	No Gas		ug/l	30358.34
Sr	88	72	1	No Gas	53.048	ug/l	1631863.42
Sr	88	72	3	He	47.604	ug/l	196081.76
Mo	95	115	1	No Gas	48.890	ug/l	313704.29
Mo	95	115	3	He	50.607	ug/l	111313.71
Mo	98	115	1	No Gas	49.203	ug/l	503499.74
Ag	107	115	1	No Gas	20.024	ug/l	334293.51
Ag	109	115	1	No Gas	19.807	ug/l	313558.94
Cd	111	115	1	No Gas	50.317	ug/l	189110.09

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	50.875	ug/l	61289.05
Cd	114	115	1	No Gas	50.702	ug/l	421593.67
Cd	114	115	3	He	51.567	ug/l	149829.21
Sn	118	115	1	No Gas	44.565	ug/l	516811.84
Sn	118	115	3	He	44.940	ug/l	139468.62
Sb	121	115	1	No Gas	53.542	ug/l	869930.04
Sb	121	115	3	He	51.583	ug/l	227252.27
Sb	123	115	1	No Gas	53.691	ug/l	664623.84
Sb	123	115	3	He	52.004	ug/l	179062.89
Ba	135	115	1	No Gas	51.863	ug/l	163232.55
Ba	137	115	1	No Gas	51.522	ug/l	283279.05
La	139	115	3	He	50.729	ug/l	752805.32
Ce	140	115	3	He	50.825	ug/l	790230.66
Hg	201	209	1	No Gas	0.977	ug/l	2258.08
Hg	202	209	1	No Gas	0.941	ug/l	5035.28
Hg	202	209	3	He	1.001	ug/l	2223.75
Tl	203	209	3	He	49.812	ug/l	264450.65
Tl	205	209	1	No Gas	49.157	ug/l	1411338.12
Tl	205	209	3	He	49.750	ug/l	622650.78
[Pb]	206	209	1	No Gas	49.718	ug/l	499082.55
[Pb]	207	209	1	No Gas	49.226	ug/l	429617.39
Pb	208	209	1	No Gas	49.838	ug/l	1989489.95
Th	232	209	3	He	50.630	ug/l	850165.67
U	238	209	1	No Gas	50.376	ug/l	1883798.93

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4147457.79	89.9
Sc	45	2	H2	2147145.83	90.4
Sc	45	3	He	263220.08	89.2
Ge	72	1	No Gas	1110389.55	99.2
Ge	72	2	H2	772598.30	96.9
Ge	72	3	He	169584.26	95.5
In	115	1	No Gas	7533162.61	98.8
In	115	3	He	1614103.10	93.6
Tb	159	1	No Gas	9519256.53	108.6
Tb	159	3	He	3701839.76	101.9
Ho	165	1	No Gas	8964260.41	107.8
Ho	165	3	He	3734753.55	104.7
Lu	175	1	No Gas	8908252.42	112.0
Lu	175	3	He	3130234.84	103.6
Bi	209	1	No Gas	6710004.13	114.4
Bi	209	3	He	2471100.90	102.0

ICPMS207-B Analytical Data

Sample Name CCB
File Name 056_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 17:58:51
Sample Type CCB
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	3.409	ug/l	37776.43
Be	9	45	1	No Gas	-0.032	ug/l	106.31
B	11	45	1	No Gas	0.630	ug/l	2132.34
Na	23	45	3	He	10.872	ug/l	71357.98
Mg	24	45	3	He	1.112	ug/l	1467.17
Al	27	45	1	No Gas	-0.041	ug/l	8584.72
Si	28	45	2	H2	53.076	ug/l	97439.11
K	39	72	3	He	-33.720	ug/l	97520.68
Ca	40	72	2	H2	-2.306	ug/l	129026.52
Ti	47	72	1	No Gas	0.016	ug/l	280.28
V	51	72	1	No Gas	2.697	ug/l	29402.90
V	51	72	3	He	1.348	ug/l	18041.19
Cr	52	72	1	No Gas	0.167	ug/l	67724.94
Cr	52	72	3	He	0.016	ug/l	1087.82
Mn	55	72	1	No Gas	0.136	ug/l	9111.45
Mn	55	72	3	He	0.020	ug/l	133.97
Fe	56	72	2	H2	0.208	ug/l	9490.95
Fe	56	72	3	He	0.305	ug/l	6034.00
Co	59	72	1	No Gas	-0.003	ug/l	542.27
Ni	60	72	1	No Gas	-0.113	ug/l	402.54
Ni	60	72	3	He	-0.018	ug/l	70.00
Cu	63	72	1	No Gas	-0.074	ug/l	6119.08
Cu	63	72	3	He	-0.070	ug/l	1640.77
Cu	65	72	1	No Gas	-0.094	ug/l	2409.17
Zn	66	72	1	No Gas	0.230	ug/l	10654.57
Zn	66	72	3	He	0.143	ug/l	2311.31
As	75	72	1	No Gas	0.757	ug/l	14096.59
As	75	72	3	He	-0.046	ug/l	359.33
Se	78	72	2	H2	0.011	ug/l	32.22
Br	79	72	1	No Gas	0.061	ug/l	10203.42
Br	79	72	2	H2	-0.023	ug/l	5290.50
Se	82	72	1	No Gas	-0.206	ug/l	596.07
Kr	84	72	1	No Gas		ug/l	19081.48
Sr	88	72	1	No Gas	0.001	ug/l	928.21
Sr	88	72	3	He	-0.007	ug/l	330.01
Mo	95	115	1	No Gas	0.042	ug/l	292.23
Mo	95	115	3	He	0.042	ug/l	95.56
Mo	98	115	1	No Gas	0.040	ug/l	455.08
Ag	107	115	1	No Gas	0.000	ug/l	1236.56
Ag	109	115	1	No Gas	0.001	ug/l	1178.53
Cd	111	115	1	No Gas	0.018	ug/l	58.18

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.017	ug/l	23.67
Cd	114	115	1	No Gas	0.015	ug/l	26.32
Cd	114	115	3	He	0.020	ug/l	64.84
Sn	118	115	1	No Gas	0.044	ug/l	1247.58
Sn	118	115	3	He	0.039	ug/l	331.12
Sb	121	115	1	No Gas	0.210	ug/l	3498.46
Sb	121	115	3	He	0.178	ug/l	783.77
Sb	123	115	1	No Gas	0.207	ug/l	2643.19
Sb	123	115	3	He	0.170	ug/l	590.74
Ba	135	115	1	No Gas	0.001	ug/l	23.29
Ba	137	115	1	No Gas	0.006	ug/l	66.53
La	139	115	3	He	0.000	ug/l	10.00
Ce	140	115	3	He	0.000	ug/l	13.33
Hg	201	209	1	No Gas	0.009	ug/l	102.31
Hg	202	209	1	No Gas	0.006	ug/l	249.62
Hg	202	209	3	He	0.014	ug/l	117.31
Tl	203	209	3	He	0.142	ug/l	869.05
Tl	205	209	1	No Gas	0.100	ug/l	3411.58
Tl	205	209	3	He	0.137	ug/l	1998.29
[Pb]	206	209	1	No Gas	-0.035	ug/l	574.46
[Pb]	207	209	1	No Gas	-0.032	ug/l	524.46
Pb	208	209	1	No Gas	-0.036	ug/l	2326.76
Th	232	209	3	He	0.054	ug/l	1003.11
U	238	209	1	No Gas	0.005	ug/l	205.96

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3984691.50	86.4
Sc	45	2	H2	2066693.55	87.0
Sc	45	3	He	245379.60	83.1
Ge	72	1	No Gas	1061734.02	94.8
Ge	72	2	H2	744161.94	93.4
Ge	72	3	He	159582.81	89.9
In	115	1	No Gas	7414316.40	97.3
In	115	3	He	1546428.36	89.7
Tb	159	1	No Gas	9262602.59	105.7
Tb	159	3	He	3694767.45	101.7
Ho	165	1	No Gas	8925626.35	107.4
Ho	165	3	He	3740851.87	104.9
Lu	175	1	No Gas	8986361.36	113.0
Lu	175	3	He	2989821.31	98.9
Bi	209	1	No Gas	6479722.43	110.4
Bi	209	3	He	2478090.21	102.2

ICPMS207-B Analytical Data

Sample Name B22020962-001BMSD4
File Name 057MSD4.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 18:05:06
Sample Type MSD4
Total Dilution 1.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	71.323	ug/l	430815.31
Be	9	45	1	No Gas	35.961	ug/l	99314.69
B	11	45	1	No Gas	113.394	ug/l	189945.98
Na	23	45	3	He	41272.360	ug/l	23295724.93
Mg	24	45	3	He	21590.954	ug/l	6878582.18
Al	27	45	1	No Gas	541.821	ug/l	7131925.87
Si	28	45	2	H2	25459.770	ug/l	37859932.77
K	39	72	3	He	7032.046	ug/l	2756670.83
Ca	40	72	2	H2	20262.903	ug/l	112741248.94
Ti	47	72	1	No Gas	93.642	ug/l	143512.85
V	51	72	1	No Gas	99.170	ug/l	1700397.45
V	51	72	3	He	107.413	ug/l	337647.33
Cr	52	72	1	No Gas	95.404	ug/l	1691453.22
Cr	52	72	3	He	97.553	ug/l	325798.46
Mn	55	72	1	No Gas	491.881	ug/l	11260818.34
Mn	55	72	3	He	487.872	ug/l	1125415.76
Fe	56	72	2	H2	594.130	ug/l	6730016.86
Fe	56	72	3	He	562.718	ug/l	1688931.97
Co	59	72	1	No Gas	92.591	ug/l	1761279.06
Ni	60	72	1	No Gas	92.813	ug/l	395438.98
Ni	60	72	3	He	99.668	ug/l	125900.49
Cu	63	72	1	No Gas	97.701	ug/l	1022840.49
Cu	63	72	3	He	107.554	ug/l	352484.20
Cu	65	72	1	No Gas	97.415	ug/l	479840.54
Zn	66	72	1	No Gas	101.954	ug/l	373913.93
Zn	66	72	3	He	103.727	ug/l	83423.40
As	75	72	1	No Gas	97.675	ug/l	487967.55
As	75	72	3	He	97.710	ug/l	76537.18
Se	78	72	2	H2	102.289	ug/l	47391.39
Br	79	72	1	No Gas	2.854	ug/l	27478.47
Br	79	72	2	H2	2.982	ug/l	15857.35
Se	82	72	1	No Gas	101.435	ug/l	27251.46
Kr	84	72	1	No Gas		ug/l	68831.28
Sr	88	72	1	No Gas	284.293	ug/l	7692400.50
Sr	88	72	3	He	261.232	ug/l	893436.24
Mo	95	115	1	No Gas	94.129	ug/l	545249.88
Mo	95	115	3	He	105.457	ug/l	196218.90
Mo	98	115	1	No Gas	93.233	ug/l	860184.38
Ag	107	115	1	No Gas	9.246	ug/l	139937.38
Ag	109	115	1	No Gas	9.347	ug/l	133920.33
Cd	111	115	1	No Gas	48.379	ug/l	163949.53

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.591	ug/l	53597.61
Cd	114	115	1	No Gas	48.937	ug/l	366912.28
Cd	114	115	3	He	52.743	ug/l	129627.62
Sn	118	115	1	No Gas	88.446	ug/l	924545.33
Sn	118	115	3	He	92.306	ug/l	242116.95
Sb	121	115	1	No Gas	102.406	ug/l	1500953.51
Sb	121	115	3	He	104.353	ug/l	388876.59
Sb	123	115	1	No Gas	104.773	ug/l	1169827.12
Sb	123	115	3	He	106.712	ug/l	310808.90
Ba	135	115	1	No Gas	99.350	ug/l	282054.01
Ba	137	115	1	No Gas	98.691	ug/l	489445.52
La	139	115	3	He	110.026	ug/l	1380883.24
Ce	140	115	3	He	112.977	ug/l	1485670.19
Hg	201	209	1	No Gas	0.041	ug/l	159.30
Hg	202	209	1	No Gas	0.044	ug/l	408.93
Hg	202	209	3	He	0.068	ug/l	209.63
Tl	203	209	3	He	100.164	ug/l	479567.40
Tl	205	209	1	No Gas	103.083	ug/l	2664023.54
Tl	205	209	3	He	101.832	ug/l	1149403.17
[Pb]	206	209	1	No Gas	98.173	ug/l	886471.20
[Pb]	207	209	1	No Gas	99.068	ug/l	777629.10
Pb	208	209	1	No Gas	99.775	ug/l	3582591.88
Th	232	209	3	He	102.385	ug/l	1550923.05
U	238	209	1	No Gas	105.602	ug/l	3555521.94

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3480228.57	75.5
Sc	45	2	H2	1840689.94	77.5
Sc	45	3	He	217154.50	73.6
Ge	72	1	No Gas	979987.45	87.5
Ge	72	2	H2	664317.20	83.4
Ge	72	3	He	141082.73	79.4
In	115	1	No Gas	6800547.29	89.2
In	115	3	He	1365440.80	79.2
Tb	159	1	No Gas	8597287.92	98.1
Tb	159	3	He	3378759.24	93.0
Ho	165	1	No Gas	8485728.76	102.1
Ho	165	3	He	3365599.23	94.4
Lu	175	1	No Gas	8255533.05	103.8
Lu	175	3	He	2743157.62	90.8
Bi	209	1	No Gas	6040460.17	103.0
Bi	209	3	He	2230440.39	92.0

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 058BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 18:11:22
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	2.994	ug/l	34377.03
Be	9	45	1	No Gas	-0.036	ug/l	90.98
B	11	45	1	No Gas	0.596	ug/l	2032.29
Na	23	45	3	He	15.479	ug/l	71480.92
Mg	24	45	3	He	1.183	ug/l	1437.22
Al	27	45	1	No Gas	-0.015	ug/l	8809.28
Si	28	45	2	H2	92.832	ug/l	163168.11
K	39	72	3	He	-41.661	ug/l	91088.43
Ca	40	72	2	H2	-2.146	ug/l	127986.05
Ti	47	72	1	No Gas	0.009	ug/l	263.60
V	51	72	1	No Gas	1.858	ug/l	13089.37
V	51	72	3	He	0.503	ug/l	14658.56
Cr	52	72	1	No Gas	-0.156	ug/l	60303.98
Cr	52	72	3	He	0.017	ug/l	1056.71
Mn	55	72	1	No Gas	0.139	ug/l	8984.95
Mn	55	72	3	He	0.024	ug/l	139.98
Fe	56	72	2	H2	0.169	ug/l	8848.28
Fe	56	72	3	He	0.221	ug/l	5566.68
Co	59	72	1	No Gas	-0.002	ug/l	552.25
Ni	60	72	1	No Gas	-0.102	ug/l	442.46
Ni	60	72	3	He	-0.002	ug/l	88.89
Cu	63	72	1	No Gas	0.039	ug/l	7226.70
Cu	63	72	3	He	0.003	ug/l	1849.08
Cu	65	72	1	No Gas	-0.013	ug/l	2778.05
Zn	66	72	1	No Gas	0.226	ug/l	10398.50
Zn	66	72	3	He	0.423	ug/l	2478.01
As	75	72	1	No Gas	1.243	ug/l	16367.38
As	75	72	3	He	-0.092	ug/l	308.87
Se	78	72	2	H2	0.015	ug/l	33.67
Br	79	72	1	No Gas	0.010	ug/l	9630.84
Br	79	72	2	H2	-0.082	ug/l	4971.05
Se	82	72	1	No Gas	0.229	ug/l	703.95
Kr	84	72	1	No Gas		ug/l	18448.59
Sr	88	72	1	No Gas	0.003	ug/l	968.13
Sr	88	72	3	He	-0.009	ug/l	311.12
Mo	95	115	1	No Gas	0.023	ug/l	172.23
Mo	95	115	3	He	0.021	ug/l	52.22
Mo	98	115	1	No Gas	0.023	ug/l	289.52
Ag	107	115	1	No Gas	-0.001	ug/l	1239.22
Ag	109	115	1	No Gas	0.001	ug/l	1197.87
Cd	111	115	1	No Gas	0.024	ug/l	81.45

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.020	ug/l	27.00
Cd	114	115	1	No Gas	0.020	ug/l	69.11
Cd	114	115	3	He	0.020	ug/l	65.95
Sn	118	115	1	No Gas	0.015	ug/l	921.54
Sn	118	115	3	He	0.009	ug/l	236.67
Sb	121	115	1	No Gas	0.221	ug/l	3717.54
Sb	121	115	3	He	0.182	ug/l	791.77
Sb	123	115	1	No Gas	0.226	ug/l	2894.93
Sb	123	115	3	He	0.184	ug/l	625.75
Ba	135	115	1	No Gas	0.008	ug/l	43.25
Ba	137	115	1	No Gas	0.003	ug/l	46.57
La	139	115	3	He	0.001	ug/l	17.78
Ce	140	115	3	He	0.001	ug/l	27.78
Hg	201	209	1	No Gas	0.007	ug/l	102.31
Hg	202	209	1	No Gas	0.006	ug/l	261.62
Hg	202	209	3	He	0.016	ug/l	118.64
Tl	203	209	3	He	0.118	ug/l	731.65
Tl	205	209	1	No Gas	0.107	ug/l	3782.80
Tl	205	209	3	He	0.125	ug/l	1818.19
[Pb]	206	209	1	No Gas	-0.034	ug/l	611.13
[Pb]	207	209	1	No Gas	-0.038	ug/l	495.57
Pb	208	209	1	No Gas	-0.037	ug/l	2378.99
Th	232	209	3	He	0.063	ug/l	1143.85
U	238	209	1	No Gas	0.005	ug/l	184.97

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3914553.44	84.9
Sc	45	2	H2	2058845.56	86.7
Sc	45	3	He	236066.17	80.0
Ge	72	1	No Gas	1037546.33	92.7
Ge	72	2	H2	732482.36	91.9
Ge	72	3	He	154421.87	87.0
In	115	1	No Gas	7481407.92	98.1
In	115	3	He	1523853.95	88.4
Tb	159	1	No Gas	9189158.42	104.8
Tb	159	3	He	3642567.26	100.3
Ho	165	1	No Gas	9250808.40	111.3
Ho	165	3	He	3563538.36	99.9
Lu	175	1	No Gas	9138915.15	114.9
Lu	175	3	He	2904082.91	96.1
Bi	209	1	No Gas	6781499.02	115.6
Bi	209	3	He	2438648.04	100.6

ICPMS207-B Analytical Data

Sample Name B22020962-006A
File Name 059SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 18:17:35
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.818	ug/l	31714.91
Be	9	45	1	No Gas	-0.043	ug/l	83.32
B	11	45	1	No Gas	54.054	ug/l	121856.50
Na	23	45	3	He	38398.915	ug/l	28153080.14
Mg	24	45	3	He	9747.313	ug/l	4033306.15
Al	27	45	1	No Gas	3.536	ug/l	73081.32
Si	28	45	2	H2	26829.760	ug/l	49585015.20
K	39	72	3	He	1791.065	ug/l	948295.24
Ca	40	72	2	H2	8703.314	ug/l	57256839.82
Ti	47	72	1	No Gas	2.170	ug/l	4114.74
V	51	72	1	No Gas	1.261	ug/l	2310.99
V	51	72	3	He	-1.972	ug/l	7191.81
Cr	52	72	1	No Gas	-1.541	ug/l	38390.60
Cr	52	72	3	He	-0.013	ug/l	1057.82
Mn	55	72	1	No Gas	506.893	ug/l	13431574.07
Mn	55	72	3	He	479.855	ug/l	1352979.98
Fe	56	72	2	H2	451.256	ug/l	6036941.10
Fe	56	72	3	He	439.651	ug/l	1614196.43
Co	59	72	1	No Gas	0.359	ug/l	8542.25
Ni	60	72	1	No Gas	0.714	ug/l	4501.77
Ni	60	72	3	He	0.798	ug/l	1334.52
Cu	63	72	1	No Gas	0.066	ug/l	8218.96
Cu	63	72	3	He	-0.163	ug/l	1402.46
Cu	65	72	1	No Gas	-0.078	ug/l	2662.65
Zn	66	72	1	No Gas	-0.117	ug/l	9928.33
Zn	66	72	3	He	-0.289	ug/l	2083.50
As	75	72	1	No Gas	0.438	ug/l	13321.86
As	75	72	3	He	0.110	ug/l	537.13
Se	78	72	2	H2	-0.002	ug/l	26.89
Br	79	72	1	No Gas	13.099	ug/l	108356.43
Br	79	72	2	H2	12.893	ug/l	62073.52
Se	82	72	1	No Gas	0.107	ug/l	730.48
Kr	84	72	1	No Gas		ug/l	33535.94
Sr	88	72	1	No Gas	70.525	ug/l	2212825.32
Sr	88	72	3	He	64.189	ug/l	268708.91
Mo	95	115	1	No Gas	0.178	ug/l	1244.51
Mo	95	115	3	He	0.195	ug/l	462.23
Mo	98	115	1	No Gas	0.187	ug/l	2094.75
Ag	107	115	1	No Gas	-0.065	ug/l	194.08
Ag	109	115	1	No Gas	-0.064	ug/l	182.74
Cd	111	115	1	No Gas	0.019	ug/l	69.36

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.013	ug/l	21.11
Cd	114	115	1	No Gas	0.024	ug/l	114.95
Cd	114	115	3	He	0.012	ug/l	46.97
Sn	118	115	1	No Gas	-0.033	ug/l	389.24
Sn	118	115	3	He	-0.031	ug/l	136.67
Sb	121	115	1	No Gas	0.527	ug/l	9249.64
Sb	121	115	3	He	0.528	ug/l	2501.48
Sb	123	115	1	No Gas	0.533	ug/l	7132.87
Sb	123	115	3	He	0.532	ug/l	1973.01
Ba	135	115	1	No Gas	4.326	ug/l	14482.18
Ba	137	115	1	No Gas	4.150	ug/l	24279.82
La	139	115	3	He	0.006	ug/l	107.78
Ce	140	115	3	He	0.025	ug/l	423.34
Hg	201	209	1	No Gas	0.020	ug/l	128.98
Hg	202	209	1	No Gas	0.097	ug/l	724.88
Hg	202	209	3	He	0.087	ug/l	285.95
Tl	203	209	3	He	0.064	ug/l	474.87
Tl	205	209	1	No Gas	0.045	ug/l	1949.05
Tl	205	209	3	He	0.063	ug/l	1122.50
[Pb]	206	209	1	No Gas	-0.015	ug/l	801.14
[Pb]	207	209	1	No Gas	-0.018	ug/l	664.47
Pb	208	209	1	No Gas	-0.017	ug/l	3172.39
Th	232	209	3	He	0.022	ug/l	483.54
U	238	209	1	No Gas	0.010	ug/l	390.26

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4662113.39	101.1
Sc	45	2	H2	2287637.88	96.3
Sc	45	3	He	281988.76	95.5
Ge	72	1	No Gas	1132888.74	101.2
Ge	72	2	H2	784359.01	98.4
Ge	72	3	He	172439.01	97.1
In	115	1	No Gas	8000424.42	104.9
In	115	3	He	1708600.72	99.1
Tb	159	1	No Gas	10037924.45	114.5
Tb	159	3	He	3990198.16	109.8
Ho	165	1	No Gas	9747378.91	117.3
Ho	165	3	He	3917589.01	109.8
Lu	175	1	No Gas	9551140.18	120.1
Lu	175	3	He	3173703.15	105.0
Bi	209	1	No Gas	6706226.31	114.3
Bi	209	3	He	2592007.86	106.9

ICPMS207-B Analytical Data

Sample Name B22020962-006B
File Name 060SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 18:23:49
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	5.238	ug/l	42568.90
Be	9	45	1	No Gas	-0.029	ug/l	97.98
B	11	45	1	No Gas	50.253	ug/l	82421.86
Na	23	45	3	He	39084.748	ug/l	20449071.64
Mg	24	45	3	He	10103.361	ug/l	2983500.89
Al	27	45	1	No Gas	31.470	ug/l	410713.54
Si	28	45	2	H2	24620.520	ug/l	36387490.82
K	39	72	3	He	1699.187	ug/l	700370.62
Ca	40	72	2	H2	8617.311	ug/l	46685168.94
Ti	47	72	1	No Gas	4.360	ug/l	6609.84
V	51	72	1	No Gas	0.950	ug/l	-3902.08
V	51	72	3	He	3.955	ug/l	22549.63
Cr	52	72	1	No Gas	1.467	ug/l	81009.81
Cr	52	72	3	He	0.307	ug/l	1826.79
Mn	55	72	1	No Gas	477.831	ug/l	10469354.06
Mn	55	72	3	He	469.442	ug/l	1023389.51
Fe	56	72	2	H2	470.020	ug/l	5177176.27
Fe	56	72	3	He	454.941	ug/l	1291149.25
Co	59	72	1	No Gas	0.482	ug/l	9311.19
Ni	60	72	1	No Gas	0.896	ug/l	4458.51
Ni	60	72	3	He	0.969	ug/l	1235.62
Cu	63	72	1	No Gas	3.664	ug/l	42557.46
Cu	63	72	3	He	4.542	ug/l	15587.19
Cu	65	72	1	No Gas	3.489	ug/l	18913.27
Zn	66	72	1	No Gas	5.783	ug/l	28421.36
Zn	66	72	3	He	5.991	ug/l	6271.40
As	75	72	1	No Gas	3.653	ug/l	26030.14
As	75	72	3	He	0.607	ug/l	781.34
Se	78	72	2	H2	0.054	ug/l	47.22
Br	79	72	1	No Gas	3.627	ug/l	31051.99
Br	79	72	2	H2	3.424	ug/l	17006.31
Se	82	72	1	No Gas	-0.193	ug/l	528.08
Kr	84	72	1	No Gas		ug/l	28895.02
Sr	88	72	1	No Gas	71.547	ug/l	1855838.93
Sr	88	72	3	He	65.736	ug/l	212744.01
Mo	95	115	1	No Gas	0.282	ug/l	1642.33
Mo	95	115	3	He	0.315	ug/l	591.13
Mo	98	115	1	No Gas	0.256	ug/l	2391.47
Ag	107	115	1	No Gas	-0.031	ug/l	660.28
Ag	109	115	1	No Gas	-0.029	ug/l	652.28
Cd	111	115	1	No Gas	0.048	ug/l	154.82

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.038	ug/l	42.44
Cd	114	115	1	No Gas	0.047	ug/l	264.58
Cd	114	115	3	He	0.036	ug/l	97.90
Sn	118	115	1	No Gas	0.239	ug/l	3150.79
Sn	118	115	3	He	0.251	ug/l	843.37
Sb	121	115	1	No Gas	1.073	ug/l	15750.74
Sb	121	115	3	He	1.080	ug/l	4035.99
Sb	123	115	1	No Gas	1.083	ug/l	12111.78
Sb	123	115	3	He	1.110	ug/l	3244.70
Ba	135	115	1	No Gas	4.621	ug/l	13040.38
Ba	137	115	1	No Gas	4.523	ug/l	22280.56
La	139	115	3	He	0.023	ug/l	288.89
Ce	140	115	3	He	0.094	ug/l	1236.73
Hg	201	209	1	No Gas	0.049	ug/l	174.97
Hg	202	209	1	No Gas	0.198	ug/l	1114.49
Hg	202	209	3	He	0.189	ug/l	437.59
Tl	203	209	3	He	0.035	ug/l	270.11
Tl	205	209	1	No Gas	0.032	ug/l	1422.31
Tl	205	209	3	He	0.040	ug/l	692.96
[Pb]	206	209	1	No Gas	0.034	ug/l	1164.50
[Pb]	207	209	1	No Gas	0.037	ug/l	1030.05
Pb	208	209	1	No Gas	0.037	ug/l	4809.28
Th	232	209	3	He	0.111	ug/l	1759.50
U	238	209	1	No Gas	0.015	ug/l	519.58

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3392372.95	73.6
Sc	45	2	H2	1829421.19	77.0
Sc	45	3	He	201231.05	68.2
Ge	72	1	No Gas	936657.21	83.6
Ge	72	2	H2	645979.89	81.1
Ge	72	3	He	133310.57	75.1
In	115	1	No Gas	6742883.89	88.4
In	115	3	He	1359799.68	78.9
Tb	159	1	No Gas	8554137.48	97.6
Tb	159	3	He	3416098.74	94.0
Ho	165	1	No Gas	8260456.20	99.4
Ho	165	3	He	3317779.75	93.0
Lu	175	1	No Gas	8245152.83	103.7
Lu	175	3	He	2750599.83	91.0
Bi	209	1	No Gas	6049450.13	103.1
Bi	209	3	He	2209514.92	91.2

ICPMS207-B Analytical Data

Sample Name B22020962-011A
File Name 061SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 18:30:02
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	15.883	ug/l	137140.26
Be	9	45	1	No Gas	-0.046	ug/l	67.32
B	11	45	1	No Gas	40.604	ug/l	88603.82
Na	23	45	3	He	46405.554	ug/l	33583494.50
Mg	24	45	3	He	9731.295	ug/l	3976555.25
Al	27	45	1	No Gas	9.219	ug/l	167294.75
Si	28	45	2	H2	20946.660	ug/l	38597994.31
K	39	72	3	He	7957.677	ug/l	3827707.41
Ca	40	72	2	H2	10911.514	ug/l	71391390.54
Ti	47	72	1	No Gas	1.748	ug/l	3340.56
V	51	72	1	No Gas	18.933	ug/l	355526.37
V	51	72	3	He	13.729	ug/l	65922.68
Cr	52	72	1	No Gas	1.451	ug/l	96786.53
Cr	52	72	3	He	2.935	ug/l	13168.18
Mn	55	72	1	No Gas	1.917	ug/l	56363.25
Mn	55	72	3	He	1.808	ug/l	5227.89
Fe	56	72	2	H2	9.616	ug/l	135012.21
Fe	56	72	3	He	8.535	ug/l	36931.98
Co	59	72	1	No Gas	0.057	ug/l	1876.41
Ni	60	72	1	No Gas	0.309	ug/l	2481.97
Ni	60	72	3	He	0.386	ug/l	704.47
Cu	63	72	1	No Gas	0.853	ug/l	17522.22
Cu	63	72	3	He	0.608	ug/l	4513.47
Cu	65	72	1	No Gas	0.670	ug/l	6836.36
Zn	66	72	1	No Gas	15.818	ug/l	75192.71
Zn	66	72	3	He	15.059	ug/l	16963.28
As	75	72	1	No Gas	1.798	ug/l	20760.57
As	75	72	3	He	1.358	ug/l	1740.67
Se	78	72	2	H2	0.144	ug/l	106.11
Br	79	72	1	No Gas	13.446	ug/l	109912.38
Br	79	72	2	H2	13.217	ug/l	63172.44
Se	82	72	1	No Gas	-0.038	ug/l	679.01
Kr	84	72	1	No Gas		ug/l	36570.56
Sr	88	72	1	No Gas	85.161	ug/l	2645316.13
Sr	88	72	3	He	73.500	ug/l	310104.29
Mo	95	115	1	No Gas	0.266	ug/l	1813.46
Mo	95	115	3	He	0.260	ug/l	607.79
Mo	98	115	1	No Gas	0.260	ug/l	2837.60
Ag	107	115	1	No Gas	-0.060	ug/l	264.78
Ag	109	115	1	No Gas	-0.060	ug/l	241.43
Cd	111	115	1	No Gas	0.020	ug/l	72.27

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.012	ug/l	20.11
Cd	114	115	1	No Gas	0.028	ug/l	140.54
Cd	114	115	3	He	0.011	ug/l	44.33
Sn	118	115	1	No Gas	0.597	ug/l	8009.79
Sn	118	115	3	He	0.638	ug/l	2304.65
Sb	121	115	1	No Gas	2.084	ug/l	35526.64
Sb	121	115	3	He	2.080	ug/l	9638.27
Sb	123	115	1	No Gas	2.096	ug/l	27228.77
Sb	123	115	3	He	2.055	ug/l	7447.73
Ba	135	115	1	No Gas	11.413	ug/l	37553.16
Ba	137	115	1	No Gas	11.149	ug/l	64037.99
La	139	115	3	He	0.004	ug/l	77.78
Ce	140	115	3	He	0.013	ug/l	221.11
Hg	201	209	1	No Gas	0.020	ug/l	132.31
Hg	202	209	1	No Gas	0.031	ug/l	394.93
Hg	202	209	3	He	0.045	ug/l	191.30
Tl	203	209	3	He	0.025	ug/l	260.11
Tl	205	209	1	No Gas	0.013	ug/l	1053.38
Tl	205	209	3	He	0.024	ug/l	606.26
[Pb]	206	209	1	No Gas	-0.015	ug/l	808.92
[Pb]	207	209	1	No Gas	-0.023	ug/l	633.35
Pb	208	209	1	No Gas	-0.020	ug/l	3085.72
Th	232	209	3	He	0.005	ug/l	189.41
U	238	209	1	No Gas	0.095	ug/l	3631.45

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4499421.64	97.6
Sc	45	2	H2	2280810.29	96.0
Sc	45	3	He	278459.90	94.3
Ge	72	1	No Gas	1122406.10	100.2
Ge	72	2	H2	780487.06	97.9
Ge	72	3	He	173871.30	97.9
In	115	1	No Gas	7866609.04	103.2
In	115	3	He	1691580.86	98.1
Tb	159	1	No Gas	9963484.28	113.7
Tb	159	3	He	3985444.00	109.7
Ho	165	1	No Gas	9756492.61	117.4
Ho	165	3	He	3946921.86	110.7
Lu	175	1	No Gas	9509472.58	119.6
Lu	175	3	He	3192801.83	105.7
Bi	209	1	No Gas	6818658.39	116.2
Bi	209	3	He	2581524.50	106.5

ICPMS207-B Analytical Data

Sample Name B22020962-011B
File Name 062SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 18:36:17
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	18.721	ug/l	121942.87
Be	9	45	1	No Gas	-0.028	ug/l	101.31
B	11	45	1	No Gas	36.699	ug/l	61626.41
Na	23	45	3	He	51697.549	ug/l	26641786.55
Mg	24	45	3	He	9840.263	ug/l	2864604.04
Al	27	45	1	No Gas	275.453	ug/l	3610146.68
Si	28	45	2	H2	21230.339	ug/l	30161041.39
K	39	72	3	He	10428.713	ug/l	3802097.27
Ca	40	72	2	H2	11673.427	ug/l	62760076.20
Ti	47	72	1	No Gas	20.391	ug/l	28871.97
V	51	72	1	No Gas	15.931	ug/l	235985.65
V	51	72	3	He	20.215	ug/l	68864.00
Cr	52	72	1	No Gas	6.866	ug/l	162570.68
Cr	52	72	3	He	5.534	ug/l	18204.70
Mn	55	72	1	No Gas	9.244	ug/l	199068.85
Mn	55	72	3	He	8.047	ug/l	17537.66
Fe	56	72	2	H2	552.381	ug/l	6043121.45
Fe	56	72	3	He	526.840	ug/l	1488633.53
Co	59	72	1	No Gas	0.415	ug/l	7763.38
Ni	60	72	1	No Gas	2.113	ug/l	9021.62
Ni	60	72	3	He	2.163	ug/l	2649.15
Cu	63	72	1	No Gas	9.530	ug/l	96894.40
Cu	63	72	3	He	10.205	ug/l	32903.70
Cu	65	72	1	No Gas	9.327	ug/l	44432.12
Zn	66	72	1	No Gas	474.342	ug/l	1567033.61
Zn	66	72	3	He	453.994	ug/l	337529.70
As	75	72	1	No Gas	2.828	ug/l	21284.76
As	75	72	3	He	1.668	ug/l	1556.98
Se	78	72	2	H2	0.201	ug/l	112.67
Br	79	72	1	No Gas	5.721	ug/l	42191.67
Br	79	72	2	H2	5.154	ug/l	23082.73
Se	82	72	1	No Gas	0.881	ug/l	766.88
Kr	84	72	1	No Gas		ug/l	36840.92
Sr	88	72	1	No Gas	123.156	ug/l	3064759.62
Sr	88	72	3	He	107.449	ug/l	346083.87
Mo	95	115	1	No Gas	0.523	ug/l	2967.00
Mo	95	115	3	He	0.577	ug/l	1018.93
Mo	98	115	1	No Gas	0.529	ug/l	4791.89
Ag	107	115	1	No Gas	0.355	ug/l	6274.59
Ag	109	115	1	No Gas	0.369	ug/l	6145.16
Cd	111	115	1	No Gas	0.070	ug/l	225.32

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.055	ug/l	56.67
Cd	114	115	1	No Gas	0.041	ug/l	217.08
Cd	114	115	3	He	0.015	ug/l	42.52
Sn	118	115	1	No Gas	9.162	ug/l	93676.36
Sn	118	115	3	He	10.151	ug/l	25281.74
Sb	121	115	1	No Gas	7.528	ug/l	107385.18
Sb	121	115	3	He	7.880	ug/l	27727.74
Sb	123	115	1	No Gas	7.549	ug/l	82047.62
Sb	123	115	3	He	7.877	ug/l	21660.89
Ba	135	115	1	No Gas	32.635	ug/l	90075.09
Ba	137	115	1	No Gas	32.335	ug/l	155830.35
La	139	115	3	He	0.164	ug/l	1953.48
Ce	140	115	3	He	0.366	ug/l	4554.11
Hg	201	209	1	No Gas	0.048	ug/l	172.63
Hg	202	209	1	No Gas	0.063	ug/l	495.58
Hg	202	209	3	He	0.086	ug/l	243.95
Tl	203	209	3	He	0.022	ug/l	208.08
Tl	205	209	1	No Gas	0.017	ug/l	1016.71
Tl	205	209	3	He	0.021	ug/l	494.88
[Pb]	206	209	1	No Gas	0.604	ug/l	6307.10
[Pb]	207	209	1	No Gas	0.581	ug/l	5308.88
Pb	208	209	1	No Gas	0.592	ug/l	24752.55
Th	232	209	3	He	0.100	ug/l	1600.08
U	238	209	1	No Gas	0.106	ug/l	3576.78

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3461262.98	75.0
Sc	45	2	H2	1758531.41	74.0
Sc	45	3	He	198368.29	67.2
Ge	72	1	No Gas	898498.42	80.2
Ge	72	2	H2	641467.81	80.5
Ge	72	3	He	132774.10	74.8
In	115	1	No Gas	6601250.07	86.6
In	115	3	He	1288205.59	74.7
Tb	159	1	No Gas	8345592.49	95.2
Tb	159	3	He	3270162.26	90.0
Ho	165	1	No Gas	8208462.24	98.7
Ho	165	3	He	3258905.12	91.4
Lu	175	1	No Gas	8281015.62	104.1
Lu	175	3	He	2615589.12	86.6
Bi	209	1	No Gas	6058300.12	103.3
Bi	209	3	He	2233229.91	92.1

ICPMS207-B Analytical Data

Sample Name B22020962-016A
File Name 063SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 18:43:55
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.654	ug/l	29653.28
Be	9	45	1	No Gas	-0.048	ug/l	63.32
B	11	45	1	No Gas	42.922	ug/l	94532.20
Na	23	45	3	He	47596.546	ug/l	33343041.73
Mg	24	45	3	He	19789.866	ug/l	7824895.83
Al	27	45	1	No Gas	0.877	ug/l	25540.61
Si	28	45	2	H2	19849.333	ug/l	36452186.70
K	39	72	3	He	2413.561	ug/l	1235990.15
Ca	40	72	2	H2	19665.325	ug/l	130125245.66
Ti	47	72	1	No Gas	1.280	ug/l	2492.73
V	51	72	1	No Gas	16.130	ug/l	297270.62
V	51	72	3	He	11.664	ug/l	57755.42
Cr	52	72	1	No Gas	-0.006	ug/l	67637.97
Cr	52	72	3	He	1.863	ug/l	8699.29
Mn	55	72	1	No Gas	0.634	ug/l	22529.16
Mn	55	72	3	He	0.671	ug/l	1982.41
Fe	56	72	2	H2	0.482	ug/l	13765.33
Fe	56	72	3	He	0.415	ug/l	6928.63
Co	59	72	1	No Gas	0.024	ug/l	1147.77
Ni	60	72	1	No Gas	0.146	ug/l	1673.45
Ni	60	72	3	He	0.186	ug/l	390.01
Cu	63	72	1	No Gas	0.054	ug/l	7933.34
Cu	63	72	3	He	-0.185	ug/l	1316.46
Cu	65	72	1	No Gas	-0.091	ug/l	2543.25
Zn	66	72	1	No Gas	-0.470	ug/l	8325.95
Zn	66	72	3	He	-0.637	ug/l	1749.00
As	75	72	1	No Gas	0.215	ug/l	11816.24
As	75	72	3	He	-0.303	ug/l	143.07
Se	78	72	2	H2	0.257	ug/l	169.66
Br	79	72	1	No Gas	38.282	ug/l	291442.12
Br	79	72	2	H2	36.608	ug/l	166994.27
Se	82	72	1	No Gas	0.226	ug/l	753.82
Kr	84	72	1	No Gas		ug/l	51887.10
Sr	88	72	1	No Gas	168.041	ug/l	5179873.62
Sr	88	72	3	He	144.823	ug/l	605802.41
Mo	95	115	1	No Gas	0.267	ug/l	1845.68
Mo	95	115	3	He	0.311	ug/l	715.58
Mo	98	115	1	No Gas	0.274	ug/l	3040.00
Ag	107	115	1	No Gas	-0.066	ug/l	160.07
Ag	109	115	1	No Gas	-0.066	ug/l	150.06
Cd	111	115	1	No Gas	0.022	ug/l	78.66

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.012	ug/l	19.11
Cd	114	115	1	No Gas	0.026	ug/l	133.07
Cd	114	115	3	He	0.013	ug/l	51.02
Sn	118	115	1	No Gas	-0.042	ug/l	286.10
Sn	118	115	3	He	-0.053	ug/l	61.11
Sb	121	115	1	No Gas	0.022	ug/l	545.40
Sb	121	115	3	He	0.026	ug/l	157.02
Sb	123	115	1	No Gas	0.024	ug/l	445.39
Sb	123	115	3	He	0.022	ug/l	111.34
Ba	135	115	1	No Gas	7.064	ug/l	23643.38
Ba	137	115	1	No Gas	7.167	ug/l	41890.24
La	139	115	3	He	0.001	ug/l	16.67
Ce	140	115	3	He	0.001	ug/l	21.11
Hg	201	209	1	No Gas	0.025	ug/l	144.30
Hg	202	209	1	No Gas	0.017	ug/l	321.27
Hg	202	209	3	He	0.040	ug/l	173.64
Tl	203	209	3	He	0.012	ug/l	179.41
Tl	205	209	1	No Gas	0.003	ug/l	754.47
Tl	205	209	3	He	0.014	ug/l	457.53
[Pb]	206	209	1	No Gas	-0.024	ug/l	724.47
[Pb]	207	209	1	No Gas	-0.023	ug/l	641.13
Pb	208	209	1	No Gas	-0.029	ug/l	2760.13
Th	232	209	3	He	0.002	ug/l	136.05
U	238	209	1	No Gas	0.028	ug/l	1092.50

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4545437.52	98.6
Sc	45	2	H2	2273069.59	95.7
Sc	45	3	He	269671.61	91.3
Ge	72	1	No Gas	1113420.06	99.4
Ge	72	2	H2	790101.27	99.1
Ge	72	3	He	172475.22	97.1
In	115	1	No Gas	8000975.54	104.9
In	115	3	He	1670293.22	96.9
Tb	159	1	No Gas	9975176.91	113.8
Tb	159	3	He	3907472.57	107.5
Ho	165	1	No Gas	9685358.66	116.5
Ho	165	3	He	3892376.22	109.1
Lu	175	1	No Gas	9593840.17	120.6
Lu	175	3	He	3215309.62	106.4
Bi	209	1	No Gas	6852266.67	116.8
Bi	209	3	He	2510719.22	103.6

ICPMS207-B Analytical Data

Sample Name B22020962-016B
File Name 064SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 18:50:10
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	4.497	ug/l	38725.28
Be	9	45	1	No Gas	-0.036	ug/l	78.65
B	11	45	1	No Gas	38.240	ug/l	63526.65
Na	23	45	3	He	47512.384	ug/l	23756520.76
Mg	24	45	3	He	19646.182	ug/l	5546403.84
Al	27	45	1	No Gas	2.431	ug/l	39365.34
Si	28	45	2	H2	17187.062	ug/l	24722426.40
K	39	72	3	He	2314.917	ug/l	895203.05
Ca	40	72	2	H2	19445.832	ug/l	103702334.52
Ti	47	72	1	No Gas	1.266	ug/l	2013.84
V	51	72	1	No Gas	17.157	ug/l	258261.50
V	51	72	3	He	18.026	ug/l	61172.90
Cr	52	72	1	No Gas	3.230	ug/l	106424.59
Cr	52	72	3	He	2.026	ug/l	7036.18
Mn	55	72	1	No Gas	1.531	ug/l	37367.01
Mn	55	72	3	He	0.772	ug/l	1704.76
Fe	56	72	2	H2	2.123	ug/l	28892.51
Fe	56	72	3	He	2.141	ug/l	9960.22
Co	59	72	1	No Gas	0.134	ug/l	2874.59
Ni	60	72	1	No Gas	0.275	ug/l	1869.75
Ni	60	72	3	He	0.219	ug/l	331.12
Cu	63	72	1	No Gas	3.029	ug/l	35146.57
Cu	63	72	3	He	3.313	ug/l	11480.88
Cu	65	72	1	No Gas	2.936	ug/l	15825.67
Zn	66	72	1	No Gas	4.617	ug/l	23658.78
Zn	66	72	3	He	4.111	ug/l	4745.25
As	75	72	1	No Gas	1.318	ug/l	14644.03
As	75	72	3	He	0.175	ug/l	450.27
Se	78	72	2	H2	0.310	ug/l	160.33
Br	79	72	1	No Gas	7.418	ug/l	52745.36
Br	79	72	2	H2	6.611	ug/l	28085.20
Se	82	72	1	No Gas	0.245	ug/l	618.74
Kr	84	72	1	No Gas		ug/l	44420.59
Sr	88	72	1	No Gas	171.195	ug/l	4300166.03
Sr	88	72	3	He	149.321	ug/l	469736.25
Mo	95	115	1	No Gas	0.390	ug/l	2186.85
Mo	95	115	3	He	0.440	ug/l	790.03
Mo	98	115	1	No Gas	0.384	ug/l	3440.09
Ag	107	115	1	No Gas	-0.065	ug/l	148.73
Ag	109	115	1	No Gas	-0.064	ug/l	150.06
Cd	111	115	1	No Gas	0.036	ug/l	108.60

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.034	ug/l	36.56
Cd	114	115	1	No Gas	0.044	ug/l	234.03
Cd	114	115	3	He	0.036	ug/l	92.99
Sn	118	115	1	No Gas	0.221	ug/l	2861.29
Sn	118	115	3	He	0.236	ug/l	770.03
Sb	121	115	1	No Gas	0.049	ug/l	823.78
Sb	121	115	3	He	0.051	ug/l	208.69
Sb	123	115	1	No Gas	0.053	ug/l	665.08
Sb	123	115	3	He	0.058	ug/l	186.69
Ba	135	115	1	No Gas	7.340	ug/l	19955.04
Ba	137	115	1	No Gas	7.334	ug/l	34844.86
La	139	115	3	He	0.001	ug/l	18.89
Ce	140	115	3	He	0.002	ug/l	28.89
Hg	201	209	1	No Gas	0.048	ug/l	168.30
Hg	202	209	1	No Gas	0.039	ug/l	374.93
Hg	202	209	3	He	0.058	ug/l	190.63
Tl	203	209	3	He	0.020	ug/l	199.42
Tl	205	209	1	No Gas	0.014	ug/l	920.04
Tl	205	209	3	He	0.015	ug/l	418.84
[Pb]	206	209	1	No Gas	-0.024	ug/l	618.91
[Pb]	207	209	1	No Gas	-0.025	ug/l	532.24
Pb	208	209	1	No Gas	-0.025	ug/l	2496.78
Th	232	209	3	He	0.037	ug/l	647.61
U	238	209	1	No Gas	0.029	ug/l	957.18

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3423623.21	74.2
Sc	45	2	H2	1780250.33	74.9
Sc	45	3	He	192420.33	65.2
Ge	72	1	No Gas	906898.14	81.0
Ge	72	2	H2	636743.95	79.9
Ge	72	3	He	129698.37	73.0
In	115	1	No Gas	6503884.13	85.3
In	115	3	He	1304533.36	75.7
Tb	159	1	No Gas	8366436.66	95.5
Tb	159	3	He	3325275.71	91.5
Ho	165	1	No Gas	8172988.95	98.3
Ho	165	3	He	3283799.88	92.1
Lu	175	1	No Gas	8131933.11	102.2
Lu	175	3	He	2689149.21	89.0
Bi	209	1	No Gas	5873861.79	100.1
Bi	209	3	He	2232207.07	92.1

ICPMS207-B Analytical Data

Sample Name B22020962-021A
File Name 065SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 18:56:25
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.721	ug/l	29026.51
Be	9	45	1	No Gas	-0.046	ug/l	66.32
B	11	45	1	No Gas	45.151	ug/l	95631.92
Na	23	45	3	He	51849.157	ug/l	35420228.08
Mg	24	45	3	He	20309.557	ug/l	7835202.30
Al	27	45	1	No Gas	1.951	ug/l	42352.23
Si	28	45	2	H2	20491.443	ug/l	37274323.20
K	39	72	3	He	2393.059	ug/l	1216342.31
Ca	40	72	2	H2	20289.752	ug/l	134167481.09
Ti	47	72	1	No Gas	1.295	ug/l	2522.77
V	51	72	1	No Gas	19.225	ug/l	358815.31
V	51	72	3	He	11.733	ug/l	57520.07
Cr	52	72	1	No Gas	0.002	ug/l	67942.56
Cr	52	72	3	He	1.795	ug/l	8350.19
Mn	55	72	1	No Gas	1.371	ug/l	41760.25
Mn	55	72	3	He	1.402	ug/l	4007.75
Fe	56	72	2	H2	2.683	ug/l	43355.83
Fe	56	72	3	He	2.521	ug/l	14508.49
Co	59	72	1	No Gas	0.017	ug/l	1004.71
Ni	60	72	1	No Gas	0.181	ug/l	1846.46
Ni	60	72	3	He	0.190	ug/l	393.34
Cu	63	72	1	No Gas	0.028	ug/l	7641.74
Cu	63	72	3	He	-0.212	ug/l	1199.14
Cu	65	72	1	No Gas	-0.122	ug/l	2374.48
Zn	66	72	1	No Gas	-0.051	ug/l	10033.65
Zn	66	72	3	He	-0.144	ug/l	2204.63
As	75	72	1	No Gas	0.488	ug/l	13385.17
As	75	72	3	He	-0.302	ug/l	143.20
Se	78	72	2	H2	0.281	ug/l	183.00
Br	79	72	1	No Gas	45.161	ug/l	342535.34
Br	79	72	2	H2	43.636	ug/l	197848.77
Se	82	72	1	No Gas	0.860	ug/l	946.90
Kr	84	72	1	No Gas		ug/l	51583.56
Sr	88	72	1	No Gas	170.021	ug/l	5249470.00
Sr	88	72	3	He	149.868	ug/l	621356.42
Mo	95	115	1	No Gas	0.284	ug/l	1935.70
Mo	95	115	3	He	0.320	ug/l	728.91
Mo	98	115	1	No Gas	0.285	ug/l	3108.42
Ag	107	115	1	No Gas	-0.067	ug/l	150.06
Ag	109	115	1	No Gas	-0.065	ug/l	164.07
Cd	111	115	1	No Gas	0.020	ug/l	69.16

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.013	ug/l	20.89
Cd	114	115	1	No Gas	0.027	ug/l	135.47
Cd	114	115	3	He	0.013	ug/l	49.95
Sn	118	115	1	No Gas	-0.042	ug/l	279.45
Sn	118	115	3	He	-0.052	ug/l	63.33
Sb	121	115	1	No Gas	0.015	ug/l	420.05
Sb	121	115	3	He	0.017	ug/l	110.68
Sb	123	115	1	No Gas	0.017	ug/l	345.37
Sb	123	115	3	He	0.016	ug/l	89.01
Ba	135	115	1	No Gas	7.916	ug/l	26059.45
Ba	137	115	1	No Gas	8.034	ug/l	46175.62
La	139	115	3	He	0.001	ug/l	22.22
Ce	140	115	3	He	0.001	ug/l	34.44
Hg	201	209	1	No Gas	0.026	ug/l	141.64
Hg	202	209	1	No Gas	0.010	ug/l	275.28
Hg	202	209	3	He	0.035	ug/l	162.30
Tl	203	209	3	He	0.008	ug/l	158.07
Tl	205	209	1	No Gas	0.000	ug/l	652.24
Tl	205	209	3	He	0.006	ug/l	354.81
[Pb]	206	209	1	No Gas	0.006	ug/l	1002.27
[Pb]	207	209	1	No Gas	-0.006	ug/l	764.47
Pb	208	209	1	No Gas	-0.003	ug/l	3701.34
Th	232	209	3	He	0.000	ug/l	107.38
U	238	209	1	No Gas	0.027	ug/l	1026.50

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4372571.74	94.8
Sc	45	2	H2	2251459.01	94.8
Sc	45	3	He	262927.53	89.1
Ge	72	1	No Gas	1115587.21	99.6
Ge	72	2	H2	789745.58	99.1
Ge	72	3	He	171031.32	96.3
In	115	1	No Gas	7868138.25	103.2
In	115	3	He	1649691.43	95.7
Tb	159	1	No Gas	9791384.58	111.7
Tb	159	3	He	3915668.11	107.8
Ho	165	1	No Gas	9608608.48	115.6
Ho	165	3	He	3801209.43	106.6
Lu	175	1	No Gas	9400276.61	118.2
Lu	175	3	He	3117532.16	103.2
Bi	209	1	No Gas	6651125.08	113.4
Bi	209	3	He	2497867.50	103.1

ICPMS207-B Analytical Data

Sample Name B22020962-021B
File Name 066SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 19:02:39
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	4.745	ug/l	38361.59
Be	9	45	1	No Gas	-0.034	ug/l	80.65
B	11	45	1	No Gas	41.347	ug/l	65564.18
Na	23	45	3	He	50650.236	ug/l	24980791.57
Mg	24	45	3	He	20805.287	ug/l	5793481.36
Al	27	45	1	No Gas	3.039	ug/l	45126.96
Si	28	45	2	H2	19442.585	ug/l	27984106.66
K	39	72	3	He	2227.613	ug/l	842833.92
Ca	40	72	2	H2	20025.349	ug/l	106441460.21
Ti	47	72	1	No Gas	1.356	ug/l	2108.95
V	51	72	1	No Gas	18.529	ug/l	275651.52
V	51	72	3	He	18.661	ug/l	61298.07
Cr	52	72	1	No Gas	3.468	ug/l	108566.39
Cr	52	72	3	He	1.969	ug/l	6681.57
Mn	55	72	1	No Gas	2.165	ug/l	50065.98
Mn	55	72	3	He	1.450	ug/l	3059.38
Fe	56	72	2	H2	3.515	ug/l	43859.71
Fe	56	72	3	He	3.352	ug/l	12945.41
Co	59	72	1	No Gas	0.135	ug/l	2854.63
Ni	60	72	1	No Gas	0.275	ug/l	1843.14
Ni	60	72	3	He	0.229	ug/l	333.34
Cu	63	72	1	No Gas	2.789	ug/l	32354.22
Cu	63	72	3	He	3.141	ug/l	10675.10
Cu	65	72	1	No Gas	2.619	ug/l	14175.28
Zn	66	72	1	No Gas	4.692	ug/l	23538.30
Zn	66	72	3	He	4.440	ug/l	4850.84
As	75	72	1	No Gas	2.296	ug/l	18839.49
As	75	72	3	He	0.195	ug/l	452.93
Se	78	72	2	H2	0.358	ug/l	181.00
Br	79	72	1	No Gas	9.427	ug/l	63780.73
Br	79	72	2	H2	8.582	ug/l	34969.76
Se	82	72	1	No Gas	0.410	ug/l	648.34
Kr	84	72	1	No Gas		ug/l	43876.80
Sr	88	72	1	No Gas	176.019	ug/l	4354062.61
Sr	88	72	3	He	158.041	ug/l	484035.44
Mo	95	115	1	No Gas	0.315	ug/l	1809.02
Mo	95	115	3	He	0.372	ug/l	671.13
Mo	98	115	1	No Gas	0.320	ug/l	2934.91
Ag	107	115	1	No Gas	-0.067	ug/l	124.72
Ag	109	115	1	No Gas	-0.066	ug/l	130.05
Cd	111	115	1	No Gas	0.043	ug/l	134.79

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.033	ug/l	35.44
Cd	114	115	1	No Gas	0.042	ug/l	226.71
Cd	114	115	3	He	0.034	ug/l	88.73
Sn	118	115	1	No Gas	0.181	ug/l	2508.60
Sn	118	115	3	He	0.181	ug/l	635.58
Sb	121	115	1	No Gas	0.038	ug/l	672.75
Sb	121	115	3	He	0.049	ug/l	203.35
Sb	123	115	1	No Gas	0.044	ug/l	585.07
Sb	123	115	3	He	0.048	ug/l	158.69
Ba	135	115	1	No Gas	8.442	ug/l	23460.01
Ba	137	115	1	No Gas	8.227	ug/l	39918.48
La	139	115	3	He	0.002	ug/l	25.56
Ce	140	115	3	He	0.002	ug/l	37.78
Hg	201	209	1	No Gas	0.045	ug/l	161.64
Hg	202	209	1	No Gas	0.040	ug/l	377.60
Hg	202	209	3	He	0.058	ug/l	183.30
Tl	203	209	3	He	0.015	ug/l	171.40
Tl	205	209	1	No Gas	0.009	ug/l	785.59
Tl	205	209	3	He	0.012	ug/l	377.49
[Pb]	206	209	1	No Gas	-0.026	ug/l	604.46
[Pb]	207	209	1	No Gas	-0.032	ug/l	481.12
Pb	208	209	1	No Gas	-0.029	ug/l	2344.55
Th	232	209	3	He	0.031	ug/l	546.23
U	238	209	1	No Gas	0.028	ug/l	942.51

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3270304.34	70.9
Sc	45	2	H2	1781407.02	75.0
Sc	45	3	He	189803.84	64.3
Ge	72	1	No Gas	893470.38	79.8
Ge	72	2	H2	634881.73	79.7
Ge	72	3	He	126334.97	71.1
In	115	1	No Gas	6642008.28	87.1
In	115	3	He	1310193.80	76.0
Tb	159	1	No Gas	8187250.55	93.4
Tb	159	3	He	3325142.05	91.5
Ho	165	1	No Gas	8258049.79	99.3
Ho	165	3	He	3266308.64	91.6
Lu	175	1	No Gas	8230646.55	103.5
Lu	175	3	He	2614405.33	86.5
Bi	209	1	No Gas	5875516.90	100.1
Bi	209	3	He	2153322.72	88.8

ICPMS207-B Analytical Data

Sample Name B22020962-026A
File Name 067SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 19:08:53
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.611	ug/l	28860.79
Be	9	45	1	No Gas	-0.039	ug/l	92.31
B	11	45	1	No Gas	51.147	ug/l	110664.51
Na	23	45	3	He	57381.391	ug/l	40091847.46
Mg	24	45	3	He	21689.435	ug/l	8559125.20
Al	27	45	1	No Gas	200.787	ug/l	3405562.48
Si	28	45	2	H2	19620.034	ug/l	35446358.06
K	39	72	3	He	2560.119	ug/l	1284762.42
Ca	40	72	2	H2	29002.175	ug/l	193037707.58
Ti	47	72	1	No Gas	12.062	ug/l	21511.38
V	51	72	1	No Gas	12.687	ug/l	231475.00
V	51	72	3	He	7.669	ug/l	42315.31
Cr	52	72	1	No Gas	-0.231	ug/l	63988.66
Cr	52	72	3	He	1.543	ug/l	7286.31
Mn	55	72	1	No Gas	66.370	ug/l	1753984.16
Mn	55	72	3	He	63.592	ug/l	176816.63
Fe	56	72	2	H2	738.692	ug/l	10008347.27
Fe	56	72	3	He	696.950	ug/l	2518834.53
Co	59	72	1	No Gas	0.425	ug/l	9940.38
Ni	60	72	1	No Gas	2.514	ug/l	13283.11
Ni	60	72	3	He	2.829	ug/l	4404.03
Cu	63	72	1	No Gas	3.607	ug/l	50552.83
Cu	63	72	3	He	3.425	ug/l	15481.77
Cu	65	72	1	No Gas	3.422	ug/l	22384.82
Zn	66	72	1	No Gas	22.344	ug/l	102391.03
Zn	66	72	3	He	21.506	ug/l	22692.26
As	75	72	1	No Gas	3.845	ug/l	32427.89
As	75	72	3	He	3.397	ug/l	3617.45
Se	78	72	2	H2	0.358	ug/l	226.89
Br	79	72	1	No Gas	41.940	ug/l	322165.90
Br	79	72	2	H2	39.547	ug/l	181116.95
Se	82	72	1	No Gas	0.713	ug/l	909.56
Kr	84	72	1	No Gas		ug/l	61569.53
Sr	88	72	1	No Gas	219.589	ug/l	6849444.83
Sr	88	72	3	He	195.819	ug/l	807169.72
Mo	95	115	1	No Gas	0.954	ug/l	6442.61
Mo	95	115	3	He	1.017	ug/l	2310.20
Mo	98	115	1	No Gas	0.961	ug/l	10362.88
Ag	107	115	1	No Gas	-0.063	ug/l	209.42
Ag	109	115	1	No Gas	-0.064	ug/l	183.41
Cd	111	115	1	No Gas	0.101	ug/l	390.21

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.096	ug/l	123.22
Cd	114	115	1	No Gas	0.103	ug/l	798.34
Cd	114	115	3	He	0.091	ug/l	283.45
Sn	118	115	1	No Gas	0.064	ug/l	1566.99
Sn	118	115	3	He	0.054	ug/l	403.34
Sb	121	115	1	No Gas	2.435	ug/l	41629.97
Sb	121	115	3	He	2.408	ug/l	10953.36
Sb	123	115	1	No Gas	2.444	ug/l	31837.21
Sb	123	115	3	He	2.385	ug/l	8481.08
Ba	135	115	1	No Gas	58.677	ug/l	193608.17
Ba	137	115	1	No Gas	57.709	ug/l	332501.06
La	139	115	3	He	0.159	ug/l	2430.23
Ce	140	115	3	He	0.381	ug/l	6112.50
Hg	201	209	1	No Gas	0.023	ug/l	137.97
Hg	202	209	1	No Gas	0.013	ug/l	295.28
Hg	202	209	3	He	0.032	ug/l	156.64
Tl	203	209	3	He	0.004	ug/l	136.72
Tl	205	209	1	No Gas	-0.001	ug/l	635.58
Tl	205	209	3	He	0.004	ug/l	330.14
[Pb]	206	209	1	No Gas	11.288	ug/l	115186.44
[Pb]	207	209	1	No Gas	10.777	ug/l	95646.64
Pb	208	209	1	No Gas	11.099	ug/l	450554.51
Th	232	209	3	He	0.025	ug/l	528.22
U	238	209	1	No Gas	0.061	ug/l	2327.08

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4473489.02	97.0
Sc	45	2	H2	2236037.22	94.1
Sc	45	3	He	269007.48	91.1
Ge	72	1	No Gas	1126440.86	100.6
Ge	72	2	H2	795439.14	99.8
Ge	72	3	He	169986.49	95.7
In	115	1	No Gas	7892043.02	103.5
In	115	3	He	1661106.71	96.3
Tb	159	1	No Gas	9968896.78	113.7
Tb	159	3	He	3860570.93	106.3
Ho	165	1	No Gas	9598473.86	115.5
Ho	165	3	He	3805171.26	106.7
Lu	175	1	No Gas	9590158.99	120.6
Lu	175	3	He	3154990.53	104.4
Bi	209	1	No Gas	6776742.49	115.5
Bi	209	3	He	2508267.12	103.5

ICPMS207-B Analytical Data

Sample Name CCV
File Name 068_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 19:15:07
Sample Type CCV
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	353.846	ug/l	2200731.49
Be	9	45	1	No Gas	32.261	ug/l	94019.33
B	11	45	1	No Gas	36.392	ug/l	64881.60
Na	23	45	3	He	12052.743	ug/l	6803082.19
Mg	24	45	3	He	11969.929	ug/l	3791972.56
Al	27	45	1	No Gas	43.011	ug/l	605505.61
Si	28	45	2	H2	228.658	ug/l	364463.81
K	39	72	3	He	10216.364	ug/l	4053159.97
Ca	40	72	2	H2	11209.240	ug/l	66257647.81
Ti	47	72	1	No Gas	46.224	ug/l	71701.26
V	51	72	1	No Gas	49.583	ug/l	852148.63
V	51	72	3	He	47.118	ug/l	158467.54
Cr	52	72	1	No Gas	46.444	ug/l	863429.95
Cr	52	72	3	He	47.900	ug/l	164253.46
Mn	55	72	1	No Gas	48.912	ug/l	1136292.56
Mn	55	72	3	He	46.662	ug/l	110269.62
Fe	56	72	2	H2	1268.604	ug/l	15244200.85
Fe	56	72	3	He	1226.670	ug/l	3765359.79
Co	59	72	1	No Gas	48.463	ug/l	931949.60
Ni	60	72	1	No Gas	48.970	ug/l	211171.62
Ni	60	72	3	He	49.440	ug/l	63990.63
Cu	63	72	1	No Gas	48.804	ug/l	519283.92
Cu	63	72	3	He	51.238	ug/l	172798.68
Cu	65	72	1	No Gas	48.975	ug/l	245180.27
Zn	66	72	1	No Gas	51.096	ug/l	193883.26
Zn	66	72	3	He	51.739	ug/l	43591.16
As	75	72	1	No Gas	51.733	ug/l	265678.54
As	75	72	3	He	48.711	ug/l	39238.96
Se	78	72	2	H2	50.983	ug/l	25080.68
Br	79	72	1	No Gas	1.122	ug/l	16423.54
Br	79	72	2	H2	0.917	ug/l	8708.72
Se	82	72	1	No Gas	51.828	ug/l	14368.31
Kr	84	72	1	No Gas		ug/l	27671.53
Sr	88	72	1	No Gas	54.317	ug/l	1487646.58
Sr	88	72	3	He	48.513	ug/l	170138.99
Mo	95	115	1	No Gas	48.345	ug/l	286432.27
Mo	95	115	3	He	51.082	ug/l	98365.36
Mo	98	115	1	No Gas	48.973	ug/l	463296.01
Ag	107	115	1	No Gas	19.613	ug/l	302531.36
Ag	109	115	1	No Gas	19.404	ug/l	283731.56
Cd	111	115	1	No Gas	49.695	ug/l	172466.57

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.252	ug/l	55103.49
Cd	114	115	1	No Gas	49.446	ug/l	379792.34
Cd	114	115	3	He	52.555	ug/l	133663.21
Sn	118	115	1	No Gas	43.328	ug/l	464481.83
Sn	118	115	3	He	45.339	ug/l	123189.66
Sb	121	115	1	No Gas	52.011	ug/l	780506.87
Sb	121	115	3	He	51.771	ug/l	199678.42
Sb	123	115	1	No Gas	51.905	ug/l	593456.70
Sb	123	115	3	He	52.883	ug/l	159432.82
Ba	135	115	1	No Gas	50.995	ug/l	148356.39
Ba	137	115	1	No Gas	51.034	ug/l	259171.23
La	139	115	3	He	52.036	ug/l	675887.35
Ce	140	115	3	He	52.242	ug/l	711005.36
Hg	201	209	1	No Gas	0.956	ug/l	2041.42
Hg	202	209	1	No Gas	0.944	ug/l	4669.23
Hg	202	209	3	He	0.988	ug/l	2036.42
Tl	203	209	3	He	48.412	ug/l	238163.48
Tl	205	209	1	No Gas	50.393	ug/l	1335669.72
Tl	205	209	3	He	49.083	ug/l	569242.52
[Pb]	206	209	1	No Gas	49.975	ug/l	463401.44
[Pb]	207	209	1	No Gas	49.696	ug/l	400537.62
Pb	208	209	1	No Gas	50.328	ug/l	1855898.79
Th	232	209	3	He	49.047	ug/l	763139.10
U	238	209	1	No Gas	51.647	ug/l	1783717.99

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3672559.77	79.6
Sc	45	2	H2	1928867.42	81.2
Sc	45	3	He	215827.65	73.1
Ge	72	1	No Gas	988846.87	88.3
Ge	72	2	H2	705061.08	88.5
Ge	72	3	He	144431.30	81.3
In	115	1	No Gas	6961061.95	91.3
In	115	3	He	1413229.85	82.0
Tb	159	1	No Gas	8768215.83	100.0
Tb	159	3	He	3488599.41	96.0
Ho	165	1	No Gas	8516324.62	102.4
Ho	165	3	He	3387961.02	95.0
Lu	175	1	No Gas	8266064.16	103.9
Lu	175	3	He	2729748.92	90.3
Bi	209	1	No Gas	6199581.50	105.7
Bi	209	3	He	2289745.79	94.5

ICPMS207-B Analytical Data

Sample Name CCB
File Name 069_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 19:21:22
Sample Type CCB
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	3.453	ug/l	33607.11
Be	9	45	1	No Gas	-0.041	ug/l	66.99
B	11	45	1	No Gas	0.500	ug/l	1664.76
Na	23	45	3	He	31.233	ug/l	70381.25
Mg	24	45	3	He	1.550	ug/l	1357.38
Al	27	45	1	No Gas	-0.080	ug/l	7052.80
Si	28	45	2	H2	15.504	ug/l	31486.44
K	39	72	3	He	-55.509	ug/l	75137.66
Ca	40	72	2	H2	-3.018	ug/l	116459.20
Ti	47	72	1	No Gas	0.012	ug/l	246.92
V	51	72	1	No Gas	1.745	ug/l	10812.12
V	51	72	3	He	0.970	ug/l	14265.94
Cr	52	72	1	No Gas	-0.161	ug/l	55132.11
Cr	52	72	3	He	0.045	ug/l	1018.93
Mn	55	72	1	No Gas	0.094	ug/l	7230.82
Mn	55	72	3	He	0.011	ug/l	95.98
Fe	56	72	2	H2	0.225	ug/l	9071.95
Fe	56	72	3	He	0.287	ug/l	5091.05
Co	59	72	1	No Gas	0.000	ug/l	532.29
Ni	60	72	1	No Gas	-0.103	ug/l	402.54
Ni	60	72	3	He	0.005	ug/l	86.67
Cu	63	72	1	No Gas	-0.204	ug/l	4164.94
Cu	63	72	3	He	-0.122	ug/l	1235.14
Cu	65	72	1	No Gas	-0.156	ug/l	1862.87
Zn	66	72	1	No Gas	0.146	ug/l	9246.64
Zn	66	72	3	He	0.140	ug/l	1966.81
As	75	72	1	No Gas	1.303	ug/l	15171.82
As	75	72	3	He	-0.115	ug/l	254.13
Se	78	72	2	H2	0.006	ug/l	27.67
Br	79	72	1	No Gas	0.502	ug/l	11911.37
Br	79	72	2	H2	0.359	ug/l	6425.35
Se	82	72	1	No Gas	-0.278	ug/l	516.74
Kr	84	72	1	No Gas		ug/l	17799.14
Sr	88	72	1	No Gas	0.000	ug/l	805.10
Sr	88	72	3	He	-0.008	ug/l	278.90
Mo	95	115	1	No Gas	0.030	ug/l	205.56
Mo	95	115	3	He	0.029	ug/l	61.11
Mo	98	115	1	No Gas	0.031	ug/l	351.74
Ag	107	115	1	No Gas	-0.003	ug/l	1141.17
Ag	109	115	1	No Gas	0.000	ug/l	1115.16
Cd	111	115	1	No Gas	0.015	ug/l	45.90

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.014	ug/l	17.78
Cd	114	115	1	No Gas	0.016	ug/l	36.63
Cd	114	115	3	He	0.012	ug/l	40.01
Sn	118	115	1	No Gas	0.030	ug/l	1041.31
Sn	118	115	3	He	0.035	ug/l	283.34
Sb	121	115	1	No Gas	0.142	ug/l	2314.09
Sb	121	115	3	He	0.112	ug/l	454.39
Sb	123	115	1	No Gas	0.151	ug/l	1876.32
Sb	123	115	3	He	0.117	ug/l	370.71
Ba	135	115	1	No Gas	0.005	ug/l	33.27
Ba	137	115	1	No Gas	0.001	ug/l	36.59
La	139	115	3	He	0.001	ug/l	18.89
Ce	140	115	3	He	0.000	ug/l	11.11
Hg	201	209	1	No Gas	0.004	ug/l	88.65
Hg	202	209	1	No Gas	0.004	ug/l	235.96
Hg	202	209	3	He	0.007	ug/l	93.65
Tl	203	209	3	He	0.075	ug/l	478.20
Tl	205	209	1	No Gas	0.054	ug/l	2112.41
Tl	205	209	3	He	0.074	ug/l	1115.16
[Pb]	206	209	1	No Gas	-0.045	ug/l	470.01
[Pb]	207	209	1	No Gas	-0.046	ug/l	402.23
Pb	208	209	1	No Gas	-0.048	ug/l	1860.06
Th	232	209	3	He	0.031	ug/l	570.24
U	238	209	1	No Gas	0.003	ug/l	131.31

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3518184.22	76.3
Sc	45	2	H2	1874888.68	78.9
Sc	45	3	He	204825.84	69.4
Ge	72	1	No Gas	950659.39	84.9
Ge	72	2	H2	695605.72	87.3
Ge	72	3	He	135939.73	76.5
In	115	1	No Gas	7107437.16	93.2
In	115	3	He	1383114.58	80.2
Tb	159	1	No Gas	8806832.57	100.5
Tb	159	3	He	3302802.51	90.9
Ho	165	1	No Gas	8632171.14	103.8
Ho	165	3	He	3305499.52	92.7
Lu	175	1	No Gas	8139451.93	102.3
Lu	175	3	He	2716063.34	89.9
Bi	209	1	No Gas	6392891.14	109.0
Bi	209	3	He	2292580.96	94.6

ICPMS207-B Analytical Data

Sample Name B22020962-026B
File Name 070SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 19:27:36
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	5.600	ug/l	40826.89
Be	9	45	1	No Gas	0.028	ug/l	228.29
B	11	45	1	No Gas	44.516	ug/l	66823.60
Na	23	45	3	He	57389.834	ug/l	26286787.67
Mg	24	45	3	He	22709.533	ug/l	5873686.11
Al	27	45	1	No Gas	3959.829	ug/l	46418001.53
Si	28	45	2	H2	23801.272	ug/l	32633645.71
K	39	72	3	He	2276.486	ug/l	841204.75
Ca	40	72	2	H2	34640.906	ug/l	180270142.13
Ti	47	72	1	No Gas	335.030	ug/l	473527.31
V	51	72	1	No Gas	23.285	ug/l	355397.95
V	51	72	3	He	25.611	ug/l	78481.54
Cr	52	72	1	No Gas	23.938	ug/l	433273.18
Cr	52	72	3	He	23.756	ug/l	70182.78
Mn	55	72	1	No Gas	256.132	ug/l	5417845.02
Mn	55	72	3	He	251.536	ug/l	508712.85
Fe	56	72	2	H2	13364.050	ug/l	141543216.56
Fe	56	72	3	He	12133.588	ug/l	31845546.51
Co	59	72	1	No Gas	3.861	ug/l	68318.15
Ni	60	72	1	No Gas	15.627	ug/l	62106.84
Ni	60	72	3	He	16.874	ug/l	18746.62
Cu	63	72	1	No Gas	51.287	ug/l	498156.09
Cu	63	72	3	He	57.326	ug/l	165407.28
Cu	65	72	1	No Gas	51.006	ug/l	233183.31
Zn	66	72	1	No Gas	233.475	ug/l	779575.23
Zn	66	72	3	He	239.049	ug/l	166337.49
As	75	72	1	No Gas	11.663	ug/l	61341.93
As	75	72	3	He	9.938	ug/l	7103.12
Se	78	72	2	H2	0.520	ug/l	247.34
Br	79	72	1	No Gas	8.380	ug/l	58285.58
Br	79	72	2	H2	8.062	ug/l	32462.16
Se	82	72	1	No Gas	0.033	ug/l	565.14
Kr	84	72	1	No Gas		ug/l	55493.71
Sr	88	72	1	No Gas	254.349	ug/l	6362142.18
Sr	88	72	3	He	220.182	ug/l	660304.86
Mo	95	115	1	No Gas	2.342	ug/l	12656.82
Mo	95	115	3	He	2.651	ug/l	4442.95
Mo	98	115	1	No Gas	2.379	ug/l	20498.77
Ag	107	115	1	No Gas	0.172	ug/l	3463.16
Ag	109	115	1	No Gas	0.171	ug/l	3257.02
Cd	111	115	1	No Gas	0.989	ug/l	3116.23

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	1.027	ug/l	944.81
Cd	114	115	1	No Gas	0.904	ug/l	6241.88
Cd	114	115	3	He	1.025	ug/l	2275.08
Sn	118	115	1	No Gas	3.100	ug/l	30792.91
Sn	118	115	3	He	3.302	ug/l	7955.64
Sb	121	115	1	No Gas	7.165	ug/l	97923.38
Sb	121	115	3	He	7.319	ug/l	24557.59
Sb	123	115	1	No Gas	7.264	ug/l	75674.39
Sb	123	115	3	He	7.381	ug/l	19360.62
Ba	135	115	1	No Gas	95.463	ug/l	252537.01
Ba	137	115	1	No Gas	94.687	ug/l	437117.81
La	139	115	3	He	2.018	ug/l	22792.23
Ce	140	115	3	He	4.648	ug/l	54997.43
Hg	201	209	1	No Gas	0.359	ug/l	762.87
Hg	202	209	1	No Gas	0.370	ug/l	1829.76
Hg	202	209	3	He	0.401	ug/l	800.87
Tl	203	209	3	He	0.017	ug/l	176.74
Tl	205	209	1	No Gas	0.020	ug/l	1056.72
Tl	205	209	3	He	0.023	ug/l	481.54
[Pb]	206	209	1	No Gas	125.544	ug/l	1086450.14
[Pb]	207	209	1	No Gas	124.228	ug/l	934513.30
Pb	208	209	1	No Gas	129.061	ug/l	4441803.61
Th	232	209	3	He	0.354	ug/l	5117.73
U	238	209	1	No Gas	0.181	ug/l	5846.15

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3103487.69	67.3
Sc	45	2	H2	1697761.07	71.5
Sc	45	3	He	176301.28	59.7
Ge	72	1	No Gas	903929.02	80.7
Ge	72	2	H2	621862.78	78.0
Ge	72	3	He	123703.03	69.7
In	115	1	No Gas	6328945.37	83.0
In	115	3	He	1228074.44	71.2
Tb	159	1	No Gas	8012133.31	91.4
Tb	159	3	He	3091305.96	85.1
Ho	165	1	No Gas	7983036.76	96.0
Ho	165	3	He	3172662.47	88.9
Lu	175	1	No Gas	8049665.53	101.2
Lu	175	3	He	2586395.94	85.6
Bi	209	1	No Gas	5796398.81	98.8
Bi	209	3	He	2098556.58	86.6

ICPMS207-B Analytical Data

Sample Name B22020962-031A
File Name 071SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 19:33:52
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	2.031	ug/l	29576.48
Be	9	45	1	No Gas	-0.045	ug/l	64.65
B	11	45	1	No Gas	55.111	ug/l	110028.10
Na	23	45	3	He	89722.695	ug/l	59239921.89
Mg	24	45	3	He	36514.388	ug/l	13624522.56
Al	27	45	1	No Gas	2.723	ug/l	52041.62
Si	28	45	2	H2	23950.585	ug/l	41753561.80
K	39	72	3	He	2086.054	ug/l	1049810.39
Ca	40	72	2	H2	36267.319	ug/l	229695322.23
Ti	47	72	1	No Gas	1.408	ug/l	2651.25
V	51	72	1	No Gas	19.758	ug/l	359883.37
V	51	72	3	He	11.883	ug/l	56686.01
Cr	52	72	1	No Gas	-1.294	ug/l	41496.33
Cr	52	72	3	He	0.531	ug/l	3167.03
Mn	55	72	1	No Gas	1.327	ug/l	39555.38
Mn	55	72	3	He	1.413	ug/l	3941.75
Fe	56	72	2	H2	7.505	ug/l	103708.82
Fe	56	72	3	He	6.823	ug/l	29397.63
Co	59	72	1	No Gas	0.085	ug/l	2405.45
Ni	60	72	1	No Gas	0.515	ug/l	3373.72
Ni	60	72	3	He	0.458	ug/l	783.36
Cu	63	72	1	No Gas	0.738	ug/l	15623.33
Cu	63	72	3	He	0.261	ug/l	2994.38
Cu	65	72	1	No Gas	0.376	ug/l	5016.22
Zn	66	72	1	No Gas	0.294	ug/l	11154.51
Zn	66	72	3	He	-0.038	ug/l	2249.08
As	75	72	1	No Gas	0.650	ug/l	13898.56
As	75	72	3	He	0.275	ug/l	672.13
Se	78	72	2	H2	0.388	ug/l	231.67
Br	79	72	1	No Gas	85.395	ug/l	621730.02
Br	79	72	2	H2	82.787	ug/l	354763.59
Se	82	72	1	No Gas	0.866	ug/l	921.96
Kr	84	72	1	No Gas		ug/l	76207.24
Sr	88	72	1	No Gas	304.540	ug/l	9154126.77
Sr	88	72	3	He	264.857	ug/l	1071933.13
Mo	95	115	1	No Gas	1.426	ug/l	9045.14
Mo	95	115	3	He	1.463	ug/l	3215.94
Mo	98	115	1	No Gas	1.450	ug/l	14676.21
Ag	107	115	1	No Gas	-0.046	ug/l	480.20
Ag	109	115	1	No Gas	-0.046	ug/l	454.86
Cd	111	115	1	No Gas	0.014	ug/l	46.12

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.016	ug/l	23.78
Cd	114	115	1	No Gas	0.023	ug/l	93.14
Cd	114	115	3	He	0.016	ug/l	56.24
Sn	118	115	1	No Gas	-0.035	ug/l	339.33
Sn	118	115	3	He	-0.043	ug/l	90.00
Sb	121	115	1	No Gas	0.046	ug/l	887.45
Sb	121	115	3	He	0.044	ug/l	226.69
Sb	123	115	1	No Gas	0.046	ug/l	675.08
Sb	123	115	3	He	0.043	ug/l	176.69
Ba	135	115	1	No Gas	12.259	ug/l	38063.77
Ba	137	115	1	No Gas	12.132	ug/l	65745.86
La	139	115	3	He	0.001	ug/l	30.00
Ce	140	115	3	He	0.005	ug/l	84.45
Hg	201	209	1	No Gas	0.041	ug/l	162.30
Hg	202	209	1	No Gas	0.588	ug/l	2985.74
Hg	202	209	3	He	0.510	ug/l	1149.49
Tl	203	209	3	He	0.015	ug/l	191.41
Tl	205	209	1	No Gas	0.003	ug/l	687.80
Tl	205	209	3	He	0.015	ug/l	455.53
[Pb]	206	209	1	No Gas	-0.028	ug/l	611.13
[Pb]	207	209	1	No Gas	-0.025	ug/l	562.24
Pb	208	209	1	No Gas	-0.029	ug/l	2490.11
Th	232	209	3	He	0.002	ug/l	123.38
U	238	209	1	No Gas	0.060	ug/l	2085.75

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	4129229.20	89.5
Sc	45	2	H2	2157793.42	90.8
Sc	45	3	He	254329.53	86.1
Ge	72	1	No Gas	1085720.81	97.0
Ge	72	2	H2	756611.21	94.9
Ge	72	3	He	166893.88	94.0
In	115	1	No Gas	7421283.38	97.3
In	115	3	He	1607981.36	93.3
Tb	159	1	No Gas	9262418.66	105.7
Tb	159	3	He	3773576.52	103.9
Ho	165	1	No Gas	8778858.34	105.6
Ho	165	3	He	3720365.60	104.3
Lu	175	1	No Gas	8667649.95	109.0
Lu	175	3	He	2987473.96	98.9
Bi	209	1	No Gas	6192720.04	105.6
Bi	209	3	He	2415945.38	99.7

ICPMS207-B Analytical Data

Sample Name B22020962-031B
File Name 072SMPL.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 19:40:06
Sample Type Sample
Total Dilution 1.0000
Comment ICPMS-6020-W-T
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	4.283	ug/l	35477.50
Be	9	45	1	No Gas	-0.034	ug/l	80.65
B	11	45	1	No Gas	50.054	ug/l	78455.15
Na	23	45	3	He	89960.410	ug/l	42746085.48
Mg	24	45	3	He	36400.322	ug/l	9767917.65
Al	27	45	1	No Gas	13.751	ug/l	175858.46
Si	28	45	2	H2	21743.132	ug/l	29954136.63
K	39	72	3	He	1921.469	ug/l	740504.02
Ca	40	72	2	H2	34877.302	ug/l	182755714.27
Ti	47	72	1	No Gas	2.506	ug/l	3685.85
V	51	72	1	No Gas	15.301	ug/l	223938.04
V	51	72	3	He	17.099	ug/l	57193.88
Cr	52	72	1	No Gas	1.807	ug/l	81927.14
Cr	52	72	3	He	0.874	ug/l	3429.31
Mn	55	72	1	No Gas	2.316	ug/l	52783.92
Mn	55	72	3	He	1.641	ug/l	3463.39
Fe	56	72	2	H2	65.719	ug/l	706722.09
Fe	56	72	3	He	62.860	ug/l	172858.31
Co	59	72	1	No Gas	0.219	ug/l	4278.82
Ni	60	72	1	No Gas	0.676	ug/l	3373.71
Ni	60	72	3	He	0.546	ug/l	693.35
Cu	63	72	1	No Gas	3.295	ug/l	36861.30
Cu	63	72	3	He	3.362	ug/l	11348.46
Cu	65	72	1	No Gas	2.997	ug/l	15738.85
Zn	66	72	1	No Gas	5.162	ug/l	24880.32
Zn	66	72	3	He	4.845	ug/l	5149.83
As	75	72	1	No Gas	3.860	ug/l	25609.79
As	75	72	3	He	0.752	ug/l	843.14
Se	78	72	2	H2	0.449	ug/l	218.45
Br	79	72	1	No Gas	15.582	ug/l	99257.19
Br	79	72	2	H2	14.155	ug/l	53963.78
Se	82	72	1	No Gas	0.741	ug/l	722.35
Kr	84	72	1	No Gas		ug/l	65839.94
Sr	88	72	1	No Gas	322.528	ug/l	7915383.24
Sr	88	72	3	He	286.670	ug/l	879986.89
Mo	95	115	1	No Gas	1.445	ug/l	7844.43
Mo	95	115	3	He	1.627	ug/l	2800.29
Mo	98	115	1	No Gas	1.507	ug/l	13048.93
Ag	107	115	1	No Gas	-0.039	ug/l	515.55
Ag	109	115	1	No Gas	-0.037	ug/l	510.21
Cd	111	115	1	No Gas	0.044	ug/l	133.26

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.035	ug/l	36.67
Cd	114	115	1	No Gas	0.047	ug/l	247.23
Cd	114	115	3	He	0.036	ug/l	90.67
Sn	118	115	1	No Gas	0.212	ug/l	2704.93
Sn	118	115	3	He	0.243	ug/l	761.14
Sb	121	115	1	No Gas	0.065	ug/l	1020.14
Sb	121	115	3	He	0.080	ug/l	301.37
Sb	123	115	1	No Gas	0.071	ug/l	836.11
Sb	123	115	3	He	0.069	ug/l	210.35
Ba	135	115	1	No Gas	12.354	ug/l	32800.52
Ba	137	115	1	No Gas	12.301	ug/l	57034.80
La	139	115	3	He	0.009	ug/l	108.89
Ce	140	115	3	He	0.020	ug/l	247.78
Hg	201	209	1	No Gas	0.081	ug/l	224.29
Hg	202	209	1	No Gas	0.805	ug/l	3683.11
Hg	202	209	3	He	0.678	ug/l	1280.47
Tl	203	209	3	He	0.019	ug/l	179.41
Tl	205	209	1	No Gas	0.013	ug/l	877.81
Tl	205	209	3	He	0.016	ug/l	397.50
[Pb]	206	209	1	No Gas	-0.004	ug/l	772.25
[Pb]	207	209	1	No Gas	-0.007	ug/l	645.57
Pb	208	209	1	No Gas	-0.005	ug/l	3084.61
Th	232	209	3	He	0.034	ug/l	556.90
U	238	209	1	No Gas	0.061	ug/l	1943.10

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3239627.65	70.2
Sc	45	2	H2	1705406.44	71.8
Sc	45	3	He	183008.70	62.0
Ge	72	1	No Gas	886417.07	79.2
Ge	72	2	H2	626193.42	78.6
Ge	72	3	He	126604.94	71.3
In	115	1	No Gas	6350549.92	83.3
In	115	3	He	1260366.67	73.1
Tb	159	1	No Gas	8173680.43	93.3
Tb	159	3	He	3280390.19	90.3
Ho	165	1	No Gas	7992689.44	96.1
Ho	165	3	He	3173941.20	89.0
Lu	175	1	No Gas	7980158.94	100.3
Lu	175	3	He	2589135.09	85.7
Bi	209	1	No Gas	5689725.92	97.0
Bi	209	3	He	2061123.04	85.0

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 073BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 19:46:20
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	2.430	ug/l	28527.48
Be	9	45	1	No Gas	-0.042	ug/l	66.32
B	11	45	1	No Gas	0.395	ug/l	1539.36
Na	23	45	3	He	32.809	ug/l	73959.37
Mg	24	45	3	He	2.780	ug/l	1793.23
Al	27	45	1	No Gas	-0.096	ug/l	7083.94
Si	28	45	2	H2	128.812	ug/l	208845.93
K	39	72	3	He	-62.650	ug/l	76859.29
Ca	40	72	2	H2	-2.556	ug/l	120223.46
Ti	47	72	1	No Gas	-0.007	ug/l	230.23
V	51	72	1	No Gas	4.197	ug/l	56714.81
V	51	72	3	He	0.230	ug/l	12827.92
Cr	52	72	1	No Gas	-0.541	ug/l	51662.30
Cr	52	72	3	He	0.026	ug/l	1015.60
Mn	55	72	1	No Gas	0.070	ug/l	7091.06
Mn	55	72	3	He	0.005	ug/l	86.98
Fe	56	72	2	H2	0.220	ug/l	9088.64
Fe	56	72	3	He	0.238	ug/l	5242.90
Co	59	72	1	No Gas	-0.001	ug/l	558.90
Ni	60	72	1	No Gas	-0.078	ug/l	535.62
Ni	60	72	3	He	0.028	ug/l	122.22
Cu	63	72	1	No Gas	-0.163	ug/l	4842.75
Cu	63	72	3	He	-0.058	ug/l	1521.78
Cu	65	72	1	No Gas	-0.098	ug/l	2260.42
Zn	66	72	1	No Gas	0.322	ug/l	10432.13
Zn	66	72	3	He	0.427	ug/l	2314.64
As	75	72	1	No Gas	1.042	ug/l	14871.31
As	75	72	3	He	-0.117	ug/l	267.67
Se	78	72	2	H2	-0.008	ug/l	21.22
Br	79	72	1	No Gas	0.734	ug/l	14132.26
Br	79	72	2	H2	0.635	ug/l	7560.34
Se	82	72	1	No Gas	0.018	ug/l	625.55
Kr	84	72	1	No Gas		ug/l	17895.68
Sr	88	72	1	No Gas	0.001	ug/l	888.28
Sr	88	72	3	He	-0.015	ug/l	271.12
Mo	95	115	1	No Gas	0.003	ug/l	44.44
Mo	95	115	3	He	0.001	ug/l	8.89
Mo	98	115	1	No Gas	-0.001	ug/l	46.95
Ag	107	115	1	No Gas	-0.006	ug/l	1130.50
Ag	109	115	1	No Gas	-0.002	ug/l	1132.50
Cd	111	115	1	No Gas	0.016	ug/l	52.32

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.013	ug/l	18.55
Cd	114	115	1	No Gas	0.014	ug/l	18.98
Cd	114	115	3	He	0.012	ug/l	40.77
Sn	118	115	1	No Gas	-0.005	ug/l	685.32
Sn	118	115	3	He	-0.002	ug/l	197.78
Sb	121	115	1	No Gas	0.018	ug/l	432.05
Sb	121	115	3	He	0.019	ug/l	108.34
Sb	123	115	1	No Gas	0.018	ug/l	340.37
Sb	123	115	3	He	0.019	ug/l	86.68
Ba	135	115	1	No Gas	-0.001	ug/l	16.63
Ba	137	115	1	No Gas	0.001	ug/l	39.92
La	139	115	3	He	0.000	ug/l	6.67
Ce	140	115	3	He	0.000	ug/l	12.22
Hg	201	209	1	No Gas	0.006	ug/l	97.65
Hg	202	209	1	No Gas	0.007	ug/l	260.62
Hg	202	209	3	He	0.011	ug/l	107.31
Tl	203	209	3	He	0.000	ug/l	111.38
Tl	205	209	1	No Gas	0.000	ug/l	652.24
Tl	205	209	3	He	0.003	ug/l	311.46
[Pb]	206	209	1	No Gas	-0.048	ug/l	461.12
[Pb]	207	209	1	No Gas	-0.047	ug/l	413.34
Pb	208	209	1	No Gas	-0.050	ug/l	1848.95
Th	232	209	3	He	0.001	ug/l	116.05
U	238	209	1	No Gas	0.000	ug/l	20.00

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3643869.65	79.0
Sc	45	2	H2	1928173.20	81.2
Sc	45	3	He	212674.13	72.0
Ge	72	1	No Gas	1006098.90	89.8
Ge	72	2	H2	701795.07	88.1
Ge	72	3	He	144043.01	81.1
In	115	1	No Gas	7403802.74	97.1
In	115	3	He	1471549.69	85.3
Tb	159	1	No Gas	9042174.04	103.2
Tb	159	3	He	3628188.37	99.9
Ho	165	1	No Gas	8798605.80	105.8
Ho	165	3	He	3594501.27	100.8
Lu	175	1	No Gas	8770097.18	110.3
Lu	175	3	He	2875096.27	95.1
Bi	209	1	No Gas	6663014.71	113.6
Bi	209	3	He	2419972.11	99.8

ICPMS207-B Analytical Data

Sample Name CCV
File Name 074_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 19:52:33
Sample Type CCV
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	336.120	ug/l	1970804.55
Be	9	45	1	No Gas	30.890	ug/l	84867.12
B	11	45	1	No Gas	35.974	ug/l	60468.89
Na	23	45	3	He	12073.988	ug/l	6675956.29
Mg	24	45	3	He	11850.882	ug/l	3676722.54
Al	27	45	1	No Gas	43.404	ug/l	575829.44
Si	28	45	2	H2	261.920	ug/l	404828.53
K	39	72	3	He	9834.807	ug/l	3905059.52
Ca	40	72	2	H2	11156.041	ug/l	66384579.74
Ti	47	72	1	No Gas	44.491	ug/l	68799.69
V	51	72	1	No Gas	42.307	ug/l	724875.81
V	51	72	3	He	46.800	ug/l	157461.76
Cr	52	72	1	No Gas	46.170	ug/l	856619.67
Cr	52	72	3	He	46.178	ug/l	158320.38
Mn	55	72	1	No Gas	48.537	ug/l	1123785.42
Mn	55	72	3	He	45.664	ug/l	107880.62
Fe	56	72	2	H2	1254.842	ug/l	15180203.63
Fe	56	72	3	He	1162.789	ug/l	3568312.59
Co	59	72	1	No Gas	47.546	ug/l	911553.50
Ni	60	72	1	No Gas	46.644	ug/l	200662.12
Ni	60	72	3	He	49.169	ug/l	63623.86
Cu	63	72	1	No Gas	47.886	ug/l	508177.72
Cu	63	72	3	He	50.740	ug/l	171135.63
Cu	65	72	1	No Gas	48.644	ug/l	242798.74
Zn	66	72	1	No Gas	50.946	ug/l	192719.72
Zn	66	72	3	He	49.325	ug/l	41647.50
As	75	72	1	No Gas	49.411	ug/l	253544.24
As	75	72	3	He	47.860	ug/l	38559.94
Se	78	72	2	H2	49.941	ug/l	24737.21
Br	79	72	1	No Gas	0.434	ug/l	11914.72
Br	79	72	2	H2	0.314	ug/l	6382.11
Se	82	72	1	No Gas	51.092	ug/l	14136.83
Kr	84	72	1	No Gas		ug/l	27221.68
Sr	88	72	1	No Gas	54.335	ug/l	1484034.90
Sr	88	72	3	He	47.954	ug/l	168160.50
Mo	95	115	1	No Gas	47.765	ug/l	285622.31
Mo	95	115	3	He	51.283	ug/l	99088.53
Mo	98	115	1	No Gas	48.683	ug/l	464341.79
Ag	107	115	1	No Gas	19.272	ug/l	299971.70
Ag	109	115	1	No Gas	19.693	ug/l	290476.42
Cd	111	115	1	No Gas	49.586	ug/l	173672.49

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	52.225	ug/l	55272.54
Cd	114	115	1	No Gas	49.788	ug/l	385891.04
Cd	114	115	3	He	52.347	ug/l	133599.62
Sn	118	115	1	No Gas	43.306	ug/l	468033.08
Sn	118	115	3	He	45.641	ug/l	124407.44
Sb	121	115	1	No Gas	52.280	ug/l	791775.22
Sb	121	115	3	He	52.263	ug/l	202285.18
Sb	123	115	1	No Gas	52.328	ug/l	603833.47
Sb	123	115	3	He	52.823	ug/l	159782.89
Ba	135	115	1	No Gas	50.853	ug/l	149166.34
Ba	137	115	1	No Gas	50.395	ug/l	258139.55
La	139	115	3	He	52.021	ug/l	678149.53
Ce	140	115	3	He	52.046	ug/l	710746.41
Hg	201	209	1	No Gas	0.911	ug/l	2017.09
Hg	202	209	1	No Gas	0.924	ug/l	4729.90
Hg	202	209	3	He	0.998	ug/l	2088.08
Tl	203	209	3	He	49.347	ug/l	246658.40
Tl	205	209	1	No Gas	50.756	ug/l	1391800.28
Tl	205	209	3	He	49.770	ug/l	586414.78
[Pb]	206	209	1	No Gas	49.174	ug/l	471673.99
[Pb]	207	209	1	No Gas	47.591	ug/l	396629.84
Pb	208	209	1	No Gas	49.200	ug/l	1876070.03
Th	232	209	3	He	50.392	ug/l	796532.40
U	238	209	1	No Gas	51.130	ug/l	1826291.81

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3461301.81	75.0
Sc	45	2	H2	1876145.71	79.0
Sc	45	3	He	211420.92	71.6
Ge	72	1	No Gas	986626.38	88.1
Ge	72	2	H2	709873.89	89.1
Ge	72	3	He	144428.44	81.3
In	115	1	No Gas	7015407.58	92.0
In	115	3	He	1418013.11	82.2
Tb	159	1	No Gas	8913666.90	101.7
Tb	159	3	He	3450986.93	95.0
Ho	165	1	No Gas	8598006.45	103.4
Ho	165	3	He	3428249.93	96.1
Lu	175	1	No Gas	8551351.21	107.5
Lu	175	3	He	2793600.74	92.4
Bi	209	1	No Gas	6410130.67	109.3
Bi	209	3	He	2326434.42	96.0

ICPMS207-B Analytical Data

Sample Name CCB
File Name 075_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 19:58:47
Sample Type CCB
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	2.853	ug/l	29776.95
Be	9	45	1	No Gas	-0.011	ug/l	150.33
B	11	45	1	No Gas	0.412	ug/l	1502.02
Na	23	45	3	He	26.997	ug/l	67620.82
Mg	24	45	3	He	1.845	ug/l	1433.90
Al	27	45	1	No Gas	-0.096	ug/l	6777.12
Si	28	45	2	H2	40.309	ug/l	68303.42
K	39	72	3	He	-57.646	ug/l	75313.89
Ca	40	72	2	H2	-3.011	ug/l	114844.04
Ti	47	72	1	No Gas	0.096	ug/l	375.45
V	51	72	1	No Gas	-2.441	ug/l	-63102.21
V	51	72	3	He	1.072	ug/l	14756.39
Cr	52	72	1	No Gas	-0.274	ug/l	54546.52
Cr	52	72	3	He	0.030	ug/l	983.37
Mn	55	72	1	No Gas	0.103	ug/l	7590.28
Mn	55	72	3	He	0.007	ug/l	87.32
Fe	56	72	2	H2	0.262	ug/l	9374.11
Fe	56	72	3	He	0.332	ug/l	5294.64
Co	59	72	1	No Gas	-0.003	ug/l	492.37
Ni	60	72	1	No Gas	-0.075	ug/l	532.29
Ni	60	72	3	He	0.025	ug/l	113.33
Cu	63	72	1	No Gas	-0.186	ug/l	4455.81
Cu	63	72	3	He	-0.134	ug/l	1214.14
Cu	65	72	1	No Gas	-0.179	ug/l	1790.83
Zn	66	72	1	No Gas	0.022	ug/l	9020.20
Zn	66	72	3	He	0.095	ug/l	1957.92
As	75	72	1	No Gas	0.027	ug/l	9482.97
As	75	72	3	He	-0.101	ug/l	268.47
Se	78	72	2	H2	0.003	ug/l	25.89
Br	79	72	1	No Gas	0.337	ug/l	11118.97
Br	79	72	2	H2	0.143	ug/l	5510.15
Se	82	72	1	No Gas	0.159	ug/l	642.75
Kr	84	72	1	No Gas		ug/l	17682.46
Sr	88	72	1	No Gas	-0.002	ug/l	771.83
Sr	88	72	3	He	-0.007	ug/l	283.34
Mo	95	115	1	No Gas	0.028	ug/l	193.34
Mo	95	115	3	He	0.026	ug/l	56.67
Mo	98	115	1	No Gas	0.030	ug/l	342.85
Ag	107	115	1	No Gas	0.001	ug/l	1193.20
Ag	109	115	1	No Gas	-0.001	ug/l	1091.15
Cd	111	115	1	No Gas	0.008	ug/l	21.30

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.014	ug/l	18.22
Cd	114	115	1	No Gas	0.008	ug/l	-25.97
Cd	114	115	3	He	0.015	ug/l	47.56
Sn	118	115	1	No Gas	0.045	ug/l	1194.35
Sn	118	115	3	He	0.036	ug/l	292.23
Sb	121	115	1	No Gas	0.159	ug/l	2568.83
Sb	121	115	3	He	0.125	ug/l	511.73
Sb	123	115	1	No Gas	0.154	ug/l	1900.99
Sb	123	115	3	He	0.119	ug/l	383.04
Ba	135	115	1	No Gas	0.007	ug/l	39.92
Ba	137	115	1	No Gas	0.002	ug/l	39.92
La	139	115	3	He	0.000	ug/l	7.78
Ce	140	115	3	He	0.001	ug/l	18.89
Hg	201	209	1	No Gas	0.001	ug/l	85.65
Hg	202	209	1	No Gas	-0.002	ug/l	214.29
Hg	202	209	3	He	0.003	ug/l	91.65
Tl	203	209	3	He	0.079	ug/l	528.89
Tl	205	209	1	No Gas	0.060	ug/l	2368.01
Tl	205	209	3	He	0.073	ug/l	1185.87
[Pb]	206	209	1	No Gas	-0.047	ug/l	466.68
[Pb]	207	209	1	No Gas	-0.051	ug/l	378.90
Pb	208	209	1	No Gas	-0.051	ug/l	1791.17
Th	232	209	3	He	0.032	ug/l	634.94
U	238	209	1	No Gas	0.003	ug/l	127.31

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3485556.27	75.6
Sc	45	2	H2	1854181.78	78.0
Sc	45	3	He	203244.17	68.8
Ge	72	1	No Gas	972839.47	86.9
Ge	72	2	H2	685696.53	86.0
Ge	72	3	He	137786.17	77.6
In	115	1	No Gas	7081591.81	92.9
In	115	3	He	1407090.51	81.6
Tb	159	1	No Gas	9206508.58	105.0
Tb	159	3	He	3500785.14	96.4
Ho	165	1	No Gas	8987325.76	108.1
Ho	165	3	He	3434890.26	96.3
Lu	175	1	No Gas	8849635.15	111.3
Lu	175	3	He	2785953.54	92.2
Bi	209	1	No Gas	6660843.48	113.5
Bi	209	3	He	2446749.38	100.9

ICPMS207-B Analytical Data

Sample Name Cal Blk
File Name 076CALB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 20:05:02
Sample Type CalBlk
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.000	ug/l	29173.59
Be	9	45	1	No Gas	0.000	ug/l	62.66
B	11	45	1	No Gas	0.000	ug/l	1187.20
Na	23	45	3	He	0.000	ug/l	65196.92
Mg	24	45	3	He	0.000	ug/l	1344.06
Al	27	45	1	No Gas	0.000	ug/l	6727.10
Si	28	45	2	H2	0.000	ug/l	48978.41
K	39	72	3	He	0.000	ug/l	73110.60
Ca	40	72	2	H2	0.000	ug/l	112141.04
Ti	47	72	1	No Gas	0.000	ug/l	161.83
V	51	72	1	No Gas	0.000	ug/l	165.61
V	51	72	3	He	0.000	ug/l	14232.54
Cr	52	72	1	No Gas	0.000	ug/l	53424.59
Cr	52	72	3	He	0.000	ug/l	960.04
Mn	55	72	1	No Gas	0.000	ug/l	7091.01
Mn	55	72	3	He	0.000	ug/l	95.31
Fe	56	72	2	H2	0.000	ug/l	9412.50
Fe	56	72	3	He	0.000	ug/l	4977.54
Co	59	72	1	No Gas	0.000	ug/l	485.71
Ni	60	72	1	No Gas	0.000	ug/l	502.35
Ni	60	72	3	He	0.000	ug/l	132.22
Cu	63	72	1	No Gas	0.000	ug/l	4706.65
Cu	63	72	3	He	0.000	ug/l	1184.15
Cu	65	72	1	No Gas	0.000	ug/l	1726.80
Zn	66	72	1	No Gas	0.000	ug/l	8627.59
Zn	66	72	3	He	0.000	ug/l	1882.36
As	75	72	1	No Gas	0.000	ug/l	10189.53
As	75	72	3	He	0.000	ug/l	252.47
Se	78	72	2	H2	0.000	ug/l	18.78
Br	79	72	1	No Gas	0.000	ug/l	10196.77
Br	79	72	2	H2	0.000	ug/l	5600.00
Se	82	72	1	No Gas	0.000	ug/l	582.88
Kr	84	72	1	No Gas		ug/l	16992.99
Sr	88	72	1	No Gas	0.000	ug/l	711.95
Sr	88	72	3	He	0.000	ug/l	263.34
Mo	95	115	1	No Gas	0.000	ug/l	45.56
Mo	95	115	3	He	0.000	ug/l	20.00
Mo	98	115	1	No Gas	0.000	ug/l	77.29
Ag	107	115	1	No Gas	0.000	ug/l	1159.85
Ag	109	115	1	No Gas	0.000	ug/l	1104.49
Cd	111	115	1	No Gas	0.000	ug/l	26.52

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.000	ug/l	17.11
Cd	114	115	1	No Gas	0.000	ug/l	-38.05
Cd	114	115	3	He	0.000	ug/l	36.09
Sn	118	115	1	No Gas	0.000	ug/l	761.85
Sn	118	115	3	He	0.000	ug/l	206.67
Sb	121	115	1	No Gas	0.000	ug/l	792.10
Sb	121	115	3	He	0.000	ug/l	188.02
Sb	123	115	1	No Gas	0.000	ug/l	603.41
Sb	123	115	3	He	0.000	ug/l	138.35
Ba	135	115	1	No Gas	0.000	ug/l	23.29
Ba	137	115	1	No Gas	0.000	ug/l	43.25
La	139	115	3	He	0.000	ug/l	8.89
Ce	140	115	3	He	0.000	ug/l	17.78
Hg	201	209	1	No Gas	0.000	ug/l	84.31
Hg	202	209	1	No Gas	0.000	ug/l	202.96
Hg	202	209	3	He	0.000	ug/l	83.98
Tl	203	209	3	He	0.000	ug/l	214.09
Tl	205	209	1	No Gas	0.000	ug/l	956.71
Tl	205	209	3	He	0.000	ug/l	504.88
[Pb]	206	209	1	No Gas	0.000	ug/l	396.68
[Pb]	207	209	1	No Gas	0.000	ug/l	367.79
Pb	208	209	1	No Gas	0.000	ug/l	1642.28
Th	232	209	3	He	0.000	ug/l	268.78
U	238	209	1	No Gas	0.000	ug/l	36.32

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3373931.39	100.0
Sc	45	2	H2	1840508.45	100.0
Sc	45	3	He	199286.73	100.0
Ge	72	1	No Gas	942232.86	100.0
Ge	72	2	H2	679276.18	100.0
Ge	72	3	He	136060.88	100.0
In	115	1	No Gas	7061496.54	100.0
In	115	3	He	1416832.04	100.0
Tb	159	1	No Gas	9014932.53	100.0
Tb	159	3	He	3508725.56	100.0
Ho	165	1	No Gas	8741653.43	100.0
Ho	165	3	He	3447545.21	100.0
Lu	175	1	No Gas	8629431.52	100.0
Lu	175	3	He	2754833.33	100.0
Bi	209	1	No Gas	6658806.37	100.0
Bi	209	3	He	2424805.33	100.0

ICPMS207-B Analytical Data

Sample Name 0.025 ppb STD
File Name 077CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 20:11:24
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.427	ug/l	30367.72
Be	9	45	1	No Gas	0.030	ug/l	113.65
B	11	45	1	No Gas	-0.097	ug/l	1068.47
Na	23	45	3	He	7.772	ug/l	68315.22
Mg	24	45	3	He	7.238	ug/l	3313.81
Al	27	45	1	No Gas	0.198	ug/l	8755.93
Si	28	45	2	H2	-7.529	ug/l	38714.76
K	39	72	3	He	12.765	ug/l	75494.52
Ca	40	72	2	H2	7.898	ug/l	149414.09
Ti	47	72	1	No Gas	0.086	ug/l	266.94
V	51	72	1	No Gas	2.841	ug/l	47095.86
V	51	72	3	He	0.312	ug/l	14778.65
Cr	52	72	1	No Gas	0.159	ug/l	55322.02
Cr	52	72	3	He	0.042	ug/l	1064.49
Mn	55	72	1	No Gas	0.029	ug/l	7626.86
Mn	55	72	3	He	0.027	ug/l	145.64
Fe	56	72	2	H2	0.755	ug/l	17663.43
Fe	56	72	3	He	0.903	ug/l	7227.41
Co	59	72	1	No Gas	0.029	ug/l	971.44
Ni	60	72	1	No Gas	0.045	ug/l	668.69
Ni	60	72	3	He	0.045	ug/l	181.11
Cu	63	72	1	No Gas	0.090	ug/l	5510.60
Cu	63	72	3	He	0.072	ug/l	1375.12
Cu	65	72	1	No Gas	0.049	ug/l	1933.58
Zn	66	72	1	No Gas	0.211	ug/l	9259.90
Zn	66	72	3	He	0.152	ug/l	1957.92
As	75	72	1	No Gas	0.486	ug/l	12285.52
As	75	72	3	He	0.043	ug/l	277.53
Se	78	72	2	H2	0.033	ug/l	33.67
Br	79	72	1	No Gas	-0.204	ug/l	8718.69
Br	79	72	2	H2	-0.211	ug/l	4711.45
Se	82	72	1	No Gas	0.131	ug/l	610.61
Kr	84	72	1	No Gas		ug/l	17126.22
Sr	88	72	1	No Gas	0.029	ug/l	1517.08
Sr	88	72	3	He	0.015	ug/l	303.34
Mo	95	115	1	No Gas	0.023	ug/l	174.45
Mo	95	115	3	He	0.016	ug/l	50.00
Mo	98	115	1	No Gas	0.026	ug/l	318.41
Ag	107	115	1	No Gas	0.010	ug/l	1335.94
Ag	109	115	1	No Gas	0.012	ug/l	1299.25
Cd	111	115	1	No Gas	0.034	ug/l	143.48

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.023	ug/l	41.00
Cd	114	115	1	No Gas	0.008	ug/l	20.35
Cd	114	115	3	He	-0.018	ug/l	-11.91
Sn	118	115	1	No Gas	14.254	ug/l	158502.65
Sn	118	115	3	He	14.586	ug/l	39779.82
Sb	121	115	1	No Gas	0.006	ug/l	891.12
Sb	121	115	3	He	0.013	ug/l	229.70
Sb	123	115	1	No Gas	0.007	ug/l	694.09
Sb	123	115	3	He	0.020	ug/l	193.02
Ba	135	115	1	No Gas	0.032	ug/l	119.76
Ba	137	115	1	No Gas	0.026	ug/l	179.64
La	139	115	3	He	0.024	ug/l	321.12
Ce	140	115	3	He	0.027	ug/l	395.56
Hg	201	209	1	No Gas	0.000	ug/l	84.32
Hg	202	209	1	No Gas	-0.003	ug/l	190.96
Hg	202	209	3	He	-0.001	ug/l	79.32
Tl	203	209	3	He	0.010	ug/l	258.11
Tl	205	209	1	No Gas	0.015	ug/l	1390.09
Tl	205	209	3	He	0.012	ug/l	625.60
[Pb]	206	209	1	No Gas	0.025	ug/l	644.47
[Pb]	207	209	1	No Gas	0.022	ug/l	563.35
Pb	208	209	1	No Gas	0.024	ug/l	2616.79
Th	232	209	3	He	0.011	ug/l	432.18
U	238	209	1	No Gas	0.024	ug/l	962.84

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3352124.69	99.4
Sc	45	2	H2	1825225.94	99.2
Sc	45	3	He	197089.10	98.9
Ge	72	1	No Gas	934500.22	99.2
Ge	72	2	H2	671389.39	98.8
Ge	72	3	He	133651.09	98.2
In	115	1	No Gas	7196513.18	101.9
In	115	3	He	1367631.08	96.5
Tb	159	1	No Gas	9002060.18	99.9
Tb	159	3	He	3545742.31	101.1
Ho	165	1	No Gas	8952463.29	102.4
Ho	165	3	He	3390260.25	98.3
Lu	175	1	No Gas	9035998.91	104.7
Lu	175	3	He	2655843.59	96.4
Bi	209	1	No Gas	6711991.46	100.8
Bi	209	3	He	2337637.23	96.4

ICPMS207-B Analytical Data

Sample Name 0.05 ppb STD
File Name 078CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 20:17:47
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.558	ug/l	31414.23
Be	9	45	1	No Gas	0.065	ug/l	179.30
B	11	45	1	No Gas	-0.114	ug/l	1069.80
Na	23	45	3	He	11.188	ug/l	69551.76
Mg	24	45	3	He	16.516	ug/l	5816.29
Al	27	45	1	No Gas	0.184	ug/l	8785.96
Si	28	45	2	H2	-7.650	ug/l	38274.28
K	39	72	3	He	16.748	ug/l	76507.62
Ca	40	72	2	H2	17.147	ug/l	190812.76
Ti	47	72	1	No Gas	0.148	ug/l	357.03
V	51	72	1	No Gas	-0.238	ug/l	-3769.10
V	51	72	3	He	0.562	ug/l	15415.95
Cr	52	72	1	No Gas	0.231	ug/l	58346.75
Cr	52	72	3	He	0.085	ug/l	1188.95
Mn	55	72	1	No Gas	0.061	ug/l	8595.49
Mn	55	72	3	He	0.057	ug/l	202.29
Fe	56	72	2	H2	1.722	ug/l	27817.53
Fe	56	72	3	He	1.582	ug/l	8978.47
Co	59	72	1	No Gas	0.061	ug/l	1557.00
Ni	60	72	1	No Gas	0.098	ug/l	898.25
Ni	60	72	3	He	0.114	ug/l	257.78
Cu	63	72	1	No Gas	0.075	ug/l	5559.96
Cu	63	72	3	He	0.099	ug/l	1452.12
Cu	65	72	1	No Gas	0.076	ug/l	2123.01
Zn	66	72	1	No Gas	0.046	ug/l	9010.09
Zn	66	72	3	He	0.244	ug/l	2017.93
As	75	72	1	No Gas	-0.750	ug/l	6973.14
As	75	72	3	He	0.084	ug/l	305.87
Se	78	72	2	H2	0.069	ug/l	49.44
Br	79	72	1	No Gas	-0.308	ug/l	8295.97
Br	79	72	2	H2	-0.236	ug/l	4525.08
Se	82	72	1	No Gas	-0.007	ug/l	596.61
Kr	84	72	1	No Gas		ug/l	17316.13
Sr	88	72	1	No Gas	0.056	ug/l	2362.19
Sr	88	72	3	He	0.054	ug/l	422.23
Mo	95	115	1	No Gas	0.061	ug/l	385.56
Mo	95	115	3	He	0.066	ug/l	145.56
Mo	98	115	1	No Gas	0.060	ug/l	620.64
Ag	107	115	1	No Gas	0.027	ug/l	1566.05
Ag	109	115	1	No Gas	0.025	ug/l	1465.33
Cd	111	115	1	No Gas	0.042	ug/l	171.80

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.054	ug/l	75.56
Cd	114	115	1	No Gas	0.027	ug/l	171.63
Cd	114	115	3	He	0.004	ug/l	46.34
Sn	118	115	1	No Gas	14.457	ug/l	159169.49
Sn	118	115	3	He	14.784	ug/l	41297.65
Sb	121	115	1	No Gas	0.033	ug/l	1304.19
Sb	121	115	3	He	0.037	ug/l	330.04
Sb	123	115	1	No Gas	0.033	ug/l	993.14
Sb	123	115	3	He	0.040	ug/l	260.03
Ba	135	115	1	No Gas	0.046	ug/l	159.69
Ba	137	115	1	No Gas	0.050	ug/l	299.41
La	139	115	3	He	0.061	ug/l	832.25
Ce	140	115	3	He	0.054	ug/l	805.58
Hg	201	209	1	No Gas	0.001	ug/l	88.31
Hg	202	209	1	No Gas	-0.001	ug/l	202.63
Hg	202	209	3	He	0.001	ug/l	86.98
Tl	203	209	3	He	0.040	ug/l	426.18
Tl	205	209	1	No Gas	0.045	ug/l	2293.55
Tl	205	209	3	He	0.036	ug/l	938.41
[Pb]	206	209	1	No Gas	0.051	ug/l	921.15
[Pb]	207	209	1	No Gas	0.047	ug/l	793.36
Pb	208	209	1	No Gas	0.051	ug/l	3755.80
Th	232	209	3	He	0.030	ug/l	770.33
U	238	209	1	No Gas	0.053	ug/l	2133.42

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3420079.62	101.4
Sc	45	2	H2	1811942.17	98.4
Sc	45	3	He	195761.13	98.2
Ge	72	1	No Gas	966730.10	102.6
Ge	72	2	H2	658238.43	96.9
Ge	72	3	He	133351.24	98.0
In	115	1	No Gas	7127010.50	100.9
In	115	3	He	1401180.28	98.9
Tb	159	1	No Gas	9231763.31	102.4
Tb	159	3	He	3514205.49	100.2
Ho	165	1	No Gas	9100287.36	104.1
Ho	165	3	He	3425415.24	99.4
Lu	175	1	No Gas	9046524.75	104.8
Lu	175	3	He	2769482.22	100.5
Bi	209	1	No Gas	6813480.54	102.3
Bi	209	3	He	2421551.01	99.9

ICPMS207-B Analytical Data

Sample Name 0.10 ppb STD
File Name 079CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 20:24:09
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1.307	ug/l	33768.13
Be	9	45	1	No Gas	0.128	ug/l	288.95
B	11	45	1	No Gas	-0.040	ug/l	1151.84
Na	23	45	3	He	29.180	ug/l	78608.67
Mg	24	45	3	He	33.143	ug/l	10369.73
Al	27	45	1	No Gas	0.289	ug/l	9874.41
Si	28	45	2	H2	-12.871	ug/l	31426.95
K	39	72	3	He	40.009	ug/l	82398.90
Ca	40	72	2	H2	35.086	ug/l	275628.65
Ti	47	72	1	No Gas	0.223	ug/l	435.45
V	51	72	1	No Gas	-1.387	ug/l	-21547.63
V	51	72	3	He	0.486	ug/l	15070.06
Cr	52	72	1	No Gas	0.477	ug/l	59603.83
Cr	52	72	3	He	0.142	ug/l	1341.18
Mn	55	72	1	No Gas	0.124	ug/l	9540.88
Mn	55	72	3	He	0.130	ug/l	339.61
Fe	56	72	2	H2	3.551	ug/l	47480.94
Fe	56	72	3	He	3.644	ug/l	14179.53
Co	59	72	1	No Gas	0.130	ug/l	2648.33
Ni	60	72	1	No Gas	0.196	ug/l	1230.95
Ni	60	72	3	He	0.150	ug/l	295.56
Cu	63	72	1	No Gas	0.167	ug/l	6189.80
Cu	63	72	3	He	0.167	ug/l	1637.10
Cu	65	72	1	No Gas	0.162	ug/l	2419.84
Zn	66	72	1	No Gas	0.206	ug/l	9189.96
Zn	66	72	3	He	0.286	ug/l	2029.04
As	75	72	1	No Gas	0.287	ug/l	11326.76
As	75	72	3	He	0.169	ug/l	361.27
Se	78	72	2	H2	0.143	ug/l	82.78
Br	79	72	1	No Gas	-0.282	ug/l	8136.20
Br	79	72	2	H2	-0.275	ug/l	4358.70
Se	82	72	1	No Gas	0.216	ug/l	628.61
Kr	84	72	1	No Gas		ug/l	16383.46
Sr	88	72	1	No Gas	0.129	ug/l	4268.86
Sr	88	72	3	He	0.141	ug/l	680.02
Mo	95	115	1	No Gas	0.108	ug/l	656.69
Mo	95	115	3	He	0.121	ug/l	248.89
Mo	98	115	1	No Gas	0.119	ug/l	1166.72
Ag	107	115	1	No Gas	0.053	ug/l	1989.61
Ag	109	115	1	No Gas	0.052	ug/l	1878.88
Cd	111	115	1	No Gas	0.131	ug/l	485.10

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.123	ug/l	148.67
Cd	114	115	1	No Gas	0.093	ug/l	697.27
Cd	114	115	3	He	0.073	ug/l	226.00
Sn	118	115	1	No Gas	14.413	ug/l	161373.21
Sn	118	115	3	He	14.782	ug/l	40882.97
Sb	121	115	1	No Gas	0.087	ug/l	2151.38
Sb	121	115	3	He	0.102	ug/l	573.74
Sb	123	115	1	No Gas	0.088	ug/l	1666.60
Sb	123	115	3	He	0.105	ug/l	453.05
Ba	135	115	1	No Gas	0.132	ug/l	422.50
Ba	137	115	1	No Gas	0.125	ug/l	698.64
La	139	115	3	He	0.123	ug/l	1655.67
Ce	140	115	3	He	0.126	ug/l	1846.80
Hg	201	209	1	No Gas	-0.003	ug/l	78.65
Hg	202	209	1	No Gas	0.002	ug/l	215.29
Hg	202	209	3	He	0.005	ug/l	93.98
Tl	203	209	3	He	0.100	ug/l	729.65
Tl	205	209	1	No Gas	0.110	ug/l	4158.47
Tl	205	209	3	He	0.104	ug/l	1743.49
[Pb]	206	209	1	No Gas	0.128	ug/l	1697.90
[Pb]	207	209	1	No Gas	0.119	ug/l	1436.75
Pb	208	209	1	No Gas	0.123	ug/l	6664.04
Th	232	209	3	He	0.080	ug/l	1580.07
U	238	209	1	No Gas	0.121	ug/l	4816.60

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3408505.97	101.0
Sc	45	2	H2	1808591.52	98.3
Sc	45	3	He	196324.97	98.5
Ge	72	1	No Gas	927490.63	98.4
Ge	72	2	H2	655538.77	96.5
Ge	72	3	He	132110.41	97.1
In	115	1	No Gas	7247416.39	102.6
In	115	3	He	1387653.99	97.9
Tb	159	1	No Gas	9105182.88	101.0
Tb	159	3	He	3512067.26	100.1
Ho	165	1	No Gas	8983238.55	102.8
Ho	165	3	He	3459042.83	100.3
Lu	175	1	No Gas	8910505.09	103.3
Lu	175	3	He	2838269.91	103.0
Bi	209	1	No Gas	6822432.55	102.5
Bi	209	3	He	2388783.01	98.5

ICPMS207-B Analytical Data

Sample Name 0.5 ppb STD
File Name 080CAL5.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 20:30:31
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	6.321	ug/l	50144.82
Be	9	45	1	No Gas	0.502	ug/l	946.51
B	11	45	1	No Gas	0.190	ug/l	1415.97
Na	23	45	3	He	134.694	ug/l	129138.13
Mg	24	45	3	He	146.209	ug/l	40754.54
Al	27	45	1	No Gas	0.645	ug/l	13629.57
Si	28	45	2	H2	-12.612	ug/l	31474.35
K	39	72	3	He	139.316	ug/l	110505.63
Ca	40	72	2	H2	139.335	ug/l	778187.07
Ti	47	72	1	No Gas	0.568	ug/l	874.24
V	51	72	1	No Gas	0.411	ug/l	9159.41
V	51	72	3	He	0.850	ug/l	15997.72
Cr	52	72	1	No Gas	0.685	ug/l	63468.13
Cr	52	72	3	He	0.553	ug/l	2523.57
Mn	55	72	1	No Gas	0.531	ug/l	18145.23
Mn	55	72	3	He	0.567	ug/l	1172.82
Fe	56	72	2	H2	14.204	ug/l	163844.49
Fe	56	72	3	He	14.809	ug/l	42767.39
Co	59	72	1	No Gas	0.538	ug/l	9597.51
Ni	60	72	1	No Gas	0.556	ug/l	2611.74
Ni	60	72	3	He	0.563	ug/l	755.58
Cu	63	72	1	No Gas	0.561	ug/l	10001.45
Cu	63	72	3	He	0.650	ug/l	3047.04
Cu	65	72	1	No Gas	0.580	ug/l	4336.39
Zn	66	72	1	No Gas	0.505	ug/l	10311.76
Zn	66	72	3	He	0.515	ug/l	2187.96
As	75	72	1	No Gas	2.440	ug/l	21210.93
As	75	72	3	He	0.556	ug/l	627.47
Se	78	72	2	H2	0.554	ug/l	269.78
Br	79	72	1	No Gas	-0.342	ug/l	7829.95
Br	79	72	2	H2	-0.278	ug/l	4372.00
Se	82	72	1	No Gas	0.346	ug/l	669.94
Kr	84	72	1	No Gas		ug/l	16806.47
Sr	88	72	1	No Gas	0.553	ug/l	16253.70
Sr	88	72	3	He	0.553	ug/l	1920.14
Mo	95	115	1	No Gas	0.515	ug/l	2886.98
Mo	95	115	3	He	0.501	ug/l	966.71
Mo	98	115	1	No Gas	0.487	ug/l	4441.34
Ag	107	115	1	No Gas	0.223	ug/l	4435.82
Ag	109	115	1	No Gas	0.209	ug/l	4056.89
Cd	111	115	1	No Gas	0.525	ug/l	1823.62

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.518	ug/l	572.01
Cd	114	115	1	No Gas	0.483	ug/l	3695.82
Cd	114	115	3	He	0.482	ug/l	1287.70
Sn	118	115	1	No Gas	14.706	ug/l	161158.41
Sn	118	115	3	He	14.634	ug/l	40409.34
Sb	121	115	1	No Gas	0.490	ug/l	8164.86
Sb	121	115	3	He	0.490	ug/l	2052.69
Sb	123	115	1	No Gas	0.476	ug/l	6144.30
Sb	123	115	3	He	0.480	ug/l	1590.92
Ba	135	115	1	No Gas	0.528	ug/l	1586.95
Ba	137	115	1	No Gas	0.502	ug/l	2608.42
La	139	115	3	He	0.529	ug/l	7058.52
Ce	140	115	3	He	0.532	ug/l	7714.42
Hg	201	209	1	No Gas	0.004	ug/l	98.31
Hg	202	209	1	No Gas	0.004	ug/l	232.62
Hg	202	209	3	He	0.015	ug/l	116.98
Tl	203	209	3	He	0.470	ug/l	2713.37
Tl	205	209	1	No Gas	0.490	ug/l	15526.94
Tl	205	209	3	He	0.497	ug/l	6615.65
[Pb]	206	209	1	No Gas	0.502	ug/l	5624.56
[Pb]	207	209	1	No Gas	0.500	ug/l	4960.96
Pb	208	209	1	No Gas	0.496	ug/l	22282.97
Th	232	209	3	He	0.404	ug/l	7034.73
U	238	209	1	No Gas	0.488	ug/l	19778.35

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3397817.84	100.7
Sc	45	2	H2	1791988.52	97.4
Sc	45	3	He	194107.69	97.4
Ge	72	1	No Gas	940367.24	99.8
Ge	72	2	H2	660130.78	97.2
Ge	72	3	He	132060.46	97.1
In	115	1	No Gas	7094873.98	100.5
In	115	3	He	1384410.82	97.7
Tb	159	1	No Gas	9295503.82	103.1
Tb	159	3	He	3590245.59	102.3
Ho	165	1	No Gas	8966020.29	102.6
Ho	165	3	He	3519826.14	102.1
Lu	175	1	No Gas	8787397.92	101.8
Lu	175	3	He	2783816.90	101.1
Bi	209	1	No Gas	6995022.80	105.0
Bi	209	3	He	2443097.14	100.8

ICPMS207-B Analytical Data

Sample Name 1 ppb STD
File Name 081CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 20:36:56
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	15.099	ug/l	75876.25
Be	9	45	1	No Gas	1.182	ug/l	2061.40
B	11	45	1	No Gas	0.913	ug/l	2169.03
Na	23	45	3	He	301.725	ug/l	210665.07
Mg	24	45	3	He	322.829	ug/l	88413.57
Al	27	45	1	No Gas	1.403	ug/l	20857.93
Si	28	45	2	H2	-11.635	ug/l	32672.83
K	39	72	3	He	288.461	ug/l	155942.49
Ca	40	72	2	H2	321.820	ug/l	1677746.47
Ti	47	72	1	No Gas	1.203	ug/l	1691.80
V	51	72	1	No Gas	-1.716	ug/l	-27864.00
V	51	72	3	He	1.195	ug/l	17215.78
Cr	52	72	1	No Gas	1.256	ug/l	72762.43
Cr	52	72	3	He	1.203	ug/l	4484.04
Mn	55	72	1	No Gas	1.243	ug/l	33365.41
Mn	55	72	3	He	1.232	ug/l	2486.72
Fe	56	72	2	H2	31.604	ug/l	358184.92
Fe	56	72	3	He	31.560	ug/l	87360.21
Co	59	72	1	No Gas	1.218	ug/l	21366.72
Ni	60	72	1	No Gas	1.199	ug/l	5120.74
Ni	60	72	3	He	1.257	ug/l	1560.09
Cu	63	72	1	No Gas	1.199	ug/l	16208.83
Cu	63	72	3	He	1.340	ug/l	5155.88
Cu	65	72	1	No Gas	1.237	ug/l	7378.84
Zn	66	72	1	No Gas	1.226	ug/l	12935.00
Zn	66	72	3	He	1.317	ug/l	2804.73
As	75	72	1	No Gas	2.383	ug/l	21328.41
As	75	72	3	He	1.171	ug/l	1071.42
Se	78	72	2	H2	1.195	ug/l	568.79
Br	79	72	1	No Gas	-0.344	ug/l	7896.58
Br	79	72	2	H2	-0.340	ug/l	4195.65
Se	82	72	1	No Gas	1.758	ug/l	1044.90
Kr	84	72	1	No Gas		ug/l	17156.16
Sr	88	72	1	No Gas	1.204	ug/l	34930.27
Sr	88	72	3	He	1.185	ug/l	3900.55
Mo	95	115	1	No Gas	1.097	ug/l	6140.25
Mo	95	115	3	He	1.147	ug/l	2179.07
Mo	98	115	1	No Gas	1.093	ug/l	9915.26
Ag	107	115	1	No Gas	0.478	ug/l	8233.05
Ag	109	115	1	No Gas	0.488	ug/l	8052.88
Cd	111	115	1	No Gas	1.196	ug/l	4142.22

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	1.180	ug/l	1275.17
Cd	114	115	1	No Gas	1.144	ug/l	8848.91
Cd	114	115	3	He	1.118	ug/l	2927.41
Sn	118	115	1	No Gas	15.191	ug/l	167349.94
Sn	118	115	3	He	15.737	ug/l	43228.74
Sb	121	115	1	No Gas	1.132	ug/l	17924.23
Sb	121	115	3	He	1.113	ug/l	4405.14
Sb	123	115	1	No Gas	1.103	ug/l	13521.54
Sb	123	115	3	He	1.144	ug/l	3583.49
Ba	135	115	1	No Gas	1.104	ug/l	3307.20
Ba	137	115	1	No Gas	1.108	ug/l	5739.81
La	139	115	3	He	1.207	ug/l	16024.96
Ce	140	115	3	He	1.175	ug/l	16941.64
Hg	201	209	1	No Gas	0.018	ug/l	129.31
Hg	202	209	1	No Gas	0.021	ug/l	324.27
Hg	202	209	3	He	0.023	ug/l	133.97
Tl	203	209	3	He	1.093	ug/l	6007.12
Tl	205	209	1	No Gas	1.143	ug/l	34815.69
Tl	205	209	3	He	1.092	ug/l	13886.16
[Pb]	206	209	1	No Gas	1.124	ug/l	12038.87
[Pb]	207	209	1	No Gas	1.064	ug/l	10106.14
Pb	208	209	1	No Gas	1.122	ug/l	48080.51
Th	232	209	3	He	0.993	ug/l	16869.01
U	238	209	1	No Gas	1.114	ug/l	44943.47

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3265562.73	96.8
Sc	45	2	H2	1789081.16	97.2
Sc	45	3	He	194205.97	97.5
Ge	72	1	No Gas	949606.91	100.8
Ge	72	2	H2	669293.30	98.5
Ge	72	3	He	134590.55	98.9
In	115	1	No Gas	7139510.81	101.1
In	115	3	He	1377935.85	97.3
Tb	159	1	No Gas	9169883.52	101.7
Tb	159	3	He	3608867.81	102.9
Ho	165	1	No Gas	8906742.99	101.9
Ho	165	3	He	3527644.21	102.3
Lu	175	1	No Gas	8913570.34	103.3
Lu	175	3	He	2760330.83	100.2
Bi	209	1	No Gas	6966035.76	104.6
Bi	209	3	He	2435553.92	100.4

ICPMS207-B Analytical Data

Sample Name 10 ppb STD
File Name 082CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 20:43:18
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	129.273	ug/l	452084.41
Be	9	45	1	No Gas	9.936	ug/l	17474.29
B	11	45	1	No Gas	9.808	ug/l	12541.62
Na	23	45	3	He	2802.495	ug/l	1432405.64
Mg	24	45	3	He	2803.553	ug/l	759285.31
Al	27	45	1	No Gas	10.603	ug/l	118968.46
Si	28	45	2	H2	24.418	ug/l	78870.09
K	39	72	3	He	2722.729	ug/l	851390.31
Ca	40	72	2	H2	2778.337	ug/l	13564530.09
Ti	47	72	1	No Gas	10.311	ug/l	13035.62
V	51	72	1	No Gas	6.509	ug/l	106490.65
V	51	72	3	He	10.885	ug/l	42149.74
Cr	52	72	1	No Gas	10.962	ug/l	214903.54
Cr	52	72	3	He	10.878	ug/l	32513.93
Mn	55	72	1	No Gas	11.016	ug/l	235056.54
Mn	55	72	3	He	10.971	ug/l	21141.36
Fe	56	72	2	H2	281.308	ug/l	3097511.57
Fe	56	72	3	He	288.597	ug/l	750024.46
Co	59	72	1	No Gas	10.947	ug/l	184684.43
Ni	60	72	1	No Gas	10.649	ug/l	40746.11
Ni	60	72	3	He	11.053	ug/l	12535.48
Cu	63	72	1	No Gas	10.950	ug/l	107500.66
Cu	63	72	3	He	11.609	ug/l	35274.45
Cu	65	72	1	No Gas	11.058	ug/l	51198.23
Zn	66	72	1	No Gas	11.076	ug/l	46134.29
Zn	66	72	3	He	11.434	ug/l	9920.12
As	75	72	1	No Gas	11.340	ug/l	61635.87
As	75	72	3	He	10.690	ug/l	7657.92
Se	78	72	2	H2	10.687	ug/l	4910.05
Br	79	72	1	No Gas	-0.357	ug/l	7676.83
Br	79	72	2	H2	-0.333	ug/l	4198.96
Se	82	72	1	No Gas	10.596	ug/l	3288.29
Kr	84	72	1	No Gas		ug/l	18575.17
Sr	88	72	1	No Gas	11.014	ug/l	308044.49
Sr	88	72	3	He	10.811	ug/l	33072.83
Mo	95	115	1	No Gas	10.230	ug/l	55795.82
Mo	95	115	3	He	10.030	ug/l	18936.06
Mo	98	115	1	No Gas	10.429	ug/l	92283.83
Ag	107	115	1	No Gas	4.319	ug/l	63774.79
Ag	109	115	1	No Gas	4.273	ug/l	60650.13
Cd	111	115	1	No Gas	10.653	ug/l	35980.12

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	10.492	ug/l	11230.21
Cd	114	115	1	No Gas	10.446	ug/l	79613.71
Cd	114	115	3	He	10.476	ug/l	27184.78
Sn	118	115	1	No Gas	23.186	ug/l	250244.88
Sn	118	115	3	He	23.561	ug/l	64748.78
Sb	121	115	1	No Gas	10.259	ug/l	153158.25
Sb	121	115	3	He	9.997	ug/l	38180.50
Sb	123	115	1	No Gas	10.073	ug/l	116315.67
Sb	123	115	3	He	9.999	ug/l	30348.75
Ba	135	115	1	No Gas	10.595	ug/l	30963.26
Ba	137	115	1	No Gas	10.594	ug/l	53480.94
La	139	115	3	He	10.619	ug/l	141207.37
Ce	140	115	3	He	10.576	ug/l	152677.85
Hg	201	209	1	No Gas	0.206	ug/l	554.57
Hg	202	209	1	No Gas	0.199	ug/l	1233.81
Hg	202	209	3	He	0.202	ug/l	518.24
Tl	203	209	3	He	9.867	ug/l	52589.86
Tl	205	209	1	No Gas	10.283	ug/l	300307.60
Tl	205	209	3	He	10.091	ug/l	124414.65
[Pb]	206	209	1	No Gas	10.264	ug/l	104828.40
[Pb]	207	209	1	No Gas	9.957	ug/l	89867.83
Pb	208	209	1	No Gas	10.143	ug/l	414169.95
Th	232	209	3	He	9.740	ug/l	163333.86
U	238	209	1	No Gas	10.183	ug/l	404054.13

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3379152.64	100.2
Sc	45	2	H2	1786594.34	97.1
Sc	45	3	He	194444.36	97.6
Ge	72	1	No Gas	932619.58	99.0
Ge	72	2	H2	665447.64	98.0
Ge	72	3	He	133052.15	97.8
In	115	1	No Gas	6999779.32	99.1
In	115	3	He	1380477.86	97.4
Tb	159	1	No Gas	9358573.24	103.8
Tb	159	3	He	3526213.90	100.5
Ho	165	1	No Gas	9079113.59	103.9
Ho	165	3	He	3401977.90	98.7
Lu	175	1	No Gas	8919757.15	103.4
Lu	175	3	He	2812535.41	102.1
Bi	209	1	No Gas	6852583.52	102.9
Bi	209	3	He	2439340.94	100.6

ICPMS207-B Analytical Data

Sample Name 50 ppb STD
File Name 083CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 20:49:41
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	570.963	ug/l	1860735.96
Be	9	45	1	No Gas	48.134	ug/l	82827.93
B	11	45	1	No Gas	49.666	ug/l	57583.46
Na	23	45	3	He	12260.200	ug/l	6299728.52
Mg	24	45	3	He	12636.503	ug/l	3558205.69
Al	27	45	1	No Gas	50.607	ug/l	532152.61
Si	28	45	2	H2	210.718	ug/l	318803.85
K	39	72	3	He	11937.578	ug/l	3604358.31
Ca	40	72	2	H2	12343.103	ug/l	60836503.53
Ti	47	72	1	No Gas	51.514	ug/l	67165.46
V	51	72	1	No Gas	48.709	ug/l	828604.84
V	51	72	3	He	50.368	ug/l	149455.25
Cr	52	72	1	No Gas	49.184	ug/l	812110.15
Cr	52	72	3	He	50.596	ug/l	152697.60
Mn	55	72	1	No Gas	48.635	ug/l	1056135.91
Mn	55	72	3	He	51.553	ug/l	102314.03
Fe	56	72	2	H2	1301.455	ug/l	14525416.68
Fe	56	72	3	He	1304.989	ug/l	3485718.98
Co	59	72	1	No Gas	50.653	ug/l	888521.39
Ni	60	72	1	No Gas	49.644	ug/l	195940.33
Ni	60	72	3	He	53.156	ug/l	61794.61
Cu	63	72	1	No Gas	49.402	ug/l	487929.54
Cu	63	72	3	He	53.868	ug/l	164785.55
Cu	65	72	1	No Gas	49.885	ug/l	234433.76
Zn	66	72	1	No Gas	51.257	ug/l	190058.35
Zn	66	72	3	He	52.499	ug/l	40210.14
As	75	72	1	No Gas	50.435	ug/l	249398.99
As	75	72	3	He	51.600	ug/l	37214.76
Se	78	72	2	H2	51.460	ug/l	23950.00
Br	79	72	1	No Gas	-0.223	ug/l	8935.07
Br	79	72	2	H2	-0.167	ug/l	4917.77
Se	82	72	1	No Gas	51.122	ug/l	14238.17
Kr	84	72	1	No Gas		ug/l	26428.61
Sr	88	72	1	No Gas	51.284	ug/l	1491059.39
Sr	88	72	3	He	51.879	ug/l	162960.23
Mo	95	115	1	No Gas	49.801	ug/l	281696.44
Mo	95	115	3	He	51.117	ug/l	96890.83
Mo	98	115	1	No Gas	50.078	ug/l	459866.68
Ag	107	115	1	No Gas	19.966	ug/l	301692.01
Ag	109	115	1	No Gas	19.790	ug/l	287403.95
Cd	111	115	1	No Gas	49.494	ug/l	173419.84

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	51.029	ug/l	54840.50
Cd	114	115	1	No Gas	48.878	ug/l	386800.06
Cd	114	115	3	He	50.982	ug/l	132848.36
Sn	118	115	1	No Gas	42.155	ug/l	471754.89
Sn	118	115	3	He	42.930	ug/l	118393.60
Sb	121	115	1	No Gas	51.948	ug/l	801639.26
Sb	121	115	3	He	52.284	ug/l	199929.39
Sb	123	115	1	No Gas	50.796	ug/l	606232.71
Sb	123	115	3	He	51.284	ug/l	155934.67
Ba	135	115	1	No Gas	48.711	ug/l	147653.39
Ba	137	115	1	No Gas	50.165	ug/l	262686.88
La	139	115	3	He	49.471	ug/l	661280.19
Ce	140	115	3	He	49.529	ug/l	718624.05
Hg	201	209	1	No Gas	0.952	ug/l	2200.08
Hg	202	209	1	No Gas	0.948	ug/l	4992.95
Hg	202	209	3	He	0.951	ug/l	2046.08
Tl	203	209	3	He	49.172	ug/l	251775.38
Tl	205	209	1	No Gas	50.300	ug/l	1436684.32
Tl	205	209	3	He	50.144	ug/l	594033.54
[Pb]	206	209	1	No Gas	49.470	ug/l	493951.51
[Pb]	207	209	1	No Gas	48.608	ug/l	428638.28
Pb	208	209	1	No Gas	49.073	ug/l	1958474.03
Th	232	209	3	He	50.597	ug/l	816590.57
U	238	209	1	No Gas	50.340	ug/l	1957973.84

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3316316.41	98.3
Sc	45	2	H2	1792254.07	97.4
Sc	45	3	He	202456.05	101.6
Ge	72	1	No Gas	972641.64	103.2
Ge	72	2	H2	676082.98	99.5
Ge	72	3	He	137449.08	101.0
In	115	1	No Gas	7270464.99	103.0
In	115	3	He	1388006.36	98.0
Tb	159	1	No Gas	9328415.38	103.5
Tb	159	3	He	3485732.88	99.3
Ho	165	1	No Gas	8942584.15	102.3
Ho	165	3	He	3494780.78	101.4
Lu	175	1	No Gas	9061056.47	105.0
Lu	175	3	He	2869517.47	104.2
Bi	209	1	No Gas	6720834.27	100.9
Bi	209	3	He	2351675.20	97.0

ICPMS207-B Analytical Data

Sample Name 100 ppb STD
File Name 084CAL5.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 20:56:02
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	1179.458	ug/l	3901292.38
Be	9	45	1	No Gas	94.301	ug/l	165996.60
B	11	45	1	No Gas	96.112	ug/l	112850.42
Na	23	45	3	He	25089.586	ug/l	13365374.52
Mg	24	45	3	He	25144.536	ug/l	7380250.89
Al	27	45	1	No Gas	100.959	ug/l	1079603.73
Si	28	45	2	H2	396.446	ug/l	568054.50
K	39	72	3	He	24962.872	ug/l	7681119.33
Ca	40	72	2	H2	25382.128	ug/l	128141970.79
Ti	47	72	1	No Gas	99.209	ug/l	130884.67
V	51	72	1	No Gas	89.539	ug/l	1539034.41
V	51	72	3	He	99.593	ug/l	289949.30
Cr	52	72	1	No Gas	95.593	ug/l	1546713.99
Cr	52	72	3	He	99.299	ug/l	307797.49
Mn	55	72	1	No Gas	98.337	ug/l	2156711.22
Mn	55	72	3	He	101.735	ug/l	207921.74
Fe	56	72	2	H2	2605.830	ug/l	29806949.23
Fe	56	72	3	He	2672.614	ug/l	7348543.18
Co	59	72	1	No Gas	96.703	ug/l	1717824.88
Ni	60	72	1	No Gas	95.236	ug/l	380370.27
Ni	60	72	3	He	103.343	ug/l	123624.37
Cu	63	72	1	No Gas	97.324	ug/l	969723.51
Cu	63	72	3	He	105.734	ug/l	331996.42
Cu	65	72	1	No Gas	98.786	ug/l	468449.23
Zn	66	72	1	No Gas	99.600	ug/l	365746.85
Zn	66	72	3	He	105.781	ug/l	81456.68
As	75	72	1	No Gas	99.104	ug/l	486414.61
As	75	72	3	He	101.673	ug/l	75284.30
Se	78	72	2	H2	101.141	ug/l	48245.16
Br	79	72	1	No Gas	-0.203	ug/l	9201.38
Br	79	72	2	H2	-0.128	ug/l	5200.65
Se	82	72	1	No Gas	100.163	ug/l	27681.76
Kr	84	72	1	No Gas		ug/l	35790.37
Sr	88	72	1	No Gas	98.929	ug/l	2914299.37
Sr	88	72	3	He	101.783	ug/l	329173.10
Mo	95	115	1	No Gas	100.076	ug/l	551328.77
Mo	95	115	3	He	99.437	ug/l	191455.40
Mo	98	115	1	No Gas	99.917	ug/l	893081.31
Ag	107	115	1	No Gas	39.984	ug/l	587147.45
Ag	109	115	1	No Gas	40.077	ug/l	565698.03
Cd	111	115	1	No Gas	102.262	ug/l	348911.17

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	100.297	ug/l	109428.57
Cd	114	115	1	No Gas	99.936	ug/l	770134.92
Cd	114	115	3	He	100.028	ug/l	264651.50
Sn	118	115	1	No Gas	102.366	ug/l	1114279.28
Sn	118	115	3	He	101.935	ug/l	285275.32
Sb	121	115	1	No Gas	98.999	ug/l	1486662.67
Sb	121	115	3	He	98.857	ug/l	383714.61
Sb	123	115	1	No Gas	99.594	ug/l	1156865.35
Sb	123	115	3	He	99.357	ug/l	306591.78
Ba	135	115	1	No Gas	98.994	ug/l	292208.44
Ba	137	115	1	No Gas	100.938	ug/l	514528.40
La	139	115	3	He	100.200	ug/l	1359827.22
Ce	140	115	3	He	100.176	ug/l	1476041.35
Hg	201	209	1	No Gas	2.024	ug/l	4399.85
Hg	202	209	1	No Gas	2.026	ug/l	10016.43
Hg	202	209	3	He	2.024	ug/l	4347.85
Tl	203	209	3	He	94.830	ug/l	494924.37
Tl	205	209	1	No Gas	100.808	ug/l	2762640.32
Tl	205	209	3	He	98.250	ug/l	1186479.61
[Pb]	206	209	1	No Gas	100.541	ug/l	962664.66
[Pb]	207	209	1	No Gas	99.779	ug/l	843760.22
Pb	208	209	1	No Gas	100.640	ug/l	3851154.80
Th	232	209	3	He	98.926	ug/l	1628556.74
U	238	209	1	No Gas	101.160	ug/l	3776085.70

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3394272.53	100.6
Sc	45	2	H2	1825730.79	99.2
Sc	45	3	He	211149.20	106.0
Ge	72	1	No Gas	984670.02	104.5
Ge	72	2	H2	693231.66	102.1
Ge	72	3	He	141618.33	104.1
In	115	1	No Gas	7078346.09	100.2
In	115	3	He	1409161.43	99.5
Tb	159	1	No Gas	9200082.57	102.1
Tb	159	3	He	3585494.46	102.2
Ho	165	1	No Gas	9038585.45	103.4
Ho	165	3	He	3545247.23	102.8
Lu	175	1	No Gas	9070464.73	105.1
Lu	175	3	He	2851167.71	103.5
Bi	209	1	No Gas	6454012.66	96.9
Bi	209	3	He	2399025.51	98.9

ICPMS207-B Analytical Data

Sample Name 1000 ppb STD
File Name 085CAL5.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 21:02:24
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020B-Cal
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	2548.554	ug/l	9051168.26
Be	9	45	1	No Gas	1000.664	ug/l	1898147.37
B	11	45	1	No Gas	1000.408	ug/l	1254528.63
Na	23	45	3	He	4999.748	ug/l	29127447.07
Mg	24	45	3	He	49878.007	ug/l	16039469.91
Al	27	45	1	No Gas	999.867	ug/l	11461120.11
Si	28	45	2	H2	-17.692	ug/l	26747.30
K	39	72	3	He	50147.795	ug/l	16878022.66
Ca	40	72	2	H2	49833.842	ug/l	257549810.74
Ti	47	72	1	No Gas	6.501	ug/l	8851.81
V	51	72	1	No Gas	1001.148	ug/l	17406543.12
V	51	72	3	He	1000.013	ug/l	3052515.13
Cr	52	72	1	No Gas	1000.471	ug/l	15849823.47
Cr	52	72	3	He	1000.031	ug/l	3396107.66
Mn	55	72	1	No Gas	1000.224	ug/l	22144878.10
Mn	55	72	3	He	999.739	ug/l	2244407.09
Fe	56	72	2	H2	5996.208	ug/l	70226728.42
Fe	56	72	3	He	5966.185	ug/l	18016171.16
Co	59	72	1	No Gas	1000.287	ug/l	17997464.49
Ni	60	72	1	No Gas	1000.487	ug/l	4041828.35
Ni	60	72	3	He	999.497	ug/l	1312612.99
Cu	63	72	1	No Gas	1000.288	ug/l	10044162.77
Cu	63	72	3	He	999.217	ug/l	3436307.13
Cu	65	72	1	No Gas	1000.116	ug/l	4785174.25
Zn	66	72	1	No Gas	999.966	ug/l	3636271.60
Zn	66	72	3	He	999.282	ug/l	827589.95
As	75	72	1	No Gas	1000.052	ug/l	4870987.13
As	75	72	3	He	999.746	ug/l	811015.61
Se	78	72	2	H2	999.806	ug/l	488181.38
Br	79	72	1	No Gas	-0.099	ug/l	10070.28
Br	79	72	2	H2	1.909	ug/l	13735.97
Se	82	72	1	No Gas	999.921	ug/l	274205.04
Kr	84	72	1	No Gas		ug/l	206231.91
Sr	88	72	1	No Gas	1000.032	ug/l	29820652.59
Sr	88	72	3	He	999.719	ug/l	3549550.02
Mo	95	115	1	No Gas	0.111	ug/l	672.24
Mo	95	115	3	He	0.074	ug/l	167.78
Mo	98	115	1	No Gas	0.129	ug/l	1255.70
Ag	107	115	1	No Gas	380.984	ug/l	5708556.46
Ag	109	115	1	No Gas	373.706	ug/l	5385033.18
Cd	111	115	1	No Gas	999.792	ug/l	3486650.84

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	999.914	ug/l	1131912.71
Cd	114	115	1	No Gas	1000.058	ug/l	7880120.74
Cd	114	115	3	He	999.943	ug/l	2744599.03
Sn	118	115	1	No Gas	13.840	ug/l	154758.63
Sn	118	115	3	He	14.852	ug/l	43314.69
Sb	121	115	1	No Gas	0.322	ug/l	5747.42
Sb	121	115	3	He	0.272	ug/l	1288.86
Sb	123	115	1	No Gas	0.342	ug/l	4675.26
Sb	123	115	3	He	0.284	ug/l	1051.81
Ba	135	115	1	No Gas	1000.159	ug/l	3018619.09
Ba	137	115	1	No Gas	999.892	ug/l	5211604.63
La	139	115	3	He	0.009	ug/l	137.78
Ce	140	115	3	He	0.023	ug/l	373.34
Hg	201	209	1	No Gas	0.005	ug/l	93.98
Hg	202	209	1	No Gas	0.012	ug/l	256.95
Hg	202	209	3	He	0.014	ug/l	110.65
Tl	203	209	3	He	1000.560	ug/l	5144646.70
Tl	205	209	1	No Gas	999.901	ug/l	27837519.87
Tl	205	209	3	He	1000.167	ug/l	11894177.73
[Pb]	206	209	1	No Gas	999.970	ug/l	9731755.55
[Pb]	207	209	1	No Gas	1000.092	ug/l	8600534.32
Pb	208	209	1	No Gas	999.981	ug/l	38908690.81
Th	232	209	3	He	1000.080	ug/l	16217001.93
U	238	209	1	No Gas	999.865	ug/l	37948024.80

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3656100.55	108.4
Sc	45	2	H2	1922215.53	104.4
Sc	45	3	He	231306.83	116.1
Ge	72	1	No Gas	996932.32	105.8
Ge	72	2	H2	709841.28	104.5
Ge	72	3	He	155622.06	114.4
In	115	1	No Gas	7238210.38	102.5
In	115	3	He	1462387.45	103.2
Tb	159	1	No Gas	9292654.62	103.1
Tb	159	3	He	3738849.37	106.6
Ho	165	1	No Gas	9289315.34	106.3
Ho	165	3	He	3680657.09	106.8
Lu	175	1	No Gas	9069581.24	105.1
Lu	175	3	He	2934495.56	106.5
Bi	209	1	No Gas	6557000.29	98.5
Bi	209	3	He	2362800.54	97.4

ICPMS207-B Analytical Data

Sample Name 100 ppb Br STD
File Name 086CAL.S.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 21:08:48
Sample Type CalStd
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	0.464	ug/l	32855.12
Be	9	45	1	No Gas	0.152	ug/l	351.27
B	11	45	1	No Gas	4.424	ug/l	6746.23
Na	23	45	3	He	-17.198	ug/l	58311.23
Mg	24	45	3	He	0.220	ug/l	1447.21
Al	27	45	1	No Gas	0.048	ug/l	7748.71
Si	28	45	2	H2	-22.596	ug/l	19440.46
K	39	72	3	He	498.089	ug/l	228984.41
Ca	40	72	2	H2	1.988	ug/l	126148.98
Ti	47	72	1	No Gas	0.138	ug/l	348.69
V	51	72	1	No Gas	-1.363	ug/l	-22274.25
V	51	72	3	He	-2.699	ug/l	7389.70
Cr	52	72	1	No Gas	-0.402	ug/l	49211.08
Cr	52	72	3	He	0.009	ug/l	1031.16
Mn	55	72	1	No Gas	0.039	ug/l	8206.06
Mn	55	72	3	He	0.029	ug/l	158.97
Fe	56	72	2	H2	0.104	ug/l	10936.75
Fe	56	72	3	He	0.019	ug/l	5261.25
Co	59	72	1	No Gas	0.027	ug/l	988.07
Ni	60	72	1	No Gas	0.026	ug/l	625.44
Ni	60	72	3	He	0.000	ug/l	137.78
Cu	63	72	1	No Gas	-0.031	ug/l	4573.89
Cu	63	72	3	He	0.030	ug/l	1332.80
Cu	65	72	1	No Gas	0.051	ug/l	2030.96
Zn	66	72	1	No Gas	-0.013	ug/l	8907.84
Zn	66	72	3	He	0.018	ug/l	1982.37
As	75	72	1	No Gas	1.437	ug/l	17438.64
As	75	72	3	He	-0.017	ug/l	251.33
Se	78	72	2	H2	0.154	ug/l	94.00
Br	79	72	1	No Gas	100.000	ug/l	719992.14
Br	79	72	2	H2	100.000	ug/l	414424.85
Se	82	72	1	No Gas	1.156	ug/l	914.62
Kr	84	72	1	No Gas		ug/l	18002.22
Sr	88	72	1	No Gas	0.006	ug/l	924.87
Sr	88	72	3	He	0.006	ug/l	295.56
Mo	95	115	1	No Gas	0.016	ug/l	137.78
Mo	95	115	3	He	0.012	ug/l	44.45
Mo	98	115	1	No Gas	0.009	ug/l	167.29
Ag	107	115	1	No Gas	0.075	ug/l	2364.49
Ag	109	115	1	No Gas	0.082	ug/l	2365.82
Cd	111	115	1	No Gas	0.101	ug/l	387.21

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.072	ug/l	97.56
Cd	114	115	1	No Gas	0.087	ug/l	655.91
Cd	114	115	3	He	0.025	ug/l	105.19
Sn	118	115	1	No Gas	14.383	ug/l	163990.64
Sn	118	115	3	He	14.721	ug/l	42061.07
Sb	121	115	1	No Gas	0.044	ug/l	1513.57
Sb	121	115	3	He	0.049	ug/l	383.04
Sb	123	115	1	No Gas	0.046	ug/l	1187.17
Sb	123	115	3	He	0.057	ug/l	318.04
Ba	135	115	1	No Gas	0.017	ug/l	76.51
Ba	137	115	1	No Gas	0.014	ug/l	119.76
La	139	115	3	He	0.000	ug/l	4.44
Ce	140	115	3	He	0.000	ug/l	18.89
Hg	201	209	1	No Gas	-0.007	ug/l	69.66
Hg	202	209	1	No Gas	-0.003	ug/l	186.96
Hg	202	209	3	He	0.000	ug/l	82.98
Tl	203	209	3	He	0.086	ug/l	658.95
Tl	205	209	1	No Gas	0.117	ug/l	4281.83
Tl	205	209	3	He	0.091	ug/l	1587.40
[Pb]	206	209	1	No Gas	0.036	ug/l	757.80
[Pb]	207	209	1	No Gas	0.030	ug/l	633.35
Pb	208	209	1	No Gas	0.032	ug/l	2941.26
Th	232	209	3	He	0.200	ug/l	3548.58
U	238	209	1	No Gas	0.035	ug/l	1400.80

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3612347.92	107.1
Sc	45	2	H2	1870244.95	101.6
Sc	45	3	He	205342.17	103.0
Ge	72	1	No Gas	977567.95	103.8
Ge	72	2	H2	702479.58	103.4
Ge	72	3	He	142236.53	104.5
In	115	1	No Gas	7383020.58	104.6
In	115	3	He	1433733.80	101.2
Tb	159	1	No Gas	9308206.73	103.3
Tb	159	3	He	3617158.39	103.1
Ho	165	1	No Gas	8956016.74	102.5
Ho	165	3	He	3526246.49	102.3
Lu	175	1	No Gas	8979486.98	104.1
Lu	175	3	He	2775072.89	100.7
Bi	209	1	No Gas	6699891.70	100.6
Bi	209	3	He	2389050.38	98.5

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 087BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 21:15:10
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	-0.386	ug/l	28195.33
Be	9	45	1	No Gas	0.079	ug/l	203.29
B	11	45	1	No Gas	1.966	ug/l	3494.49
Na	23	45	3	He	-13.773	ug/l	56837.84
Mg	24	45	3	He	0.532	ug/l	1453.86
Al	27	45	1	No Gas	0.024	ug/l	7048.36
Si	28	45	2	H2	-22.007	ug/l	19490.56
K	39	72	3	He	-2.354	ug/l	71774.69
Ca	40	72	2	H2	0.137	ug/l	111494.64
Ti	47	72	1	No Gas	0.036	ug/l	210.21
V	51	72	1	No Gas	-1.619	ug/l	-26216.30
V	51	72	3	He	-2.699	ug/l	6999.51
Cr	52	72	1	No Gas	-0.804	ug/l	42026.83
Cr	52	72	3	He	0.022	ug/l	1015.60
Mn	55	72	1	No Gas	-0.030	ug/l	6548.51
Mn	55	72	3	He	0.011	ug/l	116.31
Fe	56	72	2	H2	-0.084	ug/l	8374.16
Fe	56	72	3	He	-0.182	ug/l	4460.18
Co	59	72	1	No Gas	0.009	ug/l	648.73
Ni	60	72	1	No Gas	-0.003	ug/l	499.02
Ni	60	72	3	He	0.015	ug/l	147.78
Cu	63	72	1	No Gas	-0.057	ug/l	4226.32
Cu	63	72	3	He	-0.015	ug/l	1127.48
Cu	65	72	1	No Gas	-0.018	ug/l	1670.10
Zn	66	72	1	No Gas	-0.195	ug/l	8075.74
Zn	66	72	3	He	-0.178	ug/l	1737.89
As	75	72	1	No Gas	0.683	ug/l	13517.38
As	75	72	3	He	-0.057	ug/l	209.87
Se	78	72	2	H2	0.046	ug/l	39.66
Br	79	72	1	No Gas	0.890	ug/l	16530.04
Br	79	72	2	H2	0.691	ug/l	8236.10
Se	82	72	1	No Gas	-0.025	ug/l	583.41
Kr	84	72	1	No Gas		ug/l	17199.53
Sr	88	72	1	No Gas	0.000	ug/l	728.58
Sr	88	72	3	He	0.003	ug/l	268.90
Mo	95	115	1	No Gas	0.002	ug/l	56.67
Mo	95	115	3	He	0.001	ug/l	22.22
Mo	98	115	1	No Gas	0.001	ug/l	90.62
Ag	107	115	1	No Gas	0.001	ug/l	1179.19
Ag	109	115	1	No Gas	-0.001	ug/l	1085.82
Cd	111	115	1	No Gas	0.026	ug/l	114.74

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.025	ug/l	43.55
Cd	114	115	1	No Gas	0.033	ug/l	219.25
Cd	114	115	3	He	0.029	ug/l	111.15
Sn	118	115	1	No Gas	0.021	ug/l	994.73
Sn	118	115	3	He	0.025	ug/l	270.00
Sb	121	115	1	No Gas	0.006	ug/l	883.45
Sb	121	115	3	He	0.012	ug/l	230.69
Sb	123	115	1	No Gas	0.007	ug/l	688.76
Sb	123	115	3	He	0.017	ug/l	184.69
Ba	135	115	1	No Gas	0.012	ug/l	59.88
Ba	137	115	1	No Gas	0.000	ug/l	43.25
La	139	115	3	He	0.000	ug/l	5.55
Ce	140	115	3	He	0.000	ug/l	14.45
Hg	201	209	1	No Gas	-0.008	ug/l	65.66
Hg	202	209	1	No Gas	-0.007	ug/l	168.30
Hg	202	209	3	He	0.000	ug/l	81.65
Tl	203	209	3	He	0.024	ug/l	328.80
Tl	205	209	1	No Gas	0.038	ug/l	2013.50
Tl	205	209	3	He	0.033	ug/l	875.05
[Pb]	206	209	1	No Gas	0.009	ug/l	483.35
[Pb]	207	209	1	No Gas	0.011	ug/l	457.79
Pb	208	209	1	No Gas	0.011	ug/l	2057.86
Th	232	209	3	He	0.044	ug/l	952.42
U	238	209	1	No Gas	0.008	ug/l	326.94

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3408717.55	101.0
Sc	45	2	H2	1801918.33	97.9
Sc	45	3	He	194286.09	97.5
Ge	72	1	No Gas	956312.08	101.5
Ge	72	2	H2	671258.12	98.8
Ge	72	3	He	134746.01	99.0
In	115	1	No Gas	7080317.56	100.3
In	115	3	He	1380362.41	97.4
Tb	159	1	No Gas	8893311.65	98.7
Tb	159	3	He	3481410.72	99.2
Ho	165	1	No Gas	8734095.14	99.9
Ho	165	3	He	3300594.80	95.7
Lu	175	1	No Gas	8563613.52	99.2
Lu	175	3	He	2652532.93	96.3
Bi	209	1	No Gas	6631926.61	99.6
Bi	209	3	He	2327993.18	96.0

ICPMS207-B Analytical Data

Sample Name QCS
File Name 088_QC1.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 21:21:24
Sample Type QC1
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	41.449	ug/l	162861.04
Be	9	45	1	No Gas	20.995	ug/l	36440.92
B	11	45	1	No Gas	47.051	ug/l	54994.47
Na	23	45	3	He	2576.411	ug/l	1270184.14
Mg	24	45	3	He	2545.384	ug/l	662789.51
Al	27	45	1	No Gas	239.930	ug/l	2517705.21
Si	28	45	2	H2	497.728	ug/l	681717.42
K	39	72	3	He	2410.271	ug/l	770210.32
Ca	40	72	2	H2	2575.576	ug/l	12887882.64
Ti	47	72	1	No Gas	50.687	ug/l	64782.72
V	51	72	1	No Gas	47.404	ug/l	788861.67
V	51	72	3	He	45.708	ug/l	134062.00
Cr	52	72	1	No Gas	48.758	ug/l	789963.48
Cr	52	72	3	He	48.672	ug/l	143835.12
Mn	55	72	1	No Gas	247.570	ug/l	5240010.58
Mn	55	72	3	He	253.554	ug/l	492150.44
Fe	56	72	2	H2	255.701	ug/l	2885303.95
Fe	56	72	3	He	253.677	ug/l	667186.98
Co	59	72	1	No Gas	50.805	ug/l	873555.42
Ni	60	72	1	No Gas	49.722	ug/l	192338.05
Ni	60	72	3	He	53.262	ug/l	60584.84
Cu	63	72	1	No Gas	51.323	ug/l	496807.25
Cu	63	72	3	He	54.776	ug/l	163992.11
Cu	65	72	1	No Gas	50.990	ug/l	234726.84
Zn	66	72	1	No Gas	52.489	ug/l	190587.67
Zn	66	72	3	He	52.669	ug/l	39480.35
As	75	72	1	No Gas	50.159	ug/l	243203.48
As	75	72	3	He	50.063	ug/l	35349.70
Se	78	72	2	H2	50.975	ug/l	23920.62
Br	79	72	1	No Gas	-0.030	ug/l	10103.56
Br	79	72	2	H2	-0.003	ug/l	5609.99
Se	82	72	1	No Gas	50.788	ug/l	13868.42
Kr	84	72	1	No Gas		ug/l	26228.63
Sr	88	72	1	No Gas	51.738	ug/l	1474049.35
Sr	88	72	3	He	49.820	ug/l	153188.60
Mo	95	115	1	No Gas	49.047	ug/l	272873.51
Mo	95	115	3	He	51.488	ug/l	94726.09
Mo	98	115	1	No Gas	48.408	ug/l	437071.26
Ag	107	115	1	No Gas	25.183	ug/l	373816.49
Ag	109	115	1	No Gas	25.035	ug/l	357187.07
Cd	111	115	1	No Gas	24.867	ug/l	85700.13

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	25.501	ug/l	26596.26
Cd	114	115	1	No Gas	24.334	ug/l	189351.09
Cd	114	115	3	He	25.421	ug/l	64288.81
Sn	118	115	1	No Gas	43.915	ug/l	483335.05
Sn	118	115	3	He	44.920	ug/l	120219.13
Sb	121	115	1	No Gas	51.558	ug/l	782501.99
Sb	121	115	3	He	51.434	ug/l	190838.12
Sb	123	115	1	No Gas	50.627	ug/l	594214.32
Sb	123	115	3	He	51.154	ug/l	150880.89
Ba	135	115	1	No Gas	49.789	ug/l	148471.27
Ba	137	115	1	No Gas	49.698	ug/l	255946.55
La	139	115	3	He	52.229	ug/l	677322.30
Ce	140	115	3	He	51.690	ug/l	727714.56
Hg	201	209	1	No Gas	0.982	ug/l	2197.41
Hg	202	209	1	No Gas	0.940	ug/l	4799.58
Hg	202	209	3	He	1.013	ug/l	2145.08
Tl	203	209	3	He	47.575	ug/l	240223.84
Tl	205	209	1	No Gas	48.176	ug/l	1332614.78
Tl	205	209	3	He	49.937	ug/l	583214.66
[Pb]	206	209	1	No Gas	49.516	ug/l	478886.24
[Pb]	207	209	1	No Gas	48.604	ug/l	415115.20
Pb	208	209	1	No Gas	49.940	ug/l	1930383.20
Th	232	209	3	He	48.686	ug/l	774946.43
U	238	209	1	No Gas	51.333	ug/l	1933698.30

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3340955.23	99.0
Sc	45	2	H2	1775934.17	96.5
Sc	45	3	He	186943.77	93.8
Ge	72	1	No Gas	952283.94	101.1
Ge	72	2	H2	681886.23	100.4
Ge	72	3	He	134564.79	98.9
In	115	1	No Gas	7146911.49	101.2
In	115	3	He	1346370.83	95.0
Tb	159	1	No Gas	8902782.16	98.8
Tb	159	3	He	3454061.39	98.4
Ho	165	1	No Gas	8855920.82	101.3
Ho	165	3	He	3406852.98	98.8
Lu	175	1	No Gas	8901439.67	103.2
Lu	175	3	He	2658607.63	96.5
Bi	209	1	No Gas	6508549.25	97.7
Bi	209	3	He	2318368.17	95.6

ICPMS207-B Analytical Data

Sample Name ICSA
File Name 089ICSA.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 21:27:39
Sample Type ICSA
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	-1.723	ug/l	23961.07
Be	9	45	1	No Gas	0.031	ug/l	119.31
B	11	45	1	No Gas	1.250	ug/l	2679.32
Na	23	45	3	He	100772.906	ug/l	52879239.21
Mg	24	45	3	He	40133.740	ug/l	11644780.95
Al	27	45	1	No Gas	39941.682	ug/l	429923642.48
Si	28	45	2	H2	-20.958	ug/l	21367.84
K	39	72	3	He	40580.211	ug/l	12639144.68
Ca	40	72	2	H2	123293.974	ug/l	617560732.31
Ti	47	72	1	No Gas	825.121	ug/l	1063082.69
V	51	72	1	No Gas	-0.469	ug/l	-6957.94
V	51	72	3	He	-4.486	ug/l	2455.78
Cr	52	72	1	No Gas	0.495	ug/l	62108.03
Cr	52	72	3	He	1.883	ug/l	6927.23
Mn	55	72	1	No Gas	0.238	ug/l	12327.47
Mn	55	72	3	He	0.267	ug/l	655.55
Fe	56	72	2	H2	103971.682	ug/l	1180444362.78
Fe	56	72	3	He	104103.288	ug/l	290529739.50
Co	59	72	1	No Gas	0.173	ug/l	3493.51
Ni	60	72	1	No Gas	0.586	ug/l	2798.09
Ni	60	72	3	He	0.090	ug/l	248.89
Cu	63	72	1	No Gas	1.949	ug/l	23691.95
Cu	63	72	3	He	0.096	ug/l	1556.77
Cu	65	72	1	No Gas	0.593	ug/l	4502.51
Zn	66	72	1	No Gas	0.305	ug/l	9881.37
Zn	66	72	3	He	0.012	ug/l	2000.15
As	75	72	1	No Gas	0.679	ug/l	13597.95
As	75	72	3	He	-0.066	ug/l	217.13
Se	78	72	2	H2	0.175	ug/l	101.89
Br	79	72	1	No Gas	0.246	ug/l	12127.80
Br	79	72	2	H2	-0.079	ug/l	5360.40
Se	82	72	1	No Gas	0.037	ug/l	604.61
Kr	84	72	1	No Gas		ug/l	19457.94
Sr	88	72	1	No Gas	1.019	ug/l	30052.10
Sr	88	72	3	He	1.018	ug/l	3621.60
Mo	95	115	1	No Gas	827.634	ug/l	4622447.50
Mo	95	115	3	He	821.516	ug/l	1588577.31
Mo	98	115	1	No Gas	836.277	ug/l	7568958.98
Ag	107	115	1	No Gas	0.010	ug/l	1327.27
Ag	109	115	1	No Gas	0.006	ug/l	1197.87
Cd	111	115	1	No Gas	0.077	ug/l	292.94

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.196	ug/l	231.56
Cd	114	115	1	No Gas	0.067	ug/l	486.18
Cd	114	115	3	He	0.105	ug/l	314.99
Sn	118	115	1	No Gas	14.120	ug/l	156476.10
Sn	118	115	3	He	14.647	ug/l	41348.69
Sb	121	115	1	No Gas	0.164	ug/l	3286.06
Sb	121	115	3	He	0.121	ug/l	661.08
Sb	123	115	1	No Gas	0.159	ug/l	2479.14
Sb	123	115	3	He	0.132	ug/l	546.40
Ba	135	115	1	No Gas	0.180	ug/l	558.91
Ba	137	115	1	No Gas	0.161	ug/l	874.96
La	139	115	3	He	0.006	ug/l	84.45
Ce	140	115	3	He	0.008	ug/l	142.22
Hg	201	209	1	No Gas	0.004	ug/l	90.98
Hg	202	209	1	No Gas	0.004	ug/l	216.29
Hg	202	209	3	He	0.004	ug/l	86.98
Tl	203	209	3	He	0.056	ug/l	483.54
Tl	205	209	1	No Gas	0.058	ug/l	2536.93
Tl	205	209	3	He	0.057	ug/l	1135.17
[Pb]	206	209	1	No Gas	0.054	ug/l	907.82
[Pb]	207	209	1	No Gas	0.048	ug/l	765.58
Pb	208	209	1	No Gas	0.047	ug/l	3407.97
Th	232	209	3	He	0.085	ug/l	1591.41
U	238	209	1	No Gas	0.025	ug/l	981.51

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3439612.71	101.9
Sc	45	2	H2	1846916.43	100.3
Sc	45	3	He	208664.65	104.7
Ge	72	1	No Gas	962219.84	102.1
Ge	72	2	H2	688152.40	101.3
Ge	72	3	He	143834.07	105.7
In	115	1	No Gas	7175978.61	101.6
In	115	3	He	1415292.92	99.9
Tb	159	1	No Gas	9313201.31	103.3
Tb	159	3	He	3606519.70	102.8
Ho	165	1	No Gas	9212676.31	105.4
Ho	165	3	He	3601574.00	104.5
Lu	175	1	No Gas	9156134.87	106.1
Lu	175	3	He	2949358.79	107.1
Bi	209	1	No Gas	6470458.50	97.2
Bi	209	3	He	2291941.10	94.5

ICPMS207-B Analytical Data

Sample Name ICSAB
File Name 090ICSB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 21:33:56
Sample Type ICSAB
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	-1.904	ug/l	24531.51
Be	9	45	1	No Gas	0.022	ug/l	107.98
B	11	45	1	No Gas	0.799	ug/l	2256.41
Na	23	45	3	He	99189.322	ug/l	53673615.87
Mg	24	45	3	He	40691.735	ug/l	12176683.82
Al	27	45	1	No Gas	39110.982	ug/l	441854842.31
Si	28	45	2	H2	-21.131	ug/l	21470.67
K	39	72	3	He	40207.026	ug/l	12724157.59
Ca	40	72	2	H2	124842.662	ug/l	638183647.83
Ti	47	72	1	No Gas	872.363	ug/l	1131696.91
V	51	72	1	No Gas	23.114	ug/l	392222.92
V	51	72	3	He	15.270	ug/l	58812.40
Cr	52	72	1	No Gas	19.620	ug/l	356363.76
Cr	52	72	3	He	21.838	ug/l	70657.37
Mn	55	72	1	No Gas	20.354	ug/l	445414.66
Mn	55	72	3	He	20.209	ug/l	42705.28
Fe	56	72	2	H2	101740.804	ug/l	1178850088.56
Fe	56	72	3	He	102389.493	ug/l	290303079.52
Co	59	72	1	No Gas	20.938	ug/l	366800.11
Ni	60	72	1	No Gas	21.113	ug/l	83436.77
Ni	60	72	3	He	20.098	ug/l	24929.18
Cu	63	72	1	No Gas	21.841	ug/l	217991.62
Cu	63	72	3	He	20.269	ug/l	66712.21
Cu	65	72	1	No Gas	20.686	ug/l	97967.29
Zn	66	72	1	No Gas	10.249	ug/l	45038.87
Zn	66	72	3	He	9.651	ug/l	9509.83
As	75	72	1	No Gas	10.220	ug/l	58884.19
As	75	72	3	He	9.880	ug/l	7795.59
Se	78	72	2	H2	10.173	ug/l	4933.95
Br	79	72	1	No Gas	0.144	ug/l	11495.16
Br	79	72	2	H2	-0.197	ug/l	4987.65
Se	82	72	1	No Gas	10.325	ug/l	3348.88
Kr	84	72	1	No Gas		ug/l	18928.29
Sr	88	72	1	No Gas	1.056	ug/l	31348.87
Sr	88	72	3	He	1.018	ug/l	3679.39
Mo	95	115	1	No Gas	845.358	ug/l	4764503.05
Mo	95	115	3	He	828.504	ug/l	1630320.50
Mo	98	115	1	No Gas	835.263	ug/l	7642533.43
Ag	107	115	1	No Gas	4.602	ug/l	70234.30
Ag	109	115	1	No Gas	4.579	ug/l	67180.32
Cd	111	115	1	No Gas	9.809	ug/l	34292.77

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	9.864	ug/l	11014.70
Cd	114	115	1	No Gas	9.655	ug/l	76162.33
Cd	114	115	3	He	9.771	ug/l	26453.71
Sn	118	115	1	No Gas	14.254	ug/l	159592.11
Sn	118	115	3	He	14.476	ug/l	41581.82
Sb	121	115	1	No Gas	0.053	ug/l	1632.93
Sb	121	115	3	He	0.056	ug/l	411.38
Sb	123	115	1	No Gas	0.055	ug/l	1267.19
Sb	123	115	3	He	0.060	ug/l	330.37
Ba	135	115	1	No Gas	0.166	ug/l	525.64
Ba	137	115	1	No Gas	0.166	ug/l	908.24
La	139	115	3	He	0.006	ug/l	93.33
Ce	140	115	3	He	0.009	ug/l	156.67
Hg	201	209	1	No Gas	-0.003	ug/l	76.32
Hg	202	209	1	No Gas	0.002	ug/l	209.96
Hg	202	209	3	He	-0.002	ug/l	75.32
Tl	203	209	3	He	0.006	ug/l	231.43
Tl	205	209	1	No Gas	0.007	ug/l	1136.72
Tl	205	209	3	He	0.007	ug/l	554.24
[Pb]	206	209	1	No Gas	0.043	ug/l	804.47
[Pb]	207	209	1	No Gas	0.036	ug/l	666.69
Pb	208	209	1	No Gas	0.039	ug/l	3100.16
Th	232	209	3	He	0.032	ug/l	750.32
U	238	209	1	No Gas	0.021	ug/l	841.53

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3606640.17	106.9
Sc	45	2	H2	1875755.55	101.9
Sc	45	3	He	215168.22	108.0
Ge	72	1	No Gas	969882.83	102.9
Ge	72	2	H2	702322.67	103.4
Ge	72	3	He	146111.88	107.4
In	115	1	No Gas	7248760.34	102.7
In	115	3	He	1440255.56	101.7
Tb	159	1	No Gas	9431519.94	104.6
Tb	159	3	He	3701402.63	105.5
Ho	165	1	No Gas	9156430.48	104.7
Ho	165	3	He	3646072.90	105.8
Lu	175	1	No Gas	9123284.63	105.7
Lu	175	3	He	2859444.27	103.8
Bi	209	1	No Gas	6505303.03	97.7
Bi	209	3	He	2293282.31	94.6

ICPMS207-B Analytical Data

Sample Name Rinse
File Name 091BLKV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 21:40:13
Sample Type BlkVrfy
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	-1.759	ug/l	24472.75
Be	9	45	1	No Gas	0.023	ug/l	107.98
B	11	45	1	No Gas	0.426	ug/l	1752.14
Na	23	45	3	He	-16.929	ug/l	59223.61
Mg	24	45	3	He	-0.969	ug/l	1124.49
Al	27	45	1	No Gas	0.383	ug/l	11273.17
Si	28	45	2	H2	-24.244	ug/l	17240.86
K	39	72	3	He	8.696	ug/l	78700.85
Ca	40	72	2	H2	1.902	ug/l	124596.84
Ti	47	72	1	No Gas	0.229	ug/l	460.47
V	51	72	1	No Gas	0.016	ug/l	1192.86
V	51	72	3	He	-4.609	ug/l	2076.83
Cr	52	72	1	No Gas	-2.179	ug/l	21396.50
Cr	52	72	3	He	-0.030	ug/l	906.70
Mn	55	72	1	No Gas	-0.077	ug/l	5613.32
Mn	55	72	3	He	-0.013	ug/l	71.99
Fe	56	72	2	H2	1.760	ug/l	29866.91
Fe	56	72	3	He	1.489	ug/l	9265.61
Co	59	72	1	No Gas	-0.004	ug/l	429.16
Ni	60	72	1	No Gas	0.041	ug/l	675.35
Ni	60	72	3	He	0.004	ug/l	142.22
Cu	63	72	1	No Gas	0.044	ug/l	5250.39
Cu	63	72	3	He	-0.017	ug/l	1177.82
Cu	65	72	1	No Gas	0.026	ug/l	1888.88
Zn	66	72	1	No Gas	-0.066	ug/l	8605.28
Zn	66	72	3	He	-0.186	ug/l	1817.91
As	75	72	1	No Gas	-0.086	ug/l	10063.93
As	75	72	3	He	-0.170	ug/l	137.47
Se	78	72	2	H2	0.017	ug/l	27.33
Br	79	72	1	No Gas	-0.199	ug/l	9048.27
Br	79	72	2	H2	-0.310	ug/l	4485.17
Se	82	72	1	No Gas	0.717	ug/l	787.95
Kr	84	72	1	No Gas		ug/l	17945.72
Sr	88	72	1	No Gas	0.002	ug/l	788.47
Sr	88	72	3	He	-0.002	ug/l	267.79
Mo	95	115	1	No Gas	0.368	ug/l	2194.63
Mo	95	115	3	He	0.243	ug/l	506.68
Mo	98	115	1	No Gas	0.349	ug/l	3378.98
Ag	107	115	1	No Gas	-0.002	ug/l	1197.87
Ag	109	115	1	No Gas	-0.004	ug/l	1113.16
Cd	111	115	1	No Gas	0.011	ug/l	69.02

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.004	ug/l	22.44
Cd	114	115	1	No Gas	0.008	ug/l	22.74
Cd	114	115	3	He	0.005	ug/l	50.79
Sn	118	115	1	No Gas	0.016	ug/l	978.10
Sn	118	115	3	He	0.006	ug/l	230.00
Sb	121	115	1	No Gas	-0.012	ug/l	646.75
Sb	121	115	3	He	-0.010	ug/l	152.69
Sb	123	115	1	No Gas	-0.011	ug/l	506.73
Sb	123	115	3	He	-0.006	ug/l	123.01
Ba	135	115	1	No Gas	0.001	ug/l	29.94
Ba	137	115	1	No Gas	-0.001	ug/l	39.92
La	139	115	3	He	0.000	ug/l	7.78
Ce	140	115	3	He	-0.001	ug/l	5.56
Hg	201	209	1	No Gas	-0.008	ug/l	67.32
Hg	202	209	1	No Gas	-0.006	ug/l	178.30
Hg	202	209	3	He	-0.004	ug/l	75.32
Tl	203	209	3	He	-0.005	ug/l	188.74
Tl	205	209	1	No Gas	0.003	ug/l	1072.28
Tl	205	209	3	He	-0.002	ug/l	482.87
[Pb]	206	209	1	No Gas	-0.003	ug/l	374.45
[Pb]	207	209	1	No Gas	-0.003	ug/l	345.57
Pb	208	209	1	No Gas	-0.003	ug/l	1548.94
Th	232	209	3	He	-0.001	ug/l	257.44
U	238	209	1	No Gas	0.001	ug/l	67.65

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3551437.48	105.3
Sc	45	2	H2	1871424.30	101.7
Sc	45	3	He	208038.88	104.4
Ge	72	1	No Gas	965506.16	102.5
Ge	72	2	H2	696288.10	102.5
Ge	72	3	He	141445.09	104.0
In	115	1	No Gas	7494165.61	106.1
In	115	3	He	1463955.07	103.3
Tb	159	1	No Gas	9247899.55	102.6
Tb	159	3	He	3587808.05	102.3
Ho	165	1	No Gas	9256941.41	105.9
Ho	165	3	He	3526495.62	102.3
Lu	175	1	No Gas	9211180.96	106.7
Lu	175	3	He	2834275.01	102.9
Bi	209	1	No Gas	6797024.09	102.1
Bi	209	3	He	2415750.09	99.6

ICPMS207-B Analytical Data

Sample Name CCV
File Name 092_CCV.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 21:46:27
Sample Type CCV
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	568.653	ug/l	1904145.61
Be	9	45	1	No Gas	46.401	ug/l	82043.05
B	11	45	1	No Gas	48.820	ug/l	58157.69
Na	23	45	3	He	12296.492	ug/l	6452260.46
Mg	24	45	3	He	12144.422	ug/l	3493206.18
Al	27	45	1	No Gas	52.235	ug/l	564109.68
Si	28	45	2	H2	199.774	ug/l	314571.55
K	39	72	3	He	12362.082	ug/l	3791920.78
Ca	40	72	2	H2	12422.033	ug/l	62649446.82
Ti	47	72	1	No Gas	51.898	ug/l	68364.10
V	51	72	1	No Gas	48.272	ug/l	828447.46
V	51	72	3	He	47.670	ug/l	144489.90
Cr	52	72	1	No Gas	48.298	ug/l	807929.91
Cr	52	72	3	He	51.203	ug/l	157105.51
Mn	55	72	1	No Gas	50.696	ug/l	1112921.28
Mn	55	72	3	He	51.749	ug/l	104396.66
Fe	56	72	2	H2	1313.113	ug/l	14996257.81
Fe	56	72	3	He	1283.126	ug/l	3483605.93
Co	59	72	1	No Gas	51.662	ug/l	915693.11
Ni	60	72	1	No Gas	50.765	ug/l	202356.94
Ni	60	72	3	He	53.698	ug/l	63438.10
Cu	63	72	1	No Gas	50.071	ug/l	500297.48
Cu	63	72	3	He	54.187	ug/l	168476.86
Cu	65	72	1	No Gas	50.491	ug/l	239686.07
Zn	66	72	1	No Gas	50.928	ug/l	190956.95
Zn	66	72	3	He	52.558	ug/l	40898.69
As	75	72	1	No Gas	50.189	ug/l	250958.94
As	75	72	3	He	51.245	ug/l	37564.00
Se	78	72	2	H2	51.567	ug/l	24558.23
Br	79	72	1	No Gas	-0.209	ug/l	9138.10
Br	79	72	2	H2	-0.176	ug/l	4997.66
Se	82	72	1	No Gas	51.129	ug/l	14395.85
Kr	84	72	1	No Gas		ug/l	27355.16
Sr	88	72	1	No Gas	51.300	ug/l	1509388.57
Sr	88	72	3	He	52.057	ug/l	166167.45
Mo	95	115	1	No Gas	51.626	ug/l	283750.34
Mo	95	115	3	He	51.599	ug/l	98547.67
Mo	98	115	1	No Gas	51.828	ug/l	462162.87
Ag	107	115	1	No Gas	20.701	ug/l	303809.41
Ag	109	115	1	No Gas	20.912	ug/l	294998.72
Cd	111	115	1	No Gas	51.258	ug/l	174476.25

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	50.178	ug/l	54316.89
Cd	114	115	1	No Gas	50.621	ug/l	389186.75
Cd	114	115	3	He	50.452	ug/l	132427.60
Sn	118	115	1	No Gas	44.479	ug/l	483411.27
Sn	118	115	3	He	43.284	ug/l	120278.27
Sb	121	115	1	No Gas	53.838	ug/l	807085.50
Sb	121	115	3	He	51.635	ug/l	198896.32
Sb	123	115	1	No Gas	53.081	ug/l	615442.98
Sb	123	115	3	He	51.091	ug/l	156461.96
Ba	135	115	1	No Gas	50.560	ug/l	148924.29
Ba	137	115	1	No Gas	50.711	ug/l	257967.17
La	139	115	3	He	50.353	ug/l	677954.79
Ce	140	115	3	He	47.453	ug/l	693547.08
Hg	201	209	1	No Gas	0.935	ug/l	2141.08
Hg	202	209	1	No Gas	0.938	ug/l	4890.59
Hg	202	209	3	He	0.949	ug/l	2057.08
Tl	203	209	3	He	47.474	ug/l	244989.34
Tl	205	209	1	No Gas	49.062	ug/l	1386552.18
Tl	205	209	3	He	48.940	ug/l	584102.29
[Pb]	206	209	1	No Gas	49.351	ug/l	487587.40
[Pb]	207	209	1	No Gas	46.343	ug/l	404577.70
Pb	208	209	1	No Gas	48.908	ug/l	1931694.98
Th	232	209	3	He	49.172	ug/l	799966.60
U	238	209	1	No Gas	48.347	ug/l	1861125.59

Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3405748.85	100.9
Sc	45	2	H2	1850363.77	100.5
Sc	45	3	He	206731.45	103.7
Ge	72	1	No Gas	982876.22	104.3
Ge	72	2	H2	691798.05	101.8
Ge	72	3	He	139686.54	102.7
In	115	1	No Gas	7058694.98	100.0
In	115	3	He	1397846.63	98.7
Tb	159	1	No Gas	9191974.67	102.0
Tb	159	3	He	3581866.12	102.1
Ho	165	1	No Gas	8900805.08	101.8
Ho	165	3	He	3596038.80	104.3
Lu	175	1	No Gas	8831648.73	102.3
Lu	175	3	He	2802249.47	101.7
Bi	209	1	No Gas	6649411.81	99.9
Bi	209	3	He	2370641.88	97.8

ICPMS207-B Analytical Data

Sample Name CCB
File Name 093_CCB.d
Data Path Name D:\Agilent\ICPMH\1\DATA\220218BDoD.b
Acq Time 2022-02-18 21:52:41
Sample Type CCB
Total Dilution 1.0000
Comment ICPMS-6020-W-D
Operator CAR/SRH/JPV/AEM
Method SW6020/SW6020B

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Li	7	45	1	No Gas	-1.078	ug/l	26151.54
Be	9	45	1	No Gas	0.041	ug/l	136.97
B	11	45	1	No Gas	0.344	ug/l	1614.74
Na	23	45	3	He	-22.530	ug/l	54433.53
Mg	24	45	3	He	-0.559	ug/l	1201.01
Al	27	45	1	No Gas	0.205	ug/l	9058.32
Si	28	45	2	H2	-25.361	ug/l	15258.59
K	39	72	3	He	14.155	ug/l	78291.15
Ca	40	72	2	H2	0.966	ug/l	117265.77
Ti	47	72	1	No Gas	0.102	ug/l	291.96
V	51	72	1	No Gas	-0.129	ug/l	-1375.27
V	51	72	3	He	-3.945	ug/l	3804.97
Cr	52	72	1	No Gas	-1.750	ug/l	27521.28
Cr	52	72	3	He	-0.013	ug/l	933.37
Mn	55	72	1	No Gas	-0.065	ug/l	5776.38
Mn	55	72	3	He	-0.017	ug/l	62.32
Fe	56	72	2	H2	0.624	ug/l	16457.41
Fe	56	72	3	He	0.540	ug/l	6491.32
Co	59	72	1	No Gas	-0.003	ug/l	442.46
Ni	60	72	1	No Gas	0.046	ug/l	685.33
Ni	60	72	3	He	0.003	ug/l	137.78
Cu	63	72	1	No Gas	-0.006	ug/l	4686.64
Cu	63	72	3	He	-0.018	ug/l	1143.15
Cu	65	72	1	No Gas	0.004	ug/l	1760.15
Zn	66	72	1	No Gas	-0.197	ug/l	8022.74
Zn	66	72	3	He	-0.210	ug/l	1752.34
As	75	72	1	No Gas	-0.093	ug/l	9882.45
As	75	72	3	He	-0.140	ug/l	155.40
Se	78	72	2	H2	0.014	ug/l	25.22
Br	79	72	1	No Gas	-0.203	ug/l	8875.17
Br	79	72	2	H2	-0.257	ug/l	4601.62
Se	82	72	1	No Gas	0.373	ug/l	688.88
Kr	84	72	1	No Gas		ug/l	17895.71
Sr	88	72	1	No Gas	0.001	ug/l	738.57
Sr	88	72	3	He	-0.002	ug/l	258.90
Mo	95	115	1	No Gas	0.061	ug/l	384.45
Mo	95	115	3	He	0.057	ug/l	133.34
Mo	98	115	1	No Gas	0.065	ug/l	667.94
Ag	107	115	1	No Gas	0.001	ug/l	1191.87
Ag	109	115	1	No Gas	0.000	ug/l	1123.83
Cd	111	115	1	No Gas	0.009	ug/l	57.74

ICPMS207-B Analytical Data

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	CPS
Cd	111	115	3	He	0.004	ug/l	22.22
Cd	114	115	1	No Gas	0.013	ug/l	64.15
Cd	114	115	3	He	0.006	ug/l	54.52
Sn	118	115	1	No Gas	0.042	ug/l	1244.26
Sn	118	115	3	He	0.020	ug/l	268.89
Sb	121	115	1	No Gas	0.113	ug/l	2525.48
Sb	121	115	3	He	0.085	ug/l	529.40
Sb	123	115	1	No Gas	0.113	ug/l	1941.67
Sb	123	115	3	He	0.077	ug/l	385.38
Ba	135	115	1	No Gas	0.002	ug/l	29.94
Ba	137	115	1	No Gas	-0.002	ug/l	33.27
La	139	115	3	He	0.000	ug/l	10.00
Ce	140	115	3	He	0.000	ug/l	13.33
Hg	201	209	1	No Gas	-0.003	ug/l	79.65
Hg	202	209	1	No Gas	-0.005	ug/l	184.30
Hg	202	209	3	He	-0.006	ug/l	68.66
Tl	203	209	3	He	0.057	ug/l	506.21
Tl	205	209	1	No Gas	0.055	ug/l	2558.04
Tl	205	209	3	He	0.066	ug/l	1278.58
[Pb]	206	209	1	No Gas	-0.002	ug/l	381.12
[Pb]	207	209	1	No Gas	-0.004	ug/l	338.90
Pb	208	209	1	No Gas	-0.002	ug/l	1597.83
Th	232	209	3	He	0.023	ug/l	631.60
U	238	209	1	No Gas	0.003	ug/l	143.97

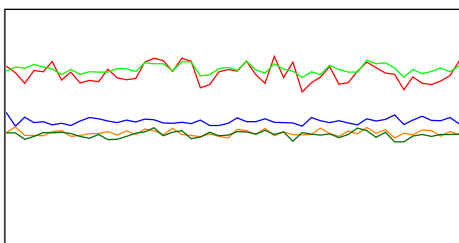
Name	Mass	Tune Step	Tune Mode	CPS	ISTD Recovery %
Sc	45	1	No Gas	3439365.39	101.9
Sc	45	2	H2	1814919.15	98.6
Sc	45	3	He	201166.77	100.9
Ge	72	1	No Gas	950566.28	100.9
Ge	72	2	H2	681288.75	100.3
Ge	72	3	He	137840.38	101.3
In	115	1	No Gas	7185277.03	101.8
In	115	3	He	1448061.89	102.2
Tb	159	1	No Gas	9028945.61	100.2
Tb	159	3	He	3572073.69	101.8
Ho	165	1	No Gas	8940243.47	102.3
Ho	165	3	He	3587821.57	104.1
Lu	175	1	No Gas	9127485.60	105.8
Lu	175	3	He	2848065.65	103.4
Bi	209	1	No Gas	6819395.19	102.4
Bi	209	3	He	2376075.62	98.0

Tune Report

Operator Name elim
Acq/Data Batch D:\Agilent\ICPMH1\DATA\220222A.b
Acq. Date-Time 2022-02-22 12:27:57
Report Comment ICPMS207-B JPV
Instrument Name G8403A JP17281923

[No Gas]

Sensitivity



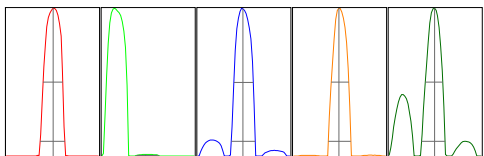
Mass	Range	Count	RSD%	Background
9	200000	146462	5.345	3.600
24	50000	37594	2.454	7.900
59	100000	53013	2.368	1.200
115	100000	47979	2.535	1.800
208	50000	23655	2.843	7.000

Sampling Period [sec] 0.514
 Integration Time [sec] 0.1

Oxide/Doubly Charged Ratio

Oxide 156 / 140 0.841 %
 Doubly Charged 70 / 140 1.013 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	157583.25	9.05	0.63	0.791
24	37750.46	23.95	0.66	0.774
59	52257.84	59.00	0.62	0.761
115	48450.00	115.00	0.56	0.717
208	23612.31	208.00	0.56	0.753

Integration Time [sec] 0.1
 Acquisition Time [sec] 37.4
 Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.80 L/min	Dilution Gas	0.12 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.00 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	11.0 V	Deflect	15.2 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-35 V

Tune Report

Omega Bias -75 V Cell Exit -50 V

Cell Parameters

Use Gas No 3rd Gas Flow -- Energy Discrimination 5.0 V

He Flow 0.0 mL/min OctP Bias -8.0 V

H2 Flow 0.0 mL/min OctP RF 200 V

QP Parameters

Mass Gain 125 Axis Gain 0.9987 QP Bias -3.0 V

Mass Offset 126 Axis Offset 0.13

Hardware Settings

Torch

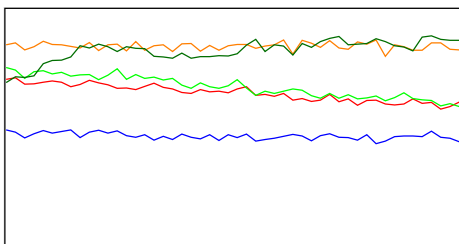
Torch H -1.2 mm Torch V -0.3 mm

EM

Discriminator 4.9 mV Analog HV 2340 V Pulse HV 1767 V

[H2]

Sensitivity



Mass	Range	Count	RSD%	Background
9	50000	32310	5.513	0.500
24	20000	13448	6.947	3.500
59	50000	23138	3.122	0.300
115	50000	42256	1.884	0.100
208	20000	16515	5.588	0.200

Sampling Period [sec] 0.514

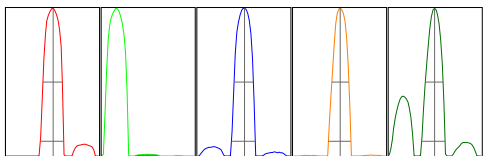
Integration Time [sec] 0.1

Oxide/Doubly Charged Ratio

Oxide --

Doubly Charged 70 / 140 1.036 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
9	28522.93	9.05	0.63	0.752
24	11524.36	24.00	0.66	0.774
59	22449.45	59.05	0.61	0.756
115	42191.83	115.05	0.54	0.714
208	17468.88	208.00	0.57	0.753

Integration Time [sec] 0.1

Acquisition Time [sec] 37.4

Y Axis Linear

Tune Parameters

Plasma Parameters

Tune Report

Plasma Mode	--	Nebulizer Gas	0.80 L/min	Dilution Gas	0.12 L/min
RF Power	1600 W	Option Gas	--	Auxiliary Gas	0.90 L/min
RF Matching	1.00 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.3 V	Deflect	3.4 V
Extract 2	-230.0 V	Cell Entrance	-30 V	Plate Bias	-80 V
Omega Bias	-100 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	--	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	3.8 mL/min	OctP RF	180 V		

QP Parameters

Mass Gain	125	Axis Gain	0.9987	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	0.13		

Hardware Settings

Torch

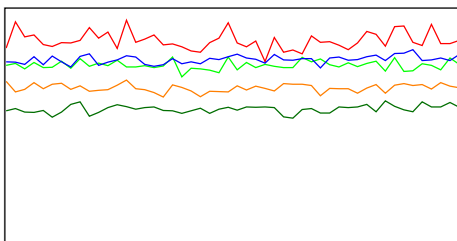
Torch H	-1.2 mm	Torch V	-0.3 mm
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EM

Discriminator	4.9 mV	Analog HV	2340 V	Pulse HV	1767 V
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[He]

Sensitivity



Mass	Range	Count	RSD%	Background
9	2000	1735	4.322	3.000
24	2000	1525	2.451	1.200
59	20000	15745	2.151	0.300
115	20000	13324	2.486	0.700
208	20000	11528	2.882	1.600

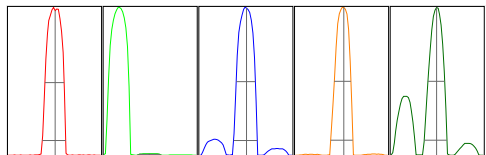
Sampling Period [sec]	0.514
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	--
Doubly Charged	70 / 140 1.000 %

Resolution/Axis

Tune Report



Mass	Peak Height	Axis	W-50%	W-10%
9	1713.79	9.05	0.62	0.753
24	1517.81	24.00	0.66	0.774
59	15717.10	59.05	0.61	0.752
115	13363.18	115.10	0.53	0.706
208	11462.69	208.00	0.53	0.731

Integration Time [sec] 0.1
 Acquisition Time [sec] 37.4
 Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode	--	Nebulizer Gas	0.80 L/min	Dilution Gas	0.12 L/min
RF Power	1600 W	Option Gas	--	Auxiliary Gas	0.90 L/min
RF Matching	1.00 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	11.7 V	Deflect	1.0 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-80 V
Omega Bias	-90 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	--	Energy Discrimination	5.0 V
He Flow	4.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	125	Axis Gain	0.9987	QP Bias	-13.0 V
Mass Offset	126	Axis Offset	0.13		

Hardware Settings

Torch

Torch H	-1.2 mm	Torch V	-0.3 mm
---------	---------	---------	---------

EM

Discriminator	4.9 mV	Analog HV	2340 V	Pulse HV	1767 V
---------------	--------	-----------	--------	----------	--------

Energy Laboratories Inc

Spike LOG

Standard ID: ME220208 AUDIGSPK

Standard Name: AUDIGSPK

Date Prepared: 1/28/2022

Date Expires: 10/25/2022

Department: ME

Vendor:

Lot Number:

Balance ID:

Comments:

Type: Secondary

BY: Amanda E. McDani

Status: Empty/Disposed

Final Volume: 50 mL

Stock Source

ME211202A U Stock

ME 211025 Th Sec Th Secondary Stock

ME211222 Ce 2nd Ce Secondary Stock

ME211222 La Sec La Secondary Stock

ME211229A AU 2n Au 2nd source Stock

ME211025A Te Stock

Base Units

ug/mL

ug/mL

ug/mL

ug/mL

ug/mL

ug/mL

Amount Added

5 mL

5 mL

5 mL

5 mL

15 mL

15 mL

Analvtes

CAS

Conc: **ug/mL**

Energy Laboratories Inc

Standard LOG

Standard ID: ME211202A
Standard Name: U Stock
Date Prepared: 12/2/2021
Date Expires: 12/2/2022
Department: ME
Vendor: SCP Science
Lot Number: S210517021
Balance ID:
Comments:

Type: Primary
BY: Amanda E. McDani
Status: New

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Uranium	14419	500	mL	12/2/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

U

1.0 DESCRIPTION:

PlasmaCAL ICP/ICPMS Standard - Uranium 1000 µg/ml
 Catalogue Number: 140-051-920/-921/-925
 Starting Material: Uranyl Nitrate 99.99%
 Lot Number: **S210517021**
 Matrix: 4% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **May 2023** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Certified Concentration: **1004 µg/ml +/- 4 µg/ml**
985 µg/g +/- 4 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3164 Lot: **080521**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.020 g/ml @ 24.0 °C**
 Actual Matrix: **4.0% (v/v) HNO₃**

% abundance of stable isotopes : ²³⁸U : 99.82% ; ²³⁵U : 0.18%

Note : The uranyl nitrate comes from a depleted source of uranium.

ID #: 14419

Opened: _____
 ICP/ICPMS Standard Uranium
Expires: 5/31/2023
 Rec'd: 10/20/2021
 Enerav Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	<0.0018	Nd	<0.0010	Sn	<0.0010
Al	0.0252	Ga	<0.0010	Ni	<0.0010	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0026	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	*	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	<0.0011
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	N/A
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	<0.0010	Mg	<0.0020	Sb	<0.0010	Yb	<0.0010
Cu	<0.0010	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.0010	Zr	<0.0010
Er	<0.0010	Na	<0.0010	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Yaling Sui, Chemist
 Certification Date: May 27, 2021

Yaling Sui

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).*
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.*
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH : Pour étalonnage de pH mètres et autres applications de chimie humide.*
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité : Comme étalon pour les mesures de conductivité électrolytiques.*
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.*
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en presumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est appropriée à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisée, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034 : SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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Energy Laboratories Inc

Standard LOG

Standard ID: ME 211025 TH SECONDARY STOCK
Standard Name: Th Secondary Stock
Date Prepared: 10/25/2021
Date Expires: 10/25/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: S2-TH706436
Balance ID:
Comments: Opened 10/25/2021; Expires 10/25/2022

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Thorium Single Analyte Custom Grade Sol	14318	125	mL	10/25/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGTH1
Lot Number: S2-TH706436
Matrix: 5% (v/v) HNO3
Value / Analyte(s): 1 000 µg/mL ea:
Thorium
Starting Material: TH(NO3)4*4H2O
Starting Material Lot#: 2250
Starting Material Purity: 99.9905%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 4 µg/mL
Density: 1.026 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #2 **1001 ± 6 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

ID #: 14318
Opened:
Thorium Single Analyte Custom Grade Solution
Expires: 7/4/2025
Rec'd: 9/24/2021
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum(1/(u_{char i}^2)))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum(w_i)^2 (u_{char i}^2)]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u^2_{char a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 μm .

M Ag <	0.000448	M Eu <	0.000224	O Na	0.064077	M Se <	0.005827	M Zn	0.003183
O Al	0.010962	M Fe	0.012392	M Nb <	0.003138	i Si <		M Zr <	0.010310
M As <	0.038776	M Ga <	0.004931	M Nd	0.004697	M Sm	0.000871		
M Au <	0.000224	M Gd	0.000300	M Ni <	0.006724	M Sn <	0.028242		
M B <	0.021293	M Ge <	0.008965	M Os <	0.000224	M Sr	0.002582		
M Ba	0.001317	M Hf <	0.000224	i P <		M Ta <	0.001344		
M Be <	0.000224	M Hg <	0.000448	M Pb	0.003287	M Tb <	0.001793		
M Bi <	0.001793	M Ho <	0.001344	M Pd <	0.000448	M Te <	0.010086		
O Ca	0.051969	M In	0.000134	M Pr	0.001202	s Th <			
M Cd <	0.001344	M Ir <	0.000224	M Pt <	0.000224	M Ti <	0.004258		
M Ce	0.015420	O K	0.028928	M Rb <	0.005155	M Tl <	0.000224		
M Co <	0.001344	M La	0.003577	M Re <	0.000224	M Tm <	0.000224		
M Cr <	0.015465	M Li <	0.000448	M Rh <	0.000224	M U	0.006564		
M Cs <	0.013896	M Lu <	0.000224	M Ru <	0.000224	M V <	0.001793		
M Cu	0.001472	O Mg	0.027914	i S <		M W <	0.000224		
M Dy	0.000197	M Mn	0.001814	M Sb <	0.004931	M Y	0.000860		
M Er <	0.002241	M Mo <	0.000896	M Sc <	0.000672	M Yb <	0.000224		

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 232.04 +4 8 Th(OH) 3+ and Th(OH)22+

Chemical Compatibility -Soluble in HCl, and HNO3. Avoid H3PO4, H2SO4 and HF although solubilities may not be a problem depending upon pH and matrix (For example: ThF4 is soluble in acids). Avoid neutral to basic media. Th4+ is stable with most metals and inorganic anions forming an insoluble carbonate, oxide, fluoride, oxalate, sulfate and phosphate in neutral to slightly acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

Th Containing Samples (Preparation and Solution) -Metal (Soluble in Aqua Regia); Oxide (The heated oxide is not soluble in acids except hot conc. H2SO4); Ores (Na2O2 fusion at 480 ± 20EC for 7 minutes, cool and treat sintered mass with 50 mL cold water and stand until disintegrated. The mass is transferred to a beaker and acidified with HCl with 25 mL excess HCl added. Any residue is collected on a Whatman No. 42 filter, dried and ignited to 1000 EC in Pt0 crucible and the ash treated with H2SO4 / HF and fumed. If residue remains, then treat it by peroxide fusion as above.)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 232 amu	1 ppt	N/A	
ICP-OES 274.716 nm	0.08 / 0.008 µg/mL	1	Ti, Ta, Fe, V
ICP-OES 283.231 nm	0.07 / 0.007 µg/mL	1	U, Mo, Ti, Fe, Cr
ICP-OES 283.730 nm	0.07 / 0.007 µg/mL	1	U, Zr

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 04, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 04, 2025

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME211222 CE 2ND SOURCE
Standard Name: Ce Secondary Stock
Date Prepared: 12/22/2021
Date Expires: 12/22/2022
Department: ME
Vendor: SCP Science
Lot Number: S210208003
Balance ID:
Type: Primary
BY: Amanda E. McDani
Status: Open
Comments: opened 12/22/2021, expires 12/22/2022

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Cerium PlasmaCal Standard	14327	125	mL	12/22/2022

Final Volume:
125 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

A Cerium

7440-45-1

1000

Ce

1.0 DESCRIPTION: **PlasmaCAL ICP/ICPMS Standard - Cerium 1000 µg/ml**
 Catalogue Number: 140-051-580/-581/-585
 Starting Material: Cerium(III) Nitrate Hexahydrate 99.99+%
 Lot Number: **S210208003**
 Matrix: 4% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **February 2023** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:
 Certified Concentration: **1003 µg/ml +/- 4 µg/ml**
982 µg/g +/- 4 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3110 Lot: **090504**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:
 Density: **1.021 g/ml @ 22.5 °C**
 Actual Matrix: **4.0% (v/v) HNO₃**
 Trace Metal Impurities as tested by ICP-MS:

ID #: 14327
 Opened: _____
 Cerium PlasmaCal Standard
Expires: 2/28/2023
 Rec'd: 9/29/2021
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	<0.0018	Nd	0.0102	Sn	<0.0010
Al	0.0148	Ga	0.0526	Ni	0.0064	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	*	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	0.0235	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	<0.0011
Ca	0.0375	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	<0.0010
Ce	N/A	La	<0.10	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	<0.0010	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0121	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.0010	Zr	<0.0010
Er	<0.0010	Na	<0.0010	Si	<0.10		
Eu	0.0035	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:
 Certification Approval: Yaling Sui, Chemist
 Certification Date: February 22, 2021

Yaling Sui

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (FAAS) et four au graphite (GFAA).*
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice : Pour l'optimisation des conditions analytiques afin de fournir des meilleurs réponses instrumentales et limites de détection pour SAA four au graphite.*
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH : Pour étalonnage de pH mètres et autres applications de chimie humide.*
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité : Comme étalon pour les mesures de conductivité électrolytiques.*
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.*
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisé, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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SILIC 642, 91965
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Fax: +33 (0) 1 60 92 05 67

GERMANY
Alte Marktoberdorfer Straße 14, 87616
Marktoberdorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME211222 LA SECOND SOURCE
Standard Name: La Secondary Stock
Date Prepared: 12/22/2021
Date Expires: 12/22/2022
Department: ME
Vendor: SCP Science
Lot Number: S210803016
Balance ID:
Comments: opened 12/22/2021, expires 12/22/2022

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Lanthanum PlasmaCal Standard	14326	125	mL	12/22/2022

Final Volume:
mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

La

1.0 DESCRIPTION: **PlasmaCAL ICP/ICPMS Standard - Lanthanum 1000 µg/ml**
 Catalogue Number: 140-051-570/-571/-575
 Starting Material: Lanthanum(III) Oxide 99.99+%
 Lot Number: **S210803016**
 Matrix: 4% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **August 2023** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:
 Certified Concentration: **1005 µg/ml +/- 4 µg/ml**
985 µg/g +/- 3 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3127a Lot: **151030**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:
 Density: **1.020 g/ml @ 23.2 °C**
 Actual Matrix: **4.0% (v/v) HNO₃**

ID #: 14326

Opened: _____

Lanthanum PlasmaCal Standard

Expires: 8/31/2023

Rec'd: 9/29/2021

Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	<0.0018	Nd	<0.0010	Sn	<0.0010
Al	0.0106	Ga	<0.0010	Ni	<0.0010	Sr	<0.0025
As	<0.0010	Gd	0.0889	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0026	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	0.0031	Hg	*	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0062
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	<0.0011
Ca	0.0169	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	<0.0010
Ce	0.0272	La	N/A	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	0.0020
Cs	<0.0010	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	<0.0010	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.0010	Zr	<0.0010
Er	<0.0010	Na	0.0156	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist
 Certification Date: August 12, 2021

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*

- AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).*

- Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.*

- pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH : Pour étalonnage de pH mètres et autres applications de chimie humide.*

- Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité : Comme étalon pour les mesures de conductivité électrolytiques.*

- IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.*

For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou au CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisé, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034 : SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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Marktberdorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME211229A AU 2ND SOURCE
Standard Name: Au 2nd source Stock
Date Prepared: 12/29/2021
Date Expires: 12/29/2022
Department: ME
Vendor: SCP Science
Lot Number: S211129013
Balance ID:
Comments: opened 12/29/2021; expires 12/29/2022

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Gold	14710	500	mL	12/29/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

ID #: 14710

Opened:

ICP/ICPMS Standard Gold

Expires: 12/31/2023

Rec'd: 12/29/2021

Eneray Laboratories Inc 1120 So. 27th Street

Billings MT 59107

SCP SCIENC

Providing Innovative Solutions to Analytical

Certificate of Analysis**Au****1.0 DESCRIPTION:****PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml**

Catalogue Number: 140-052-790/-791/-795

Starting Material: Gold Metal 99.99+%

Lot Number: **S211129013**

Matrix: 10% HCl (See Section 3 for actual matrix)

Expiration Date (End of month): **December 2023** (or 15 months after bottle is opened, whichever comes first)**2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:**Certified Concentration: **1001 µg/ml +/- 4 µg/ml****982 µg/g +/- 4 µg/g**

Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: NIST Standard Reference Material 3121 Lot: **991806**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:Density: **1.019 g/ml @ 22.4 °C**Actual Matrix: **10.0% (v/v) HCl**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	0.3851	Fe	<0.0090	Nd	<0.0010	Sn	<0.0010
Al	0.0062	Ga	<0.0010	Ni	<0.0010	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	N/A	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	*	Pd	0.0434	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	0.0048	Tl	<0.0011
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	0.0362	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	0.0029	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0023	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.01	Zr	<0.0010
Er	<0.0010	Na	0.0070	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist

Certification Date: December 10, 2021

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP* : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA* : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice* : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH* : Pour étalonnage de pH mètres et autres applications de chimie humide.
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité* : Comme étalon pour les mesures de conductivité électrolytiques.
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC* : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisée, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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GERMANY
Alte Marktoberdorfer Straße 14, 87616
Marktoberdorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME211025A
Standard Name: Te Stock
Date Prepared: 10/25/2021
Date Expires: 10/25/2022
Department: ME
Vendor: SCP Science
Lot Number: S200130018
Balance ID:
Comments: Opened 10/25/2021; Expires 10/25/2022

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
ICP/ICPMS Standard Tellurium	14418	500	mL	10/25

Final Volume: 500 mL

Stock Source

Base Units

Amount Added

Analtes

CAS

Conc: **ug/mL**

Te

1.0 DESCRIPTION: *PlasmaCAL ICP/ICPMS Standard - Tellurium 1000 µg/ml*
 Catalogue Number: 140-051-520/-521/-525
 Starting Material: Tellurium Metal 99.99+%
 Lot Number: **S210615004**
 Matrix: 10% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **June 2023** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:
 Certified Concentration: **1005 µg/ml +/- 5 µg/ml**
958 µg/g +/- 5 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3156 Lot: **140830**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:
 Density: **1.049 g/ml @ 25.5 °C**
 Actual Matrix: **10.0% (v/v) HNO₃**

ID #: 14418
 Opened: _____
 ICP/ICPMS Standard Tellurium
Expires: 6/30/2023
 Rec'd: 10/20/2021
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

Trace Metal Impurities as tested by ICP-AES:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	<0.0018	Nd	0.0449	Sn	<0.0010
Al	<0.0010	Ga	<0.0010	Ni	<0.0010	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	0.0184	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	N/A
Ba	<0.0010	Hg	*	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	0.0028	Ti	<0.0012
Bi	<0.0010	In	0.0020	Pt	<0.0010	Tl	<0.0011
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	<0.0010	Mg	<0.0020	Sb	<0.0010	Yb	<0.0010
Cu	<0.0010	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.1	Zr	<0.0010
Er	<0.0010	Na	<0.0025	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:
 Certification Approval: Daniel Boisvert, Chemist
 Certification Date: June 30, 2021

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP* : Pour l'étalonnage de instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA* : Pour l'étalonnage de spectromètres d'absorption atomique flamme (FAAS) et four au graphite (GFAA).
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice* : Pour l'optimisation des conditions analytiques afin de fournir des meilleurs réponses instrumentales et limites de détection pour SAA four au graphite.
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH* : Pour étalonnage de pH mètres et autres applications de chimie humide.
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité* : Comme étalon pour les mesures de conductivité électrolytiques.
 - IC Standards: For calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC* : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en presumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisé, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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91140, Villebon-sur-Yvette
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Fax: +33 (0) 1 60 92 05 67

GERMANY
Alte Marktberdorfer Straße 14, 87616
Marktberdorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME220114A TUNE SOLUTION
Standard Name: Tune Solution
Date Prepared: 1/14/2022
Date Expires: 12/7/2022
Department: ME
Vendor:
Lot Number:
Balance ID:

Type: Secondary
BY: Stacy R. Hendricks
Status: Open

Comments: All elements except Be at 10 ppb. Be is spiked at 210 ppb.

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Nitric Acid, 69.0-70.0%,0000282671	14178	5	mL	4/11/
Milli-Q H2O	391	493	mL	6/1/2
Multi Analyte Custom Grade Solution	13795	0.5	mL	12/7/
Beryllium Single Analyte Custom Grad	14679	0.2	mL	9/17/

Final Volume: 500 mL

Stock Source
ME220114 TUNE S Tune Solution Stock

Base Units
ug/mL

Amount Added
1 mL

Analvtes

CAS

Conc: **ug/mL**

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
 Catalog Number: 2008TS
 Lot Number: R2-MEB691898
 Matrix: 3% (v/v) HNO₃
 Value / Analyte(s): 10 µg/mL ea:
 Beryllium, Cobalt,
 Indium, Magnesium,
 Lead

ID #: 13795

Opened: _____
 Multi Analyte Custom Grade Solution
Expires: 4/8/2024
 Rec'd: 4/29/2021
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Beryllium, Be	10.01 ± 0.06 µg/mL	Cobalt, Co	10.01 ± 0.04 µg/mL
Indium, In	10.01 ± 0.04 µg/mL	Lead, Pb	10.01 ± 0.04 µg/mL
Magnesium, Mg	10.01 ± 0.05 µg/mL		

Density: 1.014 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Be	ICP Assay	3105a	090514
Co	EDTA	928	928
Co	ICP Assay	traceable to 3113	M2-CO661665
Co	Calculated		See Sec. 4.2
In	ICP Assay	3124a	110516
In	EDTA	928	928
In	Calculated		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mg	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Pb	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum(1/u_{\text{char } i}^2))$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{ITS}}^2 + u_{\text{TS}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = [\sum((w_i)^2 (u_{\text{char } i}^2))]^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ITS} = long term stability standard uncertainty (storage)

u_{TS} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a) (u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{ITS}}^2 + u_{\text{TS}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{ITS} = long term stability standard uncertainty (storage)

u_{TS} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 08, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 08, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGBE1
Lot Number: S2-BE708103
Matrix: 3% (v/v) HNO3
Value / Analyte(s): 1 000 µg/mL ea:
Beryllium
Starting Material: Beryllium Acetate
Starting Material Lot#: 2354
Starting Material Purity: 99.9997%

ID #: 14679

Opened: _____
Beryllium Single Analyte Custom Grade Solut
Expires: 9/17/2026
Rec'd: 12/28/2021
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL
Density: 1.020 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1003 ± 5 µg/mL**
ICP Assay NIST SRM 3105a Lot Number: 090514

Assay Method #2 **1002 ± 6 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i})^2 / (\sum(1/(u_{char i})^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = (\sum((w_i)^2 (u_{char i})^2))^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M Ag <	0.000940	M Eu <	0.000240	O Na	0.003944	M Se <	0.018000	O Zn	0.001126
M Al	0.005019	O Fe	0.001024	M Nb <	0.000240	O Si	0.021513	M Zr <	0.000470
M As <	0.005500	M Ga <	0.000710	M Ni <	0.000240	M Sm <	0.000240		
M Au <	0.000240	M Gd <	0.000240	M Ni	0.004700	M Sn <	0.003300		
M B <	0.045000	M Ge <	0.003100	M Os	0.000240	M Sr <	0.001900		
M Ba <	0.001900	M Hf <	0.000240	O P <	0.130000	M Ta <	0.000240		
s Be <		M Hg <	0.000470	M Pb <	0.000470	M Tb <	0.000240		
M Bi <	0.003300	M Ho <	0.000240	M Pd <	0.000470	M Te <	0.009700		
O Ca	0.002919	M In <	0.001900	M Pr <	0.000240	M Th <	0.000240		
M Cd <	0.000470	M Ir <	0.000240	M Pt <	0.000240	O Ti <	0.003600		
M Ce <	0.000240	M K	0.004968	M Rb <	0.001500	M Tl <	0.000240		
O Co <	0.002100	M La <	0.000240	M Re <	0.000240	M Tm <	0.000240		
O Cr <	0.002100	M Li <	0.002200	M Rh <	0.000240	M U <	0.000240		
M Cs	0.000133	M Lu <	0.000240	M Ru <	0.000710	M V <	0.001500		
O Cu <	0.013000	O Mg	0.000819	i S <		M W <	0.001700		
M Dy <	0.000240	O Mn <	0.001900	M Sb <	0.000940	M Y <	0.000940		
M Er <	0.000240	M Mo <	0.001700	M Sc <	0.003600	M Yb <	0.000240		

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 9.01 ; +2 ; 4 ; Be(H₂O)₄+2

Chemical Compatibility -Soluble in HCl, HNO₃, H₂SO₄ and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1 % HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 5-10 % HNO₃ / LDPE container.

Be Containing Samples (Preparation and Solution) - Meta l(is best dissolved in diluted H₂SO₄); BeO (boiling nitric, hydrochloric, or sulfuric acids or KHSO₄ fusion); Ores (H₂SO₄/HF digestion or carbonate fusion in Pt0); Organic Matrices (sulfuric/peroxide digestion or nitric/sulfuric/perchloric acid decomposition, or dry ash and dissolution according to the BeO procedure above).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 9 amu	4 ppt	N/A	
ICP-OES 234.861 nm	0.0003/0.00016 µg/mL	1	Fe, Ta, Mo
ICP-OES 313.042 nm	0.0003/0.00009 µg/mL	1	V, Ce, U
ICP-OES 313.107 nm	0.0007/0.0005 µg/mL	1	Ce, Th, Tm

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 17, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **September 17, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME220114 TUNE STOCK
Standard Name: Tune Solution Stock
Date Prepared: 1/14/2022
Date Expires: 12/22/2022
Department: ME
Vendor:
Lot Number:
Balance ID:
Comments: Solution is 1% HNO3 preserved

Type: Secondary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Nitric Acid Instra Analyzed 000026478	13061	5	mL	5/12/
Milli-Q H2O	391	482.25	mL	6/1/2
Yittrium Single Analyte Custom Grade	14210	2.5	mL	1/25/
Cerium PlasmaCal Standard	14327	2.5	mL	12/22
Cobalt Single Analyte Custom Grade S	14683	2.5	mL	3/22/
Lithium Single Analyte Custom Grade	14687	2.5	mL	2/11/
Magnesium Single Analyte Custom Gr	14688	0.25	mL	4/23/
Thallium Single Analyte Custom Grade	14693	2.5	mL	8/5/2

Final Volume: 500 mL

Stock Source

Base Units

Amount Added

Analvtes

CAS

Conc: **ug/mL**

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

**2.0 PRODUCT DESCRIPTION**

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGY1
Lot Number: S2-Y700840
Matrix: 2% (v/v) HNO₃
Value / Analyte(s): 1 000 µg/mL ea:
Yttrium
Starting Material: Yttrium Oxide
Starting Material Lot#: 623052
Starting Material Purity: 99.9991%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 4 µg/mL
Density: 1.011 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	999 ± 3 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #2	1000 ± 5 µg/mL ICP Assay NIST SRM 3167a Lot Number: 120314
Assay Method #3	1001 ± 3 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$
 w_i = the weighting factors for each method calculated using the inverse square of the variance:
 $w_i = (1/u_{char i}^2) / (\sum(1/(u_{char i}^2)))$

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2
 $u_{char} = [\sum((w_i)^2 (u_{char i}^2))]^{1/2}$ where $u_{char i}$ are the errors from each characterization method
 u_{bb} = bottle to bottle homogeneity standard uncertainty
 u_{Its} = long term stability standard uncertainty (storage)
 u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with
 $u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (z) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2
 $u_{char a}$ = the errors from characterization
 u_{bb} = bottle to bottle homogeneity standard uncertainty
 u_{Its} = long term stability standard uncertainty (storage)
 u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an UHPA-Filtered Clean Room. An UHPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M Ag < 0.038000	M Eu < 0.002235	O Na < 0.060000	M Se < 0.027000	O Zn < 0.002642
O Al < 0.016000	O Fe < 0.000193	M Nb < 0.000570	O Si < 0.003658	O Zr < 0.012000
M As < 0.002300	M Ga < 0.000570	M Nd < 0.000570	M Sm < 0.000570	
M Au < 0.008000	M Gd < 0.000570	M Ni < 0.004600	M Sn < 0.001800	
O B < 0.022000	M Ge < 0.001200	M Os < 0.000570	O Sr < 0.003100	
M Ba < 0.001200	M Hf < 0.000570	n P < 0.000833	M Ta < 0.000570	
O Be < 0.002900	M Hg < 0.002900	M Pb < 0.000833	M Tb < 0.000570	
M Bi < 0.005600	M Ho < 0.001524	i Pd < 0.000570	M Te < 0.006900	
O Ca < 0.000304	M In < 0.002500	M Pr < 0.000570	M Th < 0.000570	
M Cd < 0.000570	M Ir < 0.000570	M Pt < 0.000570	M Ti < 0.005700	
M Ce < 0.000570	O K < 0.001117	M Rb < 0.001400	M Tl < 0.000570	
M Co < 0.000570	M La < 0.000570	M Re < 0.000570	M Tm < 0.001200	
M Cr < 0.003500	O Li < 0.004200	M Rh < 0.011000	M U < 0.000570	
M Cs < 0.005700	M Lu < 0.000570	M Ru < 0.000570	O V < 0.013000	
M Cu < 0.000365	O Mg < 0.000223	n S < 0.000365	M W < 0.006900	
M Dy < 0.000508	O Mn < 0.001400	M Sb < 0.000365	s Y < 0.000570	
M Er < 0.000197	M Mo < 0.006200	O Sc < 0.011000	M Yb < 0.003500	

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 88.91 +3 6 Y(OH)(H₂O)_{x+2}

Chemical Compatibility -Soluble in HCl, H₂SO₄ and HNO₃. Avoid HF, H₃PO₄ and neutral to basic media. Stable with most metals and inorganic anions forming an insoluble carbonate, oxide, oxalate, and fluoride. Avoid mixing with elements / solutions containing moderate amounts of fluoride.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO₃ / LDPE container.

Y Containing Samples (Preparation and Solution) - Metal (Soluble in acids); Oxide (Dissolve by heating in H₂O/ HNO₃); Ores (Carbonate fusion in PtO followed by HCl dissolution); Organic Matrices (Dry ash and dissolve in 1:1 H₂O / HCl or HNO₃).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 89 amu	0.8 ppt	N/A	<u>73Ge16O</u> , <u>178Hf+2</u>
ICP-OES 360.073 nm	0.005 / 0.000036 µg/mL	1	Ce, Th
ICP-OES 371.030 nm	0.004 / 0.00007 µg/mL	1	Ce
ICP-OES 377.433 nm	0.005 / 0.0009 µg/mL	1	Ta, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 25, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 25, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Ce

1.0 DESCRIPTION: **PlasmaCAL ICP/ICPMS Standard - Cerium 1000 µg/ml**
 Catalogue Number: 140-051-580/-581/-585
 Starting Material: Cerium(III) Nitrate Hexahydrate 99.99+%
 Lot Number: **S210208003**
 Matrix: 4% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **February 2023** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:
 Certified Concentration: **1003 µg/ml +/- 4 µg/ml**
982 µg/g +/- 4 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3110 Lot: **090504**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:
 Density: **1.021 g/ml @ 22.5 °C**
 Actual Matrix: **4.0% (v/v) HNO₃**
 Trace Metal Impurities as tested by ICP-MS:

ID #: 14327
 Opened: _____
 Cerium PlasmaCal Standard
Expires: 2/28/2023
 Rec'd: 9/29/2021
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	<0.0018	Nd	0.0102	Sn	<0.0010
Al	0.0148	Ga	0.0526	Ni	0.0064	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	*	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	0.0235	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	<0.0011
Ca	0.0375	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	<0.0010
Ce	N/A	La	<0.10	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	<0.0010	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0121	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.0010	Zr	<0.0010
Er	<0.0010	Na	<0.0010	Si	<0.10		
Eu	0.0035	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:
 Certification Approval: Yaling Sui, Chemist
 Certification Date: February 22, 2021

Yaling Sui

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (FAAS) et four au graphite (GFAA).*
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.*
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH : Pour étalonnage de pH mètres et autres applications de chimie humide.*
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité : Comme étalon pour les mesures de conductivité électrolytiques.*
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.*
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisé, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGCO1
Lot Number: S2-CO702699
Matrix: 3% (v/v) HNO3
Value / Analyte(s): 1 000 µg/mL ea:
Cobalt
Starting Material: Co Metal
Starting Material Lot#: 2326
Starting Material Purity: 99.9934%

ID #: 14683

Opened:

Cobalt Single Analyte Custom Grade Solution

Expires: 3/22/2025

Rec'd: 12/28/2021

Energx Laboratories Inc 1120 So. 27th Street
Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 998 ± 3 µg/mL
Density: 1.018 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	994 ± 5 µg/mL ICP Assay NIST SRM 3113 Lot Number: 190630
Assay Method #2	997 ± 3 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	1001 ± 3 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum(1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum((w_i)^2 (u_{char i}^2))]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 μm .

M	Ag	<	0.001515	M	Eu	<	0.000590	O	Na	<	0.000778	M	Se	<	0.019000	M	Zn	<	0.000357
M	Al	<	0.024000	M	Fe	<	0.005262	M	Nb	<	0.000590	O	Si	<	0.007789	M	Zr	<	0.001200
i	As	<		M	Ga	<	0.000590	M	Nd	<	0.000590	M	Sm	<	0.000590				
M	Au	<	0.004100	M	Gd	<	0.000590	O	Ni	<	0.044207	M	Sn	<	0.001200				
M	B	<	0.031000	M	Ge	<	0.003000	M	Os	<	0.000590	O	Sr	<	0.000260				
M	Ba	<	0.000590	M	Hf	<	0.000590	n	P	<		M	Ta	<	0.001200				
O	Be	<	0.001300	M	Hg	<	0.001800	M	Pb	<	0.000336	M	Tb	<	0.000590				
M	Bi	<	0.003000	M	Ho	<	0.000590	M	Pd	<	0.000590	M	Te	<	0.005300				
O	Ca	<	0.001094	M	In	<	0.001200	M	Pr	<	0.000590	M	Th	<	0.000590				
M	Cd	<	0.004700	M	Ir	<	0.001200	M	Pt	<	0.002400	M	Ti	<	0.014000				
M	Ce	<	0.000590	O	K	<	0.000842	M	Rb	<	0.000590	M	Tl	<	0.000273				
s	Co	<		M	La	<	0.000590	M	Re	<	0.000590	M	Tm	<	0.000590				
M	Cr	<	0.021000	O	Li	<	0.000130	M	Rh	<	0.000590	M	U	<	0.000590				
M	Cs	<	0.002400	M	Lu	<	0.000590	M	Ru	<	0.007100	O	V	<	0.000880				
M	Cu	<	0.019577	O	Mg	<	0.000195	n	S	<		M	W	<	0.000590				
M	Dy	<	0.000590	M	Mn	<	0.001800	M	Sb	<	0.003600	M	Y	<	0.000590				
M	Er	<	0.000590	M	Mo	<	0.002400	O	Sc	<	0.001600	M	Yb	<	0.000590				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 58.93 +2 6 Co(H₂O)₆2+

Chemical Compatibility - Stable in HCl, HNO₃, H₂SO₄, HF, H₃PO₄. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO₃ / LDPE container.

Co Containing Samples (Preparation and Solution) - Metal (soluble in HNO₃); Oxides (Soluble in HCl); Ore (dissolve in HCl / HNO₃).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 59 amu	2 ppt	n/a	42Ca16O1H , 40Ar18O1H , 36Ar23Na, 43Ca16O, 24Mg35Cl
ICP-OES 228.616 nm	0.01/0.001 µg/mL	1	
ICP-OES 237.862 nm	0.01/0.002 µg/mL	1	W, Re, Al, Ta
ICP-OES 238.892 nm	0.01/0.002 µg/mL	1	Fe, W, Ta

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
 Catalog Number: CGLI1
 Lot Number: S2-LI701641
 Matrix: 0.1% (v/v) HNO3
 Value / Analyte(s): 1 000 µg/mL ea:
 Lithium
 Starting Material: Lithium Carbonate
 Starting Material Lot#: 1613
 Starting Material Purity: 99.9962%

ID #: 14687
 Opened:
 Lithium Single Analyte Custom Grade Solution
Expires: 2/11/2025
 Rec'd: 12/28/2021
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 3 µg/mL
Density: 1.005 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	997 ± 4 µg/mL ICP Assay NIST SRM 3129a Lot Number: 100714
Assay Method #2	1000 ± 1 µg/mL Gravimetric NIST SRM Lot Number: See Sec. 4.2
Assay Method #3	1001 ± 3 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum(1/(u_{char i}^2)))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = (\sum(w_i)^2 (u_{char i}^2))^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M Ag < 0.000500	M Eu < 0.000500	O Na 0.018534	M Se < 0.011000	M Zn 0.003494
O Al 0.000741	O Fe 0.004342	M Nb < 0.000500	M Si 0.111204	M Zr < 0.002000
M As < 0.011000	M Ga < 0.000500	M Nd < 0.000500	M Sm < 0.000500	
M Au < 0.010000	M Gd < 0.000500	M Ni < 0.007000	M Sn < 0.001000	
O B 0.000503	M Ge < 0.004500	M Os < 0.001000	M Sr 0.000243	
O Ba 0.000381	M Hf < 0.000500	O P < 0.045000	M Ta < 0.000500	
O Be 0.000046	M Hg < 0.000500	M Pb < 0.003000	M Tb < 0.000500	
M Bi < 0.000500	M Ho < 0.000500	M Pd < 0.000500	M Te < 0.005000	
O Ca 0.058249	M In < 0.000500	M Pr < 0.000500	M Th < 0.000500	
M Cd < 0.000500	M Ir < 0.000500	M Pt < 0.000500	M Ti < 0.002500	
M Ce < 0.000500	O K 0.029124	M Rb < 0.001000	M Tl < 0.000500	
M Co < 0.000500	M La < 0.000500	M Re < 0.000500	M Tm < 0.000500	
M Cr 0.000153	s Li <	M Rh < 0.000500	M U < 0.000500	
M Cs < 0.000500	M Lu < 0.000500	M Ru < 0.000500	M V 0.000953	
M Cu < 0.002000	O Mg 0.011649	O S 0.031772	M W < 0.001000	
M Dy < 0.000500	O Mn 0.000164	M Sb < 0.003000	M Y < 0.000500	
M Er < 0.000500	M Mo < 0.000500	M Sc < 0.001500	M Yb < 0.000500	

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 6.94 +1 (6) Li+(aq) large effective radius due to hydration sphere

Chemical Compatibility -Soluble in HCl, HNO₃, H₂SO₄ and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO₃ / LDPE container.

Li Containing Samples (Preparation and Solution) -Metal (Dissolves very rapidly in water); Ores (Sodium carbonate fusion in Pt0 followed by HCl dissolution-blank levels of Li in sodium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric / sulfuric / perchloric acid decomposition).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 7 amu	10 ppt	n/a	
ICP-OES 323.261 nm	1.1 / 0.05 micro;g/mL	1	Sb, Th, Ni
ICP-OES 460.286 nm	0.9 / 0.04 µg/mL	1	Zr, Th
ICP-OES 670.784 nm	0.002 / 0.00002 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 11, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **February 11, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.comP: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGMG10
Lot Number: S2-MG704239
Matrix: 2% (v/v) HNO₃
Value / Analyte(s): 10 000 µg/mL ea:
Magnesium
Starting Material: Magnesium Metal
Starting Material Lot#: 2168
Starting Material Purity: 99.9984%

ID #: 14688
Opened:
Magnesium Single Analyte Custom Grade Sol
Expires: 4/23/2025
Rec'd: 12/28/2021
Enerav Laboratories Inc 1120 So. 27th Street
Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10053 ± 30 µg/mL
Density: 1.053 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1	10022 ± 62 µg/mL ICP Assay NIST SRM 3131a Lot Number: 140110
Assay Method #2	10078 ± 26 µg/mL EDTA NIST SRM 928 Lot Number: 928
Assay Method #3	10033 ± 26 µg/mL Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i})^2 / (\sum(1/(u_{char i})^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u^2_{char} + u^2_{bb} + u^2_{Its} + u^2_{ts})^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum(w_i)^2 (u_{char i})^2]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u^2_{char a} + u^2_{bb} + u^2_{Its} + u^2_{ts})^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O Ag	0.002106	M	Eu	<	0.000910	O Na	0.071075	O Se	<	0.048000	O Zn	0.003299		
M Al	0.003553	M	Fe		0.002538	M Nb	<	0.000460	O Si	<	0.032000	O Zr	<	0.002700
M As	<	0.001400	M Ga	<	0.000460	M Nd	<	0.000910	M Sm	<	0.000460			
M Au	<	0.001400	M Gd	<	0.000460	O Ni	<	0.001600	M Sn	<	0.002300			
O B	0.006853	M	Ge	<	0.001400	M Os	<	0.000460	O Sr		0.000279			
O Ba	0.000964	M	Hf	<	0.000460	O P		0.015230	M Ta	<	0.000460			
O Be	<	0.000120	M Hg	<	0.000460	M Pb	<	0.000460	M Tb	<	0.000460			
M Bi	<	0.000460	M Ho	<	0.000460	M Pd	<	0.003200	M Te	<	0.007300			
O Ca	0.053306	M	In	<	0.000460	M Pr	<	0.000460	M Th	<	0.000460			
O Cd	<	0.000360	M Ir	<	0.000460	M Pt	<	0.001900	O Ti	<	0.001700			
M Ce	<	0.002300	M K		0.048229	M Rb		0.002411	M Tl		0.003046			
M Co	<	0.000910	M La	<	0.002800	M Re	<	0.000460	M Tm	<	0.000460			
M Cr	<	0.002300	O Li		0.027922	M Rh	<	0.000460	M U	<	0.000460			
M Cs	0.001040	M	Lu	<	0.000460	M Ru	<	0.000460	M V	<	0.000460			
O Cu	<	0.003000	s Mg	<		O S	<	0.190000	M W	<	0.000460			
M Dy	<	0.000460	O Mn		0.015230	M Sb		0.020814	O Y	<	0.000720			
M Er	<	0.000460	M Mo	<	0.000910	O Sc	<	0.000480	M Yb	<	0.000460			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 24.31 +2 6 Mg(H₂O)₆+2

Chemical Compatibility -Soluble in HCl, HNO₃, and H₂SO₄ avoid HF, H₃PO₄ and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicates, carbonates, hydroxides, oxides, and tungstates in neutral and slightly acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-10% HNO₃ / LDPE container.

Mg Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO₃); Oxide (Readily soluble in above compatible aqueous acidic solutions); Ores (Carbonate fusion in Pt₀ followed by HCl dissolution); Organic Matrices (Sulfuric / peroxide digestion or nitric / sulfuric / perchloric acid decomposition, or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 24 amu	42 ppt	n/a	7Li17O, 48Ti+2 , 48Ca+2
ICP-OES 279.553 nm	0.0002 / 0.00003 µg/mL	1	Th
ICP-OES 280.270 nm	0.0003 / 0.00005 µg/mL	1	U, V
ICP-OES 285.213 nm	0.002 / 0.00003 µg/mL	1	U, Hf, Cr, Zr

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 23, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 23, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0

NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGTL1
Lot Number: R2-TL694852
Matrix: 1% (v/v) HNO3
Value / Analyte(s): 1 000 µg/mL ea:
Thallium
Starting Material: TINO3
Starting Material Lot#: 2118
Starting Material Purity: 99.9998%

ID #: 14693
Opened:
Thallium Single Analyte Custom Grade Solution
Expires: 8/5/2024
Rec'd: 12/28/2021
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 5 µg/mL
Density: 1.005 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1003 ± 4 µg/mL**
ICP Assay NIST SRM 3158 Lot Number: 151215
Assay Method #2 **1000 ± 7 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$
 w_i = the weighting factors for each method calculated using the inverse square of the variance:
 $w_i = (1/u_{char i}^2) / (\sum(1/u_{char i}^2))$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2
 $u_{char} = (\sum((w_i)^2 (u_{char i})^2))^{1/2}$ where $u_{char i}$ are the errors from each characterization method
 u_{bb} = bottle to bottle homogeneity standard uncertainty
 u_{lts} = long term stability standard uncertainty (storage)
 u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) / (u_{char a})$$

X_a = mean of Assay Method A with
 $u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2
 $u_{char a}$ = the errors from characterization
 u_{bb} = bottle to bottle homogeneity standard uncertainty
 u_{lts} = long term stability standard uncertainty (storage)
 u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M Ag < 0.000200	M Eu < 0.000200	O Na < 0.000256	M Se < 0.011019	O Zn < 0.000236
O Al < 0.004184	O Fe < 0.002824	M Nb < 0.000200	O Si < 0.000387	M Zr < 0.000200
M As < 0.002003	M Ga < 0.000200	M ⁱ Nd < 0.000200	M Sm < 0.000200	
O Au < 0.002824	M Gd < 0.000200	M ⁱ Ni < 0.000177	M Sn < 0.000601	
O B < 0.004184	M Ge < 0.000801	M ⁱ Os < 0.000198	O Sr < 0.000313	
M Ba < 0.000400	M Hf < 0.000200	O P < 0.010460	M Ta < 0.000200	
O Be < 0.000104	M Hg < 0.000794	M Pb < 0.000083	M Tb < 0.000200	
M Bi < 0.005209	M Ho < 0.000200	M Pd < 0.000400	M Te < 0.005008	
O Ca < 0.000250	M In < 0.000200	M Pr < 0.000200	M Th < 0.000200	
M Cd < 0.000135	M Ir < 0.000198	M Pt < 0.000801	O Ti < 0.001255	
M Ce < 0.000200	O K < 0.000636	M Rb < 0.000200	s Tl <	
M Co < 0.000601	M La < 0.000200	M Re < 0.000200	M Tm < 0.000200	
M Cr < 0.000801	O Li < 0.000177	M Rh < 0.000200	M U < 0.000200	
M Cs < 0.003606	M Lu < 0.000200	M Ru < 0.000397	M V < 0.002203	
M Cu < 0.001001	O Mg < 0.000054	O S < 0.015690	M W < 0.000601	
M Dy < 0.000200	M Mn < 0.000801	M Sb < 0.000400	M Y < 0.000200	
M Er < 0.000200	M Mo < 0.001202	O Sc < 0.000711	M Yb < 0.000200	

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 204.38 + 16 Ti(H₂O)₆1+

Chemical Compatibility - Soluble in HCl, HNO₃, and H₂SO₄. Stable with most metals and inorganic anions. The sulfite, thiocyanate and oxalate are moderately soluble; the phosphate and arsenite are slightly soluble and the sulfide is insoluble.

Stability - 2-100 ppb levels stable for months in 1% HNO₃ / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO₃ / LDPE container.

Ti Containing Samples (Preparation and Solution) -Metal (Best dissolved in HNO₃ which forms chiefly the Ti¹⁺ ion.); Oxide (The thalious oxide is readily soluble in water. The thallic oxide requires high levels of acid); Ores (Carbonate fusion in Pt₀ followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 205 amu	2 ppt	N/A	189Os16O
ICP-OES 190.864 nm	0.04 / 0.004 µg/mL	1	V, Ti
ICP-OES 276.787 nm	0.1 / 0.01 µg/mL	1	Ta, V, Fe, Cr
ICP-OES 351.924 nm	0.2 / 0.02 µg/mL	1	Th, Ce, Zr

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 05, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 05, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME220112A 1000 PPB STANDARD
Standard Name: 1000 PPB Standard
Date Prepared: 1/12/2022
Date Expires: 11/18/2022
Department: ME
Vendor:
Lot Number:
Balance ID:
Comments: Made fresh daily

Type: Secondary
BY: Cindy Rohrer
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	48.25	mL	6/1/2100

Final Volume:
50 mL

Stock Source

ME211208 MSCAL MSCAL 2B
ME211118 MSCAL EL-MSCAL-5A
ME211229A AU 2n Au 2nd source Stock

Base Units

ug/mL
ug/mL
ug/mL

Amount Added

0.5 mL
0.5 mL
0.01 mL

Analytes

CAS

Conc: **mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID: ME211208 MSCAL2B
Standard Name: MSCAL 2B
Date Prepared: 12/8/2021
Date Expires: 12/8/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: S2-MEB704403
Balance ID:
Comments: Opened 12/08/2021; Expires 12/08/2022

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Multi Analyte Custom Grade Solution	13793		mL	12/8/2022

Final Volume:
mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: EL-MSCAL-2B
Lot Number: S2-MEB704403
Matrix: 5% (v/v) HNO₃
Value / Analyte(s):
100 µg/mL ea:
Aluminum, Arsenic,
Boron, Barium,
Beryllium, Cadmium,
Cobalt, Chromium,
Copper, Iron,
Manganese, Nickel,
Lead, Selenium,
Strontium, Thorium,
Thallium, Uranium,
Vanadium, Zinc,
40 µg/mL ea:
Silver

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ID #: 13793

Opened: _____

Multi Analyte Custom Grade Solution

Expires: 4/21/2025

Rec'd: 4/29/2021

Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	100.0 ± 0.4 µg/mL	Arsenic, As	100.0 ± 0.9 µg/mL
Barium, Ba	100.0 ± 0.5 µg/mL	Beryllium, Be	100.0 ± 0.7 µg/mL
Boron, B	100.0 ± 0.7 µg/mL	Cadmium, Cd	100.0 ± 0.5 µg/mL
Chromium, Cr	100.0 ± 0.8 µg/mL	Cobalt, Co	100.0 ± 0.6 µg/mL
Copper, Cu	100.0 ± 0.5 µg/mL	Iron, Fe	100.1 ± 0.4 µg/mL
Lead, Pb	100.0 ± 0.6 µg/mL	Manganese, Mn	100.0 ± 0.5 µg/mL
Nickel, Ni	100.0 ± 0.6 µg/mL	Selenium, Se	100.0 ± 0.7 µg/mL
Silver, Ag	39.99 ± 0.18 µg/mL	Strontium, Sr	100.0 ± 0.4 µg/mL
Thallium, Tl	100.0 ± 0.6 µg/mL	Thorium, Th	100.0 ± 0.5 µg/mL
Uranium, U	100.0 ± 0.5 µg/mL	Vanadium, V	100.0 ± 0.5 µg/mL
Zinc, Zn	100.0 ± 0.5 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Fe	Calculated		See Sec. 4.2
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Sr	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum (1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum ((w_i)^2 (u_{char i}^2))]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope

Uranium 238U

Uranium 235U

Atom %

99.8 ± 0.1

0.24 ± 0.05

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 21, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 21, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME211118 MSCAL-5A
Standard Name: EL-MSCAL-5A
Date Prepared: 11/18/2021
Date Expires: 11/18/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: P2-MEB687200
Balance ID:
Comments: Opened 11/18/2021; Expires 11/18/2022

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Multi Analyte Custom Grade Solution	13175	500	mL	11/18/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
 Catalog Number: EL-MSCAL-5A
 Lot Number: P2-MEB687200
 Matrix: 3% (v/v) HNO₃
 Value / Analyte(s): 5 000 µg/mL ea:
 Calcium, Potassium, Magnesium,
 Sodium,
 500 µg/mL ea:
 Phosphorus, Iron,
 250 µg/mL ea:
 Lithium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Calcium, Ca	5 000 ± 20 µg/mL	Iron, Fe	499.9 ± 2.1 µg/mL
Lithium, Li	250.0 ± 1.1 µg/mL	Magnesium, Mg	5 000 ± 21 µg/mL
Phosphorus, P	499.8 ± 2.5 µg/mL	Potassium, K	5 000 ± 18 µg/mL
Sodium, Na	5 000 ± 18 µg/mL		

Density: 1.076 g/mL (measured at 20 ± 4 °C)

Assay Information:

ID #: 13175
 Opened: _____
 Multi Analyte Custom Grade Solution
Expires: 12/2/2023
 Rec'd: 10/12/2020
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum(1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = \{ \sum((w_i)^2 (u_{char i}^2)) \}^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) / (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed outer bag.

- While stored in the sealed outer bag, transpiration of this CRM/RM is negligible. After opening the sealed outer bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed outer bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 02, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 02, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed outer Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME211229A AU 2ND SOURCE
Standard Name: Au 2nd source Stock
Date Prepared: 12/29/2021
Date Expires: 12/29/2022
Department: ME
Vendor: SCP Science
Lot Number: S211129013
Balance ID:
Comments: opened 12/29/2021; expires 12/29/2022

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Gold	14710	500	mL	12/29/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

ID #: 14710

Opened:

ICP/ICPMS Standard Gold

Expires: 12/31/2023

Rec'd: 12/29/2021

Eneray Laboratories Inc 1120 So. 27th Street

Billings MT 59107

SCP SCIENC

Providing Innovative Solutions to Analytical

Certificate of Analysis**Au****1.0 DESCRIPTION:****PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml**

Catalogue Number: 140-052-790/-791/-795

Starting Material: Gold Metal 99.99+%

Lot Number: **S211129013**

Matrix: 10% HCl (See Section 3 for actual matrix)

Expiration Date (End of month): **December 2023** (or 15 months after bottle is opened, whichever comes first)**2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:**Certified Concentration: **1001 µg/ml +/- 4 µg/ml****982 µg/g +/- 4 µg/g**

Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: NIST Standard Reference Material 3121 Lot: **991806**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:Density: **1.019 g/ml @ 22.4 °C**Actual Matrix: **10.0% (v/v) HCl**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	0.3851	Fe	<0.0090	Nd	<0.0010	Sn	<0.0010
Al	0.0062	Ga	<0.0010	Ni	<0.0010	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	N/A	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	*	Pd	0.0434	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	0.0048	Tl	<0.0011
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	0.0362	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	0.0029	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0023	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.01	Zr	<0.0010
Er	<0.0010	Na	0.0070	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist

Certification Date: December 10, 2021

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP* : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.
- AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA* : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).
- Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice* : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.
- pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH* : Pour étalonnage de pH mètres et autres applications de chimie humide.
- Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité* : Comme étalon pour les mesures de conductivité électrolytiques.
- IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC* : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.
For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisée, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME220112 100 PPB STANDARD
 Standard Name: 100 ppb Standard
 Date Prepared: 1/12/2022
 Date Expires: 11/18/2022
 Department: ME
 Vendor: Inorganic Ventures
 Lot Number:
 Balance ID:
 Comments: Made Fresh Daily

Type: Secondary
 BY: Cindy Rohrer
 Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	48.335	mL	6/1/2100

Final Volume:
 50 mL

Stock Source

ME211221 MSCAL MSCAL 3C
 ME211118 MSCAL EL-MSCAL-5A
 ME220105 HgPrim Primary Hg Stock 2 PPM
 ME211208 MSCAL MSCAL 2B
 ME211229A AU 2n Au 2nd source Stock
 ME220110 Ce, La Ce, La Primary

Base Units

ug/mL
 ug/mL
 ug/mL
 ug/mL
 ug/mL
 ug/mL

Amount Added

0.05 mL
 0.25 mL
 0.05 mL
 0.05 mL
 0.01 mL
 0.05 mL

Analytes

CAS

Conc: **mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID: ME211221 MSCAL 3C
Standard Name: MSCAL 3C
Date Prepared: 12/21/2021
Date Expires: 12/21/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: S2-MEB700780
Balance ID:
Comments: Opened 12/21/21; expires 12/21/22

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Multi Analyte Custom Grade Solution	13473	250	mL	12/21/2022

Final Volume:
250 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).


2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
 Catalog Number: EL-MSCAL-3C
 Lot Number: S2-MEB700780
 Matrix: 3% (v/v) HNO₃
 tr. HF
 Value / Analyte(s): 400 µg/mL ea:
 Silicon,
 100 µg/mL ea:
 Tin,
 Molybdenum,

1-6-2025

ID #: 13473

Opened: _____

Multi Analyte Custom Grade Solution

Expires: 1/6/2025

Rec'd: 1/15/2021

Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

Titanium,
 Antimony

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	100.0 ± 0.8 µg/mL	Molybdenum, Mo	100.0 ± 0.6 µg/mL
Silicon, Si	399.9 ± 3.0 µg/mL	Tin, Sn	100.0 ± 0.6 µg/mL
Titanium, Ti	100.0 ± 0.7 µg/mL		

Density: 1.018 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Sb	ICP Assay	3102a	140911
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i})^2 / (\sum(1/u_{\text{char } i})^2)$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = (\sum(w_i)^2 (u_{\text{char } i})^2)^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a) / (u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800 669 6799; 540 585 3030, Fax: 540 585 3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 06, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 06, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME211118 MSCAL-5A
Standard Name: EL-MSCAL-5A
Date Prepared: 11/18/2021
Date Expires: 11/18/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: P2-MEB687200
Balance ID:
Comments: Opened 11/18/2021; Expires 11/18/2022

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Multi Analyte Custom Grade Solution	13175	500	mL	11/18/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution

Catalog Number: EL-MSCAL-5A

Lot Number: P2-MEB687200

Matrix: 3% (v/v) HNO₃

Value / Analyte(s):

5 000 µg/mL ea:	Calcium,	Potassium,	Magnesium,
	Sodium,		
500 µg/mL ea:	Phosphorus,	Iron,	
250 µg/mL ea:	Lithium		

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Calcium, Ca	5 000 ± 20 µg/mL	Iron, Fe	499.9 ± 2.1 µg/mL
Lithium, Li	250.0 ± 1.1 µg/mL	Magnesium, Mg	5 000 ± 21 µg/mL
Phosphorus, P	499.8 ± 2.5 µg/mL	Potassium, K	5 000 ± 18 µg/mL
Sodium, Na	5 000 ± 18 µg/mL		

Density: 1.076 g/mL (measured at 20 ± 4 °C)

Assay Information:

ID #: 13175
 Opened: _____
 Multi Analyte Custom Grade Solution
Expires: 12/2/2023
 Rec'd: 10/12/2020
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum(1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = \{ \sum((w_i)^2 (u_{char i}^2)) \}^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) / (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed outer bag.

- While stored in the sealed outer bag, transpiration of this CRM/RM is negligible. After opening the sealed outer bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed outer bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 02, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 02, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed outer Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Energy Laboratories Inc

Spike LOG

Standard ID: ME220105 HGPRIMARY
Standard Name: Primary Hg Stock 2 PPM
Date Prepared: 1/5/2022
Date Expires: 12/29/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Type: Secondary
BY: Amanda E. McDani
Status: Open
Comments: Made with different HG stock than QCS

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027

Final Volume:
25 mL

Stock Source

ME220110HG HG Stock
ME211229A AU 2N Au 2nd source Stock

Base Units

ug/mL
ug/mL

Amount Added

0.05 mL
0.05 mL

Analytes

CAS

Conc: ug/mL

Energy Laboratories Inc

Standard LOG

Standard ID: ME220110HG
Standard Name: HG Stock
Date Prepared: 1/10/2022
Date Expires: 1/10/2023
Department: ME
Vendor: SCP Science
Lot Number: S210729017
Balance ID:
Comments:

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Mercury	14711	125	mL	1/10/2023

Final Volume:
125 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

ID #: 14711

Opened: _____

ICP/ICPMS Standard Mercury

Expires: 7/31/2023

Rec'd: 12/29/2021

Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

rtificate of Analysis

Hg

1.0 DESCRIPTION:

PlasmaCAL ICP/ICPMS Standard - Mercury 1000 µg/ml
 Catalogue Number: 140-051-800/-801/-805
 Starting Material: Mercury(II) oxide 99.99+%
 Lot Number: **S210729017**
 Matrix: 10% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **July 2023** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Certified Concentration: **999 µg/ml +/- 5 µg/ml**
952 µg/g +/- 5 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3133 Lot: **160921**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.050 g/ml @ 23.6 °C**
 Actual Matrix: **10.0% (v/v) HNO₃**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	0.0322	Nd	<0.0010	Sn	<0.0010
Al	0.0042	Ga	<0.0010	Ni	0.0039	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	N/A	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	0.0117
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	0.0112	Lu	<0.0010	S	*	Y	<0.0010
Cs	<0.0010	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0060	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.0010	Zr	<0.0010
Er	<0.0010	Na	0.0092	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist
 Certification Date: August 12, 2021

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP*: Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA*: Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice*: Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH*: Pour étalonnage de pH mètres et autres applications de chimie humide.
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité*: Comme étalon pour les mesures de conductivité électrolytiques.
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC*: Pour étalonnage d'instruments tels que: IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisé, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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Fax: +33 (0) 1 60 92 05 67

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Marktberdorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME211229A AU 2ND SOURCE
Standard Name: Au 2nd source Stock
Date Prepared: 12/29/2021
Date Expires: 12/29/2022
Department: ME
Vendor: SCP Science
Lot Number: S211129013
Balance ID:
Comments: opened 12/29/2021; expires 12/29/2022

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Gold	14710	500	mL	12/29/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

ID #: 14710

Opened:

ICP/ICPMS Standard Gold

Expires: 12/31/2023

Rec'd: 12/29/2021

Eneray Laboratories Inc 1120 So. 27th Street

Billings MT 59107

SCP SCIENC

Providing Innovative Solutions to Analytical

Certificate of Analysis**Au****1.0 DESCRIPTION:****PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml**

Catalogue Number: 140-052-790/-791/-795

Starting Material: Gold Metal 99.99+%

Lot Number: **S211129013**

Matrix: 10% HCl (See Section 3 for actual matrix)

Expiration Date (End of month): **December 2023** (or 15 months after bottle is opened, whichever comes first)**2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:**Certified Concentration: **1001 µg/ml +/- 4 µg/ml****982 µg/g +/- 4 µg/g**

Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: NIST Standard Reference Material 3121 Lot: **991806**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:Density: **1.019 g/ml @ 22.4 °C**Actual Matrix: **10.0% (v/v) HCl**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	0.3851	Fe	<0.0090	Nd	<0.0010	Sn	<0.0010
Al	0.0062	Ga	<0.0010	Ni	<0.0010	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	N/A	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	*	Pd	0.0434	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	0.0048	Tl	<0.0011
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	0.0362	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	0.0029	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0023	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.01	Zr	<0.0010
Er	<0.0010	Na	0.0070	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist

Certification Date: December 10, 2021

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP* : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.
- AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA* : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).
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- pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH* : Pour étalonnage de pH mètres et autres applications de chimie humide.
- Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité* : Comme étalon pour les mesures de conductivité électrolytiques.
- IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC* : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.
For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

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Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisé, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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Marktoberdorf
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Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME211208 MSCAL2B
Standard Name: MSCAL 2B
Date Prepared: 12/8/2021
Date Expires: 12/8/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: S2-MEB704403
Balance ID:
Comments: Opened 12/08/2021; Expires 12/08/2022

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Multi Analyte Custom Grade Solution	13793		mL	12/8/2022

Final Volume:
mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: EL-MSCAL-2B
Lot Number: S2-MEB704403
Matrix: 5% (v/v) HNO3
Value / Analyte(s):
100 µg/mL ea:
Aluminum, Arsenic,
Boron, Barium,
Beryllium, Cadmium,
Cobalt, Chromium,
Copper, Iron,
Manganese, Nickel,
Lead, Selenium,
Strontium, Thorium,
Thallium, Uranium,
Vanadium, Zinc,
40 µg/mL ea:
Silver

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ID #: 13793

Opened: _____

Multi Analyte Custom Grade Solution

Expires: 4/21/2025

Rec'd: 4/29/2021

Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	100.0 ± 0.4 µg/mL	Arsenic, As	100.0 ± 0.9 µg/mL
Barium, Ba	100.0 ± 0.5 µg/mL	Beryllium, Be	100.0 ± 0.7 µg/mL
Boron, B	100.0 ± 0.7 µg/mL	Cadmium, Cd	100.0 ± 0.5 µg/mL
Chromium, Cr	100.0 ± 0.8 µg/mL	Cobalt, Co	100.0 ± 0.6 µg/mL
Copper, Cu	100.0 ± 0.5 µg/mL	Iron, Fe	100.1 ± 0.4 µg/mL
Lead, Pb	100.0 ± 0.6 µg/mL	Manganese, Mn	100.0 ± 0.5 µg/mL
Nickel, Ni	100.0 ± 0.6 µg/mL	Selenium, Se	100.0 ± 0.7 µg/mL
Silver, Ag	39.99 ± 0.18 µg/mL	Strontium, Sr	100.0 ± 0.4 µg/mL
Thallium, Tl	100.0 ± 0.6 µg/mL	Thorium, Th	100.0 ± 0.5 µg/mL
Uranium, U	100.0 ± 0.5 µg/mL	Vanadium, V	100.0 ± 0.5 µg/mL
Zinc, Zn	100.0 ± 0.5 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Fe	Calculated		See Sec. 4.2
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Sr	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum (1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum ((w_i)^2 (u_{char i}^2))]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope

Uranium 238U

Uranium 235U

Atom %

99.8 ± 0.1

0.24 ± 0.05

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 21, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 21, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME211229A AU 2ND SOURCE
Standard Name: Au 2nd source Stock
Date Prepared: 12/29/2021
Date Expires: 12/29/2022
Department: ME
Vendor: SCP Science
Lot Number: S211129013
Balance ID:
Comments: opened 12/29/2021; expires 12/29/2022

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Gold	14710	500	mL	12/29/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

ID #: 14710

Opened:

ICP/ICPMS Standard Gold

Expires: 12/31/2023

Rec'd: 12/29/2021

Eneray Laboratories Inc 1120 So. 27th Street

Billings MT 59107

SCP SCIENC

Providing Innovative Solutions to Analytical

Certificate of Analysis**Au****1.0 DESCRIPTION:****PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml**

Catalogue Number: 140-052-790/-791/-795

Starting Material: Gold Metal 99.99+%

Lot Number: **S211129013**

Matrix: 10% HCl (See Section 3 for actual matrix)

Expiration Date (End of month): **December 2023** (or 15 months after bottle is opened, whichever comes first)**2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:**Certified Concentration: **1001 µg/ml +/- 4 µg/ml****982 µg/g +/- 4 µg/g**

Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: NIST Standard Reference Material 3121 Lot: **991806**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:Density: **1.019 g/ml @ 22.4 °C**Actual Matrix: **10.0% (v/v) HCl**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	0.3851	Fe	<0.0090	Nd	<0.0010	Sn	<0.0010
Al	0.0062	Ga	<0.0010	Ni	<0.0010	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	N/A	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	*	Pd	0.0434	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	0.0048	Tl	<0.0011
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	0.0362	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	0.0029	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0023	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.01	Zr	<0.0010
Er	<0.0010	Na	0.0070	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist

Certification Date: December 10, 2021

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP* : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA* : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice* : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH* : Pour étalonnage de pH mètres et autres applications de chimie humide.
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité* : Comme étalon pour les mesures de conductivité électrolytiques.
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC* : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou au CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisée, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME220110 CE, LA PRIMARY
Standard Name: Ce, La Primary
Date Prepared: 1/10/2022
Date Expires: 1/6/2023
Department: ME
Vendor: Inorganic Ventures
Lot Number: M2-CE657768/M2-
Balance ID:

Type: Secondary
BY: Amanda E. McDani
Status: Open

Comments: Used to make standards and spiking solutions; No primary La available

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	39.5	mL	6/1/2100

Final Volume:
50 mL

Stock Source

ME220106-CE Ce Primary Stock

Base Units

ug/mL

Amount Added

5 mL

Analytes

CAS

Conc: ug/mL

Energy Laboratories Inc

Standard LOG

Standard ID: ME220112 50 PPB STANDARD_CCV
 Standard Name: 50 ppb Standard/CCV
 Date Prepared: 1/12/2022
 Date Expires: 11/18/2022
 Department: ME
 Vendor: Inorganic Ventures
 Lot Number:
 Balance ID:
 Comments: Made Fresh Daily

Type: Secondary
 BY: Cindy Rohrer
 Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	48.335	mL	6/1/2100

Final Volume:
100 mL

Stock Source

ME211221 MSCAL MSCAL 3C
 ME211118 MSCAL EL-MSCAL-5A
 ME220105 HgPrim Primary Hg Stock 2 PPM
 ME211208 MSCAL MSCAL 2B
 ME211229A AU 2n Au 2nd source Stock
 ME220110 Ce, La Ce, La Primary

Base Units

ug/mL
 ug/mL
 ug/mL
 ug/mL
 ug/mL
 ug/mL

Amount Added

0.05 mL
 0.25 mL
 0.05 mL
 0.05 mL
 0.01 mL
 0.05 mL

Analytes

CAS

Conc: **mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID: ME211221 MSCAL 3C
Standard Name: MSCAL 3C
Date Prepared: 12/21/2021
Date Expires: 12/21/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: S2-MEB700780
Balance ID:
Comments: Opened 12/21/21; expires 12/21/22

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Multi Analyte Custom Grade Solution	13473	250	mL	12/21/2022

Final Volume:
250 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).


2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
 Catalog Number: EL-MSCAL-3C
 Lot Number: S2-MEB700780
 Matrix: 3% (v/v) HNO₃
 tr. HF
 Value / Analyte(s): 400 µg/mL ea:
 Silicon,
 100 µg/mL ea:
 Tin,
 Molybdenum,

1-6-2025

ID #: 13473

Opened: _____

Multi Analyte Custom Grade Solution

Expires: 1/6/2025

Rec'd: 1/15/2021

Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

Titanium,
 Antimony

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	100.0 ± 0.8 µg/mL	Molybdenum, Mo	100.0 ± 0.6 µg/mL
Silicon, Si	399.9 ± 3.0 µg/mL	Tin, Sn	100.0 ± 0.6 µg/mL
Titanium, Ti	100.0 ± 0.7 µg/mL		

Density: 1.018 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Sb	ICP Assay	3102a	140911
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i})^2 / (\sum(1/u_{\text{char } i})^2)$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = (\sum(w_i)^2 (u_{\text{char } i})^2)^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a) / (u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° \pm 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800 669 6799; 540 585 3030, Fax: 540 585 3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 06, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 06, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME211118 MSCAL-5A
Standard Name: EL-MSCAL-5A
Date Prepared: 11/18/2021
Date Expires: 11/18/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: P2-MEB687200
Balance ID:
Comments: Opened 11/18/2021; Expires 11/18/2022

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Multi Analyte Custom Grade Solution	13175	500	mL	11/18/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
 Catalog Number: EL-MSCAL-5A
 Lot Number: P2-MEB687200
 Matrix: 3% (v/v) HNO₃
 Value / Analyte(s):
 5 000 µg/mL ea:
 Calcium, Potassium, Magnesium,
 Sodium,
 500 µg/mL ea:
 Phosphorus, Iron,
 250 µg/mL ea:
 Lithium

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Calcium, Ca	5 000 ± 20 µg/mL	Iron, Fe	499.9 ± 2.1 µg/mL
Lithium, Li	250.0 ± 1.1 µg/mL	Magnesium, Mg	5 000 ± 21 µg/mL
Phosphorus, P	499.8 ± 2.5 µg/mL	Potassium, K	5 000 ± 18 µg/mL
Sodium, Na	5 000 ± 18 µg/mL		

Density: 1.076 g/mL (measured at 20 ± 4 °C)

Assay Information:

ID #: 13175
 Opened: _____
 Multi Analyte Custom Grade Solution
Expires: 12/2/2023
 Rec'd: 10/12/2020
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum(1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = \{ \sum((w_i)^2 (u_{char i}^2)) \}^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed outer bag.

- While stored in the sealed outer bag, transpiration of this CRM/RM is negligible. After opening the sealed outer bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed outer bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 02, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 02, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed outer Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Energy Laboratories Inc

Spike LOG

Standard ID: ME220105 HGPRIMARY
Standard Name: Primary Hg Stock 2 PPM
Date Prepared: 1/5/2022
Date Expires: 12/29/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Type: Secondary
BY: Amanda E. McDani
Status: Open
Comments: Made with different HG stock than QCS

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027

Final Volume:
25 mL

Stock Source

ME220110HG HG Stock
ME211229A AU 2N Au 2nd source Stock

Base Units

ug/mL
ug/mL

Amount Added

0.05 mL
0.05 mL

Analytes

CAS

Conc: ug/mL

Energy Laboratories Inc

Standard LOG

Standard ID: ME220110HG
Standard Name: HG Stock
Date Prepared: 1/10/2022
Date Expires: 1/10/2023
Department: ME
Vendor: SCP Science
Lot Number: S210729017
Balance ID:
Comments:

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Mercury	14711	125	mL	1/10/2023

Final Volume:
125 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

ID #: 14711

Opened: _____

ICP/ICPMS Standard Mercury

Expires: 7/31/2023

Rec'd: 12/29/2021

Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

rtificate of Analysis

Hg

1.0 DESCRIPTION:

PlasmaCAL ICP/ICPMS Standard - Mercury 1000 µg/ml
 Catalogue Number: 140-051-800/-801/-805
 Starting Material: Mercury(II) oxide 99.99+%
 Lot Number: **S210729017**
 Matrix: 10% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **July 2023** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Certified Concentration: **999 µg/ml +/- 5 µg/ml**
952 µg/g +/- 5 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3133 Lot: **160921**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.050 g/ml @ 23.6 °C**
 Actual Matrix: **10.0% (v/v) HNO₃**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	0.0322	Nd	<0.0010	Sn	<0.0010
Al	0.0042	Ga	<0.0010	Ni	0.0039	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	N/A	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	0.0117
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	0.0112	Lu	<0.0010	S	*	Y	<0.0010
Cs	<0.0010	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0060	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.0010	Zr	<0.0010
Er	<0.0010	Na	0.0092	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist
 Certification Date: August 12, 2021

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP* : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA* : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice* : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH* : Pour étalonnage de pH mètres et autres applications de chimie humide.
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité* : Comme étalon pour les mesures de conductivité électrolytiques.
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC* : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.
- For any inquiries, please contact **SCP SCIENCE**. / Pour toute question, veuillez contacter **SCP SCIENCE**.

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisé, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034 : SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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Marktberdorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME211229A AU 2ND SOURCE
Standard Name: Au 2nd source Stock
Date Prepared: 12/29/2021
Date Expires: 12/29/2022
Department: ME
Vendor: SCP Science
Lot Number: S211129013
Balance ID:
Comments: opened 12/29/2021; expires 12/29/2022

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Gold	14710	500	mL	12/29/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

ID #: 14710

Opened:

ICP/ICPMS Standard Gold

Expires: 12/31/2023

Rec'd: 12/29/2021

Eneray Laboratories Inc 1120 So. 27th Street

Billings MT 59107

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Providing Innovative Solutions to Analytical

Certificate of Analysis**Au****1.0 DESCRIPTION:****PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml**

Catalogue Number: 140-052-790/-791/-795

Starting Material: Gold Metal 99.99+%

Lot Number: **S211129013**

Matrix: 10% HCl (See Section 3 for actual matrix)

Expiration Date (End of month): **December 2023** (or 15 months after bottle is opened, whichever comes first)**2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:**Certified Concentration: **1001 µg/ml +/- 4 µg/ml****982 µg/g +/- 4 µg/g**

Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: NIST Standard Reference Material 3121 Lot: **991806**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:Density: **1.019 g/ml @ 22.4 °C**Actual Matrix: **10.0% (v/v) HCl**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	0.3851	Fe	<0.0090	Nd	<0.0010	Sn	<0.0010
Al	0.0062	Ga	<0.0010	Ni	<0.0010	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	N/A	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	*	Pd	0.0434	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	0.0048	Tl	<0.0011
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	0.0362	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	0.0029	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0023	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.01	Zr	<0.0010
Er	<0.0010	Na	0.0070	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist

Certification Date: December 10, 2021

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).*
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.*
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH : Pour étalonnage de pH mètres et autres applications de chimie humide.*
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité : Comme étalon pour les mesures de conductivité électrolytiques.*
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.*
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisé, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME211208 MSCAL2B
Standard Name: MSCAL 2B
Date Prepared: 12/8/2021
Date Expires: 12/8/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: S2-MEB704403
Balance ID:
Comments: Opened 12/08/2021; Expires 12/08/2022

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Multi Analyte Custom Grade Solution	13793		mL	12/8/2022

Final Volume:
mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: EL-MSCAL-2B
Lot Number: S2-MEB704403
Matrix: 5% (v/v) HNO3
Value / Analyte(s):
100 µg/mL ea:
Aluminum, Arsenic,
Boron, Barium,
Beryllium, Cadmium,
Cobalt, Chromium,
Copper, Iron,
Manganese, Nickel,
Lead, Selenium,
Strontium, Thorium,
Thallium, Uranium,
Vanadium, Zinc,
40 µg/mL ea:
Silver

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ID #: 13793

Opened: _____

Multi Analyte Custom Grade Solution

Expires: 4/21/2025

Rec'd: 4/29/2021

Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	100.0 ± 0.4 µg/mL	Arsenic, As	100.0 ± 0.9 µg/mL
Barium, Ba	100.0 ± 0.5 µg/mL	Beryllium, Be	100.0 ± 0.7 µg/mL
Boron, B	100.0 ± 0.7 µg/mL	Cadmium, Cd	100.0 ± 0.5 µg/mL
Chromium, Cr	100.0 ± 0.8 µg/mL	Cobalt, Co	100.0 ± 0.6 µg/mL
Copper, Cu	100.0 ± 0.5 µg/mL	Iron, Fe	100.1 ± 0.4 µg/mL
Lead, Pb	100.0 ± 0.6 µg/mL	Manganese, Mn	100.0 ± 0.5 µg/mL
Nickel, Ni	100.0 ± 0.6 µg/mL	Selenium, Se	100.0 ± 0.7 µg/mL
Silver, Ag	39.99 ± 0.18 µg/mL	Strontium, Sr	100.0 ± 0.4 µg/mL
Thallium, Tl	100.0 ± 0.6 µg/mL	Thorium, Th	100.0 ± 0.5 µg/mL
Uranium, U	100.0 ± 0.5 µg/mL	Vanadium, V	100.0 ± 0.5 µg/mL
Zinc, Zn	100.0 ± 0.5 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Fe	Calculated		See Sec. 4.2
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Sr	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char\ i})^2 / (\sum (1/u_{char\ i})^2)$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u^2_{char} + u^2_{bb} + u^2_{Its} + u^2_{ts})^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum ((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope

Uranium 238U

Uranium 235U

Atom %

99.8 ± 0.1

0.24 ± 0.05

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char\ a})$$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u^2_{char\ a} + u^2_{bb} + u^2_{Its} + u^2_{ts})^{1/2}$$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 21, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 21, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME211229A AU 2ND SOURCE
Standard Name: Au 2nd source Stock
Date Prepared: 12/29/2021
Date Expires: 12/29/2022
Department: ME
Vendor: SCP Science
Lot Number: S211129013
Balance ID:
Comments: opened 12/29/2021; expires 12/29/2022

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Gold	14710	500	mL	12/29/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

ID #: 14710

Opened:

ICP/ICPMS Standard Gold

Expires: 12/31/2023

Rec'd: 12/29/2021

Eneray Laboratories Inc 1120 So. 27th Street

Billings MT 59107

SCP SCIENC

Providing Innovative Solutions to Analytical

Certificate of Analysis**Au****1.0 DESCRIPTION:****PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml**

Catalogue Number: 140-052-790/-791/-795

Starting Material: Gold Metal 99.99+%

Lot Number: **S211129013**

Matrix: 10% HCl (See Section 3 for actual matrix)

Expiration Date (End of month): **December 2023** (or 15 months after bottle is opened, whichever comes first)**2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:**Certified Concentration: **1001 µg/ml +/- 4 µg/ml****982 µg/g +/- 4 µg/g**

Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: NIST Standard Reference Material 3121 Lot: **991806**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:Density: **1.019 g/ml @ 22.4 °C**Actual Matrix: **10.0% (v/v) HCl**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	0.3851	Fe	<0.0090	Nd	<0.0010	Sn	<0.0010
Al	0.0062	Ga	<0.0010	Ni	<0.0010	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	N/A	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	*	Pd	0.0434	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	0.0048	Tl	<0.0011
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	0.0362	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	0.0029	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0023	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.01	Zr	<0.0010
Er	<0.0010	Na	0.0070	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist

Certification Date: December 10, 2021

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP* : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.
- AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA* : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).
- Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice* : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.
- pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH* : Pour étalonnage de pH mètres et autres applications de chimie humide.
- Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité* : Comme étalon pour les mesures de conductivité électrolytiques.
- IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC* : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.
For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisée, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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Energy Laboratories Inc

Standard LOG

Standard ID: ME220110 CE, LA PRIMARY
Standard Name: Ce, La Primary Type: Secondary
Date Prepared: 1/10/2022 BY: Amanda E. McDani
Date Expires: 1/6/2023
Department: ME Status: Open
Vendor: Inorganic Ventures
Lot Number: M2-CE657768/M2-
Balance ID:
Comments: Used to make standards and spiking solutions; No primary La available

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	39.5	mL	6/1/2100

Final Volume:
50 mL

Stock Source

ME220106-CE Ce Primary Stock

Base Units

ug/mL

Amount Added

5 mL

Analytes

CAS

Conc: ug/mL

Energy Laboratories Inc

Standard LOG

Standard ID: ME220112 10 PPB STANDARD
Standard Name: 10 ppb Standard
Date Prepared: 1/12/2022
Date Expires: 11/18/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Comments: Made Fresh Daily

Type: Secondary
BY: Cindy Rohrer
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	48.335	mL	6/1/2100

Final Volume:
50 mL

Stock Source
ME220112 100 PP 100 ppb Standard

Base Units
ug/mL

Amount Added
5 mL

Analytes

CAS

Conc: **mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID: ME220112 1 PPB STANDARD
Standard Name: 1 ppb Standard
Date Prepared: 1/12/2022
Date Expires: 11/18/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Comments: Made Fresh Daily

Type: Secondary
BY: Cindy Rohrer
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	48.335	mL	6/1/2100

Final Volume:
50 mL

Stock Source
ME220112 10 PPB 10 ppb Standard

Base Units
ug/mL

Amount Added
5 mL

Analytes

CAS

Conc: **mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID: ME220112 0.5 PPB STANDARD
Standard Name: 0.5 ppb Standard
Date Prepared: 1/12/2022
Date Expires: 11/18/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Comments: Made Fresh Daily

Type: Secondary
BY: Cindy Rohrer
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	48.335	mL	6/1/2100

Final Volume:
50 mL

Stock Source
ME220112 10 PPB 10 ppb Standard

Base Units
ug/mL

Amount Added
2.5 mL

Analytes

CAS

Conc: **mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID: ME220112 0.1 PPB STANDARD
Standard Name: 0.1 ppb Standard
Date Prepared: 1/12/2022
Date Expires: 11/18/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Comments: Made Fresh Daily

Type: Secondary
BY: Cindy Rohrer
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	48.335	mL	6/1/2100

Final Volume:
50 mL

Stock Source

ME220112 1 PPB 1 ppb Standard

Base Units

ug/mL

Amount Added

5 mL

Analytes

CAS

Conc: **mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID: ME220112 0.05 PPB STANDARD
Standard Name: 0.5 ppb Standard
Date Prepared: 1/12/2022
Date Expires: 11/18/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Comments: Made Fresh Daily

Type: Secondary
BY: Cindy Rohrer
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	48.335	mL	6/1/2100

Final Volume:
50 mL

Stock Source
ME220112 0.5 PP 0.5 ppb Standard

Base Units
ug/mL

Amount Added
5 mL

Analytes

CAS

Conc: **mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID: ME220112 0.025 PPB STANDARD
Standard Name: 0.025 ppb Standard
Date Prepared: 1/12/2022
Date Expires: 11/18/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Comments: Made Fresh Daily

Type: Secondary
BY: Cindy Rohrer
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	48.335	mL	6/1/2100

Final Volume:
50 mL

Stock Source
ME220112 0.5 PP 0.5 ppb Standard

Base Units
ug/mL

Amount Added
2.5 mL

Analytes

CAS

Conc: **mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID: ME211206 ICV STANDARD
 Standard Name: ICV for ICPMS Standards
 Date Prepared: 12/6/2021
 Date Expires: 4/30/2022
 Department:
 Vendor:
 Lot Number:
 Balance ID:
 Comments: Made fresh daily

Type: Secondary
 BY: Stacy R. Hendricks
 Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Hydrochloric Acid Instra Analyzed 000	14028	1	mL	3/29/
Nitric Acid Instra Analyzed 000028856	14572	2	mL	6/28/
Milli-Q H2O	391		mL	6/1/2

Final Volume: 100 mL

<u>Stock Source</u>	Base Units	Amount Added
ME210211 U Seco U 2' QCS	ug/mL	0.05 mL
ME211206 Th QC Th QCS Stock	ug/mL	0.05 mL
ME210901 Hg Sec Secondary Hg Stock 2 PPM	ug/mL	0.05 mL
ME211124 EL-MSI EL-MSICV-2	ug/mL	0.05 mL
ME210817 ICV-1A EL-MSICV-1A	ug/mL	0.05 mL
ME210903 Ce, La Ce, La Secondary solution	ug/mL	0.05 mL

Analvtes **CAS** Conc: **mg/L**

Energy Laboratories Inc

Spike LOG

Standard ID: ME210211 U SECOND SOURCE
Standard Name: U 2' QCS
Date Prepared: 2/11/2021
Date Expires: 4/30/2022
Department: ME
Vendor:
Lot Number:
Balance ID:
Comments:

Type: Secondary
BY: Alyssa A. Olson
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Nitric Acid Instra Analyzed 0000264786	13061	0.25	mL	5/12/2025
Milli-Q H2O	391	22.25	mL	6/1/2100

Final Volume:
25 mL

Stock Source

ME200624A U Stock

Base Units

ug/mL

Amount Added

2.5 mL

Analytes

CAS

Conc: ug/mL

Energy Laboratories Inc

Standard LOG

Standard ID: ME200624A
Standard Name: U Stock
Date Prepared: 6/24/2020
Date Expires: 4/30/2022
Department: ME
Vendor: SCP Science
Lot Number: S200422002
Balance ID:
Comments:

Type: Primary
BY: Ron Hunt
Status: Empty/Disposed

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
PlasmaCal Standard Uranium	12767	500	mL	4/30/

Final Volume: 500 mL

Stock Source

Base Units

Amount Added

Analvtes

CAS

Conc: **ug/mL**

A Uranium

7440-61-1

1000

U

1.0 DESCRIPTION: **PlasmaCAL ICP/ICPMS Standard - Uranium 1000 µg/ml**
 Catalogue Number: 140-051-920/-921/-925
 Starting Material: Uranyl Nitrate 99.99%
 Lot Number: **S200422002**
 Matrix: 4% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **April 2022** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:
 Certified Concentration: **1003 µg/ml +/- 4 µg/ml**
983 µg/g +/- 4 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3164 Lot: **080521**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:
 Density: **1.020 g/ml @ 21.7 °C**
 Actual Matrix: **4.0% (v/v) HNO₃**

ID #: 12767
 Opened: _____
 PlasmaCAL Standard Uranium
Expires: 4/30/2022
 Rec'd: 6/15/2020
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

% abundance of stable isotopes : ²³⁸U : 99.79% ; ²³⁵U : 0.21%
 Note : The uranyl nitrate comes from a depleted source of uranium.

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	<0.0018	Nd	<0.0010	Sn	<0.0010
Al	0.0073	Ga	<0.0010	Ni	0.0038	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	*	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0026	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0031
Ba	<0.0010	Hg	*	Pd	<0.0010	Th	0.0020
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	<0.0011
Ca	0.0340	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	N/A
Ce	<0.0010	La	*	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	<1.0000	Y	0.0049
Cs	<0.0010	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	<0.0010	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	*	Zr	<0.0010
Er	<0.0010	Na	<0.0010	Si	<1.0000		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

4.0 APPROVAL AND DATE OF CERTIFICATION:
 Certification Approval: Daniel Boisvert, Chemist
 Certification Date: April 28, 2020

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).*
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice : Pour l'optimisation des conditions analytiques afin de fournir des meilleurs réponses instrumentales et limites de détection pour SAA four au graphite.*
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH : Pour étalonnage de pH mètres et autres applications de chimie humide.*
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité : Comme étalon pour les mesures de conductivité électrolytiques.*
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.*
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en presumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisée, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

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ISO 17034 Accreditation / Accréditation ISO 17034 : SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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GERMANY
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Marktobendorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Spike LOG

Standard ID: ME211206 TH QCS STOCK
Standard Name: Th QCS Stock
Date Prepared: 12/6/2021
Date Expires: 10/25/2022
Department: ME
Vendor:
Lot Number:
Balance ID:
Comments:

Type: Secondary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Nitric Acid Instra Analyzed 000028856	14572	0.25	mL	6/28/
Milli-Q H2O	391	22.25	mL	6/1/2

Final Volume: 25 mL

Stock Source
ME 211025 Th Sec Th Secondary Stock

Base Units
ug/mL

Amount Added
2.5 mL

Analvtes

CAS

Conc: **ug/mL**

Energy Laboratories Inc

Standard LOG

Standard ID: ME 211025 TH SECONDARY STOCK
Standard Name: Th Secondary Stock
Date Prepared: 10/25/2021
Date Expires: 10/25/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: S2-TH706436
Balance ID:
Comments: Opened 10/25/2021; Expires 10/25/2022

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Thorium Single Analyte Custom Grade Sol	14318	125	mL	10/25/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
Catalog Number: CGTH1
Lot Number: S2-TH706436
Matrix: 5% (v/v) HNO3
Value / Analyte(s): 1 000 µg/mL ea:
Thorium
Starting Material: TH(NO3)4*4H2O
Starting Material Lot#: 2250
Starting Material Purity: 99.9905%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 4 µg/mL
Density: 1.026 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1001 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #2 **1001 ± 6 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

ID #: 14318
Opened:
Thorium Single Analyte Custom Grade Solution
Expires: 7/4/2025
Rec'd: 9/24/2021
Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum(1/(u_{char i}^2)))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum(w_i)^2 (u_{char i}^2)]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u^2_{char a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 μm .

M Ag < 0.000448	M Eu < 0.000224	O Na 0.064077	M Se < 0.005827	M Zn 0.003183
O Al 0.010962	M Fe 0.012392	M Nb < 0.003138	i Si <	M Zr < 0.010310
M As < 0.038776	M Ga < 0.004931	M Nd 0.004697	M Sm 0.000871	
M Au < 0.000224	M Gd 0.000300	M Ni < 0.006724	M Sn < 0.028242	
M B < 0.021293	M Ge < 0.008965	M Os < 0.000224	M Sr 0.002582	
M Ba 0.001317	M Hf < 0.000224	i P <	M Ta < 0.001344	
M Be < 0.000224	M Hg < 0.000448	M Pb 0.003287	M Tb < 0.001793	
M Bi < 0.001793	M Ho < 0.001344	M Pd < 0.000448	M Te < 0.010086	
O Ca 0.051969	M In 0.000134	M Pr 0.001202	s Th <	
M Cd < 0.001344	M Ir < 0.000224	M Pt < 0.000224	M Ti < 0.004258	
M Ce 0.015420	O K 0.028928	M Rb < 0.005155	M Tl < 0.000224	
M Co < 0.001344	M La 0.003577	M Re < 0.000224	M Tm < 0.000224	
M Cr < 0.015465	M Li < 0.000448	M Rh < 0.000224	M U 0.006564	
M Cs < 0.013896	M Lu < 0.000224	M Ru < 0.000224	M V < 0.001793	
M Cu 0.001472	O Mg 0.027914	i S <	M W < 0.000224	
M Dy 0.000197	M Mn 0.001814	M Sb < 0.004931	M Y 0.000860	
M Er < 0.002241	M Mo < 0.000896	M Sc < 0.000672	M Yb < 0.000224	

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 232.04 +4 8 Th(OH) 3+ and Th(OH)22+

Chemical Compatibility -Soluble in HCl, and HNO3. Avoid H3PO4, H2SO4 and HF although solubilities may not be a problem depending upon pH and matrix (For example: ThF4 is soluble in acids). Avoid neutral to basic media. Th4+ is stable with most metals and inorganic anions forming an insoluble carbonate, oxide, fluoride, oxalate, sulfate and phosphate in neutral to slightly acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.

Th Containing Samples (Preparation and Solution) -Metal (Soluble in Aqua Regia); Oxide (The heated oxide is not soluble in acids except hot conc. H2SO4); Ores (Na2O2 fusion at 480 ± 20EC for 7 minutes, cool and treat sintered mass with 50 mL cold water and stand until disintegrated. The mass is transferred to a beaker and acidified with HCl with 25 mL excess HCl added. Any residue is collected on a Whatman No. 42 filter, dried and ignited to 1000 EC in Pt0 crucible and the ash treated with H2SO4 / HF and fumed. If residue remains, then treat it by peroxide fusion as above.)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 232 amu	1 ppt	N/A	
ICP-OES 274.716 nm	0.08 / 0.008 µg/mL	1	Ti, Ta, Fe, V
ICP-OES 283.231 nm	0.07 / 0.007 µg/mL	1	U, Mo, Ti, Fe, Cr
ICP-OES 283.730 nm	0.07 / 0.007 µg/mL	1	U, Zr

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 04, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 04, 2025

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Spike LOG

Standard ID: ME210901 HG SECOND SOURCE
Standard Name: Secondary Hg Stock 2 PPM
Date Prepared: 9/1/2021
Date Expires: 7/26/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Comments:

Type: Secondary
BY: Alyssa A. espinoza
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Nitric Acid, 69.0-70.0%,0000282671	14178	0.1	mL	4/11/
Hydrochloric Acid Instra Analyzed 000	14028	0.05	mL	3/29/

Final Volume: 50 mL

Stock Source
ME210726 Hg Secondary Source

Base Units
ug/mL

Amount Added
0.1 mL

Analvtes

CAS

Conc: **ug/mL**

Energy Laboratories Inc

Spike LOG

Standard ID: ME210726
Standard Name: Hg Secondary Source
Date Prepared: 7/26/2021
Date Expires: 7/26/2022
Department:
Vendor:
Lot Number:
Balance ID:
Comments:

Type:
BY: Jordan A. Gjerde
Status: New

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Mercury Single Analyte Custom Grade	13979	120	mL	7/26/

Final Volume: mL

Stock Source

Base Units

Amount Added

Analvtes

CAS

Conc: ug/mL

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Single Analyte Custom Grade Solution
 Catalog Number: CGHG1
 Lot Number: R2-HG696409
 Matrix: 5% (v/v) HNO3
 Value / Analyte(s): 1 000 µg/mL ea:
 Mercury
 Starting Material: Hg metal
 Starting Material Lot#: 1959
 Starting Material Purity: 99.9994%

ID #: 13979
 Opened:
 Mercury Single Analyte Custom Grade Solution
Expires: 9/15/2024
 Rec'd: 6/23/2021
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1002 ± 3 µg/mL
Density: 1.026 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1004 ± 8 µg/mL**
 ICP Assay NIST SRM 3133 Lot Number: 160921

Assay Method #2 **1003 ± 3 µg/mL**
 EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 3 µg/mL**
 Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum(1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum((w_i)^2 (u_{char i}^2))]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 μm .

O Ag	0.001159	M	Eu <	0.000201	O Na	0.000435	M	Se <	0.015915	O Zn <	0.001510
O Al	0.000090	O	Fe	0.000113	M Nb <	0.000201	O	Si	0.000525	M Zr <	0.000201
M As <	0.000402	M	Ga <	0.000201	M Nd <	0.000201	M	Sm <	0.000201		
M Au <	0.003631	M	Gd <	0.000201	M Ni <	0.000402	M	Sn <	0.001007		
M B <	0.001208	M	Ge <	0.000201	M Os <	0.000605	M	Sr <	0.000201		
M Ba <	0.000201	M	Hf <	0.000201	O P <	0.032370	M	Ta <	0.000201		
M Be <	0.000201	s	Hg <		M Pb <	0.000201	M	Tb <	0.000201		
M Bi <	0.000201	M	Ho <	0.000201	M Pd <	0.000403	M	Te <	0.002216		
O Ca	0.000746	M	In <	0.000201	M Pr <	0.000201	M	Th <	0.000201		
M Cd <	0.000201	M	Ir <	0.000201	M Pt <	0.000402	M	Ti <	0.000402		
M Ce <	0.000201	O	K	0.002007	M Rb <	0.000201	O	Tl <	0.016508		
M Co <	0.000201	M	La <	0.000201	M Re <	0.000201	M	Tm <	0.000201		
O Cr <	0.003021	O	Li <	0.000107	M Rh <	0.000201	M	U <	0.008058		
M Cs <	0.001208	M	Lu <	0.000201	M Ru <	0.000201	M	V <	0.000201		
M Cu <	0.000402	O	Mg	0.000096	O S <	0.053950	M	W <	0.000604		
M Dy <	0.000201	M	Mn <	0.000604	M Sb <	0.001208	M	Y <	0.000201		
M Er <	0.000201	M	Mo	0.000971	M Sc <	0.000201	M	Yb <	0.000201		

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO₃. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.

Stability - 2-100 ppb levels not stable in 1% HNO₃ / LDPE container, stable in 10% HNO₃ packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO₃ packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO₃ / LDPE container.

Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO₃); Oxide (Soluble in HNO₃); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th, Rh, Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 15, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **September 15, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME211124 EL-MSICV-2
Standard Name: EL-MSICV-2
Date Prepared: 11/24/2021
Date Expires: 11/24/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Comments:

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Multi Analyte Custom Grade Solution	14023	500	mL	11/24

Final Volume: mL

Stock Source

Base Units

Amount Added

Analvtes

CAS

Conc: **ug/mL**

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).


2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
 Catalog Number: EL-MSICV-2
 Lot Number: R2-MEB696849
 Matrix: 3% (v/v) HNO₃
 tr. HF
 Value / Analyte(s):
 1 000 µg/mL ea:
 Silicon,
 100 µg/mL ea:
 Tin, Titanium,
 Molybdenum, Antimony

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	100.0 ± 0.6 µg/mL	Molybdenum, Mo	100.0 ± 0.5 µg/mL
Silicon, Si	1 000 ± 7 µg/mL	Tin, Sn	99.9 ± 0.4 µg/mL
Titanium, Ti	99.9 ± 0.6 µg/mL		

Density: 1.019 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Sb	ICP Assay	3102a	140911
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	070330
Sn	Calculated		See Sec. 4.2
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \frac{\sum(w_i)(X_i)}{\sum(w_i)}$$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$
 w_i = the weighting factors for each method calculated using the inverse square of the variance:
 $w_i = (1/u_{char\ i})^2 / (\sum(1/(u_{char\ i})^2))$

CRM/RM Expanded Uncertainty (\pm) = $U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$
 k = coverage factor = 2
 $u_{char} = [\sum(w_i)^2 (u_{char\ i})^2]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method
 u_{bb} = bottle to bottle homogeneity standard uncertainty
 u_{lts} = long term stability standard uncertainty (storage)
 u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) / (u_{char\ a})$$

X_a = mean of Assay Method A with
 $u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (\pm) = $U_{CRM/RM} = k (u_{char\ a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$
 k = coverage factor = 2
 $u_{char\ a}$ = the errors from characterization
 u_{bb} = bottle to bottle homogeneity standard uncertainty
 u_{lts} = long term stability standard uncertainty (storage)
 u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va, 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 14, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **September 14, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME210817 ICV-1A
Standard Name: EL-MSICV-1A
Date Prepared: 8/17/2021
Date Expires: 8/17/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: R2-MEB688457
Balance ID:
Comments: Opened 8/17/2021; Expires 8/17/2022

Type: Primary
BY: Alyssa A. espinoza
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Multi Analyte Custom Grade Solution	13475	500	mL	8/17/

Final Volume: 500 mL

Stock Source

Base Units

Amount Added

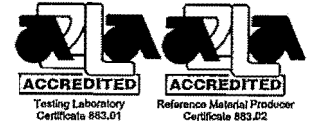
Analvtes

CAS

Conc: **ug/mL**

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).


2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution

Catalog Number: EL-MSICV-1A

Lot Number: R2-MEB688457

Matrix: 5% (v/v) HNO₃

Value / Analyte(s):

5 000 µg/mL ea:	Calcium,	Potassium,	Magnesium,
	Sodium,		
1 000 µg/mL ea:	Phosphorus,		
500 µg/mL ea:	Manganese,	Iron,	Aluminum,
100 µg/mL ea:	Arsenic,	Boron,	Barium,
	Cobalt,	Chromium,	Copper,
	Lithium,	Nickel,	Lead,
	Selenium,	Strontium,	Thallium,
	Vanadium,	Zinc,	
50 µg/mL ea:	Silver,	Cadmium,	Beryllium

ID #: 13475

Opened: _____

Multi Analyte Custom Grade Solution

Expires: 1/10/2024

Rec'd: 1/15/2021

 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	500.3 ± 1.8 µg/mL	Arsenic, As	100.0 ± 0.8 µg/mL
Barium, Ba	99.9 ± 0.4 µg/mL	Beryllium, Be	49.96 ± 0.33 µg/mL
Boron, B	100.0 ± 0.6 µg/mL	Cadmium, Cd	50.10 ± 0.22 µg/mL
Calcium, Ca	5 001 ± 20 µg/mL	Chromium, Cr	100.0 ± 0.6 µg/mL
Cobalt, Co	100.0 ± 0.5 µg/mL	Copper, Cu	100.1 ± 0.4 µg/mL
Iron, Fe	499.7 ± 2.1 µg/mL	Lead, Pb	100.1 ± 0.4 µg/mL
Lithium, Li	100.0 ± 0.4 µg/mL	Magnesium, Mg	5 000 ± 21 µg/mL
Manganese, Mn	499.8 ± 1.9 µg/mL	Nickel, Ni	100.1 ± 0.4 µg/mL
Phosphorus, P	1 000 ± 5 µg/mL	Potassium, K	5 000 ± 18 µg/mL
Selenium, Se	100.1 ± 0.8 µg/mL	Silver, Ag	50.02 ± 0.22 µg/mL
Sodium, Na	5 000 ± 18 µg/mL	Strontium, Sr	100.1 ± 0.4 µg/mL
Thallium, Tl	100.0 ± 0.7 µg/mL	Vanadium, V	99.9 ± 0.5 µg/mL
Zinc, Zn	100.0 ± 0.4 µg/mL		

Density: 1.098 g/mL (measured at 20 ± 4 °C)

Assay Information:

1.098 g/mL
measured at 20 ± 4 °C

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	EDTA	928	928
Co	ICP Assay	traceable to 3113	M2-CO661665
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Li	ICP Assay	3129a	100714
Li	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Sr	EDTA	928	928
Sr	ICP Assay	3153a	990906
Tl	ICP Assay	3158	993012
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum(w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i}^2) / (\sum(1/(u_{\text{char } i}^2)))$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = (\sum(w_i)^2 (u_{\text{char } i}^2))^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_n) / (u_{\text{char } n})$$

X_n = mean of Assay Method n with

$u_{\text{char } n}$ = the standard uncertainty of characterization Method n

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char } n}^2 + u_{\text{bb}}^2 + u_{\text{its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } n}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed outer bag.

- While stored in the sealed outer bag, transpiration of this CRM/RM is negligible. After opening the sealed outer bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed outer bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20 ± 4 ° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va, 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; Inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 10, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 10, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed outer Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME210903 CE, LA SECONDARY
Standard Name: Ce, La Secondary solution
Date Prepared: 9/3/2021
Date Expires: 5/25/2022
Department: ME
Vendor:
Lot Number:
Balance ID:
Comments: Second Source Stock Solution

Type: Secondary
BY: Parker A. Pearsall
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Nitric Acid Instra Analyzed 000020579	10902	0.5	mL	7/1/2
Milli-Q H2O	391	39.5	mL	6/1/2

Final Volume: 50 mL

Stock Source

ME210903 La Sec La Secondary Stock
ME210525 Ce 2nd Ce Secondary Stock

Base Units

ug/mL
ug/mL

Amount Added

5 mL
5 mL

Analvtes

CAS

Conc: ug/mL

Energy Laboratories Inc

Standard LOG

Standard ID: ME210903 LA SECOND SOURCE
Standard Name: La Secondary Stock
Date Prepared: 9/3/2021
Date Expires: 9/3/2022
Department: ME
Vendor: SCP Science
Lot Number: S201029004
Balance ID:
Comments: Opened 9/3/2021; Expires 9/3/2022

Type: Primary
BY: Alyssa A. espinoza
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Lanthanum PlasmaCal Standard	14019	125	mL	9/3/2022

Final Volume:
mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

La

1.0 DESCRIPTION: **PlasmaCAL ICP/ICPMS Standard - Lanthanum 1000 µg/ml**
 Catalogue Number: 140-051-570/-571/-575
 Starting Material: Lanthanum(III) Oxide 99.99+%
 Lot Number: **S201029004**
 Matrix: 4% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **November 2022** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:
 Certified Concentration: **1005 µg/ml +/- 4 µg/ml**
985 µg/g +/- 4 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3127a Lot: **151030**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

ID #: 14019
 Opened: _____
 Lanthanum PlasmaCal Standard
Expires: 11/30/2022
 Rec'd: 7/6/2021
 Energv Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

3.0 REFERENCE VALUES:
 Density: **1.020 g/ml @ 23.4 °C**
 Actual Matrix: **4.0% (v/v) HNO₃**

Trace Metal Impurities as tested by ICP-AES:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0049	Fe	<0.0102	Nd	<0.1595	Sn	<0.0307
Al	<0.0280	Ga	<0.0260	Ni	<0.0139	Sr	<0.0004
As	<0.0525	Gd	<0.0685	Os	*	Ta	<0.0635
Au	<0.0085	Ge	<0.0548	P	<0.0104	Tb	<0.0146
B	<0.2535	Hf	<0.0339	Pb	<0.2460	Te	<0.4025
Ba	<0.0025	Hg	*	Pd	<0.1410	Th	<0.0471
Be	<0.0022	Ho	<0.0065	Pr	<0.0274	Ti	<0.0013
Bi	<0.0780	In	<0.0105	Pt	<0.0533	Tl	<0.5600
Ca	0.0164	Ir	<0.0243	Rb	*	Tm	<0.0105
Cd	<0.0048	K	<0.0128	Re	<0.0076	U	<0.2490
Ce	<0.0393	La	N/A	Rh	<0.0163	V	<0.0049
Co	<0.0224	Li	<0.0006	Ru	<0.0304	W	<0.0443
Cr	<0.0063	Lu	<0.0021	S	<0.0515	Y	<0.0033
Cs	*	Mg	<0.0045	Sb	<0.0197	Yb	<0.0057
Cu	<0.0040	Mn	<0.0018	Sc	<0.0055	Zn	<0.0045
Dy	<0.0043	Mo	<0.0229	Se	<0.0249	Zr	<0.0061
Er	<0.0070	Na	<0.0038	Si	<0.0455		
Eu	<0.0086	Nb	<0.0112	Sm	<0.1105		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:
 Certification Approval: Daniel Boisvert, Chemist
 Certification Date: November 04, 2020

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (FAAS) et four au graphite (GFAA).*
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.*
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH : Pour étalonnage de pH mètres et autres applications de chimie humide.*
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité : Comme étalon pour les mesures de conductivité électrolytiques.*
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.*
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présupmant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisé, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034 : SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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GERMANY
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Marktoberdorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME210525 CE 2ND SOURCE
Standard Name: Ce Secondary Stock
Date Prepared: 5/25/2021
Date Expires: 5/25/2022
Department: ME
Vendor: SCP Science
Lot Number: S210208003
Balance ID:
Comments: opened 5/25/2021, expires 5/25/2022

Type: Primary
BY: Stacy R. Hendricks
Status: Empty/Disposed

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Cerium	13642	125	mL	5/25/2022

Final Volume:
125 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

Ce

1.0 DESCRIPTION: *PlasmaCAL ICP/ICPMS Standard - Cerium 1000 µg/ml*
 Catalogue Number: 140-051-580/-581/-585
 Starting Material: Cerium(III) Nitrate Hexahydrate 99.99+%
 Lot Number: **S210208003**
 Matrix: 4% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **February 2023** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:
 Certified Concentration: **1003 µg/ml +/- 4 µg/ml**
982 µg/g +/- 4 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3110 Lot: **090504**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:
 Density: **1.021 g/ml @ 22.5 °C**
 Actual Matrix: **4.0% (v/v) HNO₃**

Trace Metal Impurities as tested by ICP-MS:

ID #: 13642
 Opened: _____
 ICP/ICPMS Standard Cerium
Expires: 2/28/2023
 Rec'd: 3/16/2021
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	<0.0018	Nd	0.0102	Sn	<0.0010
Al	0.0148	Ga	0.0526	Ni	0.0064	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	*	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	0.0235	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	<0.0011
Ca	0.0375	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	<0.0010
Ce	N/A	La	<0.10	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	<0.0010	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0121	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.0010	Zr	<0.0010
Er	<0.0010	Na	<0.0010	Si	<0.10		
Eu	0.0035	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:
 Certification Approval: Yaling Sui, Chemist
 Certification Date: February 22, 2021

Yaling Sui

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.*
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA : Pour l'étalonnage de spectromètres d'absorption atomique flamme (FAAS) et four au graphite (GFAA).*
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.*
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH : Pour étalonnage de pH mètres et autres applications de chimie humide.*
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité : Comme étalon pour les mesures de conductivité électrolytiques.*
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.*
- For any inquiries, please contact SCP SCIENCE. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisée, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

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Fax: +33 (0) 1 60 92 05 67

GERMANY
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Marktoberdorf
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Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME210901 ICSAB
Standard Name: ICSAB
Date Prepared: 9/1/2021
Date Expires: 9/1/2022
Department: ME
Vendor:
Lot Number:
Balance ID:
Comments: Made fresh every Monday, Wednesday, and Friday

Type: Secondary
BY: Cindy Rohrer
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Exp
Nitric Acid, 69.0-70.0%,0000282671	14178	1	mL	4/11/
Milli-Q H2O	391	46.45	mL	6/1/2
Hydrochloric Acid Instra Analyzed 000	14028	0.5	mL	3/29/

Final Volume: 50 mL

Stock Source

ME210901 6020IC 6020ICS-8A
ME 210901 6020IC 6020ICS-9B

Base Units

ug/mL
ug/mL

Amount Added

2 mL
0.05 mL

Analvtes

CAS

Conc: **mg/L**

Energy Laboratories Inc

Standard LOG

Standard ID: ME 210901 6020ICS-9B
Standard Name: 6020ICS-9B
Date Prepared: 9/1/2021
Date Expires: 9/1/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: P2-MEB678862
Balance ID:
Comments: Opened 9/1/2021; Expires 9/1/2022

Type: Primary
BY: Alyssa A. espinoza
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Multi Analyte Custom Grade Solution	13478	125	mL	9/1/2022

Final Volume:
125 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **mg/L**

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).


2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
 Catalog Number: 6020ICS-9B
 Lot Number: P2-MEB678862
 Matrix: 3% (v/v) HNO₃
 Value / Analyte(s): 20 µg/mL ea:
 Cobalt, Chromium, Copper,
 Manganese, Nickel, Vanadium,
 10 µg/mL ea:
 Zinc, Arsenic, Cadmium,
 Selenium,
 5 µg/mL ea:
 Silver

ID #: 13478
 Opened: _____
 Multi Analyte Custom Grade Solution
 Expires: 5/17/2023
 Rec'd: 1/15/2021
 Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Arsenic, As	10.01 ± 0.05 µg/mL	Cadmium, Cd	10.01 ± 0.04 µg/mL
Chromium, Cr	20.02 ± 0.12 µg/mL	Cobalt, Co	20.01 ± 0.10 µg/mL
Copper, Cu	20.02 ± 0.08 µg/mL	Manganese, Mn	20.02 ± 0.09 µg/mL
Nickel, Ni	20.02 ± 0.09 µg/mL	Selenium, Se	10.01 ± 0.06 µg/mL
Silver, Ag	5.005 ± 0.022 µg/mL	Vanadium, V	20.02 ± 0.08 µg/mL
Zinc, Zn	10.01 ± 0.04 µg/mL		

Density: 1.015 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	EDTA	928	928
Co	ICP Assay	traceable to 3113	M2-CO661665
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Mn	EDTA	928	928
Mn	ICP Assay	Traceable to 3132	N2-MN665236
Mn	Calculated		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
V	EDTA	928	928
V	ICP Assay	3165	992706
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum(w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum(1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum(w_i)^2 (u_{char i}^2)]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{lts}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; Info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 17, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 17, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

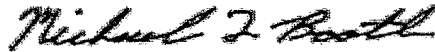
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME220112 SS1
Standard Name: SS1 ICPMS Spiking Solution
Date Prepared: 1/12/2022
Date Expires: 12/8/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Comments:

Type: Secondary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Nitric Acid, 69.0-70.0%,0000277202	13781	0.8	mL	1/14/2026
Hydrochloric Acid, 36.5-38.0% 000027567	13784	2	mL	12/15/2025
Milli-Q H2O	391	28.8	mL	6/1/2100

Final Volume:
40 mL

Stock Source

ME220105 HgPrim Primary Hg Stock 2 PPM
ME211208 MSCAL MSCAL 2B
ME211221 MSCAL MSCAL 3C
ME220110 Ce, La Ce, La Primary

Base Units

ug/mL
ug/mL
ug/mL
ug/mL

Amount Added

2 mL
2 mL
2 mL
2 mL

Analytes

CAS

Conc: **mg/L**

Energy Laboratories Inc

Spike LOG

Standard ID: ME220105 HGPRIMARY
Standard Name: Primary Hg Stock 2 PPM
Date Prepared: 1/5/2022
Date Expires: 12/29/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number:
Balance ID:
Type: Secondary
BY: Amanda E. McDani
Status: Open
Comments: Made with different HG stock than QCS

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Hydrochloric Acid E1421	14721	0.25	mL	1/4/2027

Final Volume:
25 mL

Stock Source

ME220110HG HG Stock
ME211229A AU 2N Au 2nd source Stock

Base Units

ug/mL
ug/mL

Amount Added

0.05 mL
0.05 mL

Analytes

CAS

Conc: ug/mL

Energy Laboratories Inc

Standard LOG

Standard ID: ME220110HG
Standard Name: HG Stock
Date Prepared: 1/10/2022
Date Expires: 1/10/2023
Department: ME
Vendor: SCP Science
Lot Number: S210729017
Balance ID:
Comments:

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Mercury	14711	125	mL	1/10/2023

Final Volume:
125 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

ID #: 14711

Opened: _____

ICP/ICPMS Standard Mercury

Expires: 7/31/2023

Rec'd: 12/29/2021

Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107**SCP SCIENCE**

Providing Innovative Solutions to Analytical Chemists

rtificate of Analysis**Hg****1.0 DESCRIPTION:**

PlasmaCAL ICP/ICPMS Standard - Mercury 1000 µg/ml
 Catalogue Number: 140-051-800/-801/-805
 Starting Material: Mercury(II) oxide 99.99+ %
 Lot Number: **S210729017**
 Matrix: 10% HNO₃ (See Section 3 for actual matrix)
 Expiration Date (End of month): **July 2023** (or 15 months after bottle is opened, whichever comes first)

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Certified Concentration: **999 µg/ml +/- 5 µg/ml**
952 µg/g +/- 5 µg/g
 Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)
 Traceability: NIST Standard Reference Material 3133 Lot: **160921**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.050 g/ml @ 23.6 °C**
 Actual Matrix: **10.0% (v/v) HNO₃**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	<0.0010	Fe	0.0322	Nd	<0.0010	Sn	<0.0010
Al	0.0042	Ga	<0.0010	Ni	0.0039	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	<0.0010	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	N/A	Pd	<0.0010	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	<0.0010	Tl	0.0117
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	<0.0024	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	0.0112	Lu	<0.0010	S	*	Y	<0.0010
Cs	<0.0010	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0060	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.0010	Zr	<0.0010
Er	<0.0010	Na	0.0092	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist
 Certification Date: August 12, 2021



5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP*: Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA*: Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice*: Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH*: Pour étalonnage de pH mètres et autres applications de chimie humide.
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité*: Comme étalon pour les mesures de conductivité électrolytiques.
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC*: Pour étalonnage d'instruments tels que: IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisé, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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Marktberdorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME211229A AU 2ND SOURCE
Standard Name: Au 2nd source Stock
Date Prepared: 12/29/2021
Date Expires: 12/29/2022
Department: ME
Vendor: SCP Science
Lot Number: S211129013
Balance ID:
Comments: opened 12/29/2021; expires 12/29/2022

Type: Primary
BY: Amanda E. McDani
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
ICP/ICPMS Standard Gold	14710	500	mL	12/29/2022

Final Volume:
500 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

ID #: 14710

Opened:

ICP/ICPMS Standard Gold

Expires: 12/31/2023

Rec'd: 12/29/2021

Eneray Laboratories Inc 1120 So. 27th Street

Billings MT 59107

SCP SCIENC

Providing Innovative Solutions to Analytical

Certificate of Analysis**Au****1.0 DESCRIPTION:****PlasmaCAL ICP/ICPMS Standard - Gold 1000 µg/ml**

Catalogue Number: 140-052-790/-791/-795

Starting Material: Gold Metal 99.99+%

Lot Number: **S211129013**

Matrix: 10% HCl (See Section 3 for actual matrix)

Expiration Date (End of month): **December 2023** (or 15 months after bottle is opened, whichever comes first)**2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:**Certified Concentration: **1001 µg/ml +/- 4 µg/ml****982 µg/g +/- 4 µg/g**

Method of analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: NIST Standard Reference Material 3121 Lot: **991806**

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) including uncertainty established during characterization of the material (u_{char}), the between bottle variation (u_{bb}), short-term stability (u_{sts}) and long-term stability (u_{lts}) according to the model $u_c = \sqrt{(u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2)}$. This combined uncertainty has been further multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:Density: **1.019 g/ml @ 22.4 °C**Actual Matrix: **10.0% (v/v) HCl**

Trace Metal Impurities as tested by ICP-MS:

Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)	Element	Conc. (ppm)
Ag	0.3851	Fe	<0.0090	Nd	<0.0010	Sn	<0.0010
Al	0.0062	Ga	<0.0010	Ni	<0.0010	Sr	<0.0025
As	<0.0010	Gd	<0.0010	Os	<0.0010	Ta	<0.0010
Au	N/A	Ge	<0.0010	P	<0.0132	Tb	<0.0010
B	<0.0015	Hf	<0.0010	Pb	<0.0010	Te	<0.0010
Ba	<0.0010	Hg	*	Pd	0.0434	Th	<0.0010
Be	<0.0010	Ho	<0.0010	Pr	<0.0010	Ti	<0.0012
Bi	<0.0010	In	<0.0010	Pt	0.0048	Tl	<0.0011
Ca	<0.0135	Ir	<0.0010	Rb	<0.0010	Tm	<0.0010
Cd	<0.0010	K	0.0362	Re	<0.0010	U	<0.0010
Ce	<0.0010	La	<0.0010	Rh	<0.0010	V	<0.0010
Co	<0.0010	Li	<0.0010	Ru	<0.0010	W	<0.0020
Cr	<0.0010	Lu	<0.0010	S	*	Y	<0.0010
Cs	0.0029	Mg	<0.0010	Sb	<0.0010	Yb	<0.0010
Cu	0.0023	Mn	<0.0010	Sc	<0.0010	Zn	<0.0010
Dy	<0.0010	Mo	<0.0010	Se	<0.01	Zr	<0.0010
Er	<0.0010	Na	0.0070	Si	<0.1		
Eu	<0.0010	Nb	<0.0010	Sm	<0.0010		

*: Not tested

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Daniel Boisvert, Chemist

Certification Date: December 10, 2021

Daniel Boisvert

5.0 INTENDED USE / UTILISATION PRÉVUE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP. / *Étalons ICP* : Pour l'étalonnage d'instruments de mesure tels que: ICP-AES, ICP-MS, FAAS, GFAA, XRF et DCP.
 - AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers. / *Étalons AA* : Pour l'étalonnage de spectromètres d'absorption atomique flamme (GFAA) et four au graphite (GFAA).
 - Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits. / *Modificateur de matrice* : Pour l'optimisation des conditions analytiques afin de fournir des meilleures réponses instrumentales et limites de détection pour SAA four au graphite.
 - pH Standards: For the calibrating pH meters or for other wet chemistry applications. / *Étalons pH* : Pour étalonnage de pH mètres et autres applications de chimie humide.
 - Conductivity Standards: For electrolytic conductivity measurement as a calibration standard. / *Étalons de conductivité* : Comme étalon pour les mesures de conductivité électrolytiques.
 - IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications. / *Étalons IC* : Pour étalonnage d'instruments tels que : IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS et autres applications de chimie humide.
- For any inquiries, please contact **SCP SCIENCE**. / *Pour toute question, veuillez contacter SCP SCIENCE.*

6.0 INSTRUCTIONS FOR USE / INSTRUCTIONS D'UTILISATION:

Handling and Storage / Manutention et entreposage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight. / *Garder les contenants bien fermés lorsque non utilisés. Le contenant devrait être ouvert seulement pour le temps requis afin de prélever la quantité nécessaire. Ne pas pipetter ou utiliser directement du contenant. Ne pas retourner les portions non-utilisées dans le contenant. Conserver dans des conditions normales de laboratoire. Éviter l'exposition à des sources de chaleur et d'humidité excessives ou à l'exposition solaire directe.*

Stability / Stabilité: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date. / *La stabilité et l'exactitude de cet étalon sont garanties d'être à l'intérieur de l'incertitude de mesure, jusqu'à la date d'expiration de la bouteille non-ouverte, si scellée, ou jusqu'à la date d'expiration de la bouteille ouverte (si indiquée), en présumant que le contenant est maintenu fermé et gardé dans les conditions d'entreposage indiquées. Les acheteurs seront avisés dans le cas où il y aura des changements significatifs nécessitant une re-certification ou un rappel du produit avant la date d'expiration.*

7.0 HAZARDOUS INFORMATION / INFORMATION SUR LES RISQUES POTENTIELS:

Please refer to the associated Safety Data Sheet (SDS) for information regarding this product (available at www.SCPSCIENCE.com). / *SVP vous référer à la Fiche Signalétique applicable pour de l'information sur ce produit (Disponible à www.SCPSCIENCE.com).*

8.0 HOMOGENEITY / HOMOGÉNÉITÉ:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used. / *Cette solution a été préparée selon une procédure maison et nous assurons que sa homogénéité est approprié à l'emploi lorsqu'un échantillon suffisant pour la méthode d'analyse prévue est utilisé.*

9.0 TRACEABILITY / TRAÇABILITÉ:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator. / *Ce matériel de référence certifié est traçable au Matériel de Référence Standardisé de NIST indiqué à la section 2 par une chaîne de comparaison ininterrompue. De plus, les balances utilisées sont étalonnées régulièrement en utilisant des poids qui sont traçables au NIST (National Institute of Standards and Technology) ou au CRNC (Conseil National de Recherches Canada). Tout conductimètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et étalons traçables au NIST ou au CNRC. Tout pH mètre utilisé afin d'analyser cet étalon a été sujet à un étalonnage périodique utilisant des thermomètres et un simulateur pH/MV traçables au NIST ou au CNRC.*

10.0 PREPARATION / PRÉPARATION:

For the preparation of these solutions, 18 megohm/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used. / *Une eau de 18 megohm/cm doublement déionisée, de l'acide de haute pureté, ainsi que de la verrerie étalonnée afin de satisfaire les spécifications Classe A de ASTM ont été utilisés pour la préparation de cet étalon.*

11.0 QUALITY SYSTEM CERTIFICATIONS / CERTIFICATIONS DE SYSTÈME QUALITÉ:

ISO 9001 Certification / Certification ISO 9001: This standard was produced in a facility which operates under a registered ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration. / *Cet étalon a été fabriqué dans un laboratoire qui utilise un Système de Gestion de la Qualité enregistré à la norme ISO 9001. Veuillez consulter notre site web pour obtenir la version la plus récente de notre certificat d'enregistrement.*

ISO 17025 Accreditation / Accréditation ISO 17025: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 accredited laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est accréditée ISO 17025. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

ISO 17034 Accreditation / Accréditation ISO 17034: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation. / *SCP SCIENCE (Siège social) est un Fabricant de Matériaux de Référence Accrédité ISO 17034. Veuillez consulter notre site web afin d'obtenir la plus récente version de notre certificat d'accréditation ainsi que la portée de notre accréditation.*

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Marktoberdorf
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Fax: +49 (0) 8342-89560-69

Energy Laboratories Inc

Standard LOG

Standard ID: ME211208 MSCAL2B
Standard Name: MSCAL 2B
Date Prepared: 12/8/2021
Date Expires: 12/8/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: S2-MEB704403
Balance ID:
Comments: Opened 12/08/2021; Expires 12/08/2022

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Multi Analyte Custom Grade Solution	13793		mL	12/8/2022

Final Volume:
mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).



2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
Catalog Number: EL-MSCAL-2B
Lot Number: S2-MEB704403
Matrix: 5% (v/v) HNO3
Value / Analyte(s):
100 µg/mL ea:
Aluminum, Arsenic,
Boron, Barium,
Beryllium, Cadmium,
Cobalt, Chromium,
Copper, Iron,
Manganese, Nickel,
Lead, Selenium,
Strontium, Thorium,
Thallium, Uranium,
Vanadium, Zinc,
40 µg/mL ea:
Silver

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ID #: 13793

Opened: _____

Multi Analyte Custom Grade Solution

Expires: 4/21/2025

Rec'd: 4/29/2021

Energy Laboratories Inc 1120 So. 27th Street
Billings MT 59107

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	100.0 ± 0.4 µg/mL	Arsenic, As	100.0 ± 0.9 µg/mL
Barium, Ba	100.0 ± 0.5 µg/mL	Beryllium, Be	100.0 ± 0.7 µg/mL
Boron, B	100.0 ± 0.7 µg/mL	Cadmium, Cd	100.0 ± 0.5 µg/mL
Chromium, Cr	100.0 ± 0.8 µg/mL	Cobalt, Co	100.0 ± 0.6 µg/mL
Copper, Cu	100.0 ± 0.5 µg/mL	Iron, Fe	100.1 ± 0.4 µg/mL
Lead, Pb	100.0 ± 0.6 µg/mL	Manganese, Mn	100.0 ± 0.5 µg/mL
Nickel, Ni	100.0 ± 0.6 µg/mL	Selenium, Se	100.0 ± 0.7 µg/mL
Silver, Ag	39.99 ± 0.18 µg/mL	Strontium, Sr	100.0 ± 0.4 µg/mL
Thallium, Tl	100.0 ± 0.6 µg/mL	Thorium, Th	100.0 ± 0.5 µg/mL
Uranium, U	100.0 ± 0.5 µg/mL	Vanadium, V	100.0 ± 0.5 µg/mL
Zinc, Zn	100.0 ± 0.5 µg/mL		

Density: 1.033 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
B	ICP Assay	3107	110830
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
Fe	Calculated		See Sec. 4.2
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Sr	EDTA	928	928
Sr	ICP Assay	Traceable to 3153a	K2-SR650985
Sr	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \sum (w_i) (X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{char i}^2) / (\sum (1/u_{char i}^2))$$

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char} = [\sum (w_i^2 (u_{char i}^2))]^{1/2}$ where $u_{char i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope

Uranium 238U

Uranium 235U

Atom %

99.8 ± 0.1

0.24 ± 0.05

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a) (u_{char a})$$

X_a = mean of Assay Method A with

$u_{char a}$ = the standard uncertainty of characterization Method A

$$CRM/RM \text{ Expanded Uncertainty } (\pm) = U_{CRM/RM} = k (u_{char a}^2 + u_{bb}^2 + u_{Its}^2 + u_{ts}^2)^{1/2}$$

k = coverage factor = 2

$u_{char a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- 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/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 21, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 21, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME211221 MSCAL 3C
Standard Name: MSCAL 3C
Date Prepared: 12/21/2021
Date Expires: 12/21/2022
Department: ME
Vendor: Inorganic Ventures
Lot Number: S2-MEB700780
Balance ID:
Comments: Opened 12/21/21; expires 12/21/22

Type: Primary
BY: Stacy R. Hendricks
Status: Open

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Multi Analyte Custom Grade Solution	13473	250	mL	12/21/2022

Final Volume:
250 mL

Stock Source

Base Units

Amount Added

Analytes

CAS

Conc: **ug/mL**

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).


2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution
 Catalog Number: EL-MSCAL-3C
 Lot Number: S2-MEB700780
 Matrix: 3% (v/v) HNO₃
 tr. HF
 Value / Analyte(s): 400 µg/mL ea:
 Silicon,
 100 µg/mL ea:
 Tin,
 Molybdenum,

1-6-2025

ID #: 13473

Opened: _____

Multi Analyte Custom Grade Solution

Expires: 1/6/2025

Rec'd: 1/15/2021

Energy Laboratories Inc 1120 So. 27th Street
 Billings MT 59107

Titanium,
 Antimony

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	100.0 ± 0.8 µg/mL	Molybdenum, Mo	100.0 ± 0.6 µg/mL
Silicon, Si	399.9 ± 3.0 µg/mL	Tin, Sn	100.0 ± 0.6 µg/mL
Titanium, Ti	100.0 ± 0.7 µg/mL		

Density: 1.018 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Sb	ICP Assay	3102a	140911
Si	ICP Assay	3150	130912
Sn	ICP Assay	3161a	140917
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{\text{CRM/RM}}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{\text{CRM/RM}} = \sum(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{\text{char } i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$$w_i = (1/u_{\text{char } i})^2 / (\sum(1/u_{\text{char } i})^2)$$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char}}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char}} = (\sum(w_i)^2 (u_{\text{char } i})^2)^{1/2}$ where $u_{\text{char } i}$ are the errors from each characterization method

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Certified Value, $X_{\text{CRM/RM}}$, where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = (X_a) / (u_{\text{char } a})$$

X_a = mean of Assay Method A with

$u_{\text{char } a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{\text{CRM/RM}} = k (u_{\text{char } a}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{ts}}^2)^{1/2}$$

k = coverage factor = 2

$u_{\text{char } a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{Its} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

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- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ($\mu\text{g/mL}$)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

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- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° \pm 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 06, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 06, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

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12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



Energy Laboratories Inc

Standard LOG

Standard ID: ME220110 CE, LA PRIMARY
Standard Name: Ce, La Primary Type: Secondary
Date Prepared: 1/10/2022 BY: Amanda E. McDani
Date Expires: 1/6/2023
Department: ME Status: Open
Vendor: Inorganic Ventures
Lot Number: M2-CE657768/M2-
Balance ID:
Comments: Used to make standards and spiking solutions; No primary La available

Chemical / Solvent Used	BottleNo	Amt	Units	Expires
Nitric Acid 69.0- 70.0% D0521	14626	0.5	mL	12/14/2026
Milli-Q H2O	391	39.5	mL	6/1/2100

Final Volume:
50 mL

Stock Source

ME220106-CE Ce Primary Stock

Base Units

ug/mL

Amount Added

5 mL

Analytes

CAS

Conc: ug/mL